

# BSBI News

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**Edited by Trevor James & Gwynn Ellis**

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*Ranunculus sardous* collected from Pill (v.c.6) in 2008 flowering in 2009 for the first time



*Ranunculus sardous* flower (l) and sepals (r)



*Ranunculus bulbosus* flower (l) and sepals (r)



*Ranunculus sardous* petal (l) with rounded nectary scale. *R. bulbosus* petal (r) with flat edged nectary scale



*Anagallis monelli* (Shrubby Pimpernel), near Swife Farm, E. Sussex (v.c.14).

Photo: R. Wells © 2014 (see p. 42)

All *Ranunculus* photos © M. Webster (see p. 30)

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## IMPORTANT NOTICES

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### From The President

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Volunteers take on a vital and diverse range of tasks within the BSBI, including serving as officers or committee members, acting as vice-county recorders or taxonomic referees, and of course contributing more broadly to our botanical objectives. One person who has fulfilled all these roles and more is David Pearman, whose distinguished career was celebrated at a memorable meeting at Kew Gardens in September. A series of formal scientific presentations was followed by a session of personal reminiscences and tributes that were subsequently described by David (light-heartedly I am sure) as “the most embarrassing few minutes of my life”!

At the same event we launched a new BSBI publication *A vascular plant Red List for England*, supported by funding from Natural England, to an audience that included invited members of the press. As a consequence, some of the key (and too often grim) messages regarding the status of the English flora were publicised in daily newspapers and other media outlets. You can read more about these and other BSBI events on page 72 of this issue of *BSBI News* and on our News & Views blog here: <http://bsbipublicity.blogspot.co.uk/>.

The Annual Exhibition Meeting held at the University of Leicester in November broke all previous attendance records for a provincial meeting and seemed to be enjoyed hugely by all. Thanks to Louise Marsh and her v.c.55 team for organising this and for the outstanding hospitality. I was greatly impressed by the quality of the presentations and the exhibits, and encourage folks unable to attend to view those that have been digitised and archived on the BSBI website at [http://bsbi.org.uk/exhibition\\_meeting.html](http://bsbi.org.uk/exhibition_meeting.html). Similarly, contributions to recent and excellent Annual Meetings convened by the BSBI Committee for Scotland are now being

captured and made available via the BSBI Scotland pages on the website. I greatly support and encourage such use of 21<sup>st</sup> century technology to make the outputs of national and regional events accessible to the membership as a whole.

Since the last BSBI News there have been notable appointments to two of the most influential officer posts within the BSBI. Following Lynne Farrell’s resignation as Hon. Gen. Sec. last June, and a brief ‘*interregnum*’, I am delighted that Chris Metherell has kindly offered to take on the post. Chris will be combining this with his roles as a BSBI trustee and VCR for v.c.68 (North Northumberland), not to mention lead authorship of the forthcoming handbook on *Euphrasia* – an astonishingly generous commitment of his time on behalf of the Society. Due to a heavy and mounting professional workload, Antony Timmins expressed a desire to stand down as Hon. Treasurer and will be succeeded by Terry Swainbank. As many of you will recall, Terry was also Antony’s predecessor. We welcome him back with the assurance that changes to the structure and governance of BSBI in the interim, many of them instigated by Antony, should render the post more manageable than previously. Huge thanks go to Antony, whose skills and expertise will remain at BSBI’s disposal through his ongoing participation as a BSBI trustee.

Following the success of the Annual Summer Meeting in Perthshire last June, plans are underway for a similar meeting in 2015, exploring the north coast of Ireland based at the University of Ulster at Coleraine. Dates are 12<sup>th</sup>-16<sup>th</sup> June with two days of excursions to stunning sites along the coastline and two optional days visiting less well-known areas to record for Atlas 2020. Details are currently being finalised so please keep a close eye on

the website for announcements. You can also express an interest in receiving details via email by sending a note to ASM2015@bsbi.org.

Prospects for botanising at this time of the year can be rather bleak. However, by the time this issue of *BSBI News* appears we will have completed another year of BSBI's 'New Year Plant Hunt' (NYPH) co-ordinated by Tim Rich and Ryan Clark. At the time of writing, it is becoming apparent that participation in the NYPH is continuing to escalate from year to year, with coverage now extending throughout Britain and Ireland, and up to 71 species of vascular plant were recorded as being in flower at a single locality within 96 hours of

New Year's Day. The action is being reported as it happens on BSBI's Facebook page, Twitter feed and the News & Views blog.

Activities like the NYPH contribute scientifically to understanding phenology and responses to environmental variation but, equally importantly, demonstrate the enthusiasm among members to contribute and ensure that their local patch is represented in the dataset. This bodes well for BSBI participation in the new National Plant Monitoring scheme, which gets underway in earnest in 2015 (see page 62).

I wish everyone a peaceful but productive 2015.

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## From the Company Secretary

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### Annual General Meeting of the Botanical Society of Britain and Ireland

About 125 members attended the first AGM of the Botanical Society of Britain and Ireland. The minutes of the meeting (draft until approval at the next AGM) are available for download at [http://www.bsbi.org.uk/BSBI\\_AGM\\_Minutes\\_22\\_Nov-14.pdf](http://www.bsbi.org.uk/BSBI_AGM_Minutes_22_Nov-14.pdf). The audited report and accounts laid before the members at the meeting are at [http://www.bsbi.org.uk/BSBI\\_31\\_March\\_2014\\_signed\\_accounts.pdf](http://www.bsbi.org.uk/BSBI_31_March_2014_signed_accounts.pdf). Paper copies can be provided on request.

The increase in subscriptions described in *BSBI News* for September 2014 (pages 2-3) was approved and took effect in mid-December 2014.

The 2015 AGM is expected to be held at the Natural History Museum in London on Saturday 21<sup>st</sup> November 2015.

### Board of Trustees

At the AGM Lynne Farrell and David Pearman retired by rotation. Lynne Farrell was re-elected for a term of three years. The President indicated that David Pearman would be co-opted to the Board for a shorter period at the next Board meeting. Chris Cheffings was elected to the Board of Trustees for a first three year term. Chris Metherell, Mick Crawley and

Delyth Williams, who had been co-opted to the Board in July 2013, were also formally elected for a three year term.

At the meeting of the Board of Trustees on 10<sup>th</sup> December 2014, David Pearman and Terry Swainbank were co-opted to the Board until the next AGM.

At present the Board has ten members who serve as Company Directors and Charity Trustees. Registered information about our charity (including a list of Trustees) can be found by clicking "Search the Charity Register" at <https://www.gov.uk/government/organisations/charity-commission> and entering our Society's name in the charity search box.

### Honorary Office Bearers

Following the retirement of Lynne Farrell, a vacancy had arisen for a new Honorary General Secretary (see the last *BSBI News*, page 3). Chris Metherell agreed to stand and, following the BSBI Articles and being already a Trustee, he was elected by the Board on 6<sup>th</sup> \*October 2014. His appointment was ratified by the members at the 2014 AGM.

Antony Timmins had recently indicated to the Board that he would retire as Treasurer,

whilst remaining on the Board, should a suitable replacement be found. Discussions with the previous Treasurer, Terry Swainbank, who had since retired, were initiated. At the end of the Board meeting of 10<sup>th</sup> December 2014 (which he had attended as a guest) and in accordance with the provisions of the BSBI Articles, after co-option as a Trustee, Terry was elected as Honorary Treasurer with effect from 1<sup>st</sup> January 2015.

### Botanical Society of the British Isles

On 15<sup>th</sup> December 2014, the Botanical Society of the British Isles was removed from the Register of Charities maintained by the Charity Commission, effectively completing

the dissolution mandated by the members at the Special General Meeting held on 24<sup>th</sup> November 2012. The Charity Commission has registered the Botanical Society of the British Isles as merged (amalgamated) with the Botanical Society of Britain and Ireland, with the effect that any legacies made out in the old name are now receivable by the new legal entity. Closing accounts may be obtained on request.

By order of the Board  
Clive Lovatt, Company Secretary  
17<sup>th</sup> December 2014

## Notes from the Editors

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I am more than ever grateful to my fellow editor Trevor James for his help with this issue who, despite being hospitalised before Christmas, followed by a period of recuperation, still found time to do most of his usual editorial duties with *BSBI News 128* and *BSBI Yearbook 2015* but if there are more typos than usual, you know who to blame!

BSBI Handbook no. 3 *Docks and knotweeds of Britain and Ireland* was published last October and all pre-publication orders have been posted. If you ordered a copy and it has not arrived, contact GE.

The occasions on which you need to quote your membership number are increasing and it would be a great help if members could make a note of it from most mailing labels and in the *List of Members*.

The Royal Mail often get a lot of stick for losing letters but they get a pat on the back from me for delivering the following order for a copy of *Docks and knotweeds*. The clincher was the recognition of 'D&K' by my Cardiff postman who remembered the bundles of envelopes he had been delivering to my address!



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## NOTES

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### Points arising from *Flora Gallica* (1): *Agrostis* (bents)

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Shortly after the new French *Flora Gallica* (Tison & de Foucault, 2014) crashed through my letter box, Eric Clement pointed out that it included a diagnostic character in its *Agrostis* key that neither of us could recall seeing before. Chater (2010) has commented that “it is often virtually impossible to identify plants of *Agrostis* to species, especially in the many cases where members of the *A. capillaris* / *gigantea* / *stolonifera* group are tufted, lack both stolons and rhizomes, and have intermediate ligules”. *Flora Gallica* divides species with longer paleas into a ‘*capillaris* group’ with a bidentate palea tip, and a ‘*stolonifera* group’ with an obtuse tip (although this may be erose or shouldered, and so appear toothed). The ‘*capillaris* group’ includes *A. capillaris* (Common Bent), *A. castellana* (Highland Bent) and *A. ×fouilladeana* (*A. capillaris* × *A. castellana*); the ‘*stolonifera* group’ includes *A. stolonifera* (Creeping Bent), *A. gigantea* (Black Bent) and *A. ×gigantifera* (*A. gigantea* × *A. stolonifera*). *A. ×murbeckii* (*A. capillaris* × *A. stolonifera*) is keyed out in both groups.

A quick search of floras and monographs from both sides of the Channel revealed that while this palea character is not used in descriptions, let alone as a diagnostic feature, it has been observed and recorded by several illustrators. The works include Tison, Jauzein & Michaud (2014), Jauzein (2011), Portal (2009), Bugnon (1995) and, most interestingly for us, Hubbard (1968). Portal, Bugnon and Hubbard, however, show *A. gigantea* with a shallowly bidentate palea tip, rather spoiling a nice simple supposition.

Musil (1942), in an account of seed recognition characters for some *Agrostis* species in North America, covers palea morphology in some detail. Unfortunately he does not deal with *A. castellana* as a separate taxon, but he does cover *A. tenuis* Sibth. (= *A. capillaris* L.), *A. alba* L. (which, it is clear from context, is

meant to equate with *A. gigantea* Roth – historical applications of the former name are not straightforward) and *A. palustris* Huds. (= *A. stolonifera* L. in general here, and not just var. *palustris*), as well as a number of cultivars referred to *A. capillaris*. These include ‘Highland’, which unfortunately is a name used for a seed mix that can include both *A. castellana* and *A. capillaris*, so it is not possible to be sure what the author intended, especially as only seed-related characters are considered and terminal floret lemma characters are not distinguished. Other cultivars treated are ‘Colonial’ and ‘Astoria’. It is difficult to make judgements about the entities to which they refer, but as they are represented from fertile seed it is clear that they do not refer to hybrids, natural or manufactured, with the ‘*stolonifera* group’. Of the four species under discussion, only *A. stolonifera* is considered native to North America, so there is a high probability of material having been introduced that bears little relationship to wild populations.

For each of the taxa Musil provides a series of photographs that are not very helpful in discerning palea characteristics, and some more useful line illustrations showing the variation in palea form. His *A. capillaris* ‘Highland bent’ shows a palea that is consistently and conspicuously bidentate, with a sinus that is either acutely angled or rounded to at least a semicircle. ‘Colonial bent’ and ‘Astoria bent’, on the other hand, are depicted with highly variable palea apices, ranging from moderately bidentate to retuse to truncate. *A. gigantea* is shown with a shallowly bidentate, bilobed, truncate or obliquely truncate apex, while *A. stolonifera* varies from a smoothly rounded obtuse tip to a rounded but minutely retuse one, or a lobed apex with shoulders or teeth (rather like some *Glyceria* lemmas), but a terminal rounded lobe.

It would be worth looking at the range of variation in *Agrostis capillaris* paleas in this country to see how well it supports the *Flora Gallica* contention. It is possible that populations in uplands and acid grasslands that have not been heavily modified will show differences from re-seeded amenity or agricultural grasslands. I would be interested to receive comments and observations. Tackling *Agrostis castellana* is more of a challenge, for all the reasons given in Cope (2009). *Flora Gallica* considers that it is a plant primarily of south-west France and its distribution elsewhere in the country is confused by the occurrence of sown *A. ×foulliadeana*, as in Britain. An examination of *A. gigantea*, to see whether ligule characters can be correlated with palea shape, might also be revealing. As Cope observes, distinguishing *A. gigantea* from *A. capillaris* is not always straightforward, and the existence of two consistent characters would be a help.

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## A member of the *Limonium binervosum* agg. established as a roadside halophyte in South Essex (v.c.18)

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In August 2012 I noticed a colony of small, blue-flowered plants growing along the central reservation of the A127 Southend Arterial Road at Nevendon, near Basildon, South Essex. The A127, being the main trunk road between east London and Southend-on Sea, is a very busy road on both week days and weekends. Despite the habit and odd shade of blue triggering my interest, once flowering ceased about a month later, the plants were no longer visible and I forgot about them. Then, in August 2013, I noticed the plants flowering again and, with my curiosity roused again, I resolved to try and investigate further. To reduce the element of risk I decided the best time to explore would be early on a Sunday morning before the traffic became too heavy. I managed to visit the site on 18<sup>th</sup> August and

was very surprised to find that the plant was a Sea-lavender. Even more of a surprise was that it was a member of the *Limonium binervosum* aggregate. A brief survey revealed many plants growing along at least 300 metres of otherwise unremarkable grassy central reservation. On this occasion I estimated the colony to contain at least 300 plants, which later proved to be considerably inaccurate. Returning home with a couple of vouchers and using Stace (2010) I managed to work out that the plant was probably *L. procerum* (C.E.Salmon) Ingr. (Tall Sea-lavender). This was later confirmed by the referee for *Limonium*, Dr Martin Ingrouille.

I was unable to re-visit the site in 2013 but managed to spend a couple of hours investigating the site on Sunday 31<sup>st</sup> August 2014.



My original estimate for the number of plants was substantially wide of the mark. It was difficult to count individual plants, but about 1100 flowering-sized clumps are present, although not all were in flower. There are also many juvenile plants and seedlings on bare areas. The plants are spread irregularly along approximately 470 metres between TQ73329115 and TQ73799112. The central reservation is 4-5 metres wide with a double row of crash barriers and all the Sea-lavender plants are on the southern side of the barrier, along a 1.2 metre strip adjacent to the westbound carriageway (see Colour Section, Plate 3). Between the crash barriers the vegetation consists mainly of coarse grasses *Elytrigia repens* (Common Couch), *Arrhenatherum elatius* (False Oat-grass), *Schedonorus arundinaceus* (Tall Fescue) and plentiful *Cirsium arvense* (Creeping Thistle). Outside the crash barriers the vegetation is less dense and several typical roadside halophytes, such as *Plantago coronopus* (Buck's-horn Plantain), *Atriplex prostrata* (Spear-leaved Orache) and *Spergularia marina* (Lesser Sea-spurrey) are abundant. This suggests that the crash barrier may protect the central portion from receiving as much salt spray in winter, thus allowing coarse perennials to dominate. The *Limonium* is able to seed onto bare areas alongside the carriageway, which occur after winter salt applications that may also restrict colonisation by vigorous perennials (see Colour Section, Plate 3). Seeds are probably spread in a linear direction by traffic flow, but the barrier formed by the dense vegetative growth between the crash barriers has at this time proved insurmountable and the verge along the eastbound carriageway has not been colonised.

Dr Ingrouille suggested the plant may possibly be *L. procerum* ssp. *procerum* var. *medium* Ingr. I have compared it to the description in Ingrouille & Stace (1986) and I believe that he is probably correct. Although

geographical location is an important aid to identification, it is inappropriate in this case as the plant is clearly an introduction. However, spikelet density, leaf width, leaf length/width ratio, bract, calyx and petal size and the presence of 'A' type pollen are all consistent with this variety.

The source of the plants and the mode of introduction remain unknown. *L. procerum* occurs naturally along the coasts of south-west England, Wales and east Ireland. An isolated occurrence in East Sussex of var. *procerum* is probably an introduction (Stace 2010). The var. *medium* is recorded for Cornwall, Devon and most frequently in south Wales. The section of A127 at Nevendon was reconstructed for installation of a flyover in the late 1970s, but I suspect the *Limonium* has colonised much more recently. Judging from the number of seedlings and speed of growth of a plant I have cultivated I would estimate the colony to have become established within the last 20 years. I also suspect that the succession of cold winters between 2008/9 and 2012/13 may have favoured the Sea-lavender due to increased salt applications to the A127.

As far as I am aware, this appears to be the first record of a member of the *L. binervosum* aggregate occurring as an inland roadside halophyte. I will be watching its progress with interest. Vouchers have been deposited in **STD**.

#### Acknowledgements:

Thanks to Dr Martin Ingrouille for his interest and help in identification.

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## Investigating the impact of Ash dieback: the SPLASH baseline project continues

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As most botanists will surely be aware, Ash dieback (*Hymenoscyphus pseudoalbidus*) has continued its spread across the landscape of Britain and Ireland. Forestry Commission monitoring data suggest that little ground was gained during 2013, but the spread seems to have picked up again in 2014 (Fig. 1).

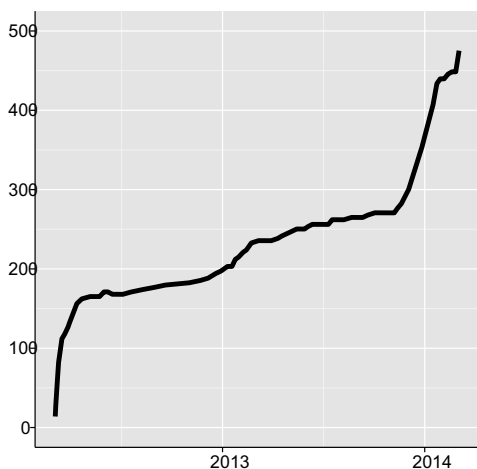


Figure 1. The cumulative number of confirmed reports of ash dieback observed in the wider environment. Redrawn from a graph produced by Silviculture Research International; data originally collected by the Forestry Commission.

It is difficult to know how much of this particular pattern of spread is real, and how much is due to observer effort, but it certainly appears that Ash dieback is well on its way to becoming an established component of the Ash-containing habitats of our islands. As members will hopefully know, the BSBI is involved in a collaborative project to monitor the impacts of Ash dieback on vascular plants, bryophytes and lichens (Pescott *et al.*, 2014). This article updates members on the project, and we hope

to encourage more surveyors to become involved.

The SPLASH (Survey of Plants and Lichens associated with Ash) baseline survey is intended to be continued until 2016. A project overview, methods, and target areas can all be viewed on the project website: <http://www.brc.ac.uk/splash>. To briefly recap, surveyors are being asked to record the ground flora within plots under stands of (at least 75%) ash and also under other deciduous species at each site surveyed. The aim is to create a set of permanent plots that can be revisited in years to come to investigate any changes associated with Ash dieback (with the plots under other deciduous species intended as an attempt to control for other environmental changes that might occur). Whilst Ash dieback is clearly here to stay, it is not currently clear what proportion of trees is likely to actually die as a result of the disease (Rackham, 2014). Evidence from the continent suggests that the amount of tree death varies considerably (*e.g.* see the EU ‘Fraxback’ meeting presentations from the 23<sup>rd</sup> November 2013 at <http://tinyurl.com/FRAXBACK>). One new study has reported just under 50% of Ash trees dying, with just less than half of these falling, between 2009 and 2013 in an eight hectare patch of Estonian forest (Lõhmus & Runnel, 2014). For epiphytic bryophytes and lichens, the falling of a tree typically results in the loss of a habitat (Snäll *et al.*, 2005; Lõhmus & Runnel, 2014). For vascular plants growing under Ash this relationship is no doubt more complicated. A recent comprehensive review of the ecology of Ash indirectly raises the question of whether any of its unique characteristics (*e.g.* its late-leaving, or its highly degradable leaf litter) could possibly favour the persistence of certain species beneath its canopy (Mitchell *et al.*,

2014). However, this relationship, if one exists, is no doubt variable, given the number of different communities in which Ash can occur (Peterken, 2013; Rackham, 2014). SPLASH was designed to shed light on any changes in these associations that might occur as a result of Ash death.

We hope that this project provides an interesting opportunity for BSBI botanists to become involved in the monitoring of permanent plots. Whilst the current project does not require the surveyor to visit their plot(s) more than once (being a baseline survey), clearly the collection of systematic data on a particular patch opens up opportunities for personal projects using long-term observations, a type of survey of which there are too few examples (e.g. Rackham, 2006, pp. 512-524). Currently, over 40 monads have been adopted for the vascular plant survey element of SPLASH (Fig. 2), but we would be very pleased to hear from more members who are keen to become involved. If our existing random sample of  $1 \times 1$  km squares does not contain suitable sites in a locale, we would also be pleased to receive data from sites that surveyors have self-selected. Please contact: ash-survey@ceh.ac.uk for more information.

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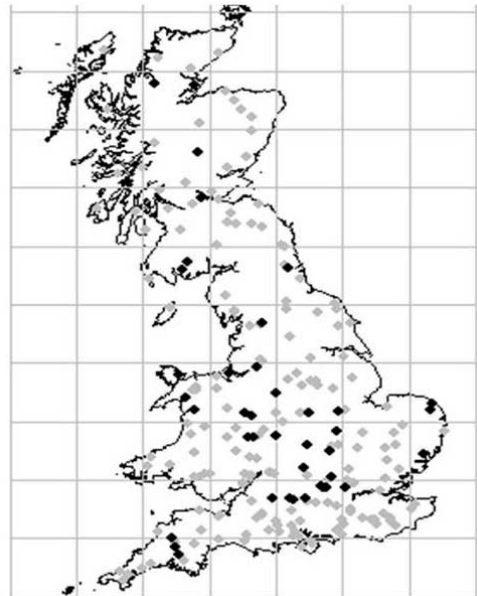


Figure 2. Reserved SPLASH monads (both random and self-selected) are shown in black; grey monads are those random monads for which a surveyor has not yet been found. Self-selected squares can also be surveyed in Ireland.

## ***Potamogeton nodosus* (Loddon Pondweed) in the Jubilee River**

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During a ten year period between 2003 and 2012, I was contracted to undertake a botanical monitoring programme on the Jubilee River for the Environment Agency (E.A.). For those unfamiliar with the river, it is an artificial bypass channel constructed by the E.A. between Maidenhead and Old Windsor in the Thames Valley, (at the southern end of v.c.24), being designed to provide flood protection for Maidenhead, a town previously prone to severe flooding. It was officially opened in 2002 and named to honour the Queen's Silver Jubilee. Designed on naturalistic grounds, rather than using the more familiar concrete channel approach, the 11km-long channel footprint thus presents opportunities for natural colonisation by a range of terrestrial, riparian and aquatic plant species. The overall scale of the development is impressive and the river now looks to all intents a managed natural feature, complete with meanders, islands, backwaters, reed beds and weirs (see photo inside back cover). Studying the development of the flora during this period has been an extremely interesting exercise, throwing up not only many interesting plant records, but all kinds of observations and ecological inquiries. At some point I would like to present a fuller report on these findings, but for now I will concentrate on what is possibly the most interesting record from the site, that of a colony of *Potamogeton nodosus* Poir. (Loddon Pondweed), a red list species with only three previously known extant sites in Britain (although I note the new Red List for England indicates five sites: maybe the Jubilee River record has been included here already?).

In Britain, Loddon Pondweed occurs in calcareous, somewhat eutrophic lowland rivers with moderate flows, notably occurring below weirs, where the water is turbulent and thus well-oxygenated. Currently it is known to occur in the Bristol River Avon, the Dorset River Stour, and the Berkshire River Loddon, from whence the first UK record was obtained

by G.C. Druce in 1893. Significantly, the Loddon is a tributary of the Thames, discharging into it between Sonning and Henley, some 20 miles upstream of where the Jubilee branches off from the Thames at Boulter's Lock in Maidenhead. There are early records for the plant from the Thames as far downstream as Cliveden Reach, but it was last recorded there before 1941 and is thought to be extinct in the Thames as a result of increased river traffic or eutrophication. A floating leaf found in 2002 is the closest to a 21<sup>st</sup> century record for the Thames, but Crawley, in his *The flora of Berkshire*, speculates that this could have become detached from a Loddon plant and subsequently discharged into the Thames. An introduction (re-introduction?) was attempted in the Blackwater River, which is a tributary of the Loddon, in the 1980s. I do not know the current status of the plant here.

So far I have only found one colony of the plant in the Jubilee River, in a 'classic' location below the weir at Marsh Lane. I first found it in August 2011, in a 'what-the-heck-is-that?' moment (see photo inside back cover). This was the first time I had seen this particular *Potamogeton* and had no expectation of finding it in the Jubilee. If anything, I optimistically thought I might pick up *P. lucens* (Shining Pondweed) or *P. perfoliatus* (Perfoliate Pondweed), and on first impression from a distance I assumed it to be a non-native, maybe *Aponogeton distachyos* (Cape-pondweed), but the grapnel sample immediately suggested a *Potamogeton* (see photo inside back cover). This is a very distinctive species, with coriaceous floating (to somewhat emergent) leaves, contrasting with the long-petiole translucent submerged leaves, and even a cursory check in my field copy of Blamey *et al.* was pretty much enough to confirm it. Subsequently, Roger Smith and Nick Stewart verified my pressed specimen. The size of the colony suggests it has been

there for some time. In previous years I had done the surveys earlier, so it is possible it may have been entirely submerged, or, just as possibly, I simply missed it.

So, is this a genuine natural spread, or did someone put it there? In this particular case, whether someone introduced the plant or not, someone put the river there, a few years before, so it can not be considered a truly natural occurrence. Whatever, it would be nice to think that the plant found its own way into a new area of suitable habitat. In favour of a natural spread is the fact that the Loddon, a potential source of propagules, is upstream from the divergence of the Thames and the Jubilee; the plant is known to spread vegetatively by turions; and records of bits of *P. nodosus* are not unheard of from the Thames. In fact, in 2003, during my first year of surveying, I was puzzled by a somewhat decaying piece of a large-leaved pondweed, which I grappelled from a lower reach of the Jubilee. This, I speculated, somewhat unsatisfactorily, might have been *Potamogeton alpinus* (Red Pondweed), for no better reason than that it was red. Maybe what I had was a fragment of *P. nodosus*? If this were the case, fragments of the plant must have been passing down the Jubilee since the day it was commissioned. Could an early coloniser have become lodged below the weir to start this new colony? What may be significant is that the plant was found in a locality which I had been interested in for several years previously, as it demonstrated a succession of vegetation not at that time seen elsewhere in the river. For example, it was the first place where I recorded *Sagittaria saggitifolia* (Arrowhead) and *Fontinalis antipyretica* (Willow Moss) from the scheme, and the first place I observed in-stream emergent leaves and flowering spikes of *Sparganium emersum* (Unbranched Bur-reed).

However, much of the vegetation of the Jubilee was introduced, notably the riparian planting, which was installed in the form of 'grow-bags' of native (and sometimes not!) plants grown off site. Possibly the pondweed was introduced at the river's inception. Personally I have no truck with the artificial introduction of plants into new sites, particu-

larly rarer species. It disguises any genuine natural range expansion and what we may be able to interpret from that; and in any case such introductions are unlikely to survive in the longer term. If anyone from this forum can shed any light on an intentional introduction here I would be interested to know. Certainly I was never made aware of any official attempt to introduce the plant to the scheme, but communication being what it is, it would be prudent not to rule that out.

2012 was my last year of systematic surveying on the scheme. The plant had reduced in stature from 2011, with very few emergent leaves and the number of flowering spikes much reduced. In 2013, I checked the site again, and again the plant had reduced in stature, with no flowering spikes at all, just a few floating and submerged leaves. In this condition it is not so easy to see. This is consistent with reports from other areas, which indicate that plants and populations fluctuate in size from year to year.

