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Mousetail (*Myosurus minimus*) habitat, St James Retail Park, Towcester Road, Northampton – population grows under blue fencing on right of path in shrub border with close-up of flower inset.
Photo B. Laney © 2013 (see p. 21)

Upright Chickweed (*Moenchia erecta*) – whole plant in fruit

Upright Chickweed (*Moenchia erecta*) habitat showing anthill middle foreground, with close-up of flower inset
All Chickweed photos taken in Fawsley Park, (v.c.32) by B. Laney © 2013 (see p. 22)

Poa infirma, Travel Lodge hotel car park off A43 near Towcester (v.c.32)

Montia fontana (Blinks) at Silverstone Race Circuit (v.c.32)

Both photos © B. Laney (see p. 22)

Phill Brown in a dense *Carex vaginata* patch

Carex vaginata fruiting stems

Both photos taken in in limestone turf, Long Fell (v.c.69) by F.J. Roberts © 2013 (see p. 5)

Camille Newton and partner Alex, helping out at one of only two sites for Field Garlic in v.c.38

Allium oleraceum (Field Garlic) bulbils with bract, on road verge

Both photos taken at Birmingham Road (A3400) (v.c.38) by B. Laney © 2013 (see p. 29)

Spergularia marina (Lesser Sea-spurrey)