On a positive note, I think there are a number of other suitable locations to support the plant within the scheme, notably at the weir downstream of the Dorney Wetlands area, which just has the right 'look', if I have judged it right. Unfortunately I could not find the time to go up in 2014, but hopefully in 2015 I will get back to check it out again. For any local botanists thinking of visiting the site, it is adjacent to the botanically interesting Dorney Common. Maybe next time I will be lucky with the almost mythical (to me!) *Cyperus fuscus* (Brown Galingale), which I never found there in all the years I surveyed the Jubilee! A word of caution though: the Jubilee scheme quickly became colonised by *Crassula helmsii* (New Zealand Pigmyweed) from nearby lakes. At the time of my last visit it had not got onto the Common, almost miraculously. Please do what I did each visit, and check your footwear thoroughly between sites to try and keep it out.

In conclusion, the Jubilee River appears capable of supporting this rare species, and its appearance here suggests that it is disturbance rather than water quality that is its limiting factor in the River Thames. I am confident that

it can survive and continue to spread to other suitable areas of the Jubilee River in the future.

#### Acknowledgements:

Thanks to Jonathan Adey for facilitating the monitoring project and for continuing help and support; to Roy Maycock for valuable comments; and to Roger Smith and Nick Stewart for verifying the specimen.

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### *Spiranthes romanzoffiana* and *Filipendula vulgaris* in v.c.73: first records

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On 22<sup>nd</sup> June 2014, I received an email from my local Dumfries & Galloway Environmental Records Centre (DGERC) saying that J. McCleary of Newton Stewart had found a single flowering plant of *Filipendula vulgaris* (Dropwort) at a site close to the tidal River Cree in Kirkcudbrightshire (v.c.73), near Creetown. I contacted him and learned of its location, but because of our various commitments elsewhere we were unable to visit the site together. A couple of days later, on 24<sup>th</sup> June, I went to the site and, by the description given, located the plant, still in full flower. There was no mistaking the species, but what was surprising is that this particular site is visited very regularly by various local botanists every year to see the display of many hundreds of plants of *Centaureum erythraea* (Common Centaury), *Dipsacus fullonum* (Wild Teasel), *Filago minima* (Small Cudweed), *Linum catharticum* (Fairy Flax), *Fragaria vesca* (Wild Strawberry) and *Sagina* (pearlworts), for which this site is noted.

A photo on Colour Section, Plate 3 shows the species as of June 2014, at approximately 60cm tall. It grew out of a crack between crushed mineral material and was accompanied by *Linum catharticum*, *Sedum anglicum*

(English Stonecrop), *Trifolium dubium* (Lesser Trefoil), *Aira praecox* (Early Hair-grass), *Scorzoneroideis autumnalis* (Autumn Hawkbit), *Fragaria vesca*, *Plantago coronopus* (Buck's-horn Plantain), various grasses and *Centaureum erythraea*. The best fit in the National Vegetation Classification is the maritime cliff community MC5 *Armeria maritima*-*Cerastium diffusum*: sub-community *Aira praecox*, although neither of the two named community species is present.

Exactly one month later, on 22<sup>nd</sup> July 2014, I received yet another email from DGERC, accompanied by a superb photograph (see Colour Section, Plate 3) by B. Clarke from Glentool, about an observation of *Spiranthes romanzoffiana* (Irish Lady's-tresses) at the same site the previous day, and, as it turned out, not far from the Dropwort. Following an extensive search around this location he had not found any other flowering spikes, so this was the only one on the site. He had marked the location by two stones placed at some distance from the plant to prevent other users of the site from being drawn to it. Following his instructions I re-found the plant, admittedly at a much later date, 30<sup>th</sup> July, as I was away shortly after the first report. It was already past

flowering and the single spike was beginning to dry and wither. Even at this stage the plant was obviously correctly identified. Again this plant was on dry mineral ground in a grass-lichen (*Cladonia* spp.) patch of ground, corresponding to a rudimentary NVC U1 *Festuca ovina* – *Agrostis capillaris* – *Rumex acetosella* calcifugous grassland, probably with closer affinity to sub-community *Erodium cicutarium* – *Teesdalia nudicaulis*. The nearby plants included *Teucrium scorodonia* (Wood Sage), *Linum catharticum*, *Sedum anglicum*, *Trifolium dubium*, both *Aira caryophyllea* (Silver Hair-grass) and *A. praecox*, *Rumex acetosella* (Sheep's Sorrel), *Pilosella officinarum* (Mouse-ear-hawkweed) and *Ornithopus perpusillus* (Bird's-foot). The habitat is atypical of that recorded for all other described colonies of *S. Romanzoffiana*.

In both cases, the plants were in open ground, heavily grazed by rabbits, unshaded, and with low vegetation cover (<50%) and short (<10cm tall) vegetation. The two NVC communities noted above have common characteristics in that both are “base-poor, oligotrophic and summer parched soils with grazing and disturbance often very important factors in maintaining the typical aspect of the vegetation”. They are communities of “open

habitats ... around rock outcrops, with some artificial habitats providing new opportunities for establishment”; “The poor competitive ability of the grasses allows for a bigger contribution among the north-western swards from low-growing, light-demanding chamaephytes like *Hieracium pilosella* and the *Sedum* species.... and from *Rumex acetosella*” (from Rodwell, 1992, 2000). However, how *S. romanzoffiana* fits into this habitat is unclear, as *Ellenberg's indicator values for British plants* (Hill & Ellenberg, 1999) show that this species requires a high moisture level and a weakly basic or neutral soil.

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## Identification of *Atriplex praecox* (Early Orache)

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*Atriplex* (oraches) is something of a Cinderella genus, with a deserved reputation for taxonomic difficulty. It shares with *Euphrasia* (eyebrights) a combination of phenotypic plasticity, hybridisation, and genetic variability between co-existing selfing lines. In the latter case, simple genetic variability in betacyanin pigmentation can be very confusing in *Atriplex*, as individuals deeply suffused with purple may only differ from those of a whitish green by one or two genes.

It is most important that identification is not attempted until bracteoles and fruits are fully developed, so that one is limited to a time window between mid-August and late September in most years.

Nevertheless, some species are unmistakable once learnt: *Atriplex laciniata* (Frosted Orache), *A. littoralis* (Grass-leaved Orache), the semi-fused bracteoles of *A. glabriuscula* (Babington's Orache), and the large flabby bracteoles of *A. longipes* (Long-stalked Orache) and *A. ×tascheraui* (Tascherau's Orache) are readily recognised, although distinguishing between the last two is another matter.

*Atriplex praecox* is a maritime subarctic species which was first recorded from British shores less than 40 years ago (Tascherau, 1977). Most records are from Shetland and the Inner and Outer Hebrides. It has not been recorded from Orkney and there is only one

recent record from eastern Scotland and two from the Scottish north coast.

Thus it was a considerable surprise when it was recorded from Cheviot (v.c.68) in north-east England in 1988 (Swan, 1993). Since then it has been recorded from eight sites in v.c.68 and two in South Northumberland (v.c.67). As has been stated frequently, it is a plant with a distinctive ecology, being found further down the beach than most other strand plants (although occasional individuals of *A. glabriuscula* and *A. laciniata* in particular can occur with it). In Northumberland it is mostly found on sandy shores, but in the Hebrides it is often found in muddy estuaries and sea-lochs, and some English and Galloway sites are also of this type.

Clearly, much apparently suitable habitat occurs in eastern, northern and south-western Scotland where this species has not yet been recorded, and it is conceivable that it also occurs further south in England, Wales and Ireland. As there are few published illustrations of this species, and most of these are at best misleading, I thought that some photographs and notes might lead to successful searches elsewhere (see inside back cover for photos).

Characteristically, *A. praecox* is a small, fleshy, prostrate species, although individuals of other species can have a similar habit. In Northumberland, at least, its name is misleading as it typically remains in good condition after most coexisting oraches have disintegrated. It follows that late September is often a good time to look for it. Another guide is that when the fruits are mature, the bracteoles usually darken to a distinctive deep leaden purplish-grey in most cases (Photo 1),

although one Northumberland population lacks betacyanins and is pale green.

On close examination, two features clinch the identification. Firstly, the bracteoles are quite large (7-9 mm long), longer than in *A. prostrata* (Spear-leaved Orache) and *A. patula* (Common Orache). Diagnostically, the bracteoles are quite smooth, not calloused, pimply or spiny, and the margins are entire, not dentate, and with rounded angles (Photo 2). The bracteoles are free as far as the basal angles. Secondly, proximal leaves are trullate, that is to say narrowly triangular, but with the subobtuse basal angles forward-pointing (Photo 3). This shape is rarely found in other species: in *A. prostrata*, *A. glabriuscula* and *A. longipes* the basal angles are usually patent, not forward-pointing, and acute. Note however that in *A. praecox*, distal leaves are often lanceolate and similar in shape to those of *A. patula*.

On 3<sup>rd</sup> October 2014 I found an individual at Howdiemont Sands (v.c.68) which resembled neighbouring *A. praecox* in many ways, but in which all the leaves were lanceolate and the bracteoles were slightly dentate (Photo 4). The only species with which *A. praecox* has so far been known to hybridise is *A. glabriuscula*, which was among several other species also present. There is a previous record of *A. praecox* × *glabriuscula* from v.c.68 (Swan, 1993).

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## Early English plant names

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I was particularly interested in the article by John Edmondson (*BSBI News*, 127: 33-36), dealing with the identification of plants listed by John Gardener (c. 1400 A.D.), because early English plants and their names have been my

main area of study for many years. I have found that writers sometimes have differing views on some of the identifications. I detail below my own views and other observations, which I hope will be of interest.



**Holyhocke**

I do not think there is any real doubt that Hollyhock is *Alcea rosea*. The Old English name for Common Mallow *Malva sylvestris* is Hoc. In 1260, Queen Eleanor is thought to have brought the Hollyhock to England, following her travels in the Holy Land. Thus the Hollyhock acquired the name Holy Hoc. Whether this account be true or not, Harvey (1981) and Turner (1548), both take the Hollyhock to be *Alcea rosea*.

**Horehownd**

Harvey (1981) takes this to be the White Horehound *Marrubium vulgare*. White Horehound is native to England in a few areas, but was also introduced and now mainly appears as a garden relic. Black Horehound *Ballota nigra* is much inferior as a medicinal herb and is very unlikely to be the plant mentioned by Gardener. White Horehound appears in a number of Old English medicinal recipes and today “is still prescribed in lozenges to control an annoying cough” (Cameron, 1993).

**Langbefe**

The name is usually given as *Langdebefe* and comes from the French *Langue de boeuf* or Latin *Lingua bovis*, meaning ox-tongue. Turner (1548) and Grigson (1974) followed by Harvey (1981) identify this as being Ox-tongue *Helminthotheca (=Picris) echioides*. There would appear to be no better candidate.

**Oculus Christi**

Gerard (1597) gives *Oculus Christi* as being Wild Clary *Salvia verbenaca*, but Harvey (1981) says the name should be applied to the true Clary *Salvia sclarea*, which was probably introduced into England in the 14<sup>th</sup> century. Turner (1548) gives *Oculus Christi* as being *Salvia sclarea*.

**Tuncarse**

The name Tun-carse (Town-crese) is from the Old English (Clark Hall, 1894). The ‘tun’

element of the name does not come from, but is probably cognate with, the Dutch ‘tuin’ (garden).

**Valeryan**

Harvey gives Valerian *Valeriana officinalis*, a plant that appears in English lists, including Gardener, back to the Anglo-Saxon period. Red Valerian *Centranthus ruber* was introduced as a garden plant in the 16<sup>th</sup> century.

**Walwort**

Turner, followed by Harvey, gives Wallwort as *Sambucus ebulus*, again a plant used by the Anglo-Saxon herbalists and an early introduction into England. The original form of the name is Old English ‘Wealthwyr’t meaning ‘foreign plant’. Today the plant is better known as Danewort.

**Wyldtesyl**

There is indeed a cultivated Fuller’s Teasel *Dipsacus sativus*, for use in the textile industry (Mabey, 1996). The cultivated plants differ from Wild Teasel *D. fullonum* in that the spines on the ends of the bracts curve back to form hooks.

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## The flora of Hawick Burgh: an exercise in fine-scale recording

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### Introduction

After the arduous of repeat-recording Berwickshire, I was looking for something a little more relaxing for 2014, so I chose to record the flora of my home town, Hawick, in some detail. Hawick is in Roxburghshire and has a population of about 15,000. For a survey boundary I started from the burgh boundary, which encloses an area of close to 6km<sup>2</sup>, but I modified it slightly to include recent housing, which resulted in an area of close to 7km<sup>2</sup>. This survey area comprises 13 whole or part monads (1km squares).

### Methodology

I had to choose a methodology. It was apparent that, if one wished to map the results, records at 1km scale would be boring, although they would be more than adequate as a contribution to BSBI's Atlas 2020 project. 1km scale would be boring because the habitat colonised by a species would not be apparent and in particular it would not be apparent whether or not the species was limited to the principal habitats of the survey area. These habitats are a block of ancient woodland, the two rivers which join in the town, the public park, a pond, the industrial areas, the housing, the main roads and the line of the old railway. If 100m scale was used for all records and they were mapped with the 1:25,000 OS map as a background the match or otherwise with these habitats would be apparent.

I was never going to be able to make lists for all 100×100m units. The best I could hope for was monad coverage, so I had to think what I was actually going to do in the field. What I have settled for is to survey by monads, making a species list as I walked round each monad by a route which covered as diverse a set of habitats as possible. A notebook was used, rather than a recording card, and the 100m GR was recorded from a wrist-held GPS for all records made. For the more widespread species, a record was made only for the first

sighting in a monad. For 'more interesting' species, those expected to be relatively scarce or to be especially good habitat indicators, separate records were made in every 100m unit where the species was found, often with supporting details such as 10m cell precision and quantity found. The choice of the 'more interesting' species was crucial. Interesting distribution maps depend on there being a fair number of 'dots', so the rare species do not yield interesting maps. I therefore included a good number of relatively frequent species that I wished to learn more about. Each monad was visited about three times over the season, so the common species, recorded just once per monad, accumulated about 25-30 records. A map for such species that shows both the 100m 'dots' and the monad distribution as open circles is the most informative.

This methodology has proved fun to do. As the survey area is close to home, I have been out for a couple of hours twice a week, never covering more than two monads in detail on an outing. That way I have been able to work with a notebook, remembering, good enough, what has or has not been recorded in a square on the day without using a pre-printed recording card.

Data entry in MapMate has been manageable. In recent years in my Berwickshire recording I had been recording 40% of the records made at 100m scale and the rest at 1km scale, so I had become used to entering a lot of GRs. Similarly the 40% of records made at 100m scale and recorded on the front of my printed recording card have had the species name entered in the data entry form as 'calat' for *Campanula latifolia*, rather than using the BRC code number '316', which was the norm for records entered on the pre-printed list on the back of my recording card, and I have not found that much of an issue. So I have not found it irksome to enter all records made in this way. There are not as many 'extra' GRs by working at 100m scale as one might

suppose. Most of the common species are noted where one starts a walk or at a few discrete points where the habitat changes.

**Survey results**

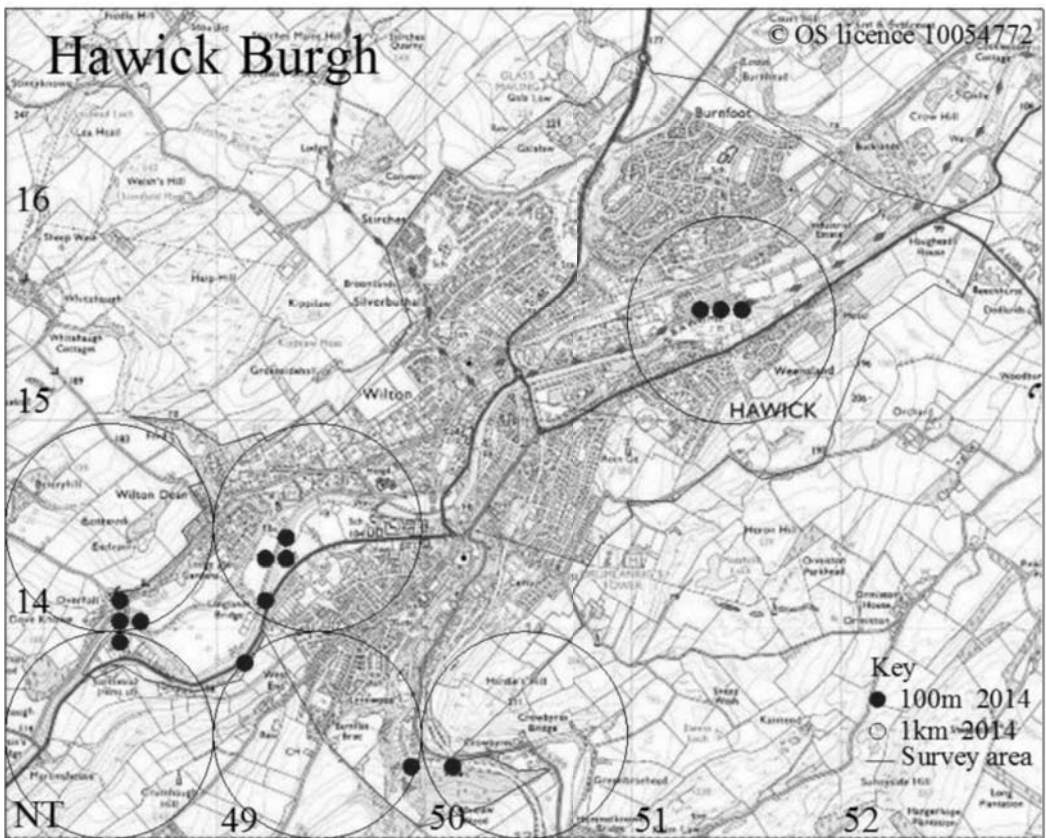
I am pleased with the results. I would not be writing this if I had not been! Not only have I found far more taxa than I dared hope for in inland Scotland, at well over 600 compared with a target of 450, but my hope that a match with habitats would be apparent has also been realised.

I can demonstrate which woodland species do and do not colonise the river banks away from the key woodland habitats. I can demonstrate which grassland species do and do not tolerate the town, with its preponderance of regularly mown re-seeded grass. I can demonstrate that roadside halophytes find no habitat

in the streets and are confined to the fringe of the urban area. I can study the habitats of the arable weeds in an area with only one tiny arable field. I have taken a snapshot in time of the extent of spread of the more aggressive neophytes.

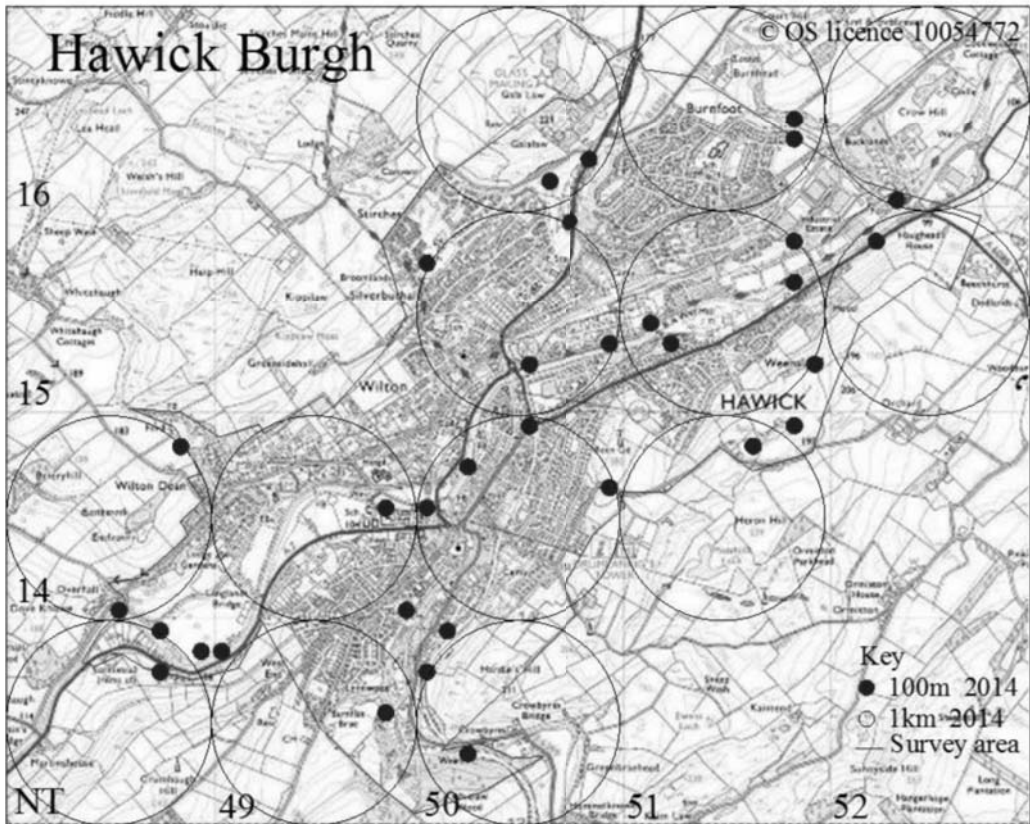
The two maps (see below and overleaf) illustrate *Campanula latifolia* (Great Bellflower), which was recorded intensively and has several colonies along the river banks in the town, and *Centaurea nigra* (Black Knapweed), which was only recorded where first seen in a monad and is present in all monads. It is seen to thrive along the river banks and to persist in fragments of neutral grassland around the town. There are enough ‘dots’ to allow the complete distribution to be inferred.

**Campanula latifolia (Giant Bellflower)**



*Campanula latifolia* (Great Bellflower), recorded intensively, has several colonies along the river banks within the town of Hawick

## Centaurea nigra (Common Knapweed)



*Centaurea nigra* (Black Knapweed), recorded once only per visit to a monad, nevertheless the sample dots give a good impression of where fragments of neutral grassland are to be found in Hawick

With the 1:25,000 OS map as a background I can at last experience what life is like for recorders who have a full-blown GIS system with fine-scale maps for their whole vice-county as a backcloth to distribution maps. The advantages of recording to 100m scale (or finer) becomes clear. Monad records are disappointing against such a backcloth and tetrad records are not much good at all, especially when so many sites of botanical interest have an area of around the 40 hectares (100 acres) and therefore cannot be matched with tetrad records.

I have surveyed other areas in detail before, especially wildlife reserves, but never one with such a complex mix of microhabitats as Hawick Burgh. It has been an eye-opener.

### Using the survey results

I plan to use the results to publish a colour booklet about the town's flora under the auspices of the Hawick Archaeological Society (which includes natural history in its objectives). I will not be listing the 600 taxa. I will be discussing and illustrating the main habitats and species groups of interest, such as planted trees, and seeking to set the whole in a historical perspective. I will include about 20 distribution maps. The OS licence costs £57.

This booklet will not be much of a publication in the broader scheme of things, but the whole project has been fun to do and has been achievable without undue effort and I would like to think that there are other botanists who would enjoy some comparable project in their own areas. They will need to import a decent

map of their survey area into MapMate, or other recording package, to enjoy the results to the full and will need to face up to the copyright issues if they publish.

### Comparison with other studies

Urban floras that have come my way are those for Glasgow, 360km<sup>2</sup> with maps at tetrad scale, and Belfast, 76km<sup>2</sup> at monad scale but without maps. These cover much larger areas than my Hawick survey so are not directly comparable. I have enjoyed the sections covering history and habitats more than the species accounts and the distribution maps.

One of my own recent surveys was of the town and bounds, or liberties, of Berwick-upon-Tweed, being that part of North Northumberland which lies north of the River Tweed. It is an area of about 23km<sup>2</sup> but little more than 10% of it is urban, so it is not very comparable to the Hawick survey of 7km<sup>2</sup> about 80% of which is urban. The recording methodology for my 2003 survey of Berwick-upon-Tweed was on a sample basis that focused on the main habitats, with routes walked recorded on a map and with the scarcer species recorded at 100m scale (about 40% of the records). Digitisation of the more widespread species was at tetrad scale, the standard in North Northumberland. 15 days were spent in the field. I wrote up the survey in a paper for the 'History' of the Berwickshire Naturalists Club and the text was along very much the same lines as that planned for the Hawick survey. The lack of the extra 100m scale detail collected for Hawick was not really a limiting factor. The main habitats of individual species could be identified from the recording cards and from memory, as most of the walks had been structured by habitat. However no distribution maps were included in my paper: both because of space limitations and because the maps I had were not suitable. For the more widespread species tetrad scale is just not fine enough to show an interesting pattern in such a limited area and, for the few species recorded at 100m scale with enough records per species to make the maps interesting, an OS map background would have

been needed to bring out the patterns, and I was not up to that then.

### Conclusions and wider applications

The comparison of my Hawick and Berwick-upon-Tweed surveys shows that the extra 100m scale detail collected for Hawick made no great difference to my ability to write up habitat accounts of the survey area. What I gained was the distribution maps. These have given me pleasure but have only contributed in a fairly modest way to the published output. One can argue that the extra detail gained was a superfluous luxury. Against that I would point out that it was not much extra work to record the extra detail and that fine-scale records are always more valuable than coarse-scale records because they can be used in a greater variety of ways and are much easier to re-find in the field.

If a Flora of Roxburghshire was to be published, it would be based on the ongoing sample tetrad survey. My fine-scale survey data for Hawick would not enhance tetrad distribution maps. However, there would be no need for all the maps in such a county flora to be of the same area at the same scale. There could be a place for a few of the fine-scale Hawick maps.

It is now realistic to look forward to a time when survey data will be routinely digitised in the field with satellite GPS data being fed automatically into every record made. Maybe my Hawick survey gives an insight as to what will and will not be achievable with such technology. Meanwhile I suggest that there is a real need for the BSBI to consider recording software with GIS capability to replace MapMate, whether as standalone units or on the Web, and to do much more to encourage species recording at 100m scale or finer.

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## ***Filago pyramidata* L. (Broad-leaved Cudweed) new to Wiltshire**

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The recent discovery of a large population of the nationally rare *Filago pyramidata* (Broad-leaved Cudweed) in Wiltshire must represent one of the most exciting botanical finds in the county in years. In September 2013 one of us (JM) found the shrivelled remains of a cudweed in the Cross-country Driving Area (CCDA) on Salisbury Plain military training estate. Having come across the plants at the end of a hot, dry summer the specimens he sent SP for verification could not be confidently confirmed. We therefore made a date to return the following July when any successors would be in top condition. Sure enough, we found numerous plants in full flower and were able to confirm the species unequivocally as *F. pyramidata*, new to Wiltshire (see Colour Section, Plate 1).

*F. pyramidata* is a small annual herb. Formerly widespread south of a line from the Wash to Bournemouth, since 2000 it has been reported from fewer than ten populations in south-east England. It is now classified as Nationally Rare and IUCN Endangered. It strongly resembles *F. vulgaris* (Common Cudweed) but differs in having broader, blunt-tipped leaves which overtop the flower clusters.

Salisbury Plain is a wild and remote chalk massif equivalent in area to the Isle of Wight. It is the largest intact tract of unimproved chalk grassland in NW Europe and it supports innumerable important habitats and species. Its importance for national and international biodiversity has been recognised through various designations and notifications, including SSSI, SAC and SPA. It is also a very intensively used military training estate. The CCDA is one of the most intensively used parts of the plain, where military drivers are put through their paces on open, undulating ground near Tidworth Garrison. Years of such activity have produced a unique scarred landscape, where highly disturbed, flinty chalk

alternates with tracts of very rich chalk grassland. Plants of high national conservation value found nearby include *Carex humilis* (Dwarf Sedge), *Thesium humifusum* (Bastard-toadflax), *Minuartia hybrida* (Fine-leaved Sandwort), *Astragalus danicus* (Purple Milk-vetch) and *Cerastium pumilum* (Dwarf Mouse-ear).

The population of *F. pyramidata* was thinly scattered across a number of moderately disturbed flinty track edges where the vegetation cover was typically 50% or less. Common associated species included *Medicago lupulina* (Black Medick), *Plantago lanceolata* (Ribwort Plantain), *P. major* (Greater Plantain), *Poa annua* (Annual Meadow-grass), *Tripleurospermum inodorum* (Scentless Mayweed), *Aphanes arvensis* (Parsley-piert), *Senecio jacobaea* (Common Ragwort), *Melilotus altissimus* (Tall Melilot), *Potentilla anserina* (Silverweed), *Agrostis stolonifera* (Creeping Bent), *Echium vulgare* (Viper's-bugloss), *Catapodium rigidum* (Fern-grass) and *Odontites vernus* (Red Bartsia).

JM subsequently made a wider search of the CCDA and counted approximately 700 individuals in an area approximately 0.5km<sup>2</sup> in size over three different monads. A small outlying population was also found by SP near the A338 road more than a kilometre east and the tantalising possibility remains that it could be present elsewhere on Salisbury Plain. As the plant has had the good sense to make its Wiltshire debut in a SSSI and active military training site its future is probably secure as long as military driver vehicle training (which maintains the disturbed habitats preferred by this species) continues. Natural England and Defence Infrastructure Organisation were both pleased to hear about this new rarity.

Salisbury Plain, whilst not open access, is nonetheless well studied by visiting researchers and field botanists, so it is a puzzle

how this population could have gone undiscovered until now. However, the CCDA is not – on the face of it at least – a very inviting area for botanists, containing fragmented areas of grassland and numerous tracks used by large,

noisy military vehicles, often throwing up clouds of dust. The plant's life-cycle is also short and in dry or hot years it will probably only be visible for a few months.

## Revisiting *Schoenoplectus pungens* (Sharp Club-rush)

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### Introduction

The distinctive rhizomatous perennial *Schoenoplectus pungens* (Sharp Club-rush) has three acute angles on erect pale-green leafless stems, which support unstalked flowers of a striking reddish-blown colour (see Colour Section, Plate 2). Stace (2010) described it as native on a pond margin in Jersey and in wet dune-slacks in South Lancashire (v.c.59). According to Foley & Porter (2002), the Jersey colony declined in the 1950s and 1960s; the plant last being seen in the early 1970s, having apparently been replaced by *Carex riparia* (Greater Pond-sedge).

Smith (2005) detailed the history of *S. pungens* in South Lancashire. In summary, it was originally collected by W.G. Travis in 1909 at 'Massams Slack' in what later became Ainsdale Sand Dunes National Nature Reserve (NNR), though it was not identified for another 19 years. By 1972, the colony was in decline due to the drying out of the slack, competition from maturing vegetation and Rabbit grazing. It was therefore translocated to the edge of a newly excavated pond within the NNR, where it survived for about 20 years before again being lost. Fortunately material from the colony had been cultivated at Liverpool University, this being re-introduced in 1990 to recently dug scrapes in dune-slacks at Birkdale Sandhills Local Nature Reserve (LNR), about 4 km to the north of the Ainsdale locality.

### Monitoring studies

The translocation sites were monitored in 2004, five discrete populations of *S. pungens* covering a total area of 173m<sup>2</sup> being found, including one on the nearby Birkdale Green Beach (Smith, 2007), derived from natural spread. The plant was described as "well-es-

tablished and thriving" (Smith, 2005). Ten years on, it was thought appropriate to monitor this species again to determine its current status. Accordingly, the known localities, together with one discovered after the 2004 study, were visited in July 2014. Areas occupied by *S. pungens* and maximum stem heights were measured, notes being taken on habitat condition. To characterise the vegetation, 2 × 2m quadrats were recorded using UK National Vegetation Classification (NVC) methodology, the results being compared with keys in Rodwell (2000) and analysed using MAVIS software. Sub-surface (1 – 5cm) soil samples were taken at quadrat sites, pH being determined using a PH-212 digital pH meter buffered at pH 7.

### Results

Overall, the area occupied by *S. pungens* in 2014 was 469.5m<sup>2</sup>, an increase of 269.5m<sup>2</sup> (171%) compared with 2004 (Table 1). Of the five colonies recorded by Smith (2005) no. 4 (7m<sup>2</sup>) at Tagg's Island Marsh (SD31261555) was not refound, having been destroyed when a ditch was dug to relieve severe flooding of the nearby coastal road in the winter of 2012/13. However, all the other populations were extant in 2014 (Table 1, p. 24). The colony associated with a scrape in slack 38 (sites 1 & 2) had increased in area more than ten-fold from 26m<sup>2</sup> to 267.5m<sup>2</sup>. The Tagg's Island scrape population (site 3) had also grown from 50 to 83.3m<sup>2</sup>, while the original Green Beach patch (site 5) showed a small reduction from 90m<sup>2</sup> in 2005 to 85.5m<sup>2</sup> currently. With an area of 29.2m<sup>2</sup>, site 6 was discovered in June 2010, being a linear colony situated on the edge of an informal footpath crossing a swamp on Birkdale Green Beach

about 490m southwest of site 5 and 156m from site 3. Maximum stem heights varied from 70 to 105cm, considerably more than the 60cm given by Jermy *et al.* (2007) and Stace (2010) and identical to the range cited by Smith (2005).

All sites are wetlands that are seasonally flooded by calcareous ground-water, the main habitats favoured by *S. pungens* being semi-aquatic or wet slacks, *sensu* Ranwell (1972). However, at sites 1, 2 and 3, in particular, plants have spread from the shallow margins of scrapes into permanently flooded deeper zones and also to much drier fixed-dune habitats well above the winter water-table. These scrapes are much visited by dog-walkers, parts of the margins being heavily trampled. *S. pungens* has survived recreational damage, although shoots were suppressed to lengths of 20-30cm, compared with about 100cm in untrampled sites.

Soil pH ranged from 6.60 to 7.52 with a mean of 7.26 (Table 1), these being relatively high values for mostly waterlogged soils and a reflection of the high calcium content of dune sand close to the shore (Smith, 2009).

A total of 44 vascular taxa was recorded as associates of *S. pungens*, the most frequent being *Agrostis stolonifera* (Creeping Bent), *Bolboschoenus maritimus* (Sea Club-rush), *Hydrocotyle vulgaris* (Marsh Pennywort), *Iris pseudacorus* (Yellow Iris) and *Mentha aquatica* (Water Mint), all being common slack and swamp plants on the Sefton Coast (Smith, 2009). Four of the associates are regionally notable, namely *Apium graveolens* (Wild Celery), *Oenanthe lachenalii* (Parsley Water-dropwort), *Schoenoplectus tabernaemontani* (Grey Club-rush) and *Trifolium fragiferum* (Strawberry Clover).

Interestingly, 44 vascular associates were also recorded in 2004 (Smith, 2005) but the species composition was different, 21 new taxa being added in 2014, while the same number were not re-found. This reflects the extremely high species-richness of these wetland habitats (Smith, 2009) rather than any major change in communities, though two saltmarsh species, *Aster tripolium* (Sea Aster)

and *Juncus maritimus* (Sea Rush), recorded in 2004 on the Green Beach were not present ten years later, this site having become less maritime.

Examining keys and species tables in Rodwell (1995; 2000) suggests that the quadrat data have limited accordance with known NVC communities. The quadrats from slack 38 and Tagg's Island have some similarities to dune-slack types SD14: *Salix repens-Campyllum stellatum* dune-slack and SD15: *Salix repens-Calliergon cuspidatum* dune-slack, while the Green Beach samples, having low to moderate frequencies of *Bolboschoenus maritimus*, could be classed as S21: *Scirpus* (= *Bolboschoenus*) *maritimus* swamp, though several of the associates are not typical of that community. The results of the MAVIS analysis are shown in Table 2 (p. 24). The levels of statistical fit to known NVC communities are very poor in all cases, so inferences must be treated with caution. However, the slack 38 sites seem to support vegetation associated with calcareous dune slacks of young to moderate age (SD14), while Tagg's Island resembles SD15, this being characteristic of older and wetter slacks with circum-neutral ground water (Rodwell, 2000). These results accord with the soil pH readings, the SD14 samples having high values (7.43-7.45), while the SD15 sample is much lower (6.60) (Table 1). Green Beach vegetation has affinities with S21, a swamp community characteristic of poorly drained brackish coastal sites, as here (Rodwell, 1995).

### Discussion

The results of this survey show that *S. pungens* continues to be well-established at its Birkdale translocation sites, has increased in area at most locations and has spread naturally to a new site over 150m from the nearest population. The mechanism by which the latter colonisation occurred is not known but the fact that the new location is associated with an informal footpath suggests that human agency was involved. Perhaps propagules were transferred on muddy boots or clothing.

Why *S. pungens* is so rare in Britain is a mystery, bearing in mind that this is one of the



world's most widely distributed wetland plants, occurring in North and South America, Mexico, Europe, Australia and New Zealand. Albert *et al.* (2013) state that this species is an early coloniser of shallow, high energy, fresh-water and brackish coastal wetlands, tolerating waves, tidal fluctuations and unstable accreting sediments. It also occurs inland. The plant typically grows in monocultural stands and is a long-lived perennial, reproducing both clonally and sexually. Certainly, studies at Birkdale suggest that *S. pungens* is an adaptable species, capable of growing successfully in fluctuating calcareous or neutral fresh or brackish water, spreading into relatively dry habitats and tolerating heavy recreational trampling. However, its history of gradually declining in established sites suggests that it does not compete well in the long term with habitat maturation. Thus, the patch in competitive swamp vegetation at Birkdale Green Beach (site 5) did not increase in area over a ten year period, while others in more open scrape habitats tended to spread markedly.

Earlier accounts mention the plant's susceptibility to Rabbit-grazing (Smith, 2005). However, in recent years Rabbits have largely disappeared from parts of the Sefton dune system, including Birkdale, probably due to repeated myxomatosis outbreaks (Smith, 2009). The current populations of *S. pungens* showed no evidence of Rabbit damage.

Whether *S. pungens* was originally native in South Lancashire is an 'ongoing debate' (Smith, 2005), experts coming to different conclusions. Stace (2010) described the plant as "native", while Smith (2005) suggested that it could have been introduced, though there was no direct evidence to support this view. The *New atlas* (Foley & Porter, 2002) maps the Jersey site as 'native' but the Sefton localities are shown as 'alien', the plant's origin here being "obscure". Similarly, Clapham *et al.* (1987) regarded this species as "introduced in Lancashire", though the plant remains popular with visiting botanists.

### Conservation

All the sites recorded in this study are statutorily protected by Site of Special Scientific

Interest and Special Area of Conservation designations. They also lie within a Local Nature Reserve owned and managed by Sefton Metropolitan Borough Council.

As *S. pungens* is primarily a wetland plant, its conservation depends on the maintenance of dune hydrology, recent drainage works associated with the nearby coastal road being a concern, although as yet there is no evidence that this has adversely affected the water-table in the study area. Smith (2005) mentioned that the plant was being restricted at sites 2 and 3 by the growth of *Salix cinerea* (Grey Willow) bushes. These were removed by Sefton's Coast & Countryside Service at the author's request. The impact of trampling by dog-walkers at sites 1 - 3 has suppressed the growth of *S. pungens* but may also have helped to maintain a more open habitat condition, restricting the development of competitive vegetation.

The plant's expansion since 2005, together with the establishment of a new colony on the Green Beach, gives grounds for optimism for its future at Birkdale. Monitoring at appropriate intervals is desirable to follow its progress.

### Acknowledgements:

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Table 1. *Schoenoplectus pungens* colonies on the Sefton Coast in 2014 compared with 2004

Site	Location	Grid Ref.	Area 2004 (m <sup>2</sup> )	Area 2014 (m <sup>2</sup> )	Max.shoot Ht. (cm) 2004	Max.Shoot Ht. (cm) 2014	Soil pH 2014
1	Slack 38 scrape	SD31481565	8	140.9	70	102	7.43
2	Slack 38 scrape	SD31471564	18	126.6	70	105	7.45
3	Tagg’s Is. scrape	SD31201543	50	87.3	90	70	6.6
4	Tagg’s Is. Marsh	SD31261555	7	0	105	0	0
5	Green Beach (north)	SD31321570	90	85.5	90	90	7.3
6	Green Beach (south)	SD31051528	0	29.2	0	70	7.52
Total			173	469.5			

Table 2. MAVIS analysis of *Schoenoplectus pungens* samples

Location	NVC code	Community	Sub-community	% fit	Assessment of fit
Slack 38 scrape	SD14d	<i>Salix repens-Campyllum stellatum</i> dune slack	<i>Festuca rubra</i>	39	Very poor
Slack 38 scrape	SD14a	<i>Salix repens-Campyllum stellatum</i> dune slack	<i>Carex serotina-Drepanocladus sendtneri</i>	37	Very poor
Tagg’s Island scrape	SD15a	<i>Salix repens-Calliargon cuspidatum</i>	<i>Carex nigra</i>	40	Very poor
Green Beach (north)	S21	<i>Bolboschoenus maritimus</i> swamp		28	Very poor
Green Beach (north)	S21	<i>Bolboschoenus maritimus</i> swamp		29	Very poor
Green Beach (south)	S21c	<i>Bolboschoenus maritimus</i> swamp	<i>Agrostis stolonifera</i>	36	Very poor

## Frog Rush – *Juncus ranarius* as an inland plant on roadsides

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A previous request to look out for inland plants, particularly on roadside verges, of *Juncus ranarius* (Frog Rush) managed to elicit two responses, neither of which were from roadsides; but I am always happy to have a look at plants for people. Unfortunately, neither of these two plants was *Juncus ranarius*.

However, a search of roadsides in Yorkshire for Frog Rush on what looked like suitable verges was carried out. The method was to collect a small bit of rush, place it in a paper packet, label it with grid reference (monad), etc., and check it in more detail at home. These verges needed to be without a kerb and usually where they have more or less damp or relatively wet edges during much of the year (see fig. 1, Colour Section, Plate 1) for a typical roadside habitat). Further searches

were made in one or two other areas where it was also found. A total of 31 monads were visited but the survey was limited to one day and where it was found in small numbers while visiting other places. Hence some of the roads, such as those at or near Beamsley Beacon (v.c.64) and near the Hole of Horcum (v.c.62) would warrant further searches at some point, as only short distances were covered at the time.

Table 1 shows the monads where the rush was found. Most records came from the road leading from Ribbleshead viaduct to Hawes, where it occurred more or less frequently in every monad, not just at the grid references shown. This road and where it turns off for Dent also have small but significant patches, in places, of *Juncus compressus* (Round-fruited Rush).

Table 1: Monads for *Juncus ranarius* on roadside verges

Monad	date	Comments
SD7983	12/09/2013	Road towards Dent.
SD7784	12/09/2013	Road towards Dent, near viaduct over road.
SD7883	12/09/2013	Road towards Dent.
SD7984	12/09/2013	Along the B6255, c. SD795840 – near Newby Head Farm.
SD8689	12/09/2013	Along the B6255, near Honeycott, 25 m before footpath on left but opposite side of road, damp entrance to field c. SD861896.
SD8589	12/09/2013	Along the B6255, c. SD859895 – both sides of road near layby.
SD8489	12/09/2013	Along the B6255, near Tarney Force, c. SD842891.
SD8388	12/09/2013	Along the B6255.
SD8287	12/09/2013	Along the B6255, (SD826878 near to where the telephone box is) also at Dairy Farm SD821873. <i>J. compressus</i> occurs up the hill from here in patches.
SD8187	12/09/2013	Along the B6255, small section of monad some present on left side towards Ribblesdale.
SD8186	12/09/2013	Along the B6255, c. SD814866 – between a small quarry on left side and a track on the right side towards Ribblesdale.
SD8085	12/09/2013	Along the B6255, c. SD809857 – Before Swineley House, stream goes under road, 50m past stream on left side going towards Ribblesdale.
SD8084	12/09/2013	Along the B6255, c. SD800846 – Widdale Head Farm, near layby to farm and about 1/3 of way up from stream (SD807854).
SD7982	18/09/2013	Along the B6255, just before bend.
SD7981	18/09/2013	Along the B6255.

Monad	date	Comments
SD7881	18/09/2013	Along the B6255, small section of monad.
SD7880	18/09/2013	Along the B6255, opposite Dales Way c.SD785803.
SD7779	18/09/2013	Along the B6255, near Gearstones Lodge toward Ribblesdale opposite Footpath going SSE.
SD7679	18/09/2013	Along B6255 opposite edge to parking area c.SD767794.
SD7876	18/09/2013	Along the B6479, near Selside.
SD7875	18/09/2013	Along the B6479, Selside, some at c.SD787753 and some at c.SD782758.
SD7874	18/09/2013	Along the B6479, near Borins/South House, c.SD788745.
SD7269	12/09/2013	B6480 to Bentham, plants scattered along the road.
SD7268	12/09/2013	Road to Clapham station, see notes below for other taxa in this monad.
SD7169	12/09/2013	B6480 to Bentham, occurring at the end of one of the <i>Juncus gerardii</i> patches and elsewhere. Opposite the <i>J. gerardii</i> on the right toward Bentham in grassland is a patch of <i>J. ×diffusus</i> , SD7181469224, which also grows in extensive patches between these GRs, SD7260869284, SD7260369146, SD7281969226 SD7284669344 and also found at SD7272068680.
SD6969	12/09/2013	B6480 to Bentham, some near lay by SD693693.
SD7269	12/09/2013	Near layby.
SE0852	30/08/2013	Lanshaw Bank, at Beamsley Beacon, scattered on road edge, could be elsewhere along this road. <i>Juncus ×diffusus</i> was also found here at SE0918852114 – 7-8 clumps.
SE0952	30/08/2013	Lanshaw Bank, at Beamsley Beacon, scattered on road edge. In a ditch leading to a farm house a couple of <i>Juncus ×surrejanus</i> were also found.
SE1142	30/08/2013	East Morton, SE1158342253, on road edge next to Graincliffe Reservoir and in one or two other places in same monad, sparse.
SE858159 8292	29/08/2013	Eller Beck bridge, VC62, with <i>Spergularia marina</i> & <i>Puccinellia distans</i> . Also at SE8552698623, next to cattle grid near Goathland Moor car park.

It is clear that in some areas this little rush is being overlooked and is possibly commoner on some suitable road verges than some coastal sites. It seems quite happy as long as there is little competition from other plants. A plant (see fig. 2, Colour Section, Plate 1) at Eller Beck Bridge (details in Table 1) is close to where Vincent Jones (vice-county recorder for v.c.62) had found it previously along the road edge next to the car park for the Hole of Horcum in a different tetrad. Along the road to Hawes from Ribblesdale viaduct area, many plants occur as at Widdale. *Spergularia marina* (Lesser Sea-spurrey) and *Puccinellia distans* (Reflexed Saltmarsh-grass) can be associates, but often it occurs without these.

These two associates also occur, frequently in the former species, and commonly in the latter species, on many roads in Yorkshire in situations where Frog Rush does not grow, due to drier conditions or competition, or where it has not managed to reach.

Further road verge surveys are needed but they are time consuming. It is undoubtedly on other parts of some of the roadsides searched here, where only a minimal search was made. *Juncus bufonius* (Toad Rush) also occurs frequently, so plants need to be checked carefully. Hopefully this note will encourage others to look at their road verges in more detail. I would be happy to look at any amount of material.

## Should *Senecio vulgaris* ssp. *denticulatus* be a species?

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*Senecio vulgaris* (2n=40) is a complex of different taxa, and hybrids have formed with it, primarily (in the UK) with *S. squalidus* L. (Oxford Ragwort) (2n=20). *S. vulgaris* ssp. *vulgaris* (Groundsel) has two variants: var. *vulgaris* L. and var. *hibernicus* Syme (Radiate Groundsel). *S. cambrensis* Rosser (Welsh Groundsel) (2n=60) and *S. eboracensis* Abbott & Lowe (York Radiate Groundsel) (2n=40) have evolved as species derived from hybridisation between *S. squalidus* and *S. vulgaris* (Abbott & Lowe, 2004; Stace, 2010). *S. vulgaris* ssp. *denticulatus* is recognised as a subspecies of *S. vulgaris* s. l. (Allen, 1967) and has a wide distribution from the coasts of western Europe and montane altitudes in Spain and Sicily (Kadereit, 1984; Comes *et al.*, 1997). It also occurs on sand dunes around the coasts of the British Isles, including the Channel Islands and in the south and west, north to the Isle of Man (Stace, 2010). In 2014, I was only aware of four extant sites in the British Isles:

- The Sefton Coast, Birkdale. Phil Smith found a colony on the dunes of the Green Beach area, v.c.59. The taxon has been known on the coast there for many years (in the past, mainly Ainsdale, as there are several specimens in Manchester Herbarium, MANCH). I had also seen it previously on the dunes in the Crosby area but it may be extinct there now;
- Lytham St. Anne's, v.c.60. The original record was recorded as var. *hibernicus* (Greenwood, 2012) but on a visit in 2014 I found that the scant few plants there were ssp. *denticulatus* (var. *hibernicus* does not occur on sand dunes);
- Sandscale Haws NNR, v.c.69. I have known it there for quite a number of years and the warden (Neil Forbes) sent a photo in 2014 showing that it is still extant;
- Jersey, v.c.113. It still occurs there widely, material having been received in 2014

from Anne Haden. Comes (1995) studied its ecology extensively on Jersey.

Previous studies have shown that *S. vulgaris* ssp. *denticulatus* can be discoid or radiate but has a distinctive morphology (leaf shape) and life history (delayed flowering and fruiting) relative to *S. vulgaris* var. *vulgaris* and var. *hibernicus*, and produces more florets per capitulum (Kadereit, 1984; Comes *et al.*, 1997). In addition, it possesses a chloroplast (cp) DNA haplotype E not found in *S. vulgaris* ssp. *vulgaris* (Comes *et al.*, 1997), or in any other members of the *S. vulgaris* group or other *Senecio* species studied. It is not yet clear how *S. vulgaris* ssp. *denticulatus* came to possess this particular cpDNA haplotype in addition to others (A, B, C) that are present in *S. vulgaris* ssp. *vulgaris*, but it is possible that the haplotype represents the ancestral type for *S. vulgaris* ssp. *denticulatus*, indicating a relatively ancient history for this taxon (but see below).

In a brief study of the taxa, *S. vulgaris* var. *vulgaris*, var. *hibernicus* and ssp. *denticulatus* from Britain (including herbarium material in MANCH) (as far as I am aware ssp. *denticulatus* has not been recorded from Ireland), I found a major diagnostic character for ssp. *denticulatus*, not reported in the past. Also some other characters, albeit variable ones, are useful in distinguishing the two subspecies. The major diagnostic character is size of achenes (seeds). Taking these three taxa as an aggregate, seed length is given as 2.5 mm in Sell & Murrell (2006), with no differentiation recorded between them. However, I found that var. *vulgaris* and var. *hibernicus* have a seed length ranging from c.1.8-2.3mm (average 2mm), while that of ssp. *denticulatus* ranges from c.2.4-2.8mm, (average 2.5mm). In herbarium material examined, there were one or two rare exceptions, but the true identity of each specimen could be questioned. Figure 1, p. 29, shows that seeds are distinctly larger in all respects in ssp. *denticulatus*. At 2.5mm

they are on average approximately 25% longer, and they are also wider. The collar of hairs at the apex of the seed can be present or absent in these taxa, though it is often present in ssp. *denticulatus* and as can be seen in figure 1 (p. 29), these hairs appear longer, though no measurements were taken.

Two additional characters noted, in order of significance, were pappus length and supplementary bract shape, and while variable they were still of some significance. Although the supplementary bracts of capitula were generally variable, in var. *vulgaris* and var. *hibernicus* they were mostly ovate to ovate-

lanceolate. In ssp. *denticulatus* these bracts were often very linear-lanceolate to ovate-lanceolate, with the linear-lanceolate type appearing to be the most frequent type. The pappus length in var. *vulgaris* and var. *hibernicus* tended to be c.5-6mm whereas ssp. *denticulatus* was larger at 7-9mm. In taxa such as *S. cambrensis* and *S. eboracensis* the larger seeds suggest dispersal would be inhibited, as they would be heavier than those of the smaller seeds of the two variants, and this might be the case for ssp. *denticulatus* (based on unpublished data). Table 1 summarises the differences.

Table 1. Summary of differences between *Senecio vulgaris* ssp. *denticulatus* and *S. vulgaris* ssp. *vulgaris* var. *vulgaris* and var. *hibernicus*. Note: *S. vulgaris* ssp. *vulgaris* var. *crassifolius* P.D.Sell, is not included here. It seems to be rare and there appear to be intermediates (pers. obs.).

Character	Ssp. <i>denticulatus</i>	Ssp. <i>vulgaris</i> and its vars.
Seeds	(2.4-)2.5-2.8 mm –average 2.5 mm	(1.8-)2-2.2(-2.3) average 2 mm
Hairs at apex of achene	Distinct fringe of hairs often present	None to variable short fringe of hairs present
Pappus length	6-9 mm	5-6 mm
Supplementary bracts of capitula	Often linear-lanceolate (variable)	Ovate, ovate-lanceolate (very variable)
Habitat	Only coastal in the British Isles, other habitats elsewhere quoted in literature.	Var. <i>vulgaris</i> ubiquitous including coasts, var. <i>hibernicus</i> (always?) inland
Leaf lobes*	See note below	See note below
Chloroplast DNA haplotypes	A, B, C, E (Comes et al., 1997)	A, B, C (Comes et al., 1997)
Ligules	Usually but not always ligulate	Var. <i>vulgaris</i> eligulate. Var. <i>hibernicus</i> ligulate

\*Leaf lobes: Crisp (1972) described the middle cauline leaves of ssp. *denticulatus* as having lobes semi-circular to triangular to oblong, margins fairly regularly bidentate, auricles often large, but otherwise variable, and outline oblong to spatulate. In comparison, other radiate forms have leaves with lobes triangular to oblong, margins usually irregularly dentate, auricles variable in size but seldom large, and an outline oblong to rhomboid (personal correspondence, Richard Abbott).

As Comes *et al.* (1997) showed that ssp. *denticulatus* has cpDNA haplotype E, not found in var. *vulgaris* and var. *hibernicus* nor in any other taxa they studied, it suggests a different origin from *S. vulgaris* ssp. *vulgaris* and its variants. Comes *et al.* (1997) were unable to resolve the ancestry of ssp. *denticulatus* as ssp. *vulgaris* and its variants do not contain the E cpDNA haplotype. It is feasible that the E haplotype represents the ancestral type in ssp. *denticulatus*, in which case the

other haplotypes (A, B, C) now also found in ssp. *denticulatus* may have been introgressed from ssp. *vulgaris* or other *Senecio* taxa. Alternatively, haplotype E may have been acquired by ssp. *denticulatus* through introgression from another *Senecio* species, which has since become extinct. Yet another possibility is that both ssp. *denticulatus* and ssp. *vulgaris* are derived from an ancestral taxon that was polymorphic for the A, B, C and E cpDNA haplotypes, and that the E haplotype

was lost from ssp. *vulgaris* during or after its origin (see Comes *et al.*, 1997 for a more detailed discussion of these possibilities).

In this study, albeit brief, at least one other distinct character, namely seed size, showed that ssp. *denticulatus* is quite different from var. *vulgaris* and var. *hibernicus*, as illustrated by figure 1. Interestingly, like *S. cambrensis* and *S. eboracensis*, ssp. *denticulatus* has larger seed. Both the allohexaploid *S. cambrensis* and tetraploid *S. eboracensis* are of hybrid origin (Abbott & Lowe, 2004; Stace, 2010) and it is possible therefore that the large seed also possessed by ssp. *denticulatus* might indicate a hybrid origin of this taxon also, as suggested by at least some of the explanations for its possession of the E cpDNA haplotype. I would suggest ssp. *denticulatus* should be treated as a species. The clear difference in seed size, the very restricted habitat, at least in Britain, together with a possible hybrid ancestry lend support to this suggestion.

Given its rarity in Britain, conservation management strategies need to be in place to ensure its survival. Note: ssp. *denticulatus* does not occur in the weedy habitats of var. *vulgaris* and var. *hibernicus*, even in non-coastal environments elsewhere in its range (Comes *et al.*, 1997), although var. *vulgaris* is a common coastal plant here in Britain. The seed character and the usually ligulate plants should be enough to identify ssp. *denticulatus* on the coasts here; where they are eligulate, the seeds are diagnostic.

#### Acknowledgements:

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Haden, Phil Smith, Eric Greenwood, Neil Forbes and staff at Manchester herbarium.

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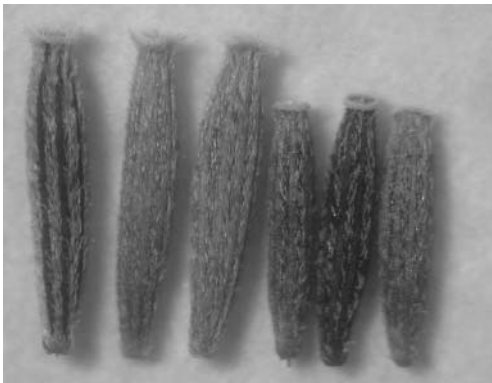


Figure 1. Seeds from left to right: 3 seeds of *Senecio vulgaris* ssp. *denticulatus* (Birkdale sand dunes, Southport, 2014); 2 seeds of *S. vulgaris* ssp. *vulgaris* var. *vulgaris*; and 1 seed of *S. vulgaris* ssp. *vulgaris* var. *hibernicus*, (both taxa: Bradford, 2014), collected/photographed by M. Wilcox.