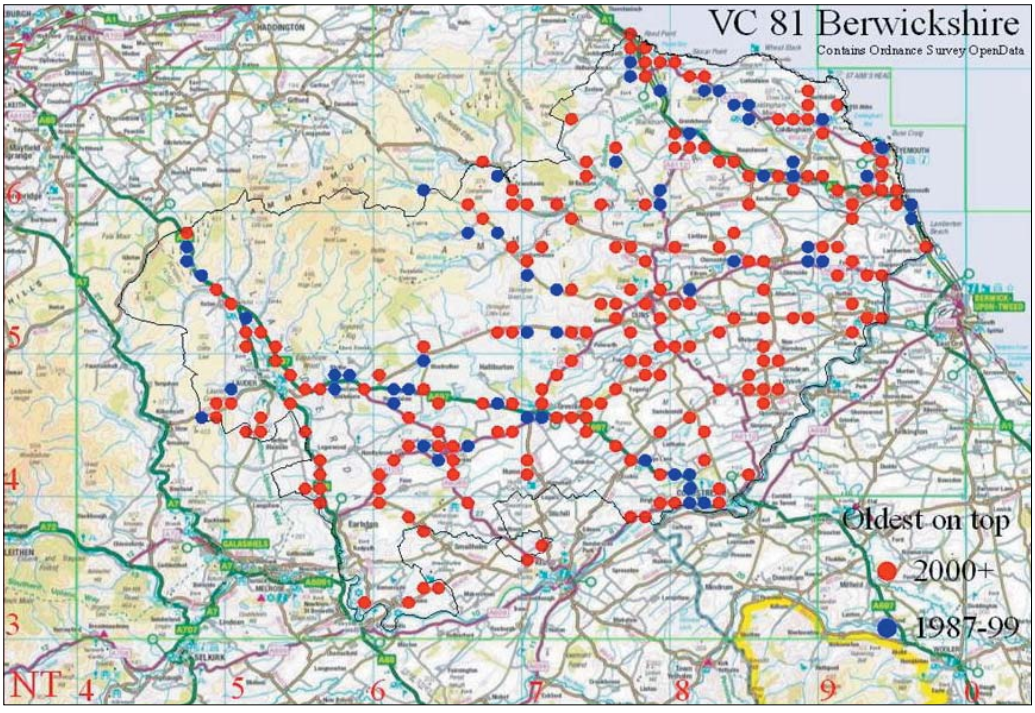

Fig. 1 Ordnance Survey OpenData map in MapMate

Spergularia marina (Lesser Sea-spurrey) VC 81 Berwickshire

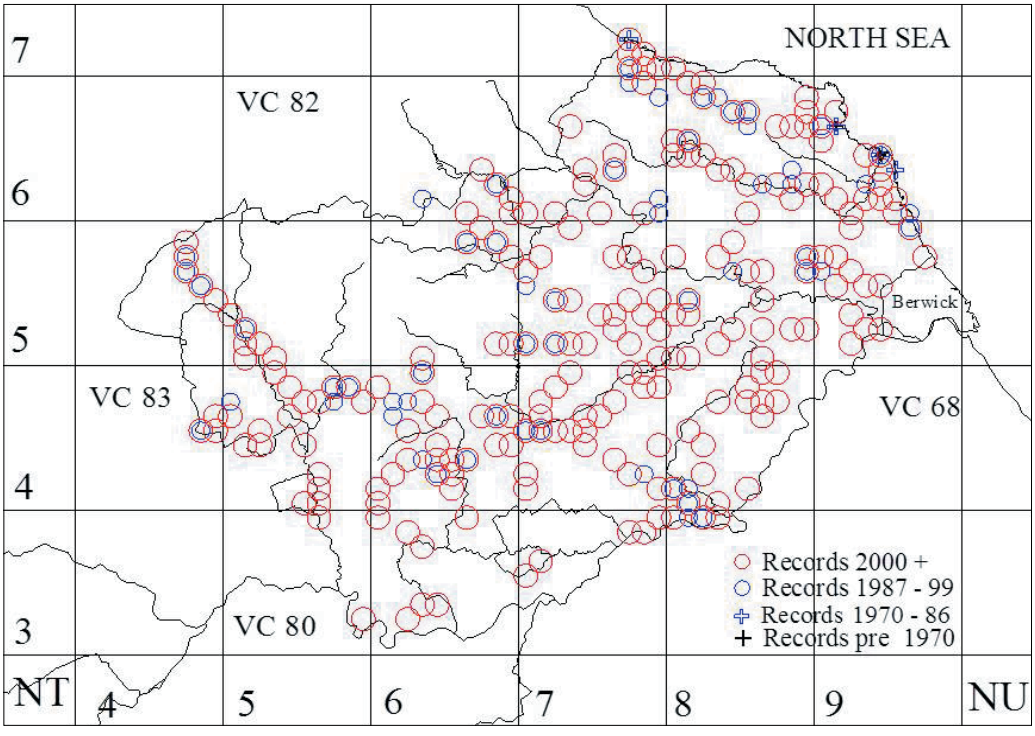

Fig. 2 MapMate normal outline map (see p. 30)

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Cover picture – Mousetail (*Myosurus minimus*) whole plant in St James Retail Park, Towcester Road, Northampton. Photo B. Laney © 2013 (see p. 21)

IMPORTANT NOTICES

From The President

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The dawning of a new botanical season is always an exciting time. It will be intriguing to see how both native and non-native species have responded to some extreme climatic conditions over the past winter, and also the unusually mild spring (in south-eastern England at least!). Flowering times are certainly proving difficult to predict and I suspect that some of the botanical walks I agreed a while back to lead in late April and May will prove out of sync with the plants they are targeted to encounter. On the other hand, it is a real pleasure to see some of my favourite species locally, including *Anemone nemorosa* (Wood Anemone) and *Lathraea squamaria* (Toothwort) already in full flower by mid-March.

At the time of writing, I am looking forward to travelling to Dublin to take part in an Irish Members' Conference, being held at the end of March to coincide with the 50th anniversary of the BSBI in Ireland. In addition to an exciting programme of talks, there will be several plant identification workshops, based on the format used at BSBI Recorders' conferences held in Shrewsbury in recent years. This is also an excellent chance to meet the majority of Irish Vice-county Recorders and hear about their experiences. Huge thanks are due to our Irish Officer, Maria Long, for taking on the bulk of the organisation, and working alongside the Committee for Ireland to bring this event to fruition.