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## My six year old annual, *Ranunculus sardous*

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On a Somerset Rare Plants Group visit to Pill (v.c.6) in 2008, a recently landscaped mound of earth sported, among other things, many young seedlings of what appeared to be a *Ranunculus* species. They were too small to positively identify, but out of curiosity I did manage to uproot one of them, with some difficulty, and took it home in order to pot grow it to maturity.

It flowered for the first time in 2009 and was identified as *Ranunculus sardous* (Hairy Buttercup), which is a SRPG rare plant register species (see inside front cover for photos). I had never previously seen this species, so found it interesting to compare the similarities and differences between the flowers of *R. bulbosus* (Bulbous Buttercup) and *R. sardous*. Both have reflexed sepals, but they do not do so in the same manner. Those of *R. sardous* are longer and narrower and do not clasp the pedicel. Both have yellow petals but those of *R. sardous* are narrower and the flower is open, not cup shaped. One character that I found described in the very old series of books by John Hutchinson, *Common wild flowers* and *More common wild flowers*, but nowhere else, is the difference in shape of the nectary scales found at the base of each petal. These are rounded in *R. sardous* but flat edged in *R. bulbosus*. This is an extremely easy and definitive character to check with a hand lens and it is surprising that it has been forgotten for so long (see photos, inside front cover)

After flowering, the pot was moved out of the way and placed on top of another pot of earth that no longer contained a plant. The

lower pot was in a saucer of water. As *R. sardous* is described as an annual I simply forgot about it. To my surprise it sprouted and flowered again in 2010. I thought to reward it by re-potting into a larger pot, but found it to be immovable, as the roots had now colonised the pot below and the plant was firmly fixed. It is still in the same position and has flowered every year since. The form of early leaves is different from later leaves; they are also smooth and shiny. Its siblings were not long lived. A subsequent visit to the original site a few years later found neatly mown amenity grassland with no *R. sardous* present.

I have tried to collect and raise seed from it, but without success. It is possible that self-pollinated seed from a single plant is not viable. However, each autumn shoots in the leaf axils of the flowering stems develop roots and can either be detached and grown on, or pinned down in the same pot until rooted. All attempts to grow these plants in an open garden situation (including that of a friend) failed. They will nonetheless grow in exactly the same garden earth when in a pot.

This raises some interesting questions. Does the species ever produce rooted plantlets in the leaf axils when growing wild? When the stems carrying these fall to the ground (which they can not do in a pot grown specimen) would they root naturally? Could the annual status be due to environmental conditions not always being quite right for long term survival? Why is my plant still alive and well after six years? Perhaps someone out there can answer some or all of these questions.



## Recorder bias in the distribution of vascular plants and charophytes in Surrey

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In any botanical survey, there is an inevitable degree of recording bias (Hope-Simpson, 1940; Sykes *et al.*, 1983; Nilsson & Nilsson, 1983; Kirby *et al.*, 1986; West & Hatton, 1990 *etc.*). This may be the result of several factors, including geographical bias as well as individual recorder’s identification abilities and skills. It is often said that the distribution of plants reflects the distribution of botanists, and this is particularly true for the more critical taxa and for small areas. Unless the extent of recording bias is known, any conclusions drawn from the data may be misleading (Rich & Woodruff, 1992).

Using Surrey Botanical Society’s MapMate data, as at 1/9/2014, an analysis of the numbers

of records and taxa recorded per monad by some SBS members was undertaken to test whether the distribution of SBS recorders showed geographical bias. The analysis involved using a standard MapMate query – ‘Browse all records by <recorder>’. Subsequently the ‘OSGridRef’ was converted to a monad and X and Y co-ordinates calculated using MS Access.

Currently SBS has about 120 members (Fig. 4). Records of 12 of these (representing 46.57% of all MapMate records) were chosen for analysis, as they had the highest number of records. Only records recorded by each of the recorders solo have been analysed, although

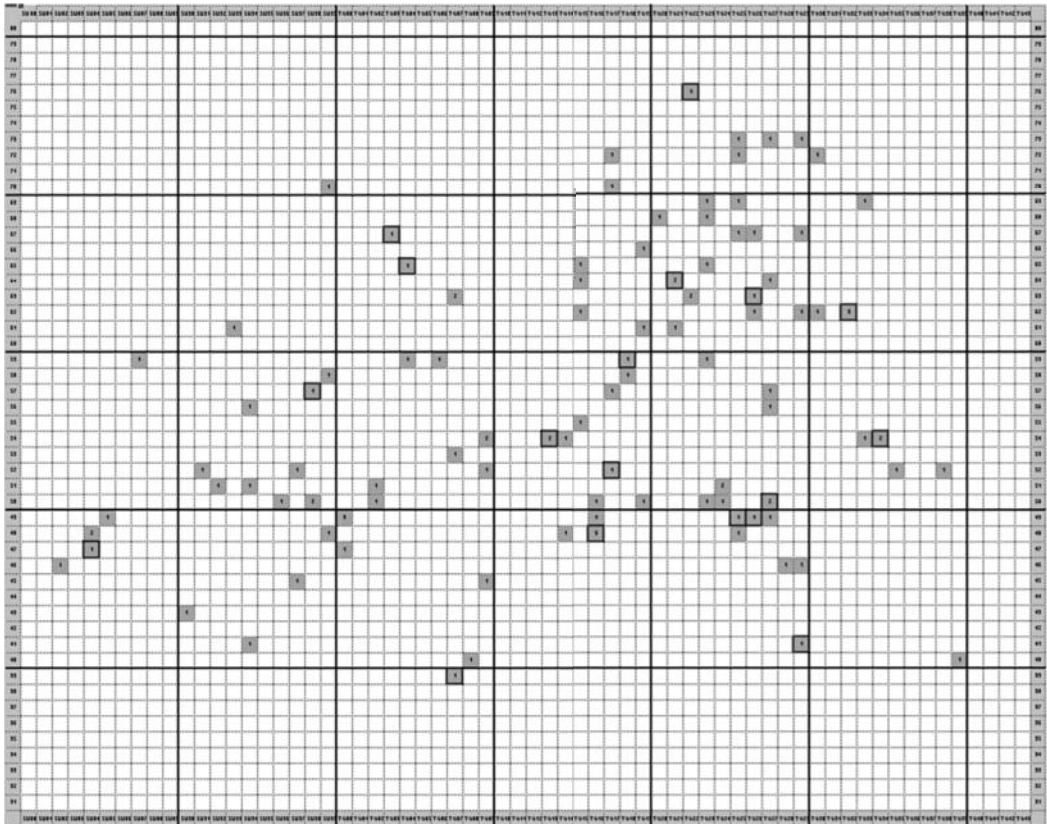


Fig. 4. Plot of Surrey Botanical Society members’ home monads as at 11/09/2014. MapMate recorders have a dark outline

each has recorded further taxa in company with one or more of the other recorders and/or other SBS members (14.01% of all MapMate records) or on SBS field meetings (5.33% of all MapMate records), when there is a tendency to travel further afield.

The results are presented as ‘maps’ in Excel spreadsheets (Fig.1). The original Excel workbook which includes ‘maps’ for all recorders analysed may be downloaded from [http://www.ukflymines.co.uk/Recorder\\_Bias.xls](http://www.ukflymines.co.uk/Recorder_Bias.xls)

The number of unique records in each of four areas – home monad, 5×5 monads, 9×9 monads and 13×13 monads, centred on the home monad (see Fig. 1), was calculated and are presented as a chart. The numbers of records are not comparable between recorders as they represent records over different time periods and not all Surrey taxa occur in every monad.

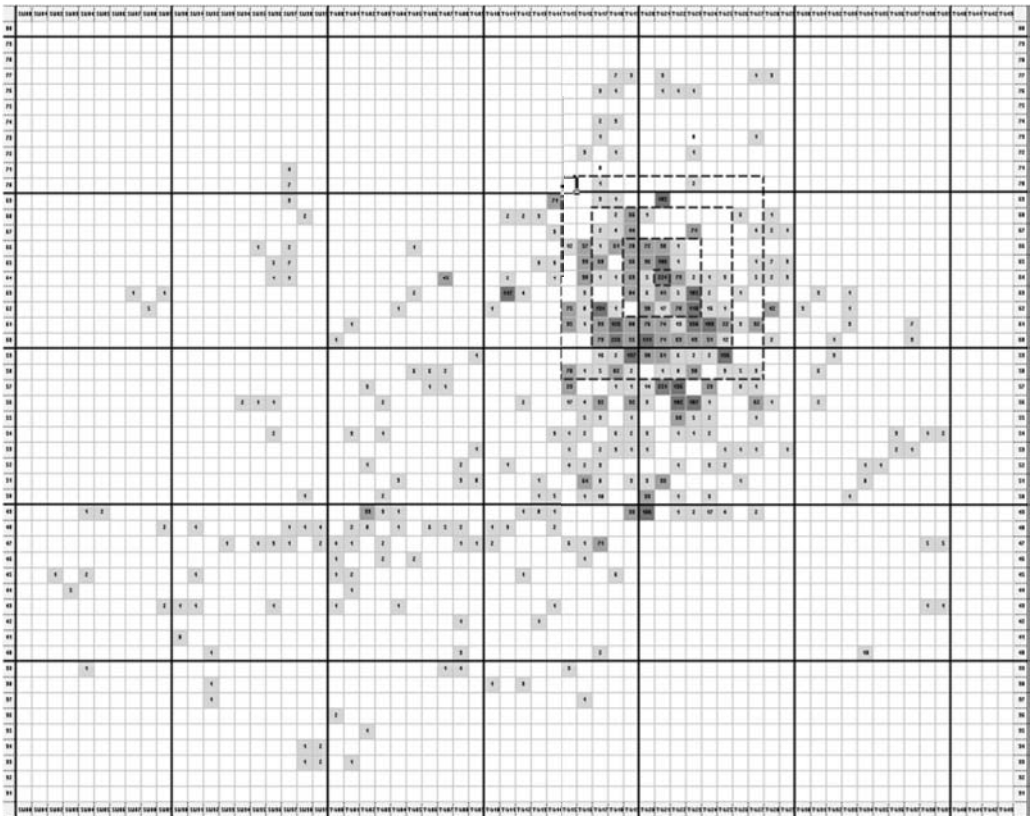


Fig. 1. Example of a plot of the number of taxa per monad for a Surrey Botanical Society member. Broken lines delimit the home monad and adjacent areas centred on the home monad

### Records

Nine of the recorders have the highest number of records in their home monad and the other three have fewer records in their home monad than further afield. All show a decrease in the average number of records per monad the further they record from their home monad (Fig.2).

### Average number of records

The average number of records for all recorders per area centred on their home monads was also calculated (Fig. 3). It is clear from Fig. 4 that the average number of records decreases the further a recorder is from their home monad, confirming a bias in the data.

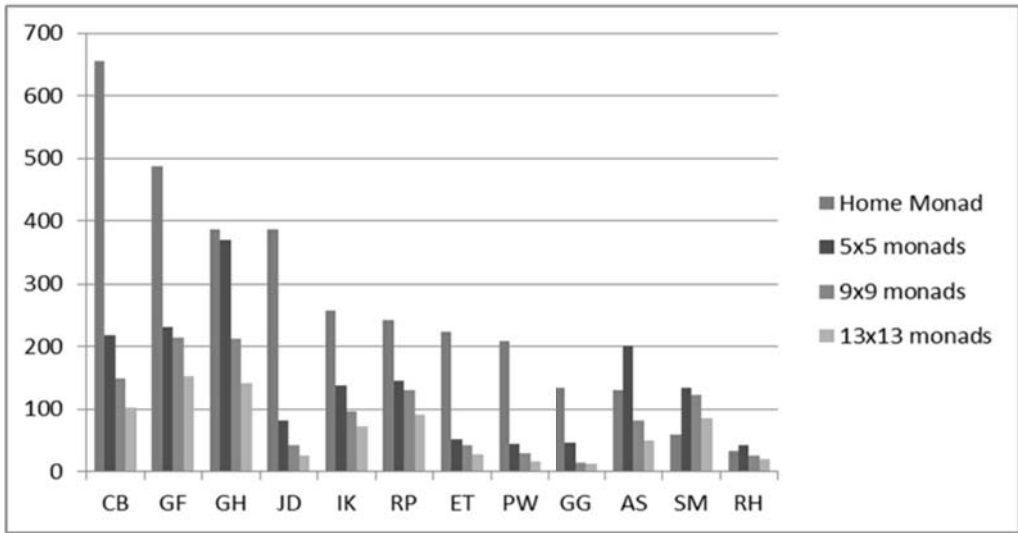


Fig. 2. Chart showing the number of records in the home monad and the average number of taxa per area centred on the recorder’s home monad. Recorders are arranged in descending order of the number of records in the home monad

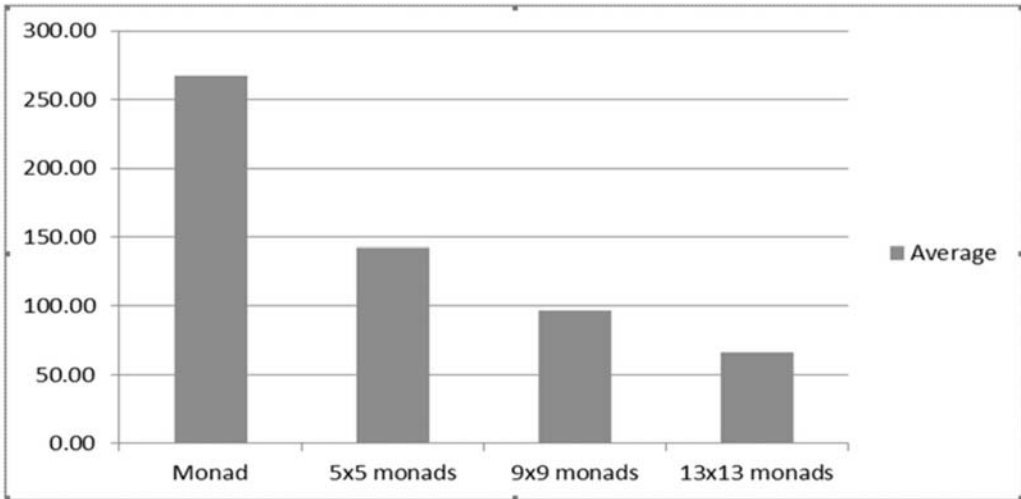


Fig. 3. Chart showing the average number of records for all recorders per area centred on their home monads

In addition, where two or more recorders live close to each other (see Fig. 4) the number of taxa per monad in their local area is noticeably higher (e.g. TQ26, 1666-2014, as at 19/02/ 2014 which has the greatest number of SBS members).

Does recorder geographical bias in SBS’s MapMate data impact on the known distribution of Surrey taxa? In view of the large numbers of potential recorders, probably

not to any significant extent, although even the most widespread taxon *Urtica dioica* (Common Nettle) has only been recorded from 1,557 (74%) of the 2,105 monads in Surrey; and there are many monads, particularly in north-east Surrey and around the county border (monads highlighted in black in Fig. 5) which have not been explored. So there is still a lot of recording to be done!

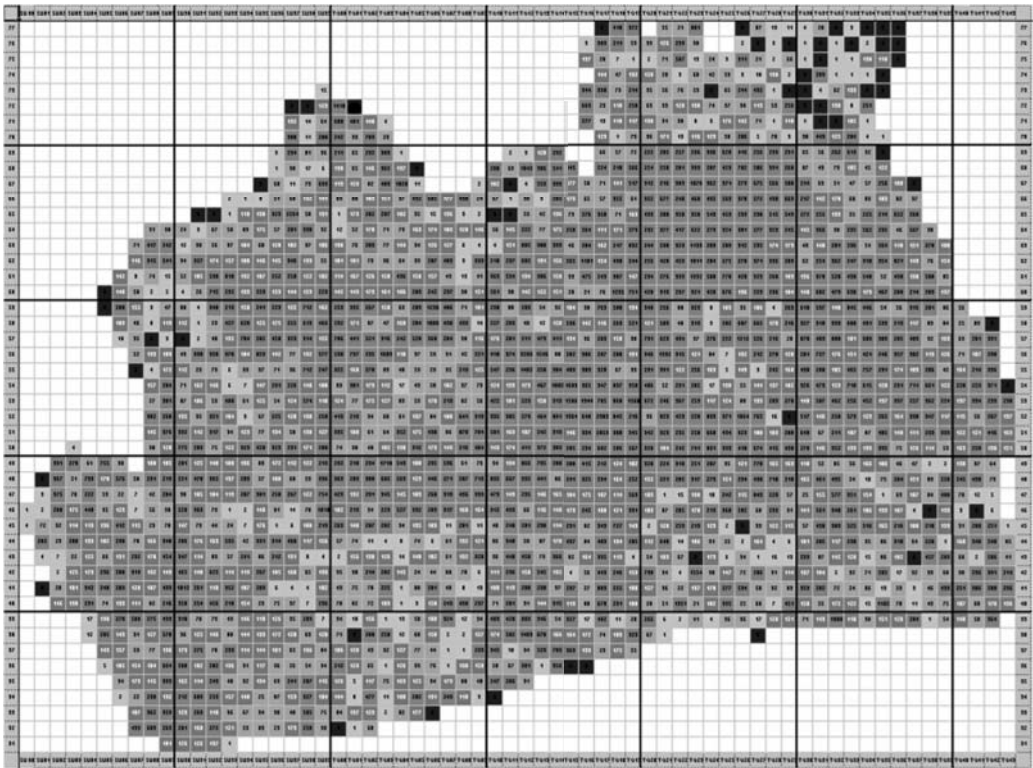


Fig. 5. Plot of the number of records per monad in Surrey:1666-2014, showing the bias in the number of records due to recorders living in the same hectad (e.g.TQ26, 1666-2014 as at 19/02/2014 which has the greatest number of members).

**Conclusions**

In regard to SBS MapMate data, the distribution of plants does indeed reflect the distribution of botanists. On average, solo SBS members record more frequently nearer home than further afield. Where two or more recorders live close to each other the number of records and taxa per monad in their local area is noticeably higher.

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## Notes on British populations of *Ophrys sphegodes* (Early Spider-orchid)

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These notes and observations cover a period of no less than 25 years, which does not include the outbreak of foot and mouth disease in 2001. Fortunately this did not affect every orchid habitat in the British Isles.

The Early Spider-orchid has long been one of my favourite orchids. Its variability is remarkable. Populations in the British Isles have had a very interesting and chequered history, and are inconsistent in flowering, owing to the plant's exacting requirements, from Dorset in the west, east along the coast to Samphire Hoe at Dover. The actual number of flowering populations from west to east is c.22, with remnant sites containing perhaps a smaller number of plants each season numbering around six, although I stand to be corrected. Other known British sites have been lost, but botanists or flora groups should never give up re-checking those sites and reporting any finds.

I believe site management in the 21<sup>st</sup> century has to keep pace in protecting this species and its habitats, which, alas, is not always the case. A variable grazing regime is key for its future. Its decline around the 1930s was disastrous and some populations were extinguished by ploughing of grassland and changes to grazing regimes, from which it is very vulnerable. Short term grazing by cattle to reduce *Brachypodium rupestre* (Tor-grass) and thick swards works well, but deep vegetation and poaching in bad weather will put emerging rosettes under threat, causing rapid loss and lack of recruitment of new plants, although habitats will benefit from some light top layer disturbance. Sheep are the ultimate final grazers. Most managed sites will use a combination of cattle, ponies, sheep and goats, and the latter have been observed near Canterbury. Rosettes appear in late autumn and will overwinter, to produce flower spikes early in the year, from late March in the Dorset and Kentish colonies

and late April in the Sussex populations, depending on climatic conditions.

At Castle Hill in East Sussex, which is well managed and constantly under grazing review, the orchids have been the subject of a long term demographic study (Hutchings, 1987). Numbers of flowering plants here have been greatly exaggerated on the Web, with various contributors claiming in excess of 50,000. This, I can assure people, has never been the true figure (D. Lang pers. comm., 2014). Figures for the last ten years are below 2,000, but are improving, although very gradually.

Dancing Ledge and the Purbeck Coast have long been frequented by botanists since the late 1890s and, into the 1980s, the numbers of flowering plants seen were spectacular along this coastline, as well as inland on the "necklace", or Nicholas Down, as it is known. This area is tenanted under a countryside stewardship agreement by local farmers to graze cattle. The National Trust manages these areas, while other sites are the responsibility of Eastbourne Borough Council, Brighton and Hove City Council and the Kent Wildlife Trusts. All are reliant on local farmers for grazing stock, which works well, but problems can occur, such as when heavy grazing stock are left on too long. These areas also have many flowering *Ophrys apifera* (Bee Orchid), including var. *trollii* and very rarely var. *bicolor*. Average Early Spider-orchid counts are between 40-50,000. Numbers per season can drop, such as between 2005 – 2008. This still makes it the national stronghold for the species.

Samphire Hoe is a somewhat new colony, developed on 4.9 million tons of chalk marl excavated from the Channel Tunnel. These deposits are on reclaimed land at the base of Shakespeare Cliff. Samphire Hoe is owned by Eurotunnel and managed together with White Cliffs Countryside Partnership, and the project, as well as being a massive success

story for all kinds of wildlife, resulted in the second largest population of the Early Spider-orchid, as a result of natural colonisation, although there were always fairly consistent numbers of flowering plants on the cliffs above. Early signs in 1998 were reasonably encouraging, with 67 orchids in flower, a promise of things to come, with a high of 11,500 flowering plants in 2012 and with 9,000 (and still counting) in 2014 (pers. comm. Paul Holt, senior project officer) (the final count was 10,300). Our first visit was in 1998, when the orchids were first recorded there. As the years passed the orchids' variability was of course noted, as numbers increased and mutations occurred: flowers peloric with enlarged inner sepals, and twin-lipped. The first var. *flavescens* appeared to the right of the visitor centre in 2005. The grazing regime on this site is consistent and reviewed. Cattle and sheep are used in the correct rotation, with course vegetation taken out manually by trained volunteers; invading *Ononis repens* (Common Rest-harrow) and the ever increasing population of rabbits are dealt with thoughtfully, with reinforced fencing in the rabbits case! Samphire Hoe is blessed with night- and day-flying moths to aid pollination: at least 170 species of moths and 30 species of butterflies have been recorded here. Slugs are a gardener's nightmare, and also for the orchids. They are perfection in design to slowly take them apart, we see regularly on most reserves. The two usual suspects you will encounter are *Deroceras reticulatum* (Field Slug) and *Arion ater* (Black Slug). Like most molluscs, a slug moves by rhythmic waves of muscular contraction and leaves in its wake a secretion of mucus. This can affect butterfly pollination in the short term. Butterflies taste with small receptors in their feet, and I have observed them landing and taking off without feeding on affected orchids but resuming later, when the mucus coating has dried. A paper is being written (pers. comm. Paul Holt, 2014).

### Mutations

Mutations of various kinds exist in British orchids, whether they be full varieties (e.g., there are seven colour forms of var. *flavescens*

in *Ophrys sphegodes*) or pelorism (Chalk, 2012). For known forms, *Ophrys sphegodes* appears to be the most extreme in exhibiting abnormalities, but you have to spend a lot of time looking. 2014 was a particularly interesting year at Samphire Hoe, with several mutant forms. It is however worth mentioning that *Ophrys sphegodes* var. *flavescens* does not appear to flower twice, is viable and will set seed.

For as long as I have been interested in orchids I have always been interested in plant mutations. Some mutations can be random and are caused by changes within the orchid's cells, whether by genes being passed on or perpetuated by a gene or genes being transferred via pollination. All of the sites in Britain could show mutant plants, but note that all are rare occurrences.

I have to lay the blame somewhere for wanting to find and see var. *flavescens* and it has to be at David Lang's door. When I saw his book *Wild orchids of Sussex*, published in 2001, with the green form of var. *flavescens* on p. 90, I had to find this plant. I had to wait until 2002 to find no less than three in Sussex. Sid Clarke, from the Royal Botanic Garden Edinburgh, was informed (this association lasted for nine orchid seasons and we gained a good friend). He photographed, and included in the book *Orchids of the British Isles*, a very unusual yellow colour form. This included photographs from Dorset and Dover.

Orchids, particularly the *Ophrys* species, are very responsive to temperature and climatic patterns from site to site. This will affect actual numbers of flowering plants, as well as flowering gaps in first, second and third year plants (from a mapped study). There will therefore be a very low percentage of possible flowering mutations and this will include scattered peloria, types A and B, and very rarely two- and three-lipped flowers and the already mentioned colour forms.

All populations are driven by local pollinators and the orchid will adapt to this. Observations of the vulnerable solitary bee *Andrena nigroaenea* are not well documented in the British Isles, and night flying moths play a very large part in pollination from site to site.

There is a lack of data on pollinating insects for *Ophrys sphegodes*. Pollination by various insects includes, apart from the above, various ants, beetles, spiders, flies and wasps. If prolonged bad weather is encountered during the flowering period pollination can be delayed, or the orchid can self-pollinate. This will reduce genetic variability over time. If we take an average of four flowers per pedicel, a four day cycle between each flower occurs under normal conditions. The orchid will attain fertilisation and pollen will be transmitted to neighbouring flowers and contribute its genes to other members of that colony. Genetic material will be gathered from a percentage of mutations within the colony, however small that may be, and these genes will carry that mutation to more than one plant during the fertilisation process, enabling any new plant to appear as a mutation. If we factor in that the seed setting rate is low, between 16-18%, it becomes more amazing that all *Ophrys sphegodes* colonies, whether small or large, can produce variants or mutations. However, these will occasionally be seen over time, sometimes in several seasons. Peloric forms can be an exciting find and these, bizarrely, can flower three to four times (personal observation). Partial or scattered peloria I see at most sites, but they are sporadic in their appearance. Mutant genes will always be preserved through natural pollination and give a much wider genetic diversity. The variants that arrive over time from these will become established, although the percentage will be small and not occur in consecutive seasons. If we have one or two mutant plants within a colony and they have already been pollinated, insect behaviour dictates that the orchid will keep being visited and any excess pollen will still be removed and transferred to other plants, the consequences being that any variant/mutant will be perpetuated and those genes containing the genetic codes will be preserved and not eliminated over time.

Accompanying this account are some illustrations which give some idea of these variations (see Colour Section, Plate 4).

**Fig. 1.** *Ophrys sphegodes*: pseudopeloric, with inner petals (perianth) showing part petaloid, part labelloid mutation. Observed frequently over the last five years

**Fig. 2.** *Ophrys sphegodes*: peloric, with inner perianth replaced with two labella; classic “H” mark replaced with dark mid broken pattern. First time illustrated in the British Isles

**Fig. 3.** *Ophrys sphegodes* var. *flavescens* (M. Schulze) Soó: varietal colour form, exhibiting yellowish/gold labellum; with differentiated “H” mark, surrounding colour displaying erythrism (red); distal side hairs dense, shorter on distal half, silver white, and stigmatic cavity dull olive. First time illustrated in the British Isles (for this form)

**Fig. 4.** *Ophrys sphegodes* var. *flavescens* (M. Schulze) Soó: varietal colour form, more uncommon: olive green/yellowish labellum, distal side hairs dense, shorter on distal half, reddish orange-white; stigmatic cavity, light olive. Not illustrated before in the British Isles. Shows a mite. Mites will predate thrips.

**Fig. 5.** *Ophrys sphegodes*: a significant mutation, with silver-blocked labellum. (Still being researched. Never seen before)

**Fig. 6.** *Ophrys sphegodes* var. *flavescens* (M. Schulze) Soó: varietal colour form

**Fig. 7.** *Ophrys sphegodes*: mutant, where normal floral symmetry has changed, with deviant floral parts. Has occurred by substitution and replacement of one part by another, known as homeosis, where lower outer perianth has changed position and upper outer is missing; inner perianth missing, replaced with one mid inner perianth petal; dual in parallel rostellums; labellum shows surface mutation from left hand side top of pouch down; viable, capable of setting seed

**Fig. 8.** *Ophrys sphegodes*: mutant, enlarged inner perianth, (showing vestige of lower second rostellum), with dual upper and lower rostellums. Rare

**Fig. 9.** *Ophrys sphegodes*: pseudopeloric, exhibiting undifferentiated labella within perianth; viable and will pass on mutational genes. First time illustrated

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## Some additions to the 2014 vascular plant Red List for England

TIM RICH, 57 *Aberdulais Road, Cardiff, CF14 2PH*; (tim\_rich@sky.com)

Stroh *et al.* (2014) assessed the status of vascular plants in England against IUCN criteria. The following three updates are needed.

The Lake District endemic *Hieracium filisquamum* (Narrow-bracted Hawkweed), re-discovered in 2013 (Rich, 2013) was confirmed from one plant in cultivation when it flowered in June 2014 but the information was not incorporated into the published version of the Red List. This confirms it should be classified as IUCN ‘Critically Endangered’.

Two trees of the Welsh endemic *Sorbus cuneifolia* (Llangollen Whitebeam) were found on Blodwell Rocks in Shropshire in 2011 (Rich & Whild, 2012). This new species for England should be classified as IUCN ‘Critically Endangered’.

The rare dandelion *Taraxacum subericinum* was reported from at least six sites on hedge banks and roadsides in two hectads in North Devon 2007-2011, where it was accepted as likely to be a new native species in Britain (Rich & Richards, 2011). Further searches might reveal it over a wider area, but for the

meantime this should be regarded as IUCN ‘Vulnerable’.

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Photo 1. *Sedum sexangulare* at Mayford, Surrey (v.c.17)



Photo 2. *Sedum sexangulare* inflorescence



Photo 3. Shoot of *Sedum sexangulare* for comparison with *S. acre*



Photo 4. Shoot of *Sedum acre* to compare with *Sedum sexangulare*



Photo 5. Plan view of stem of *Sedum sexangulare* for comparison with *S. acre*



Photo 6. Plan view of *Sedum acre*



*Taraxacum quadrangulum* Rail. Whitemill School, Carmarthen (v.c.44), April, det. A.J. Richards, 2014.  
Photo R.D. Pryce © 2012 (see p. 7)



*Echium pininana*, Tayport, Fife & Kinross (v.c.85). Photo A. Edwards © 2014 (see p. 59)



*Euphorbia oblongata*, 5th January 2015, Pilton, Somerset. Photo H. Crouch © 2015 (see p. 88)



*Salix xfrisesiana* at Cabin Hill National Nature Reserve, Sefton Coast (v.c.59), July 2014. Photo: P. Smith © 2014 (see p. 41)



Robert Poccock, botanist. Photo R. Burton © 2015 (see p. 56)



Fig. 1. *Platanthera bifolia*



Fig. 3. *P. bifolia* seed pods



Fig. 5. Seed of *P. bifolia*



Fig. 7. Root and tubers of *P. bifolia*



Fig. 2. *Platanthera chlorantha*



Fig. 4. *P. chlorantha* seed pods



Fig. 6. Seed of *P. chlorantha*



Fig. 8. Roots and tubers of *P. chlorantha*

All *Platanthera* photographs taken on Isle of Skye (v.c.110) by T. Swainbank © 2014 (see p. 19)



*Mentha cervina*, Chorley, Cheshire (v.c.58), habit (l) and close-up of flowers (r). Photos G. Kay © 2014 (see p. 58)



Lower leaves of *Atriplex hulmeana*, Cefni Estuary, Anglesey (v.c.52), 20th August. Photo I. Rees © 2014 (see p. 17)



*Eryngium variifolium*, Dysart, Fife & Kinross (v.c.85). Photo G. Ballantyne © 2014 (see p. 59)

## *Vaccinium uliginosum* (Bog Bilberry) in Derbyshire

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In 2004 the late Derek Yalden, of Manchester University, discovered *Vaccinium uliginosum* (Bog Bilberry) on the high moors between Sheffield and Manchester. The site, on the remote northern slopes of Bleaklow, was just inside the Derbyshire county boundary (South Yorkshire is about 200m to the east) at an altitude of about 495m (1625ft) at the head of Far Small Clough, in an area known as Swains Head. The discovery occasioned some excitement at the time as representing a possible missing stepping-stone between the species' northern populations and the recently discovered population on Exmoor. In September 2005 the site was visited by members of the Derbyshire Flora Group, led by the vice-county recorder Alan Willmot, and the location established as grid reference SK13117/98388.

Ten years on from the original discovery a return visit was made by the author to check on the present status of the population and to reassess whether it was possible to gauge if the plant was native at this site, or a naturalised introduction.

The colony, which is growing on peat over Millstone Grit, faces approximately NNE, and is just below the watershed, on gently sloping ground at the side of a channel feeding into Far Small Clough. The plant is spread over an area of approximately 3m × 2m, although the exact spread is difficult to determine, as it grows not only in the open, but also as a carpet of low shoots concealed under *Calluna vulgaris* (Heather), *Empetrum nigrum* ssp. *nigrum* (Crowberry), *Vaccinium myrtillus* (Bilberry), *Deschampsia flexuosa* (Wavy Hair-grass) and bryophyte mats. The patch appears to have increased in size slightly since the previous visit in 2005 (see Colour Section, Plate 1).

In terms of the National Vegetation Classification the surrounding moorland is M19 *Calluna vulgaris*-*Eriophorum vaginatum* mire, part of the National Trust High Peak Estate, while to the west and north is grouse

moor of typical H9 *Calluna vulgaris*-*Deschampsia flexuosa* heath. The place where the plant grows is at the margin of the grouse moor (probably left unmanaged here in view of the difficult terrain, being dissected by a myriad of channels with frequent hidden sink holes) and is drier than much of the surrounding mire, with *Rubus chamaemorus* (Cloudberry) present, but less frequent *Erica tetralix* (Cross-leaved Heath) and *Eriophorum vaginatum* (Hare's-tail Cottongrass).

The surrounding moorland has been thoroughly searched for other plants of *Vaccinium uliginosum* without success, but the nature of the ground means that it is impossible to say that no other plants exist. Clearly the presence of just a single isolated plant would argue against it being a native. Ecological studies have been carried out of the vegetation of these moors for much of the 20<sup>th</sup> century and no mention of the species has been traced; neither do the various floras of Lancashire, Cheshire, Derbyshire and Yorkshire, contain any reference to a population in the southern Pennines. There are old reports that might indicate it was at one time to be found as a native further south than the *New atlas* would indicate. The herbarium of J.E. Bicheno, donated to The Royal Institution of South Wales in Swansea in 1839, had a specimen from "Yorkshire", but with no other details (Riddelsdell, 1902) and F.A. Lees, in subsequent correspondence, pointed out to Riddelsdell that the species was in John Fothergill's list of Wensleydale plants (published in Whitaker (1823), although the date of compilation is uncertain, as Fothergill died in 1780), and had been collected at Mossdale Head in 1775 (Riddelsdell, 1903). There have been modern sightings in upper Wensleydale which may be relics of these populations.

The plant though was widely grown by the beginning of the 19<sup>th</sup> century. The well-known Sheffield botanist Jonathan Salt (see Coles,

2011) collected plants wherever he could procure them and his herbarium at Sheffield Museum has a specimen, undated, but from the watermark of the mounting paper from the 1795-1800 period, obtained from “Mr Fox nursery 2 miles from Sheffield”. Similarly, the herbarium of Taylor Oldham (Coles, 2011) has a specimen, again undated, but c.1825, from the Norton Hammer nursery, just south of Sheffield. It is also listed in the catalogue of plants (Law, 1849) growing in the Sheffield Botanic Garden. It might be said then, with reasonable certainty, that even if *Vaccinium uliginosum* was perhaps not a popular garden plant, it was certainly familiar and readily available in Sheffield, the nearest large centre of population, in the 18<sup>th</sup> and 19<sup>th</sup> centuries, and there is no reason to suppose that it was not equally well known and cultivated the other side of the moors in Lancashire and Cheshire.

With the ready availability of the plant, it is difficult not to be tempted to think that garden birds eating berries and moving across the Pennines might occasionally have deposited seeds in droppings, to germinate in habitat not wholly dissimilar from its more usual ones. It is also possible that it may have been introduced to the moors as an adjunct to the feed of Red Grouse, which eat other *Vaccinium* species. It could well have been thought that a plant that thrives at higher altitudes than do both *V. myrtillus* and *V. vitis-idaea* (Cowberry) was worth experimenting with, in order to see if it produced better crops of berries than those species, especially on the more exposed parts of the moors. Clearly it would have had to have been planted on the margins of the grouse moors, where it now occurs, as it would not have survived the regular burning cycle of the main moors.

The moors hereabouts harbour another unexpected member of the Ericaceae, the alien *Rhododendron* (*Ledum*) *groenlandicum* (Labrador-tea) and it is reasonable to consider whether the occurrence of the two species is in any way related. The possible reasons for the presence of the *Rhododendron* have been much discussed (Dallman, 1935; Yalden, 1996) and while it is not inconceivable that the

origin of the two species is the same, this origin could only be deliberate planting, as the *Rhododendron* produces no succulent berries to allow speculation about transport by birds: wind dispersal of its seeds, perhaps from some now unknown nursery, seems the most likely source. This makes any link between the occurrence of the two taxa highly unlikely.

The Exmoor population of *Vaccinium uliginosum*, mentioned previously, was discovered at Haddon Hill by Ian Green in 1994. The plant is still there, and apparently increasing, with three populations being found on the BSBI August 2014 meeting. Here, as with the Derbyshire plants, it is present with a wind-dispersed *Rhododendron*, this time the more usual *R. ×superponticum* (*Rhododendron*), but also, more tellingly perhaps, with the North American alien *Vaccinium corymbosum* (Highbush Blueberry), increasing the probability that, like the Derbyshire population, by far the most likely reason for its presence is that it is a naturalised introduction.

#### Acknowledgement:

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## Adventives & Aliens News, 4

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*Nonea* or *Amsinckia*? Some recent records of *Amsinckia micrantha* (Common Fiddleneck) might actually be *Nonea lutea* (Yellow Nonea), a surprising garden plant eloquently promoted in the Plant World Seeds catalogue 2012 (p.32) as follows: “A hardy biennial, 12-18 in. tall. The first year sees an unimpressive little green cushion, which miraculously grows bigger and bigger all autumn. In late winter hundreds of buds swell, heralding a long early spring display of countless primrose-yellow blossoms when very little else is in flower.” This publication also contains a photograph of the plant. Records of *Amsinckia micrantha* on non-sandy substrates should perhaps be re-checked! See v.cc. 7 & 36.

It is botanists rather than gardeners who insist on English names for plants, the latter generally making do with a generic name. This sometimes necessitates the fabrication of a name where no suitable one already exists, such as the *ad hoc* coinages for two species mentioned below, *Campanula ramosissima* and *Euphorbia prostrata*. ‘Prostrate Spurge’ and ‘Prostrate Sandmat’ seem rather too vague as English names for the second, and I think the offered alternative of ‘Fringed Spurge’, is more aptly descriptive. ‘Ketun Bellflower’, the name coined for *C. ramosissima*, is an adaptation of ‘Ketun Kello’, the non-scientific name for this species in a Finnish plant checklist. The literal translation of ‘Ketun Kello’ is something like ‘Fox Bell’ (Finnish speakers please confirm), not an English name that would obviously suit the plant itself. That having been said, the half-Finnish compromise of ‘Ketun Bellflower’ seems more memorable, less throw-away than the fully English ‘Branched Bellflower’.

*Campanula ramosissima* also serves to illustrate an important and sometimes overlooked feature of the generic descriptions and keys in Stace (2010) – that they only apply to species found in the British Isles, either as natives or

regularly recurring/established aliens, and do not set out to capture the range of variation of a genus or family on an international scale. If applied to a species which lies outside this ambit, the relevant description might mislead, as Professor Stace warns (Stace, 2010: xxi, lines 6-9). Hence the definition of *Campanula* as biennial or perennial in the key on p.670, should not be taken as applying to all, or even all European, *Campanula* species; and indeed, *C. ramosissima*, being an annual, is an exception to this ‘rule’. Of course there are also difficulties around determining whether or not a species is annual, biennial, perennial or a combination, but more on this another time perhaps!

### V.c.7 (North Wiltshire)

*Nonea lutea* (Yellow Nonea). Brinkworth (SU0184?), 31/05/2014, R. Burton: becoming established on the outer wall of the churchyard; eight plants, one clearly older than the rest. It can be distinguished from *Amsinckia* by its more floppy habit, more prominent calyces and flowers of a paler yellow. In addition, the foliaceous bracts arrayed in two opposing rows, give the mature plant a most distinctive appearance. For an informative drawing by Graham Easy see the cover of *BSBI News*, 16 and pp.18-19 of the same issue for a short account by E.J. Clement of a v.c.49 record.

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

*Allium trifoliatum* (Hirsute Garlic). West Cowes (SZ497948), 5/2014, P. Stanley: waste ground behind garages off Arctic Road. This could be more frequent than *A. subhirsutum* (Hairy Garlic) in v.c.10 (pers. comm. P. Stanley). In my recent experience it also seems to be the commoner of the two taxa in the Eastbourne area. As well as the differences given in ‘Adventives & Aliens News, 2’, according to my own rather limited measurements, the late flowering pedicels of *A. trifoliatum* range from

15-21mm (average 18mm), compared with 28-35mm (average 30mm) for *A. subhirsutum*.

#### V.c.11 (South Hants)

*Bidens frondosa* (Beggarticks). Elson (SU60040244), 4/9/2010, J. Norton & D. Allan: many plants at eastern end of a ditch between two small, grassy fields. Familiar as an alien of the canal systems of several English cities, there is no reason why it could not turn up in other sites such as this one, given that its ‘two-toothed’, bristly achenes (or more correctly cypselas) are well adapted for dispersal by birds and unfeathered bipeds (see also v.c.21).

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

*Amaranthus albus* (White Pigweed). Felpham (SU9554200281), 3/8/2014, M. Shaw & N. Sturt; Flansham (SU9548800279), 21/8/2014, M. Shaw: an abundant gutter weed in Hayward Close and other adjacent roads. First found in this area by David Donovan. Bird seed is the most plausible source, notwithstanding the absence of other bird-seed aliens. For a drawing see Clement *et al.* (2005: 64).

*Cuscuta campestris* (Yellow Dodder). Rustington (TQ0502), 24/7/2014, D. Donovan: parasitising *Callistephus chinensis* (China Aster) and *Galinsoga quadriradiata* (Shaggy-soldier) in Jubilee Avenue allotments (Clement *et al.*, 2005: 227). See also ‘Adventives and Aliens News, 3’. The first Sussex record.

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

*Anagallis monelli* (Shrubby Pimpernel). Broad Oak (TQ61562281), 5/9/2014, R. Wells (det. M. Berry): near Swife Farm, disturbed soil, site of former garden centre. An upright perennial with linear leaves and large (normally) blue flowers (see inside front cover). Appears to be in vogue as a garden plant in various cultivars. It has the potential to colonise (by seed) marginal ground nearby.

*Euphorbia prostrata* Aiton (Fringed Spurge). Hastings (TQ8240609626), 2/10/2014, J. Rose (conf. T. Walker): one plant at base of wall, Coburg Place. One good character

for distinguishing this from *E. maculata* (Spotted Spurge) with unspotted leaves is that the capsules are hairy only along their sutures (thus ‘fringed’), rather than being uniformly adpressed-hairy, as in *E. maculata* (see Colour Section, plate 2). Probably only the second British record.

*Euphorbia stricta* (Upright Spurge). Eastbourne (TQ62250123), 8/6/2014, M. Berry: both sides of a cycle path on disturbed ground, Roselands. Considered native in v.cc. 34 and 35, this is also a garden plant and this source (including from imported soil?) probably accounts for the bulk of recent ‘wild’ records. As well as having cylindrical papillae, the mature capsules are always glabrous, while those of *E. platyphyllos* can be sparsely hairy. In Stace (2010) the latter are simply described as “glabrous”.

*Campanula ramosissima* Sm. (Ketur Bellflower). Eastbourne (TQ6199001141), 6/6/2014, M. Berry (det. E.J. Clement): one plant, disturbed bare ground between cycle path and sewer, Roselands. Because of its annual habit this seems to have been misnamed on the Web and mis-sold in seed form as *Legousia pentagonia*, but has the globose ovary of a Bellflower rather than the cylindrical one of a Venus’s Looking-glass (see introduction above). The specific epithet is perhaps unfortunate, as many poorly-grown examples are unbranched. This specimen consisted of a single erect stem, sparsely hispid, especially proximally, terminating in a solitary purple flower, c.30mm across, with three erecto-patent stigmas. The calyx lobes were linear-subulate and just shorter than the corolla lobes. The leaves were elliptic, up to 1.5cm long, and the ovary densely hispid; but a too precise description would be misleading, as this is a variable species. The first British record of this European endemic, native to the Adriatic region.

*Anisantha madritensis* (Compact Brome). Pett Level Beach (TQ91241560), 6/7/2013, E. Campbell, J. Clark & J. Rose. Shortly after writing that it had not been seen here since 2002, the record was updated (see ‘Adventives & Aliens News, 2’). At the very



least this species appears to be slowly spreading in v.c.11 (comm. E.J.Clement), and is undoubtedly overlooked elsewhere.

### V.c.21 (Middlesex)

*Bidens frondosa* (Beggarticks). Hampton Court (TQ1547068515), 13/9/2014, M. Berry & E.J. Clement: very few plants, bank of Thames between Hampton Court and Kingston Bridges. (If we were not the first to find this here, apologies, and would the original finder please contact me with details. There are also rumours of *B. connata* (London Bur-marigold) from this spot!). The low number of plants gave us the impression that it was a recent arrival. This flowers later than its native look-alike *B. tripartita* (Trifid Bur-marigold) that also grows here, and gets much taller. Some of these plants had also developed a deep red colouring of the leaves, which I do not remember observing in *B. tripartita*. For other differences see Stace (2010); Clement

*et al.*, (2005: 357). Later, we crossed over Hampton Court Bridge and found a lone plant on the Surrey side of the river.

### V.c.36 (Herefordshire)

*Nonea lutea* (Yellow Nonea). Ledbury (SO712379), 11/5/2011, J. Wynne-Jones (det. and comm. E.J. Clement): established along a path since at least 2010.

In closing, an apology for writing a premature obituary of *Nepeta racemosa* (Eastern Catmint) at Princes Park (TQ6268000450) – see ‘Adventives & Aliens News, 3’. It seems to have made a miraculous come-back!

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## An unexpected find – and a mystery solved

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On 29<sup>th</sup> August 2014, I was doing some plant recording for Atlas 2020 by the A44 at Longdon Hill, Wickhamford, Evesham. I found *Erigeron acris* (Blue Fleabane) and *Cotoneaster ×watererii* (Waterer’s Cotoneaster) among other plants and then gave up and walked back to where my car was parked. On the way, I noticed the Vale Exotics garden centre and in a fit of curiosity I popped in, looking at the tree ferns and other interesting plants, and happened to notice a big patch of weeds stretching onto the path around the display. I could not recognise the weed, so I talked to the staff member present, who told me that they certainly had not put it there and regularly tried to get rid of it. He was happy for me to take away a handfull of it.

I took it home, hoping it might be *Herniaria glabra* (Smooth Rupturewort), for which we had an earlier record in the County but which I had never seen. At home, I looked at it with a ×20 hand lens, but unfortunately my declining eyesight means I could not see the

necessary details and I can not use a camera. I then asked Harry Green, a colleague in the Worcestershire Recorders, to photograph my specimen so I could look at the high quality images on my computer. The plant was definitely not *Herniaria* or any other possibilities I had thought of.

As a last resort, I sent one of the pictures (see Colour Section, Plate 1) to Quentin Groom who, by return, solved my problem. The plant was *Chamaesyce serpens* (formerly *Euphorbia serpens*) (Matted Sandmat), and I felt better about my failure to identify it, because I had not even recognised the family. My failure reminded me how easy it is to fall into several errors:

- If you are looking for a particular plant, do not assume that what you find must be a close relation of that plant.
- If you find you were wrong, start from the beginning and try to at least work out the family.

c) Study the available literature. I have Clement & Foster's *Alien plants of the British Isles* sitting on my shelves. If I had looked at it, I would have seen the previous details of *Euphorbia serpens* and its distribution.

The grid reference of the plant is SP06254164. The owner of Vale Exotics has given me

permission to publicise the plant and is happy for anyone to come and look at it. Their details can be seen on the internet at [www.valeexotics.co.uk](http://www.valeexotics.co.uk).

**Acknowledgement:**

Many thanks to Harry Green for photographing the plant.

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## Confusion over cobs: are planted *Corylus* not what they seem?

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I have been recording self-sown and planted specimens of a *Corylus* which seemed to key out to *Corylus maxima* (Filbert) in Stace (bracts around nut longer than usual and somewhat constricted) and recently found this new to Merioneth, or so I thought. I put it on iSpot and was shot down in flames! On looking at photos of the correct species, the bracts are clearly much longer and very constricted, forming a protruding tube beyond the nut. My attention was drawn to an article by Peter Sell in *Nature in Cambridgeshire*, 23: 50-53 (1980), where he discusses this problem. My specimens seem to fit *C. avellana* (Hazel) var. *grandis* Aiton, which he named as being the Kent Cob as sold in shops. The plants I

found are more robust, with bigger, more rugose leaves than normal hazel. No doubt volume 1 of Sell & Murrell will have more details of this and other varieties of *Corylus* he mentioned when it finally appears. Until then, I wonder if other recorders can confirm this identification (see Colour Section, Plate 2) and if yet others have been similarly confused? The BSBI maps show quite a number of records for *Corylus maxima* but how many are genuine? It would be useful if var. *grandis* was added to MapMate (although in my experience it seems hard to get this to happen) and could be mapped in the Big Database to help draw attention to its existence.

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## More on the hybrid Cob *Corylus avellana* × *C. maxima*

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In *BSBI News*, 124, Mike Wilcox provided his observations on the putative hybrid between *Corylus avellana* (Hazel) and *C. maxima* (Filbert), and appealed for further records.

In my local area of the Chilterns there are many relics of old orchards, a mainstay of the local economy a hundred years ago, mainly devoted to cherries and apples, including many local varieties. Most of the orchards contained a few other trees, such as pear and plum, and there would usually have been a Filbert, often planted in the hedge bordering the orchard. Some of these have survived to this day, along with many apparent hybrids with the native Hazel, one of the commonest hedgerow plants. The two species are said to hybridise readily

and it is certainly true that many hedgerow *Corylus* near the old orchards show intermediate forms.

The problem for the botanist is where to draw the lines distinguishing the hybrid from its parents within what is essentially a continuously varying hybrid swarm. To try to help with this, in September 2014 I took small samples from several known local Filberts, a number of native Hazels, and a range of trees that appeared to show intermediate characteristics. The last were from two sites on the edge of Prestwood, both bordering former orchards, at one of which apparently pure Filberts still survived, while at the other there were only native Hazels and these intermediates. I

examined leaf widths (more or less the same as lengths); size of nut (length and width); hairiness of twigs, leaves and calyces, and prevalence of glandular hairs; shape and form of calyx, length relative to the nut, and extent of separation into lobes. All of these were highly variable on any one tree and therefore a range of leaves and nuts collected from each tree was used.

Leaves in *C. avellana* were typically 8-9cm across, in *C. maxima* 12cm, and in apparent hybrids 9-10.5cm. The standard deviations of each were too large to use for separation of these taxa, but, in a season too early for fruits, trees with leaves regularly 10cm or over might be used as a guide to specimens that may be worth examining later on. (It is necessary to avoid leaves from new shoots, which are often conspicuously larger than those from side-shoots of main branches.) Hair characters and prevalence of glandular hairs were somewhat variable but unrelated to taxon.

Ripe nuts in *C. avellana* were typically 1.9cm long by 1.5cm wide; in *C. maxima* 2.6cm by 1.9cm; and in putative hybrids 2.0cm by 1.7cm. The last were therefore much closer to the native species than to the introduced Filbert.

In *C. avellana* the ripe nut always equalled or exceeded the calyx, whereas in *C. maxima* the calyx exceeded the ripe nut by 10mm on average and was tightly pinched in at the tip, usually totally obscuring the whole nut. In putative hybrids the calyx also exceeded the ripe nut, on average by 5-10mm, being

sometimes somewhat pinched at the tip, but not always so, so that the nut was usually visible from above. There were also large differences in the degree of separation of calyx lobes. In *C. avellana* calyces were almost entirely separated to the base into two lobes, so that a large majority of the nut was visible. Those of *C. maxima* were not lobed, but on one side there was a split usually about half-way to the base (at a maximum two-thirds), often difficult to see because of extensive overlapping of the separated parts, and the nut was not at all visible. In putative hybrids the calyx was always split to the base on one side, the separated parts overlapping to various degrees, exposing anywhere between 40% and 90% of the nut in the vicinity of the split. (The illustration in Mike Wilcox's paper illustrates this character.)

The calyx characters appear to be sufficiently distinct to make it possible to separate the hybrid taxon in almost every case, and are illustrated in Photos on Colour Section, Plate 2). On this basis I have found it possible to identify the hybrid in a number of local hedgerows and even came across one coincidentally growing beside a back street in Brentford, Middlesex. It would seem to be a frequent taxon, but under-recorded because it is only possible to separate it when nuts are present.

**Reference:**

Wilcox, M. (2013). 'Hazels – *Corylus avellana*, *Corylus maxima* and putative hybrids?' *BSBI News*, **124**: 15-16.

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## *Eleusine africana* (Osgrass) in Evesham

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This is a copy of part of a letter I wrote to Dr T.A.Cope:

“Another BSBI member ... sent me a rather scrappy specimen of a grass that he had collected from the bottom of the east kerb of Barnards Close, Evesham (v.c.37) (SP04194289), date 12/9/2014, with the comment that ‘This seems to key out as *Eleusine indica* ssp. *africana*.’ I thought that

he could well be right, but thought that I needed a better specimen to check, so on 16/9/2014 I visited his site, where in the same spot I found one more specimen that I collected, including roots. Following your keys and descriptions in BSBI Handbook No. 13, I saw that you had changed the subspecies to a full species, *E. africana*. I also saw how difficult the genus was (incidentally, I should

say that my eyesight is poor and declining). I am out of my depth with alien grasses, so I knew that I needed expert determination. Even if my tentative identification was correct, I thought the native grass was unlikely to occur here unless it was actually from cultivated *E. coracana* (Finger Millet), grown for bird-seed”.

I sent my specimen to Tom Cope, who replied: “There are two pieces of good news. First, you are quite right in your determination of the specimen as *Eleusine africana*; and second, it is good to know that the key actually works! Thank you for that. The reason for the promotion to full species is simply that *E. africana* alone is the progenitor of the cultivated *E. coracana*, to which *E. indica* seems to have made no contribution.”

This is a surprise, following as it does the record of *Chamaesyce serpens* (Matted Sandmat) [see article on p. 44 in this issue of *BSBI News*] in the same area (and a clearly horticultural escape of *Helianthemum ×sulphureum* in Worcester). Add to these two sites for *Phytolacca acinosa* (Indian Pokeweed), a patch of *Datura stramonium* (Thorn-apple) and at last a re-find of *Herniaria glabra* (Smooth Rupturewort)!

[Editor’s note: it is our usual policy to strictly use the names for plants as presented in C.A. Stace’s *New flora of the British Isles*, 3<sup>rd</sup> ed. (2010), but in this case we have kept the names as given, because they evidently illustrate changing (or differing) views as to the taxonomic status of this plant.]

## ***Claytonia perfoliata* in the British Isles: could ours be classed as a new subspecies?**

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*Claytonia perfoliata* Donn ex Willd. (Spring-beauty) is a frequent inland and coastal plant in parts of the British Isles, though rare in west Britain and Ireland (Stace, 2010). It is said to have been introduced to Britain in 1794 from North America (Preston *et al.*, 2002). It is a complex group, with about 24 species and additional subspecies within the species in North America. *Claytonia perfoliata* has three subspecies listed: ssp. *mexicana*, ssp. *intermontana* and ssp. *perfoliata* ([http://www.efloras.org/florataxon.aspx?flora\\_id=1&taxon\\_id=242415745](http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242415745)). Within the genus *Claytonia* seed size seems to be a relatively useful part of identifying each taxon. For the three subspecies of *C. perfoliata*, it gives a range of 2-5 mm for the seed size. The minimum size is 2-3 mm but this refers to ssp. *mexicana*, with ssp. *intermontana* 3-4 mm, while for ssp. *perfoliata* it gives 3-5 mm. However, our plants appear to have seeds no more than 1.5 mm (possibly 1.6 mm at a push and including the elaiosome, the white appendage). For ssp. *perfoliata*, even at the minimum size, this is twice the size of the seeds of our plants. It is not clear why our plants have much smaller seeds than that stated in N. America.

I presume plants introduced to Europe and the Pacific Islands - New Zealand, also belong to ssp. *perfoliata*, but I have yet to see material to measure the seeds. In Stace (2010) it gives ours as  $2n=36$ , which is one of those given for this subspecies in N. America ( $2n=24, 36, 48, 60$ ). However, could ours have become, or be, a subspecies with smaller seeds? Would it be possible to see if the chromosome number is still  $2n=36$ ? It seems unclear as to why it would be so different in seed size. As a challenge I would be interested to hear if anyone can find larger seeds from around the British Isles and Ireland (and Europe if botanists venture there). If any are larger than 1.5 mm please send some seeds. Seeds can be obtained from plants by laying some heads on a sheet of white paper. They will eventually drop out; and can also be collected in the field, though it can be a bit more difficult.

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## The vascular plant Red Data List for Great Britain: a summary of amendments in years 8 and 9 (2013-14) of the annual amendments process

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Following publication of previous updates (Leach 2007, 2010; Leach & Walker 2011, 2013), the GB Red List Group – formerly the Species Status Assessment Group – for vascular plants has agreed further changes to the GB *Red Data List* covering years 8 and 9 (2013-14) of the annual amendments process. As usual, these will be submitted to JNCC to be incorporated into the master list on the JNCC website; a copy of the revised *Red Data List*, including the Waiting List, will also shortly be available to download from the BSBI website.

The amendments, summarised below, fall into four categories: (a) additions to the Main List; (b) amendments to threat statuses given to taxa already on the Main List; (c) additions to the Waiting List; (d) removal of taxa from the Main List or Waiting List to the Parking List. For an explanation of the various lists, see Cheffings & Farrell (2005) or previous updates (e.g. Leach & Walker 2013). It should be noted that all new or amended threat statuses have been determined in accordance with the IUCN threat criteria used to compile the original GB *Red Data List* (IUCN 2001, 2003). In the following account, threat categories are abbreviated as follows: EX extinct, EW extinct in the wild, CR critically endangered, EN endangered, VU vulnerable, NT near threatened, DD data deficient, LC least concern (= not threatened) – for definitions, see Cheffings & Farrell (2005).

### Additions to the Main List

- Six new *Hieracium* species described by McCosh (2013), all Scottish endemics apart from one, have been given provisional threat statuses following communication with D. J. McCosh, and can now be added to the Main List as follows: *Hieracium tottoense* (Leithen Hawkweed), *H. subduriceps* (Glendean Hawkweed) and *H. kinkellense*

(Kinkell Hawkweed) are added as EN; *H. kinrossense* (Kinross Hawkweed) and *H. jonesianum* (Jones's Hawkweed), an English endemic, are added as VU; and *H. ronayense* (Ronay Hawkweed) is added as DD. In addition, *Hieracium dowardense* (Doward Hawkweed), a GB endemic previously overlooked from the Main List, is added as EN.

- Publication of the England *Red List* (Stroh *et al.* 2014) pre-empted our decisions on nine *Hieracium* species, all of them restricted in GB to England, which resided on the GB Waiting List due to doubts as to their native/alien status. McCosh & Rich (2011) variously described them as 'probably' or 'possibly' native, or as likely to be native in one part of the country but introduced in another; in all cases they assigned them threat statuses. In accepting that these taxa are intractable with regard to native/alien status in GB, we have now decided that they are probably best categorised as 'Native or Alien' (*sensu* Preston *et al.* 2002). As such, they are added to the Main List, as follows: *Hieracium sinuolatum* (Sinuate-toothed Hawkweed) and *H. subprasinifolium* (Leek-coloured Hawkweed) are added as EN; *H. mammidens* (Broad-toothed Hawkweed), *H. megapodium* (Fine-bracted Hawkweed) and *H. microspilum* (Minute-toothed Hawkweed) are added as DD; and *Hieracium glevense* (Gloucester Hawkweed), *H. kentii* (Kent's Hawkweed), *H. salticola* (Bluish-leaved Hawkweed) and *H. virgultorum* (Long-leaved Hawkweed) are added as LC. These additions bring the GB *Red Data List* into line with the statuses given for these taxa in the England *Red List*. However, it should be noted that in the England *Red List* the GB and England

statuses for two of these ‘England-only’ taxa, *H. mammidens* and *H. subprasinifolium*, differed: while the GB statuses were the same as in McCosh & Rich (2011), those for England were based on assessments carried out by T.C.G. Rich specifically for the England *Red List*. The latter should have automatically revised the former, so in adding them now to the Main List we have opted to use the more recent assessments.

- *Rhinanthus angustifolius* (Greater Yellow-rattle), previously on the Waiting List as a ‘probable neophyte’, is now known to have been recorded in the wild in GB as early as the late 17<sup>th</sup> century (Lees 1894). As such, we have decided to re-categorise this species as an archaeophyte, and it is added to the Main List as LC. It is undoubtedly Nationally Rare, but on present evidence we can see no reason for regarding it as threatened; it occurs on a number of SSSIs and populations appear to be thriving at several sites in SE England.
- Six new *Sorbus* species described by Rich *et al.* (2014), all highly restricted English endemics, are added as EN: *Sorbus evansii* (Evans’s Whitebeam), *S. greenii* (Green’s Whitebeam), *S. herefordensis* (Herefordshire Whitebeam), *S. richii* (Rich’s Whitebeam) and *S. spectans* (Observatory Whitebeam).
- A new dandelion, *Taraxacum palmeri* (Palmer’s Dandelion), has been described from Shetland (Scott & Rich 2013), and is now added to the Main List as EN. It is not a GB endemic as it is also recorded from the Faeroe Islands. In addition, seven dandelions that were previously on the Waiting List owing to uncertainties as to their native/alien status, are now added to the Main List following their inclusion by A.J. Richards in the England *Red List* (Stroh *et al.* 2014): *Taraxacum atactum* (Narrow-bracted Dandelion), *T. boekmanii* (Bökman’s Dandelion), *T. ostenfeldii* (Ostenfeld’s Dandelion), *T. polyodon* (Common Dandelion), *T. sagittipotens* (Smooth Dandelion) and *T. undulatum* (Wavy-leaved Dandelion) are all added as LC; while *T. texelense* (Texel Dandelion), a Dutch species known from a single saltmarsh site in Lancashire, is added as DD.
- Following a report by Walker (2013) on our state of knowledge of infra-specific taxa currently on the Waiting List, we have agreed that the following can now be added to the Main List: *Aethusa cynapium* subsp. *agrestis* (LC), *Anthyllus vulneraria* subsp. *lapponica* (LC), *Pilosella peleterana* subsp. *peleterana* (VU), *P. peleterana* subsp. *subpeleterana* (EN), *P. peleterana* subsp. *tenuiscapa* (VU), *Sparganium erectum* subsp. *neglectum* (LC), and *Vicia sativa* subsp. *nigra* (LC). For the *Pilosella peleterana* (Shaggy Mouse-ear Hawk-weed) subspecies we have adopted the threat statuses given by McCosh & Rich (2011), but we suspect that subsp. *subpeleterana* may now be nearer to VU rather than EN on account of the large (and thriving) population on Craig Breidden, Montgomeryshire.

#### Amendments to taxa already listed on the Main List

In examining the England *Red List* we noted that some taxa restricted within GB to England were assigned a different threat status there to that currently given in the GB Main List. In many cases this difference was clearly because the England assessments made use of more up-to-date site/population data, but sometimes it was due to the fact that more sensitive analytical methods were employed when calculating the significance and magnitude of changes in hectad range or frequency between the two date classes 1930-69 and 1987-99 (Stroh *et al.* 2014, pp 15-20). With regard to these ‘England-only’ taxa, we have decided to update GB threat statuses in line with those given in Stroh *et al.* (2014); this has resulted in amendments to the 43 taxa listed alphabetically in Table 1 (p. 50). Of these, 15 now have higher threat statuses than before, while (encouragingly) 28 are assessed as being less threatened than previously thought.

In addition, T.C.G. Rich in Stroh *et al.* (2014) proposed changes to the threat statuses of 18 *Hieracium* species endemic to England, while A. J. Richards recommended changes to two *Taraxacum* species. These are listed in Table 2 (p. 52).

### Additions to the Waiting List

- *Ophrys tenthredinifera* (Sawfly Orchid) was discovered in 2014 on the Dorset coast (Chalk 2014). As the finder states, “the orchid’s mode of arrival ... will remain uncertain”; yet, while there is apparently no evidence of it having been deliberately planted, we are aware of cases of other *Ophrys* species being introduced nearby. For now, we have added it to the Waiting List, where it joins several other recent potential natural colonists including *Serapias parviflora* (Lesser Tongue-orchid) and *Pancreaticum maritimum* (Sea Daffodil).
- *Angelica archangelica* (Garden Angelica), previously not assessed, may have claims to being an archaeophyte or native rather than a neophyte in the extreme north of Scotland. It is a species known to have been in cultivation for a very long time, certainly since the late 16th century (Preston *et al.* 2002). Its occurrences in the wild are generally considered relics of cultivation (e.g. in Shetland, see Scott & Palmer (1987)), but in the Faeroe Islands it is also found as a native on sea-cliffs. As its seeds float and can remain viable for at least a year (see Danvind & Christer 1997), it is possible that strand-line plants, at least in Shetland, could be natural colonists arriving as a result of long-distance seed dispersal from Faeroese populations. While attempts are made to clarify its status we are adding it to the Waiting List.

### Removal of taxa from the Main List or Waiting List to the Parking List

- Following a recent re-assessment of a number of ‘petaloid monocots’ (Pearman 2013) we accept that two taxa, *Leucojum aestivum* subsp. *aestivum* (Summer Snowflake) and *Muscari neglectum* (Grape-hyacinth), are, in all probability, post-1700 introductions (and so neophytes) rather than native in GB. As such, they are removed from the Main List to the Parking List.
- In addition, the same analysis has convinced us that *Ornithogalum umbellatum* subsp. *campestre* (Star-of-Bethlehem), currently on the Waiting List, is also a neophyte and so can be removed to the Parking List.

### Acknowledgements

The present note is written on behalf of the GB Red List Group for vascular plants, coordinated by BSBI and including representatives from BSBI, Natural Resources Wales, Natural England, Natural History Museum, Plantlife and Scottish Natural Heritage. Our thanks to Lynne Farrell, Andy Jones, John Martin, David McCosh, David Pearman, Tim Rich, Pete Stroh, Fred Rumsey and Ian Taylor for assistance in gathering together the relevant information and/or helpful comments on the draft.

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Table 1: Taxa restricted in GB to England that require amended GB threat statuses following publication of the England *Red List* (Stroh *et al.* 2014)

Taxon	Old GB threat status	Amended GB threat status	Notes
<i>Apium repens</i>	VU	EN	Lost from two Oxon locations and not seen at a third for <i>c.</i> 10 years
<i>Artemisia campestris</i> subsp. <i>campestris</i>	VU	EN	Severity of decline previously underestimated; only two extant locations, one of which is a long-standing introduction
<i>Bupleurum baldense</i>	VU	EN	Still two localities, but population estimated to have declined to <i>c.</i> 200 plants
<i>Centaurea calcitrapa</i>	CR	EN	A less severe decline than previously estimated
<i>Centaurium tenuiflorum</i>	VU	LC	For explanation see Stroh <i>et al.</i> (2014), pp 60-61



<i>Clinopodium calamintha</i>	VU	LC	A less severe decline than previously estimated; much of the decline of this species appears to have been pre-1930 (Stroh <i>et al.</i> 2014)
<i>Clinopodium menthifolium</i>	CR	VU	A major long-term recovery project has helped to increase population at its sole GB locality
<i>Coincya wrightii</i>	VU	NT	Previously VU as only occurs in a single locality, but current population of between 1000 and 10,000 individuals suggests NT
<i>Corrigiola litoralis</i>	CR	EN	A major recovery project has helped to increase population at its sole GB locality
<i>Crepis foetida</i>	EW	CR	Re-discovered at a presumed 'native' locality in 2010
<i>Crepis praemorsa</i>	EN	VU	The population at its sole GB locality is considerably higher than previously thought (Roberts 2009); see Stroh <i>et al.</i> (2014), pp 57-58
<i>Cynoglossum germanicum</i>	CR	NT	Populations prone to wide fluctuations, but currently >10,000 plants; but <30 localities still means it qualifies as NT
<i>Dryopteris cristata</i>	CR	EN	Revised threat status takes into account recent surveys by F.J. Rumsey, T. Pankhurst and others
<i>Erica vagans</i>	LC	NT	< 30 locations
<i>Eryngium campestre</i>	CR	NT	For explanation see Stroh <i>et al.</i> (2014), pp 94-95
<i>Gentiana verna</i>	LC	VU	For explanation see Stroh <i>et al.</i> (2014), pp 56-57
<i>Gladiolus illyricus</i>	LC	VU	Revised status based on long-term monitoring by M. Rand
<i>Herniaria ciliolata</i> subsp. <i>ciliolata</i>	VU	NT	For explanation see Stroh <i>et al.</i> (2014), pp 58-59
<i>Himantoglossum hircinum</i>	NT	LC	A dynamic species that moves around, leaving a scatter of 'old dots' in its wake. Numbers of sites fluctuate, but declines in one area tend to be offset by increases elsewhere
<i>Koeleria vallesiana</i>	VU	NT	In more locations than previously estimated, population estimated to be <10,000; see Stroh <i>et al.</i> (2014) pp 59-60
<i>Melampyrum cristatum</i>	VU	EN	A more severe decline than previously thought; for explanation see Stroh <i>et al.</i> (2014), pp 55-56
<i>Minuartia stricta</i>	VU	EN	Survey results suggest a c.50% decline in population since the late 1990s

<i>Oenanthe silaifolia</i>	NT	LC	The previous threat status may have been influenced by old records, now regarded as probable or certain errors. Current position seems to be stable, with some very large populations expanding in recent years
<i>Onobrychis viciifolia</i>	NT	VU	A more severe decline than previously estimated
<i>Orchis purpurea</i>	EN	VU	A less severe decline than previously estimated
<i>Orobanche picridis</i>	EN	VU	Population now estimated to be c.500 individuals, based on surveys carried out between 2000 and 2012 (previous estimate < 100)
<i>Potamogeton acutifolius</i>	CR	EN	A less severe decline than previously estimated
<i>Primula elatior</i>	NT	LC	A less severe decline than previously estimated
<i>Primula farinosa</i>	VU	NT	A less severe decline than previously estimated
<i>Puccinellia fasciculata</i>	VU	NT	A less severe decline than previously estimated
<i>Pulicaria vulgaris</i>	CR	EN	Revised threat status based on re-assessment of decline trend and results of recent surveys
<i>Pulmonaria obscura</i>	EN	VU	Old threat status depended on there being evidence of decline in numbers of individuals or locations; however, populations appear to be stable, so now VU due to low population size and few locations
<i>Pyrus cordata</i>	VU	EN	Estimate of population size now based on number of mature individuals, with groups of suckers counted as one individual
<i>Ranunculus ophioglossifolius</i>	VU	CR	This reflects a recent and alarming decline in population size, now <50 individuals; in need of urgent conservation action
<i>Scirpoides holoschoenus</i>	EN	VU	Populations probably stable at its remaining presumed-native locations
<i>Selinum carvifolia</i>	VU	EN	For explanation see Stroh <i>et al.</i> (2014), pp 152-153
<i>Stachys germanica</i>	VU	EN	Two of its five locations require urgent conservation action; population now lower than previously, recent counts ranging between 14 and 470 individuals (Stroh <i>et al.</i> 2014, B. Betteridge pers. comm.)

<i>Stratiotes aloides</i>	NT	LC	A less severe decline than previously thought within its presumed-native range
<i>Tephrosieris integrifolia</i> subsp. <i>integrifolia</i>	EN	VU	More recent estimate of decline based on results of BSBI Threatened Plants Project
<i>Trifolium bocconeii</i>	VU	EN	Survey of all locations in 2012 suggests c.55% decline in past decade
<i>Trifolium ochroleucon</i>	NT	VU	A more severe decline than previously estimated, although high resolution data has been persuading us for a while that this species is now under considerable threat (K. Adams pers. comm.)
<i>Veronica triphyllos</i>	EN	CR	Revised threat status based on native locations only
<i>Viola persicifolia</i>	EN	CR	Revised threat status based on most recent population data; not recorded at Woodwalton Fen since 2007, but re-discovered at Wicken Fen in 2014 after an absence of 16 years

Table 2: *Hieracium* and *Taraxacum* species restricted in GB to England that require amended GB threat statuses to bring them into line with statuses given in the England *Red List* (Stroh *et al.* 2014)

Taxon	Old GB threat status	Amended GB threat status	Notes
<i>Hieracium amnicola</i>	VU	NT	Less threatened than previously thought; three recent records, Malham-Arncliffe area (Rich 2013a)
<i>Hieracium ampliatiforme</i>	VU	NT	Less threatened than previously thought; four recent records, Helvellyn, Ingleborough and Smardale Gill (Rich 2013a)
<i>Hieracium brigantum</i>	VU	LC	Now regarded as frequent on the Yorkshire Pennine limestones (Rich 2013a)
<i>Hieracium britannicum</i>	VU	DD	No recent records, could still be frequent in the Peak District but surveys required
<i>Hieracium caesitium</i> auct. Angl.	VU	EN	Only two recent records
<i>Hieracium candelabrae</i>	VU	EN	Only two recent sites (Rich 2013a)
<i>Hieracium cantianum</i>	LC	EN	Seemingly lost from >50% of locations since 1960 (Stroh <i>et al.</i> 2014)
<i>Hieracium crebridens</i>	VU	LC	Only three recent records, but a widely scattered distribution and so probably LC (Rich 2013a)

<i>Hieracium filisquamum</i>	DD	CR	A single putative population of this Cumbrian speciality rediscovered in 2013 (Rich 2013b), subsequently confirmed; only nine plants
<i>Hieracium fissuricola</i>	DD	EX	Declared extinct following a search of its sole locality in 2013 (Rich 2013b)
<i>Hieracium inaequilaterum</i>	VU	NT	Restricted to W. Yorkshire, but several recent records suggest NT rather than VU
<i>Hieracium integratum</i>	EN	CR	Only four native locations, all populations small and declining
<i>Hieracium lakelandicum</i>	VU	NT	Less threatened than previously thought, with several recent records in Cumbria
<i>Hieracium ornatilorum</i>	VU	EN	A more severe decline than previously thought (Rich 2013a)
<i>Hieracium peccense</i>	VU	LC	Less threatened than previously thought
<i>Hieracium peroblongum</i>	VU	EN	Abundant at one location, but not recorded recently at either of its other sites
<i>Hieracium pollichiae</i>	VU	LC	Less threatened than previously thought
<i>Hieracium stictum</i>	VU	LC	More frequent than previously thought, with quite a number of recent records (Rich 2013a)
<i>Taraxacum margettsii</i>	DD	LC	Devon and Cornwall, known to be plentiful on the Lizard (Dudman & Richards 1997)
<i>Taraxacum pseudonordstedtii</i>	DD	LC	Frequent in calcareous flushes in Upper Teesdale, W. Cumbria and Lancs (Dudman & Richards 1997)

### A trio of unusual alien ferns beside Bishops Parkway, near Wells, Somerset (v.c.6)

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While square-bashing an under-recorded monad (ST5644) around Dulcote, just south of Wells (v.c.6), in early December, we came across some intriguing alien *Dryopteris* plants in scrub below the embankment of the A371, Bishops Parkway (see Colour Section, Plate 3).

The first plant spotted was a reasonably well-grown *Dryopteris cycadina* (Franch. & Sav.) C. Chr. (Shaggy Shield-fern), with about ten fronds, each c.90cm long. Excitingly, on investigation we found that it was growing in close

association with a single plant of *Dryopteris remota* (A. Br.) Druce (Scaly Buckler-fern), bearing four fronds of similar length. It was not easy to observe these plants closely as they were growing in dense spiny scrub, which formed a block of vegetation extending up the major road embankment, and were rooted inside the surrounding stout wooden and wired fence. The situation and general appearance of the plants did not suggest that they had been deliberately planted, although we could not rule out the

possibility that the *D. cycadina* had at some stage been cast out bare-rooted, possibly with a juvenile *D. remota* self-sown on the root ball. To add to the mystery though, about 10m along the track (National Cycle Route 3) toward the A371 underpass, also in scrub adjacent to the fence-line, but this time on its outer side, was a small plant of *Dryopteris erythrosora* (Eat.) O. Kunze (Japanese Shield-fern). Again this had every appearance of being self-sown, having rooted in a crevice under branches. Significantly, there were no other naturalised garden plants by the scrub or trackside, no evidence of fly-tipping of garden waste or other likely scenarios for accidental introduction, and none of the plants showed any evidence of having been planted.

The Asiatic *Dryopteris erythrosora* and *D. cycadina* are stocked by many garden centres, the latter usually sold as “*D. atrata*” (a related but rather more tender species known only in a few specialist collections). Both species have been given the Award of Garden Merit by the Royal Horticultural Society and have become more widely available over the last 10-15 years. Consequently, both are now beginning to turn up as self-sown escapes, although usually adjacent to gardens. *D. erythrosora* can be recognised by its highly glossy, triangular three-pinnate fronds, which flush a very attractive pinkish-bronze. *D. cycadina* is very distinctive, having once-pinnate-pinnatifid, rather harsh-textured fronds; weakly divided pinna lobes, which are square-ended; and very blackish scales on the rachis.

*Dryopteris remota* is in many ways the most intriguing of the trio. It is less readily available commercially but is in cultivation with many enthusiasts (including both authors) and is occasionally offered by some specialist retailers. This triploid apomict, originally derived from hybridisation between *D. expansa* (Northern Buckler-fern) and *D. affinis* (Golden-scaled Male-fern), is rare but widely distributed in upland western and central Europe eastwards to Macedonia and into Asia. It has previously been found in unquestionably natural settings near the west shore of Loch Lomond, by W.B. Boyd in August 1894, and in woods at Dalystown, Galway by R.L. Praeger in 1898, but although the offspring of these plants have been

maintained in cultivation, *D. remota* has hitherto never been re-discovered in the wild. Both 19<sup>th</sup> century finds are now considered to be the result of chance long-distance spore dispersal events from the continental range of the species, the plants failing to establish populations, for whatever reasons. As a garden plant FJR finds that *D. remota* recruits regularly in nearby pots, a feature also commented upon by Hoshizaki & Moran (2001). This more assured reproductive success is presumably conferred by its apomictic nature (see Crouch & Rumsey, 2010). Indeed, all three of the ‘alien’ *Dryopteris* species at Dulcote are apomicts, able to generate new sporophytic plants from gametophytes derived from single spores, and in the absence of fertilisation.

*Dryopteris remota* could easily be overlooked, and one motivation for publishing this note is to encourage readers’ awareness of this species. At a superficial glance it resembles our commoner buckler-ferns, in colour like *D. dilatata* and, in ‘prickliness’ of the pinnules and the narrow rather erect fronds, like *D. carthusiana*. It differs from both in having a lesser degree of frond dissection (two-pinnate-pinnatifid, not three-pinnate), whilst at the base of each pinna the rachis has the bluish-black staining typical of *D. affinis*, a character retained to some degree in all the hybrid offspring of *D. affinis* and usually very marked in *D. remota*. The reappearance of this species in Britain or Ireland is considered a possibility by Edgington (2013). However, escape from cultivation is perhaps a more likely route of arrival than long-distance spore dispersal from its native continental range. The close association with two alien species of *Dryopteris* strongly suggests a garden origin for the Somerset plant of *D. remota*.

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## REQUESTS & OFFERS

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### Horticultural names in print and an opportunity to volunteer from home

JAMES ARMITAGE, *RHS Garden Wisley, Woking, Surrey, GU23 6QB*;  
(jamesarmitage@rhs.org.uk)

In developed nations such as Britain and Ireland, human activity is increasingly responsible for a breaking down and merging of ecologies. It can be difficult now to say where natural, managed and cultivated habitats begin and end. A consequence of this is that plants which owe their existence to a process of artificial breeding and selection are becoming ever more important as recordable members of the wild flora. But for those not primarily interested in garden plants there can be uncertainty about how to refer to these cultivars in print.

The *International code of nomenclature for cultivated plants* (ICNCP) outlines some very simple rules for presenting cultivar names, the purpose of which are to promote consistency and clarity of meaning in their use. Though Stace (2010) is at pains to follow these stipulations, it is rare to find them adhered to elsewhere in the botanical literature, even in the pages of scientific journals.

Cultivar names should appear in single quotes, in Roman typeface, with each word receiving an initial capital, unless linguistic custom dictates otherwise. Thus *Cotoneaster* ‘Pendulus Hybridus’ should not be given as *Pendulus Hybridus*, “Pendulus Hybridus”, ‘Pendulus hybridus’ or any combination thereof.

The ICNCP is available as a pdf at: [www.actahort.org/chronica/pdf/sh\\_10.pdf](http://www.actahort.org/chronica/pdf/sh_10.pdf) and a further online resource is offered by Hortax (The Cultivated Plant Taxonomy Group). Hortax is a small team of botanists and horticulturists that provides a website ([www.hortax.org.uk](http://www.hortax.org.uk)) offering full information concerning the presentation of horticultural names as well as a literature and database search facility, links to other online resources and a printable leaflet and booklet. An e-newsletter, *Cultivated Plant Taxonomy News* (CPT News), is available free of charge.

#### Volunteering for Hortax

Despite the enormous contribution to the biodiversity of Britain and Ireland made by garden plants, horticultural taxonomy is a chronically under-resourced discipline. To help remedy this, Hortax is undertaking a number of projects aimed at disseminating information and advancing our knowledge of cultivated plants and their classification. Volunteers with a sharp eye for accuracy are eagerly sought to offer help from home with this endeavour.

The focus of the Lost Names Project is formulating cumulative indexes to journals of horticultural and botanical importance, beginning with *The Gardeners’ Chronicle*. With the help of ten libraries, several volumes have already been indexed but it is hoped unaffiliated individuals may also be able to contribute.

The searchable Literature and Databases area of the website provides references to taxonomic literature and links to useful websites, but assistance is required to make it a comprehensive and up-to-date resource.

A third project is under way with the aim of compiling a worldwide list of institutions practising elements of cultivated plant taxonomy. The ultimate goal is to provide a reference manual on the subject.

Those wishing to offer their services must be familiar with the use of computers and should email James Armitage ([jamesarmitage@rhs.org.uk](mailto:jamesarmitage@rhs.org.uk)) for more details. If you would like to be added to the circulation list for CPT News please write to: [hortaxgroup@gmail.com](mailto:hortaxgroup@gmail.com)

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- STACE, C. (2010). *New flora of the British Isles*. 3<sup>rd</sup> ed. Cambridge: CUP.

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## Help required for new book; *Winter key to trees and shrubs*

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(jpp197@alumni.soton.ac.uk)

I have amassed a huge number of high-quality photographs to include in a new key to trees and shrubs (a companion volume to the *Vegetative key* to help botanists identify deciduous woody plants in winter). If anyone can use editing programs (ideally Adobe Photoshop) and would not mind volunteering as a photographic editor, I would be very grateful. I need assistance with tasks such as adding a uniform background and digitally erasing fluff from name tags, straightening images where taken at an extreme angle and of course, the best image chosen! Location is no problem as all file sharing can all be done

online. Ideally, all this needs to be done before this spring in case replacement images are required.

The field guide currently contains over 340 taxa including all native, naturalised and widely planted deciduous trees, shrubs and climbers. I have been working on this for the past four winters and will finally be published this autumn. The book also incorporates line drawings by Robin Walls illustrating diagnostic characters. It will also include provisional keys to tree bark and silhouettes which are currently being tested. If anyone can help, or wants more information, please email me

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## New online interactive flora: ‘Ecological flora of the central Chilterns’

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Records of all wildlife and plants have been compiled from many sources for a typical 100 km. sq. part of the central Buckinghamshire Chilterns. The records extend back over a hundred years and provide an unusually dense picture across space and time. As the first part of a project to make these rich data publicly available, a comprehensive description of all the plants ever found in the area is currently being written by me, using the many records compiled by myself, members of the local conservation group Prestwood Nature, past residents, the county environmental records centre and many others. This is being offered in discrete sections as they become ready. Out of a projected 47 sections, 14 are already available as free downloads at: [www.prestwoodnature.org/chilternsflora.html](http://www.prestwoodnature.org/chilternsflora.html).

When completed it will be the closest to a complete ‘Flora of the Chilterns’ currently available. While it is a scientific work, it is also a celebration of our rich and fascinating wildlife and is readily accessible to the layman

who wants to learn more about the plants of the Chilterns area. For each plant, its distribution, frequency and main identifying features are described, with key sites where it is most likely to be found, fully illustrated by photographs. It goes beyond the traditional flora in also describing the main ecological characteristics of each plant - other plants and creatures with which it is associated, including gall-creators, leaf-miners, predators, *etc.*, and its human significance. An attempt is being made to include all plants native to or well established in the Chilterns generally, using the author’s and others’ own experience of the area.

By publishing online at this early stage, it is hoped that others will contribute their own comments and observations, making it a truly collaborative work in the same way that past and current records depend on hundreds of individuals. Updated versions of all sections will be placed online at regular intervals, so keeping abreast of developing knowledge. People will be able to register on site to receive

updates on revisions and new sections as soon as they become available.

Downloads currently available include the Introduction (incl. descriptions of the focus area, its chief habitats, woodland typologies, and changes in the area's flora over time),

Index (to available sections), and sections dealing with all Trees, Spore-bearing plants and Aquatic Monocotyledons. The three sections on Terrestrial Monocotyledons (including orchids) are currently in preparation and should be available before the end of 2014.

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## Seeds from Ware in 2014

GORDON HANSON, *1 Coltsfoot Road, Ware, Herts.SWG12 7NW*  
(gordon.hanson@talktalk.net)

Please enclose suitable labelled small packets and a s.a.e for your choice.

*Acanthus hirsutus* – cult.  
*Aconitum anglicum* – IOW  
*Astragalus odoratus* – cult.  
*Asclepias syriaca* – Israel  
*Asyneuma canescens* – cult.  
*Beckmannia eruciformis* – Altai Rep.  
*Calceolaria tripartita* – cult.  
*Centaurea salmantica* – cult.  
*Chelone obliqua* – cult.  
*Chenopodium ambrosioides* – Chile  
*Chenopodium giganteum* – wool alien  
*Digitalis obscura* – cult.  
*Euphorbia terracina* – Spain  
*Fumaria parviflora* – Wilts  
*Fumaria purpurea* – Orkneys  
*Fumaria reuteri* – IOW  
*Geranium himalayense* – cult.  
*Gilia minor* – alien, Stockport  
*Hieracium exotericum* – Wales  
*Hieracium scotostictum* – cult.  
*Hieracium subleptostoides* – Wales  
*Hieracium vulgatum* – Wales

*Lachenalia biflora* – cult.  
*Lavatera cachemiriana* – cult.  
*Lavatera trimestris* – Spain  
*Medicago arborea* – Greece  
*Melasmaerula ramosa* – cult.  
*Melothria scabra* – cult.  
*Mirabilis californica* – USA  
*Monarda russeliana* – cult.  
*Nicotiana glauca* – Spain  
*Nigella papillosa* – cult.  
*Papaver persicum* – Turkey  
*Persicaria capitata* – birdseed  
*Physalis angulata* – cult.  
*Potentilla glandulosa* – cult.  
*Senecio anonymus* – cult.  
*Setaria adhaerens* – birdseed  
*Sigesbeckia serrata* – wool alien  
*Solanum purpureum* – cult.  
*Solidago simplex* – USA  
*Stipa cernua* – USA  
*Stipa holosericea* – Turkey  
*Thalictrum speciosissimum* – Spain  
*Triodanis perfoliata* – Canada  
*Verbascum virgatum* – Hayling Island



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## OBITUARY NOTES

Since the publication of *BSBI News* 127, we regret to report that the news of the deaths of the following members, including several of long standing, has reached us. We send regrets and sympathies to all the families.

**Mr L.G. Adams** of Canberra, Australia, a member since 1956

**Revd D. Curry** of Lindfield, West Sussex, a member since 1994.

**Dr N.T.H. Holmes** of Warbouys, Cambridgeshire, a member since 1978 and, for many years, a referee for several genera of aquatic plants.

\***Mr J. Iiff** of Cilycwm, Dyfed, a member since 1972

\***Mr A.W. Jones** of Newhaven, East Sussex, a member since 1963.

**Mr L. Magee** of Pool in Wharfedale, West Yorks, a member since 1991.

**Miss H.M. Meredith** of Newquay, Cornwall, a member since 1993

\***Dr C. Muldoon** of Bray, Republic of Ireland, only a member since 2013 but had already taken on the role of Irish field meetings secretary

**Mr A.R. Perry** of Dinas Powys, Vale of Glamorgan, a member since 1988 and a dear friend and colleague at the National Museum of Wales where he was in charge of lower plants with a special interest in bryophytes. Roy was a former President and Secretary of the British Bryological Society and editor of its Newsletter. He was also a dealer in second hand books and many members will have seen his stall at Annual General and Exhibition Meetings. He was also joint editor (with RGE) of BSBI Conference

Report number 22 – *The common ground of wild and cultivated plants* published in 1994. More recently he and I undertook the digitising of the recently published second volume of Sell & Murrell's *Flora of Great Britain and Ireland*. I typed the manuscript onto computer and Roy meticulously checked the printout.

Roy and I met for a drink and a chat almost every Wednesday for the past 20 or so years and together we travelled the entire Valleys railway network visiting pubs along the way. We also made good use of our free bus passes to visit areas not served by the railways until Roy started having difficulty walking and we confined our activities to local pubs. Wednesdays will never be the same again!  
Gwynn Ellis

**Ms B.R. Smith** of St Ives, Norfolk, a member since 1981.

**Mr M.J. Southam** of Twyford, Winchester, joined the Society in 1976. He left the Society in 2011 having developed Alzheimer's, but was a long time referee for Apiaceae and will have been familiar to many members for his fascinating exhibits of umbellifer plants and seeds at Exhibition meetings.

**Mrs J. Thomson** of Blewbury, Oxfordshire, a member since 1982.

Obituaries of those marked with an asterisk appear in *BSBI Yearbook 2015* and of some of the others will appear in *BSBI Yearbook 2016*.

BSBI is still looking for an Obituaries Editor and if any member would be prepared to take this on please contact John Poland, 13 Grasmere Close, Southampton, Hants., SO18 3NP; (jpp197@alumni.soton.ac.uk)

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## NOTICES

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### Botanical Research Fund

MARK CARINE, *Hon. Secretary, The Botanical Research Fund, c/o Department of Life Sciences, The Natural History Museum, Cromwell Road, London, SW7 5BD; (m.carine@nhm.ac.uk)*

The Botanical Research Fund is a small trust fund which makes grants to individuals to support botanical investigations of all types and, more generally, to assist their advancement in the botanical field. Grants are available to amateurs, professionals and students of British and Irish nationality. Where appropriate, grants may be awarded to applicants in

successive years to a maximum of three. Most awards fall within the range of £200-£1000.

The next deadline for applications is 28<sup>th</sup> February 2015.

Potential applicants are encouraged to contact the Hon. Secretary of the Fund, from whom further details may be obtained.

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### 2014 BSBI Photography Competition – Results

JIM MCINTOSH, *c/o Royal Botanic Garden Edinburgh, Inverleith Row, Edinburgh, EH3 5LR; (Tel.: 0131 248 2894; jim.mcintosh@bsbi.org)*

Members enjoyed viewing BSBI Photographic Competition entries at last year's Annual Exhibition Meeting in Leicester and at the Scottish Annual Meeting in Edinburgh. Thanks to the twenty five photographers who had entered 90 images.

We chose two simple categories to give entrants great scope for submitting their best images: 1) Plants, including mosses, lichens, and stoneworts; and 2) People interacting in some way with plants. We asked for all entries to be submitted electronically so we could arrange to print them professionally. This ensured a fairer competition. After all, this was a photo competition not a printing competition!

The winning photographs were selected by a popular vote of those attending the Edinburgh meeting. Congratulations go to Ludi Lochner, who won first prize in the 'Plants' category, with an image entitled "Snake's-head Fritillary, early morning, in the wild" (see front cover); and to John Crellin who won in the 'Plants and People' category with his "Craig y Cilau, photographing *Polygonatum* on the edge" image (see back cover).

We are very grateful to Summerfield Books, who kindly provided book token prizes; to Claudia Ferguson-Smyth for organising the competition and to all those who entered or voted.

#### 2015 BSBI Photography Competition

We plan to repeat the competition in 2015, but with new categories and rules. We would like to use next year's photographs to create a BSBI calendar. So, in order to get a selection of suitable photographs of plants throughout the seasons, we will have four categories: Plants in 1) Winter 2) Spring 3) Summer and 4) Autumn.

Photographs should be taken in Britain and Ireland and be of vascular plants (flowering plants, conifers, ferns, horsetails, clubmosses) or stoneworts. They do not have to be taken during 2015.

The closing date for entrants will be 18<sup>th</sup> October 2015.

Please submit the largest possible file sizes.

Copyright of images will remain with the photographer. However the BSBI claims the right to exhibit the entries, and to use them to further its aims generally and to promote the BSBI and its photography competition.

The BSBI also claims the right to edit or use images in combination with others.

Full details will appear on the BSBI website shortly, but in the meantime get those cameras out and start snapping your winter photographs!

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## RECORDERS AND RECORDING

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### Panel of Referees and Specialists

JEREMY ISON, 40 Willeys Avenue, Exeter, Devon, EX2 8ES; (Tel.: 01392 272600)  
(Jeremy\_ison@blueyonder.co.uk)

The following changes have been made since the September issue of *BSBI News*. Full details are included in the *Yearbook 2015*.

**David Earl** and **Rob Randall** are joining the team of *Rubus* referees. See the *Yearbook* for the vice-county split. This still does not cover Ireland, but active measures are currently being taken to fill this gap.

**Alex Twyford** and **Mario Vallejo-Marin** will take on responsibility for *Mimulus*, and **Sarah Dalrymple** for *Melampyrum*.

**Chris Metherell**, who is already dealing with *Euphrasia* specimens, will be formally taking on responsibility for that genus.

**Mark Duffell** will be replacing **Paul Green** as referee for garden shrubs.

**Claudia Ferguson-Smyth** will be assisting **Nick Stewart** with Charophyta.

**Kevin Walker** has resigned as referee for *Carduus* and *Cirsium* and this post is now vacant.

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### Panel of Vice-county Recorders

PETER STROH, c/o Cambridge University Botanic Gardens, 1 Brookside, Cambridge CB2 1JE;  
(peter.stroh@bsbi.org)

There are a few changes to report since September News. In Wales, **Arthur Chater** has stepped down as VCR after a glittering tenure, the culmination of which was the publication of the peerless *Flora of Cardiganshire* in 2010. **Steve Chambers** has now taken over from Arthur. Steve made a significant contribution to the *Flora*, and as such is ideally placed to take up the challenge. In Anglesey, Nigel Brown has stepped down after 19 years in post, first as sole recorder and latterly as co-recorder.

In Scotland, two outstanding contributors to the BSBI have hung up their VCR boots, both after 36 years in post. There cannot be many counties in Britain and Ireland so well recorded as Berwickshire, and the recent retirement of **Michael Braithwaite** is sad to report. The publications in recent years of a Botanical Site Register and also of a short *Flora* provide comprehensive accounts of the county, and a legacy to be proud of. The 29 hectads of Caithness have been surveyed by **Ken Butler** for over four decades, and the detailed Rare Plant Register, complete with many excellent photos, is testament to both his expertise and knowledge of the area and its

flora. Both recorders have kindly agreed to stay on until replacements can be found.

In England, **Clare and Mark Kitchen** have stepped down as VCRs for Gloucestershire after 21 very active years of recording. **Clive Lovatt** has taken up the mantle in west Gloucestershire, but the post for east Gloucestershire is currently listed as ‘Vacant’. After 22 years as VCR for Leicestershire (and, for a time, Rutland) and the publication in 2011 of *The flora of Leicestershire and Rutland: checklist and rare plant register*, **Michael Jeeves** is passing the baton on to the safe hands of **Geoffrey Hall**. In Sark, **Susan Synnott**, who has recently written an excellent book about the wildflowers of the island, takes over from **Roger Veall**, who retires as VCR after 18 years. In Ireland, **Jonathan Shackleton** has retired as VCR for County Cavan after five years in post.

All will be missed, and the BSBI is deeply grateful to the wonderful contributions that the retiring VCRs have made in furthering our knowledge of the British and Irish flora. We also thank our lucky stars that there are such excellent candidates willing to take up such a demanding – but hopefully fulfilling – role.

Anyone wishing to apply for the vacant VCR and co-recorder posts should contact the relevant Country Officer in the first instance.

Lastly, I would like to give a special mention to **Dr Micheline Sheehy Skeffington**, active

VCR for south-east Galway, who has recently won a landmark case against her employers on grounds of discrimination on the basis of gender.

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## The new National Plant Monitoring Scheme in 2015

OLIVER L. PESCOFF, *Biological Records Centre, CEH Wallingford, Maclean Building, Benson Lane, Crowmarsh Gifford, Oxfordshire, OX10 8BB*; (olipes@ceh.ac.uk)

DAVID ROY, *Biological Records Centre, CEH Wallingford (as above)*; (dbr@ceh.ac.uk)

KEVIN J. WALKER, *Botanical Society of Britain and Ireland, Suite 14, Bridge House, 1-2 Station Bridge, Harrogate, HG1 1SS*; (kevin.walker@bsbi.org)

After a hectic year of field trials, consultations and many decisions, the new National Plant Monitoring Scheme (NPMS) will be fully launched in 2015. This is the culmination of a lot of work with our partners, Plantlife, the Centre for Ecology & Hydrology (CEH) and the Joint Nature Conservation Committee (JNCC), over the past few years (*e.g.* Walker *et al.*, 2010). The key elements of the scheme from a surveyor's perspective are as follows:

- Recording will be based on a stratified random sample of 1km squares, selected so that, on average, surveyed squares will have a higher chance of containing the semi-natural habitat types targeted by the scheme. Squares will be allocated to recorders once they join the scheme.
- Within each square recorders will be asked to record species abundance within five small plots (usually 5×5m) in a range of semi-natural habitat types. In order to make the resulting information more valid, surveyors will be provided with a gridded set of up to 25 plots from which to select at least three plots for survey. This step will only be required in the first visit to a monad, with the selected plots forming the basis of future monitoring. Linear plots (*e.g.* for hedgerows or streams) are also included (at least two), and these also have a simple selection methodology associated with them.
- Surveyors will be able to adopt more than one square if desired, enabling a rotation of visits between years, *e.g.* if you have two squares you could visit them in alternate years.

- The fixed plots are intended to be re-locatable by others (but not permanently marked).
- Within plots, recorders will choose to record all species, or just a subset of c.400 habitat indicators (roughly 25 indicators per habitat type). The habitat indicators will include a subset of 'easy-to-identify species' to encourage participation.
- Much of the administration of the scheme (*e.g.* provision of squares, method protocols, recording forms, guidance documents, *etc.*) will be available online via a dedicated website. The website will also provide a facility for online data entry. Funds have also been provided for training events and a coordinator (Hayley New, who is based at Plantlife).

If you are interested in taking part in the scheme, the 'expression of interest' form, at <http://www.brc.ac.uk/npms>, is acting as a temporary means of registering. You will then be contacted by the scheme coordinator, who will organise your square(s) for 2015. Squares will be available in the UK, the Isle of Man and the Channel Islands. Please keep an eye on the BSBI website for more news coming in the near future.

### Reference:

WALKER, K.J., DINES, T., HUTCHINSON, N. & FREEMAN, S. (2010). *Designing a new plant surveillance scheme for the UK*. Joint Nature Conservation Committee Report No. 440. J.N.C.C., Peterborough.

## **Scottish vice-county recorder vacancies: Berwickshire and Caithness**

JIM MCINTOSH, *BSBI Scottish Officer, Royal Botanic Gardens Edinburgh, 20A Inverleith Row, Edinburgh, EH3 5LR; (jim.mcintosh@bsbi.org)*

The Scottish Committee is looking for keen botanists to fill BSBI vice-county recorder vacancies in Berwickshire (v.c.81) and Caithness (v.c.109), as both recorders are retiring.

Recorders are critical to the BSBI's success. The focus for all recorders is helping to fulfil the aims set out in the BSBI's *Recording the British and Irish flora 2010-2020*, and currently, the main aim is to achieve full survey coverage for Atlas 2020.

Generally, the principal task is collecting, validating and maintaining vascular plant records in the vice-county on behalf of the BSBI. Being a reasonably competent botanist is important, but knowing one's limits is even more so. No one can be expert in all aspects of a county's flora – especially when just starting out as a recorder. Our referees are on hand to support and help on identifications and confirmations. You would have the full support of the BSBI Scottish Committee and Scottish Officer, and fellow BSBI staff and neigh-

bouring and retiring Recorders are always happy to help with general advice and support. Competency with computers, e-mail and the internet is essential, and with MapMate, desirable (but training can be provided).

Living in or near the vice-county is an advantage, but is not essential. Some recorders live remotely and operate very successfully. However, you would have to be able to spend significant time in the vice-county each year; perhaps three weeks survey time per year.

We would be happy to consider the appointment of recorders for a five year fixed term to coincide with the remaining years of Atlas 2020, as this may appeal to those who would prefer a short term commitment.

If you are interested in either of these vacancies, or would like to register a general interest in Scottish vacancies that arise from time to time, please e-mail me with your *c.v.* by 31<sup>st</sup> March.

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## **Anglesey (v.c.52) – vacancy for joint recorder**

IAN BONNER, *Cae Trefor, Tyn y Gongl, Anglesey, LL74 8SD (angleseyplants@caetrefor.co.uk)*

With the retirement of Nigel Brown in the near future the BSBI is looking for a volunteer to work with me, Ian Bonner, as joint recorder.

Anglesey extends to about 714km<sup>2</sup> and covers about 800 monads. The geology is varied giving a diversity of habitats, though extensive areas of semi-natural habitat are restricted to the coast (sand dune, salt marsh and rocky shore) and the internationally important fens, with smaller areas of heath and limestone grassland scattered over the island.

Living on or close to Anglesey is obviously desirable, but not absolutely essential, although you would need to be able to spend significant time in the vice-county.

I maintain a county Rare Plant Register and a database of monad records in MapMate, regularly copied to the BSBI Database. Famil-

ilarity with MapMate, e-mail and the internet is therefore important.

The main task is the collection and accurate identification of vascular plant records from 1×1km squares (monads) for a future new flora of Anglesey and towards Atlas 2020. An interest in or knowledge of one of the critical plant groups would be a bonus; these groups are generally very poorly understood on the island.

The ability to speak Welsh would be an advantage,

Help with running the informal Anglesey Flora Group would also be much appreciated.

For further information or to express an interest, please contact me by email, as given above

## Atlas 2020: Is the BSBI on course for complete coverage across Britain & Ireland?

JIM MCINTOSH, *c/o Royal Botanic Garden Edinburgh, Inverleith Row, Edinburgh, EH3 5LR;*  
(Tel.: 0131 248 2894; jim.mcintosh@bsbi.org)

In the last *BSBI News* I asked the question “Is Scotland on course for complete hectad coverage for Atlas 2020?”. As the final five years of the Atlas 2020 approach we thought this would be a good time to take stock of progress across the whole of Britain and Ireland. After all, if we know where the gaps are in coverage now we can take steps to help recorders plug them over the next five years.

Firstly, a quick re-cap on precisely what ‘complete hectad coverage’ means. We are asking recorders to record all native and alien vascular plant and Charophyte species occurring in the wild in a sample of squares at 2×2km (tetrad) or better resolution in each 10×10km (hectad) square. We recommend that the sample would be of at least five tetrads per full hectad (or their monad equivalent, of 16 monads per hectad), but realise that this will be a great challenge in many areas and have suggested a minimum of three tetrads or 10 monads per hectad. Where hectads are partial,

then a pro-rata number of sub-squares should be surveyed. We are also recommending each tetrad or monad be recorded twice: once each in different seasons, in spring and summer; spring and autumn or summer and autumn, in order to obtain a comprehensive species list. However, this is not necessary in upland, montane or remote squares, where a single summer visit should gather a reasonable list.

Fortunately, we are not starting from scratch, and many recorders and local members have been beavering away over the past 14 years. So, in order to answer the question, I looked at records in the BSBI Distribution DataBase (DDb). Specifically, I compared the total number of taxa recorded post-1999 at tetrad or better resolution with the total number of taxa ever recorded in each of the 3,866 hectads that comprise Britain and Ireland. Then I grouped hectads in one of four recorded categories, as below.

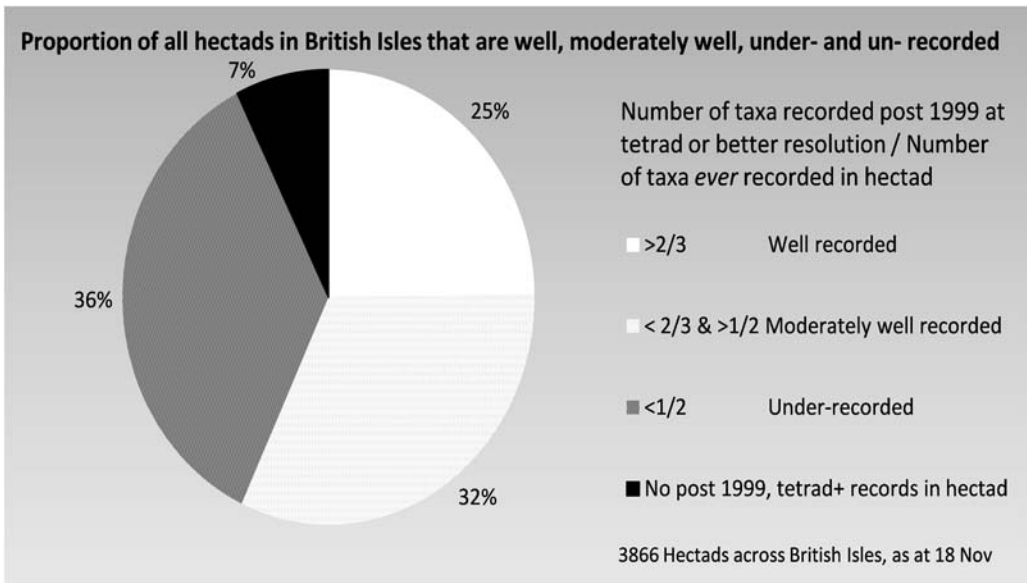


Fig. 1. Proportion of all hectads in British Isles that are well, moderately well, under- and un-recorded

Note that this analysis does not investigate whether the same species have been recorded, but merely compares the total numbers of taxa recorded. The main conclusion is that a significant proportion (25%) of all hectads is already well-surveyed, but a great many more hectads (75%) require further work. It is notable that 7% of all hectads apparently have no records

this century. Further analysis of the statistics by country (see below), reveals that, while England is doing rather better than this, Ireland is struggling and Wales and Scotland are somewhere in between. An analysis by vice-county reveals an even more irregular pattern. Some are way ahead while others *appear* to be barely off the starting block!

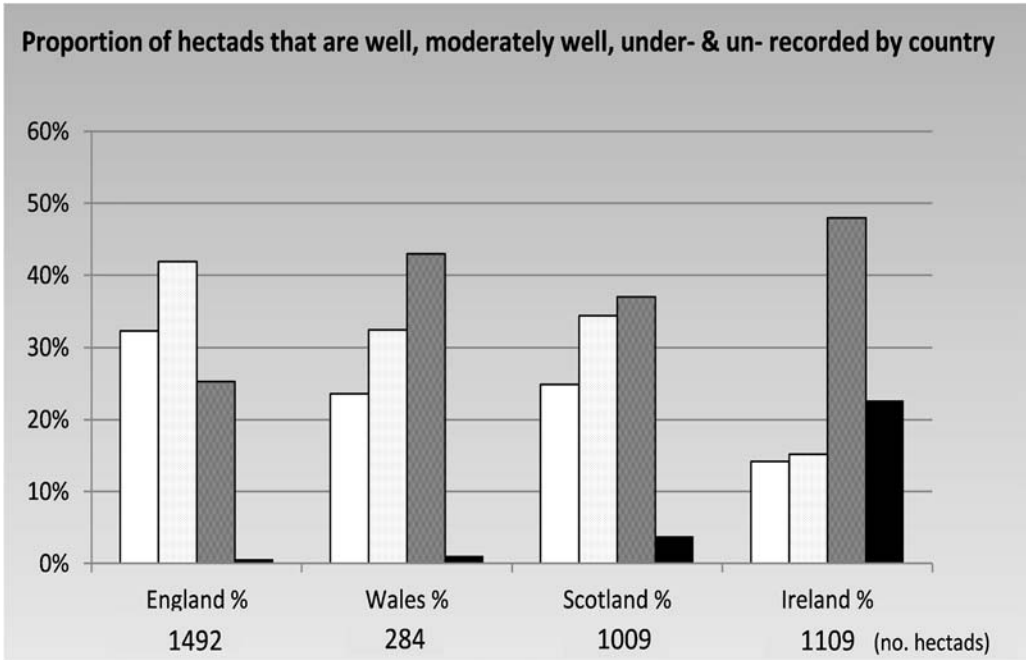


Fig. 2 Proportion of hectads that are well, moderately well, under- & un- recorded, by country

However, I say “*appear*” to be, because we believe these charts seriously underestimates progress, as the BSBI DDb is not fully up to date. To establish the correct position, we urge all members to forward any records they may be sitting on to vice-county recorders, and we would urge all recorders to digitise any backlog from previous field seasons and forward them to the BSBI DDb, please. Post-1999 records are the immediate priority. If you use MapMate then reset your ‘sync’ and re-send your entire v.c. dataset by MapMate sync to the Hub, which now updates the BSBI DDb every two or three weeks. If you use alternative databases, then please discuss with Tom Humphrey (tom.humphrey@bsbi.org) at the BSBI DDb and arrange to send him a copy of your records.

This is a key point in the Atlas 2020 project, with just five field seasons to go: to allow us to take stock, would recorders please complete entering any backlog and send all their digitised records to the Hub and /or DDb as soon as possible? Help and advice on any of this is available from Peter Stroh (peter.stroh@bsbi.org) in England, Paul Green (paul.green@bsbi.org) in Wales, Maria Long (maria.long@bsbi.org) in Ireland or from me in Scotland.

Nevertheless, achieving full hectad coverage will still be a great challenge, particularly in the remote north and west of these islands and where we have few local members. However, two initiatives might help here: Recording Weeks and the *Rough Crew*!

### Recording Weeks

In my contribution to the last edition of *BSBI News*, I extolled the virtues of Recording Weeks as being an excellent way to gather records for Atlas 2020, as well as creating a convivial atmosphere that promotes much mutual learning and enjoyment! To be fair there is a lot of work involved in organising a Recording Week, but I would argue that it's worth it. Prospective Recording Week organisers should note that we have just posted new guidance on the Atlas 2020 support page on the BSBI website to help them. Recorders may like to delegate some of the organisation to willing and able local volunteers, to leave them to concentrate on the more technical and botanical aspects. The same Recording Week principles can be applied equally successfully to weekends or long weekends, which would be much easier to organise.

### Rough Crew

People who enjoy botanising in wild, remote and challenging landscapes in Scotland or Ireland are invited to register with their respective Rough Crews to help v.c. recorders with Atlas 2020 surveying. Rough Crew field meetings will typically involve small groups for (long) weekends or sometimes midweek days. They will variously necessitate long walks or bicycle journeys to remote glens,

lochs, woodlands, cliffs and mountain tops, not always on paths and tracks, and often while recording. We will base ourselves at strategic accommodation, such as youth hostels, bothies (open cottages with primitive facilities) or campsites.

If this is your idea of heaven then please sign up. The Irish Rough Crew will be organised by Maria Long, the Irish Officer ([maria.long@bsbi.org](mailto:maria.long@bsbi.org)) and I will organise the Scottish Rough Crew – contact details above. Register with the organiser of the group(s) you would like to join and we maintain an email group of all those interested in Rough Crew outings and use it to keep you posted with details of proposed meetings.

Would Irish & Scottish v.c. recorders who would like to utilise Rough Crew volunteers please get in touch with your Country Officer with suggestions for remote areas that require survey assistance. In Scotland, I have already had Benalder Bothy suggested as a Rough Crew venue by the Recorder in Easternness. Personally I am very keen on this idea, as it would also be a great base for recording the most remote corner of my own vice-county (Mid-Perthshire)! However, I am tentatively planning two Scottish Rough Crew meetings annually. It would be helpful if emails include "Rough Crew" in their headers please.

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## Diary for 2015

CHRIS METHERELL, *Woodsia House, Main Street, Felton, Northumberland, NE65 9PT*; (01670-783401; [chris@metherell.org.uk](mailto:chris@metherell.org.uk))

28 Jan	Recording and Research Committee, London	12 Mar	Committee for Scotland, Perth
31 Jan	Committee for Ireland	25 Mar	Council, London
11 Feb	Training and Education Committee, Shrewsbury	10-12 Apr	Recorders' Conference, Shrewsbury
12 Feb	Publications Committee, London	15 Apr	Board of Trustees, London
18 Feb	Meetings and Communications Committee, London	13 May	Committee for Scotland, Perth
21 Feb	Welsh Committee, Aberystwyth	11 July	Welsh AGM, Plas Tan-y-Bwlch
6-8 Mar	Scottish Recorders' Conference, Kindrogan	16 Sep	Committee for Scotland, Perth
		7 Nov	Scottish AGM, Edinburgh
		21 Nov	AGM and AEM, Natural History Museum, London



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## BOOK NOTES

JOHN EDMONDSON, Book Reviews Editor, 243 Pensby Road, Heswall, Wirral, CH61 5UA;  
(bsbireviews@mac.com)

The following titles are to be reviewed in current or future issues of *New Journal of Botany*. Also included are notes on books that are not being given a full review (marked \*). Unsigned reviews are by the editor.

\*Badmin, J. (ed.). *The natural history of Sheppey*. (*Transactions of the Kent Field Club*, v.18). Kent Field Club, Brogdale, 2014. £12 + £2 p & p. p/b. ISBN 978 0 956 1926 4 6.

Kent Field Club's publications programme has produced another gem, following on from their 2007 wildlife conference. The Isle of Sheppey, off the north coast of Kent, is well known for its salt marshes and associated fauna as well as having a long history of botanical exploration, detailed in one of the chapters. With twelve contributors, including the editor, this pocket-sized paperback is packed with useful information, though the lack of an index (other than a gazetteer of place-names) does detract somewhat. A balanced treatment of geology, entomology, ornithology, algology and botany is complemented by an interesting chapter on habitat definition, along with a concluding chapter on the future challenges for Sheppey's wildlife. With many colour illustrations, diagrams and distribution maps, this is an exemplary treatment of local natural history.

Bird, C. (ed.). *The fundamentals of horticulture - theory and practice*. Cambridge: Cambridge University Press, 2014. £27.99. p/b. ISBN 978 0 521 70739 8.

\*Feehan, J.; photographs by D.Egan, J. & M.O'Connell *et al.* *The wildflowers of Offaly*. Offaly County Council, Offaly, 2009. €40. h/b. ISBN 978 1 85635 673 2.

This is not an identification guide, nor a distributional atlas; rather it is a rare example of a book which celebrates the qualities and attributes of the wild flowers observed in a county situated almost in the centre of the island of Ireland. The area has a fascinating

geological history, well documented in the author's more recent book *The geology of Laois and Offaly*. Once known as King's County and Queen's County (Offaly is the female of the species), these are located on either side of the Slieve Bloom range. Their diversity of substrata, overlain by glacial and postglacial features, such as eskers, kames and osars, and then smothered in blanket bog, fen peat and raised bog, provides a wide range of habitats in a predominantly rural setting. Arranged by orders, families and genera, headed with Latin, English and Irish vernacular names, and with flowering times and rarity statements, the species accounts are generously illustrated by a mixture of colour photographs, line drawings and colour plates taken from the earlier literature. Many of the line drawings show morphology of the flowers and fruits. The text generally describes the plants' distinguishing features and also highlights their ecology. Economic, medicinal and folkloric uses are mentioned, and in a few cases tables are provided to distinguish closely related taxa such as certain orchids. Grasses, sedges, rushes and ferns are omitted. Though focussing on just one of Ireland's forty vice-counties, the book is packed with interesting detail which will appeal to anyone wishing to read more about Ireland's botanical riches.

Gent, G. & Wilson, R. *The Flora of Northamptonshire and the Soke of Peterborough*. Rothwell: Robert Wilson Designs, 2012. £44. h/b. ISBN 978 0 907381 03 7.

Goode, D. *Nature in towns and cities*. Collins, London, 2014. (New Naturalist). £55. h/b. ISBN 978 0 00 724239 9; £35 p/b, ISBN 978 0 00 724240 5.

Maskew, R. *The Flora of Worcestershire*. Tenbury Wells: the author, 2014. £42. h/b. ISBN 978 0 9926693 0 0.

\*Stuessy, T., Crawford, D., Soltis, D. & Soltis, P. *Plant systematics: the origin, interpretation and ordering of plant diversity*. Koeltz

Scientific Books, 2014. €118. h/b. ISBN 978 3 87429 452 2.

From the blurb: “Five chapters provide an overview of the many evolutionary mechanisms that have been operative in the production of plant biodiversity. Six contain information on the concepts and methods of modern phylogenetic reconstruction. Five deal with issues of classification; three also present types of data, from the morphological to the molecular, which are routinely used in plant systematics research programs”. This is the latest in a line of textbooks that describe modern techniques but also integrate them with traditional methods used in plant taxonomy.

\*Trewavas, A. *Plant behaviour and intelligence*. Oxford University Press, Oxford, 2014. £55. h/b. ISBN 978 0 19 953954 3.

This is an advanced textbook on plant behaviour which uses the novel term (in this context) ‘intelligence’ to describe how plant cells recognise themselves, how branch initiation is affected by the environment, how roots reconstruct sensing systems, and other behavioural changes. A chapter is devoted to ‘consciousness’ in the context of plant life. The author is Emeritus Professor at the University of Edinburgh.

Wyse Jackson, P. *Ireland’s generous nature*. Missouri Botanic Garden Press, St. Louis, 2014. £60 or €80. h/b. ISBN 978 0 91527 978 4.

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## Nature’s conscience - the life and legacy of Derek Ratcliffe

H. JOHN B. BIRKS, *Department of Biology, University of Bergen, P.O. Box 7803, N-5020 Bergen, Norway; (John.Birks@bio.uib.no)*

A book edited by Des Thompson, Hilary Birks and John Birks, entitled *Nature’s conscience - the life and legacy of Derek Ratcliffe* will be published in early 2015.

Derek was a member of the BSBI from 1954 until his death in 2005 and he made many important plant records, particularly of northern and alpine species in Scotland, Lakeland, and the northern Pennines. He published in 1962, a major monograph on *Plant communities of the Scottish Highlands* with Donald McVean.

The 30 chapters in the book cover many aspects of Derek’s life and scientific contributions, including his work on the Peregrine Falcon, egg-shell thinning and the impacts of pesticides on birds of prey, field ornithology, mountain botany, vegetation, and ecology, peatlands, bryology, Atlantic ferns and bryophytes, alpine plants, nature conservation,

conservation and forestry, the battle for the Flow Country of Caithness and Sutherland, writing and editing, landscape art, photography, and Lapland exploration. There are chapters by Rod Corner, Lynne Farrell, John Mitchell, and David Rae specifically about vascular plants, whereas other chapters by Richard Lindsay, Chris Preston, David Long and Gordon Rothero, and John and Hilary Birks discuss Derek’s other botanical activities, such as bryology, peatland ecology and conservation. The book is profusely illustrated with colour images, including many pictures taken by Derek. It will be about 550 pages in length and will sell at about £30.

The link to further details about the book is: <http://www.eecrg.uib.no/NewsItems/DAR.htm>; from which you can get further details.

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## NOTES FROM THE OFFICERS

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### From the Hon. General Secretary – *CHRIS METHERELL*

*Woodsia House, Main Street, Felton, Northumberland, NE65 9PT;*  
(01670-783401; [chris@metherell.org.uk](mailto:chris@metherell.org.uk))

Stepping into the Hon. Gen. Secretary's shoes has been an interesting learning curve and one which I feel I have not yet entirely climbed. Perhaps one never does! However, thanks to Lynne Farrell's tuition, I have at least made a start.

Someone was kind enough to say that I had hit the ground running at the November Annual General Meeting. It certainly felt like running! The AGM, held at Leicester University on 22<sup>nd</sup> November 2014, was extremely successful, and of course marked another milestone in the BSBI's history, being the first AGM of the 'new BSBI'. The Society relies heavily on its volunteers to organise such events and Louise Marsh and her team deserve high praise for the huge amount of work which they put in.

I also attended the excellent Scottish Annual General Meeting held at the Royal Botanic Gardens, Edinburgh on the 1<sup>st</sup> November 2014; and again our thanks must go to the organisers for their painstaking efforts to produce such a successful day.

We would like to offer our congratulations to the following people who have been members for 60 years: Mr. P.W. Ball, Mr. A.O. Chater, Prof. J.D. Dickson, Mr. W.S. Scott, Mr. P.W. Strachan and Mr. D.T. Streeter.

One of the tasks that I have been undertaking over the last twelve months has been sorting and re-ordering the Society's archives, which are in temporary storage, pending finding them a permanent home, where hopefully they will be available to future researchers. Work is proceeding and I hope to have some more concrete news later in 2015. Another time-consuming project that I have developed with Jane Houldsworth has been a review of the Society's rules and standing orders, which need re-writing and updating to bring them in line with the BSBI's new status. We are in the midst of a round of consultations at present but hope to have final versions available for consideration at the 2015 AGM.

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### From the Head of Operations – *JANE HOULDSWORTH*

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(Tel.: 07584 250 070; [jane.houldsworth@bsbi.org](mailto:jane.houldsworth@bsbi.org))

As we are now well into the winter months when many of you spend more time 'at your desks' I thought it might be appropriate to point out a few online resources which may be of interest to you.

There are now two places where you can find electronic copies of *Watsonia* online. The Biodiversity Heritage Library ([www.biodiversitylibrary.org](http://www.biodiversitylibrary.org)) has been digitising and uploading copies of *Watsonia* to their website. These copies are available to all and can be searched and downloaded. The majority of *Watsonia* copies can be viewed already and the remaining editions will be added over the coming months. To find these copies, simply visit their website and type '*Watsonia*' into the

search bar at the top of the page. Copies of some individual papers from *Watsonia*, amongst other useful things, are also available on the BSBI's archive site ([archive.bsbi.org.uk](http://archive.bsbi.org.uk)).

We have also recently added a number of documents to our main website which may be of interest to you. These include our newly produced Strategic Plan, which has now been approved by trustees and sets out the direction of BSBI over the next five years, plus our audited accounts and minutes from last year's AGM. All can be found on the homepage of our website and Clive Lovatt, as Company Secretary, has included a little more detail on some of them on page 3.

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## From the acting Welsh Officer – *PAUL GREEN*

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(Tel.: 02920 973152; welshofficer@bsbi.org)

I have great pleasure to announce that since my last update, another Rare Plant Register (RPR) has been published for Wales. This time, it is for Breconshire (v.c.42), by John Crellin. This is the 11<sup>th</sup> RPR for Wales, and with just two remaining vice-counties to be published (both are in draft form), Wales will be the first country to have a RPR for each county. If you would like a free copy of the Breconshire RPR please do contact me at the above address.

A very ambitious programme of training days and recording for Atlas 2020 has been arranged across Wales this year. Most of those training days include one day in the field to learn a difficult plant group, followed by a day to do recording. Emily Meilleur has arranged a four day recording meeting in Flintshire, followed by three days of bramble recording.

They both will be based at Northop College. This should be a fun-filled week in the smallest Welsh vice-county. It will be a chance to get to explore this rich and botanically diverse county. I look forward to meeting many members at these meetings.

It is hoped the Welsh Officers can do a final sweep of all the remaining sites to be surveyed of the four target species we have been surveying the last couple years: *Antennaria dioica* (Mountain Everlasting), *Hammarbya paludosa* (Bog Orchid) *Pseudorchis albida* (Small-white Orchid) and *Trollius europaeus* (Globeflower).

If you would like to join me in the field at any time during the year, please do contact me at the above address. I would love to have your company!

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## From the Irish Officer – *MARIA LONG*

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(Tel.: 00 353 87 2578763; maria.long@bsbi.org)

### **Ireland and Atlas 2020 – want to be part of it? Here's how...**

We are very busy here at the moment making plans for 2015. We are putting the finishing touches to our [field meetings programme](#), and it is looking great, with outings all over the country from the extreme north coast to the extreme south. There will be lots of potential for fantastic and fun weekends away, as well as interesting botanising. We hope you will be tempted! We will have an outing in honour of Caoimhe Muldoon, BSBI member and Irish Field Meetings Secretary, who passed away suddenly in October. We plan to visit some sites for the rare Marsh Saxifrage *Saxifraga hirculus*, as this was the focal species of her PhD – hopefully a fitting tribute.

Following the runaway success of last year's event, we will be holding another [Irish BSBI Members' Conference](#), probably late March or late April. It will be a one-day event, with talks and workshops, and an evening meal. Perhaps

we will also have an associated field excursion. Keep an eye on the Irish webpage (<http://bsbi.org.uk/ireland.html>) for updates coming very soon.

The records from the [Irish Species Project](#) (ISP) in 2014 are still rolling in. This is a two year project which focuses on eight species of interest (not hugely rare, but suspected to be declining) and asks recorders to re-visit old sites and also to report on other sites *ad hoc*. Our BSBI recorders have been busy, and we've also had a good response from the public, without a large advertising campaign, which I think is a great sign. Next year we hope to advertise the project much more widely and get lots more data in.

We are of course ramping up efforts as we head into what is the fifth-last field season before the [Atlas 2020](#) deadline. (Scary that it is only five seasons away!) With so few members and active recorders here in Ireland we will struggle to reach our targets, but

maybe you can contribute? **Do you know your plants? Do you like being out and about? Do you get a kick out of seeing what grows where?** If the answer is yes, then you might be able to help - wouldn't it be great to be a contributor to such a great project?

Here are some options:

**1. Become a BSBI vice-county recorder (VCR).**

We have a couple of vice-counties which are effectively vacant and need recorders urgently. These include Longford and Cavan. Do you live in or near these counties, or do you visit there? Or would you like to intimately get to know a new part of Ireland? There are also a number of other areas where we urgently need help for the existing recorders. If you are interested in finding out a bit more, get in touch with the Irish Officer, Maria Long ([maria.long@bsbi.org](mailto:maria.long@bsbi.org)).

Remember – you could do it jointly with someone, or you could do it on a trial basis maybe for a year or two, or until 2020 to cover the Atlas period.

**2. Become an Atlas 2020 recorder.**

This is a much more flexible way to contribute, and could suit a wider range of people. Whether you are an expert or an improver; whether you have lots of time to give, or just the occasional recording effort; whether you record in one area, or across the whole country – either way, this could be for you. Let Maria or your local VCR know if you are interested and we can chat about ways in which you could contribute, and ways that we can support you. Again – even small contributions in terms of time or records are very welcome, so do get in touch if you are interested at all.

**3. Join the ‘rough crew’.**

We hope to set up a group of hardy botanists to tackle our highest hills, our most remote bogs and our furthest islands. Are you up for a challenge?! Fancy seeing some of the most

spectacular landscapes that Ireland has to offer? Then drop Maria an email and she will add you to the mailing list for the ‘rough crew’. This will be a really fun and fluid group, with trips being organised by email, as and when suits the group members. You do not have to be an expert botanist (but knowing some plants will help!), but you do have to be game for adventure! (See the piece by Jim McIntosh also (p. 64).)

**4. Join (or form) a local recording group.**

If you feel you are more of a learner than a fully-fledged recorder, then you might like to join a local recording group where you can record plants, but as part of a group. This is a fantastic way to learn. There are a number of informal local groups in Ireland (Galway, Clare, Wexford, Waterford, Dublin, Down, *etc.*) – get in touch if you want to know more! If there isn't one where you live, maybe we can form one – the Irish Officer is always glad to help with things like this, and could put you in touch with like-minded enthusiasts.

**5. Record plants when on your holidays!**

Why not plan some trips, be they long or short, where plant recording is part of the holiday? It can be a lovely focal point for a weekend away, or for longer trips too. If you plan to do a good bit of recording it is a good idea to contact the local vice-county recorder (or the Irish Officer) beforehand in case they want to suggest one place over another (*e.g.* an under-recorded area rather than a well-known area). However, all records will be gratefully received!

For all of the above options, and any I have forgotten to list, you do not need to live in Ireland, or in the vice-county that you record in. You just need to be keen, able, and willing to dedicate some time (little or lots, it all counts) to recording plants and sending in your records. Roll on 2015 and lots of recording!

## From the Publicity & Outreach Officer – LOUISE MARSH

*The Herbarium, Biology Dept., Adrian Building, University of Leicester, University Road, Leicester, LE1 7RH; (louise.marsh@bsbi.org)*

### BSBI at British Birdfair 2014

In August, the BSBI attended British Birdfair, the world's largest wildlife event, held annually at Rutland Water (v.c.55). Our joint exhibit with the Biological Records Centre, celebrating their fiftieth anniversary in 2014, was a hive of activity all day. The focus of this year's exhibit was botanical recording and we highlighted the way the BSBI works increasingly effectively with partner organisations. 37 people took part in our Plant ID Quiz (see back cover), with the winner receiving a copy of John Poland and Eric Clement's *Vegetative key to the British flora*. We also promoted the new National Plant Monitoring Scheme (see p. 62) and encouraged visitors to the stand to consider registering for this exciting new scheme.

### BSBI and the British Science Festival

BSBI contributed to a joint event held as part of this year's British Science Festival in September. A behind-the-scenes tour of Winterbourne Gardens, Birmingham, was followed by a three-handed presentation from Professor Ian Trueman, on the new *Flora of the Black Country* (reviewed in the August issue of *New Journal of Botany*), and staff members from Botanic Gardens Conservation International, who talked about the role of botanic gardens in conservation.

### Celebratory Day at Kew

On 17<sup>th</sup> September, we held a very special event in the Jodrell Lecture Theatre at Kew Gardens. During the day, there was a celebration of the huge contribution that David Pearman has made to the BSBI and to British botany. In the evening, we held a press launch to mark the publication of the new *A vascular plant Red List for England*.

### Tribute to David Pearman

Our Celebratory Day was a surprise for David and had to be carefully planned so that he did not realise what we were up to! We invited some of his many friends and colleagues in the

society and a few Pearman family members to a day of scientific talks and short presentations about David's work on the 2002 *New atlas of the British & Irish flora*, his tenure as President and his long stretch as Chair of the BSBI's Records Committee, from which he recently stood down. You can read more about the day on the 'News & Views' page on the BSBI website. Apologies to anyone who did not receive an invitation to this event – we were constrained by the size of the venue rather than by the number of people who wanted to join us and pay tribute to David!

### Launching the England Red List

*A vascular plant Red List for England* was published on 17<sup>th</sup> September and launched to the press, with lead author Pete Stroh addressing a lecture theatre full of journalists and botanists, including several of his co-authors, on the work that went into the *List* and some of the surprising results revealed by the analysis. This was followed by a short address from Ben McCarthy (Plantlife), one of Pete's co-authors, and then a question from journalist Mike McCarthy (*The Independent*) kicked off a lively Q&A session. You can download the *List* free of charge via the BSBI website here: <http://www.bsbi.org.uk/england.html>, and there is a note from Pete on p. 51 of *BSBI News* 127

### The Annual General Meeting and the Annual Exhibition Meeting

The first AGM and AEM for the Botanical Society of Britain & Ireland were held on 22<sup>nd</sup> November at the University of Leicester. This year's theme was 'New BSBI publications and projects for 2015'. 182 people enjoyed a full day of botanical delights, including seven talks, 31 exhibits, three herbarium guided tours and a very popular *Euphrasia* ID workshop, using only herbarium specimens. Our keynote speaker was Clive Stace, whose *Hybrid flora of the British Isles* is scheduled for publication in spring 2015, and who addressed a packed lecture theatre on the subject of 'Hybrids 40

years on’. This and all the other AEM presentations are available to download from the BSBI website here: [http://www.bsbi.org.uk/exhibition\\_meeting.html](http://www.bsbi.org.uk/exhibition_meeting.html)

Many of the exhibits from the AEM are also available, along with reports from exhibitors,

via the ‘News & Views’ page on the website here: [http://www.bsbi.org.uk/news\\_views.html](http://www.bsbi.org.uk/news_views.html), where you can also see images from, and read reports about, the BSBI at British Birdfair, the British Science Festival and the Celebratory Day at Kew.

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## From the Hon. Field Meetings Secretary – *JONATHAN SHANKLIN*

*11 City Road, Cambridge CB1 1DP; (fieldmeetings@bsbi.org)*

Our thanks go to Jill Sutcliffe who is standing down as Hon. Field Meetings Secretary. She has overseen the highly popular programme of BSBI field meetings for five years, including the programme that you see in the 2015 *Yearbook*. I am standing in for the time being, but the Meetings and Communications Committee (M&C) would welcome a more long term volunteer for the role. Over the next few years we will be concentrating on organising meetings to help record for Atlas 2020, but will not forget the specialist meetings focusing on particular taxa, the general interest visits to nice places and the meetings targeted at beginners. Please contact me if you are willing to lead one of these meetings in 2016. I would also like to invite local groups to consider nominating one of their meetings as a national meeting open to a wider audience. There is no guarantee that any one meeting will be selected as we need to maintain a wide geographic balance, but you may benefit by having lots more eyes searching for that lost locally rare plant, or even in finding plants that you never

knew you had! If you would like to hold a local group meeting, but do not have a leader, do contact your local vice-county recorder in the first instance.

The M&C has prepared some general guidance which may be helpful for those who are organising field meetings, either nationally or for local groups. This is available on the ‘Meetings’ page of the BSBI website. For the meetings that are listed in the *Yearbook* it is particularly important that organisers send in the Summary Report Form to the Field Meetings Secretary immediately after the meeting. Whenever possible, please do include some images of the meeting, either action shots of botanists in the field or interesting plants encountered. These can be placed on the web page to help publicise the meetings to a wider audience, and also used by Louise Marsh for her widely-read ‘BSBI News and Views’ blog. A more complete report for inclusion in the 2016 *Yearbook* should be submitted by the end of November.

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## **STOP PRESS** – Organising a Recording Week

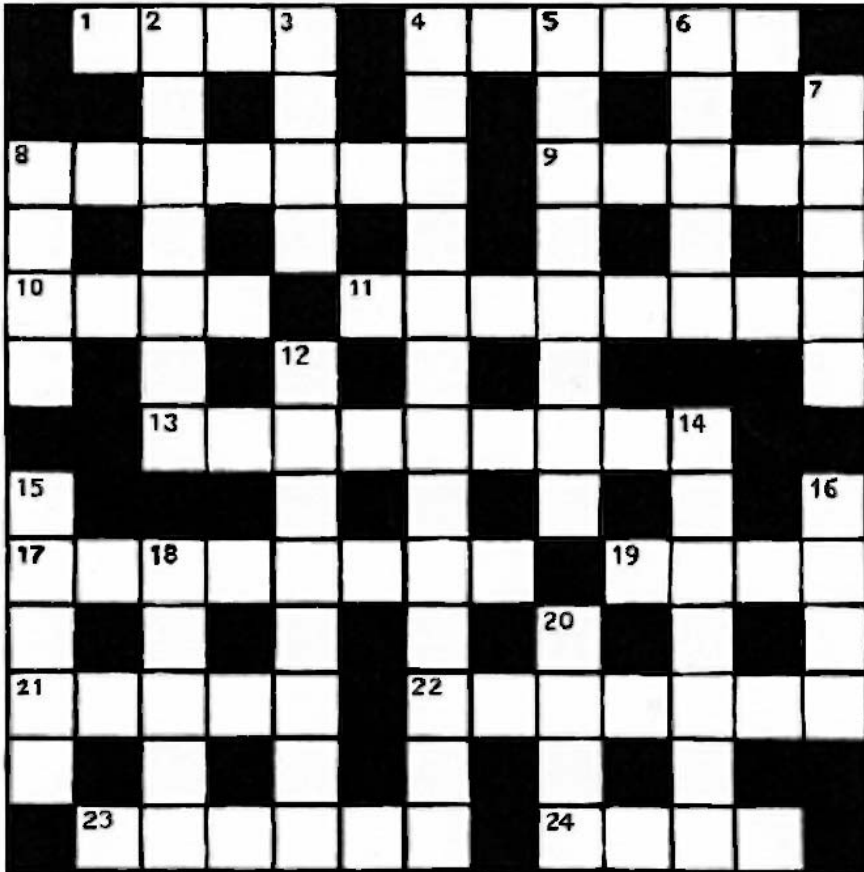
With just five years to go to obtain complete hectad coverage across the British Isles for Atlas 2020, some remote or under-recorded areas will need concerted effort. A recording week or long weekend is one solution and Jim McIntosh, with input from the Meetings & Communications Committee, has put together a document full of helpful suggestions based

on his experience of organising them. In addition the BSBI Field Meeting Guidance provides further information and risk assessment advice. Both documents are on the Meetings section of the BSBI web page at <http://www.bsbi.org.uk/meetings.html>

Jonathan Shanklin

# BOTANICAL CROSSWORD 24

by CRUCIADA



## Across

1. Motivation provided by feature of 9's flower (4)
4. About to be born wild with element essential to life (6)
8. Loan arranged in total is bittersweet, perhaps (7)
9. Shakespearean heroine's bloom (5)
10. Border with continuous shrub that's been topped (4)
11. Unbelievable ancestry of *Sequoia*, say (4,4)
13. Product of *Arachis* fruit, maybe, used by head-banger (3,6)
17. Set up in a garden plants related to 8 (8)
19. Sign of lost leaf on rocky cliff (4)
21. Policeman and artist obtain coconut kernel (5)
22. Finish with hybrid mice not found elsewhere (7)
23. Put feathers on flower by 10 (6)
24. Branch junction that's done away with (4)

## Down

2. Plane figure that could end up being Solomon's Seal (but not grass too, we hear) (7)
3. Use to age 11 or add bark to kill (4)
4. Reported to be affected yearly with alternating current, eh? This family may ring a bell (13)
5. Rolled back turmoil of EU revolt (8)
6. No disagreeable smell (5)
7. Does she help look for *Euphrasia* in mist left by *Corylus*? (5)
8. Fertilised ovule one saw properly (4)
12. Acceptable quality of garden rose (8)
14. Tribe from Mediterranean having a certain type of inflorescence (7)
15. When James Bond's covered in charge it's like ginger (5)
16. Baron Ashby: botanist with a central interest in *Hypericum* (4)
18. Create palette to show off perianth segment (5)
20. Garden in need of restoration (4)



## Solutions to Botanical Crossword 24

## Across

1. SPUR 4. CARBON 8. SOLANUM  
9. VIOLA 10. EDGE 11. TALL TREE  
13. NUT BUTTER 17. PETUNIAS 19.  
SCAR 21. COPRA 22. ENDEMIC  
23. FLEDGE 24. NODE

## Down

2. POLYGON 3. RING 4. CAMPANU-  
LACEAE 5. REVOLUTE 6. ODOUR  
7. HAZEL 8. SEED 12. STANDARD  
14. RACEMED 15. SPICY  
16. ERIC 18. TEPAL 20. EDEN

## Crib to Botanical Crossword 24

## Across

1. double definition 4. CA/anagram  
BORN 8. S<anag LOAN>UM  
9. dd 10. (H)EDGE 11. Charade  
13. charade 17. anag SET UP IN A  
19. dd 21. COP/RA  
22. END/anag MICE 23. FL/EDGE  
24. anag DONE

## Down

2. POLYGON(atum or um) 3. dd (ring-  
bark) 4. CAMP/annual/AC/eh  
5. anag EU REVOLT  
6. O/DOUR 7. HAZE/L  
8. bad grammar! 12. Dd  
14. RACE/MED 15. SP<IC>Y  
16. hypERICum 18. creaTE PALette  
20. anag NEED

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Photo 1. *Atriplex praecox* whole plant



Photo 2. *Atriplex praecox* fruits close-up



Photo 3. *Atriplex praecox* leaves



Photo 4. Presumed *Atriplex praecox* hybrid fruits close-up

All *Atriplex praecox* photos taken at Howick, Northumberland (v.c.68) by J. Richards © 2014 (see p. 13)



General view of the Jubilee River, Area 5, looking north towards Slough (v.c.24), 2012

Flowering *Potamogeton nodosus* (Loddon Pondweed) colony on the Jubilee River, 2011

Grapnel sample of *Potamogeton nodosus* from the Jubilee River, 2011

All Jubilee River photos © M. Holt (see p. 10)



Young people taking part in the Plant ID Quiz on the BSBI and BRC stand at British Birdfair, Rutland Water (v.c.55). Photo L. Marsh © 2014 (see p. 72)



Winning photograph in the People Category by John Crellin entitled: "Craig y cilau, photographing *Polygonatum* on the edge". Photo © 2014 (see p. 60)