This issue of *BSBI News* contains new and important information on BSBI's 'Atlas 2020' project, aimed at updating plant distributions published in the path-finding 1962 *Atlas of the British flora* and its successor in 2002. The few seasons remaining to complete this work will need a strong focus on filling gaps for the date-range that will be encompassed by the new atlas, as well as ensuring that data already collected are entered in a timely manner to the Distribution Database (DDb). Future programmes of field meetings will contain residential visits to areas in need of concerted recording effort. The BSBI is a major participant in two new projects that are either underway or in the final stages of negotiation. One of these is a UK plant surveillance scheme that addresses a widely-recognised need to put plant monitoring on a similar footing to established long-term programmes for butterflies and birds. The second, with the wonderful acronym SPLASH (Survey of plants and lichens associated with ash trees), is a collaboration with other natural history societies and the Centre for Ecology and Hydrology to monitor ecological impacts of the ongoing spread of ash dieback. All members, irrespective of their level of expertise in plant identification, can make significant contributions to these monitoring projects, and develop their identification and surveying skills as a consequence. Details of how to take part in SPLASH are accessible from the BSBI website.

Funding the broad range of activities within the BSBI comes from a number of sources. Subscriptions from members are of course vital, as are grants awarded by country conservation agencies and other research sponsors. The Society also benefits greatly from being remembered in members' wills, and most recently has received a very generous bequest from the estate of Richard Pankhurst, with another in the pipeline from the late Sir David Duprée (see *BSBI News*, **125**: 64). Needless to say, donations (over and above the standard subscription fee) and further legacies are exceptionally welcome and especially valuable for supporting research, recording and training initiatives. Details about donations and legacies are on the website, and

any queries in this respect are best addressed to the Administrative Officer, Clive Lovatt.

Finally, and building on my comments in the last issue of '*News'*, please do share your experiences in the field via our 'News & Views' page (formerly the Publicity Blog), the BSBI Twitter account or Facebook.

The BSBI Board of Trustees – Expressions of interest invited

CLIVE LOVATT, *57 Walton Road, Shirehampton, Bristol BS11 9TA*;
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The creation of the Botanical Society of Britain and Ireland as a company limited by guarantee in succession to the Botanical Society of the British Isles allowed the separation of a smaller Board of Trustees to govern the Society, leaving Council to concentrate on developing BSBI's Science. Members of the Board and Council are elected by members of the Society at the Annual General Meeting, although co-option is possible where required, and is always subject to election at the next AGM (November 2014).

According to the BSBI constitution (the Articles of Association) the Board may have up to 12 members, and within their number are the principal honorary office bearers, the President, the Hon. General Secretary, and the Hon. Treasurer. The Articles envisage that Board members serve for three years with an option to seek re-election twice.

The composition of the Board of Trustees as at 31 March 2014 (i.e. its new 'year-end') included six initial Trustees, Ian Bonner, Ian Denholm, Lynne Farrell, David Pearman, Antony Timmins and Sarah Whild, and three co-opted members, Mick Crawley, Chris Metherell, and Delyth Williams. Two Trustees have announced their retirement from the Board in 2014 – Ian Bonner (as from April 2014) and David Pearman (as from July 2014). The Board wishes to thank them for outstanding service to BSBI in leadership roles over the years.

Accordingly, the Society would like to hear from members – with or without previous BSBI Council or Committee experience – who might like to consider offering themselves for appointment as Trustees. The Board are assured of course of extensive interest and expertise in botany, but are also looking for persons with overarching skills and experience, perhaps in business or the professions, academia or the statutory agencies, or other charities, and who have the necessary vision and time to contribute to the governance and development of our Society.

If you are interested, please contact the BSBI President Ian Denholm, using the contact details at the back of *BSBI News*. A short CV will be useful. All enquiries will be treated in confidence.

By Order of the Board
Clive Lovatt, Company Secretary
2 April 2014

Direct Debit collection of BSBI subscriptions

CLIVE LOVATT (Administrative Officer), *57 Walton Road, Shirehampton, Bristol BS11 9TA*;
(Tel.: 01173 823 577; clive.lovatt@bsbi.org)

In a letter sent in December 2013 we had advised members who had been paying the Botanical Society of the British Isles by DD that a 'bulk transfer' process would be used to transfer all the pre-existing DD mandates to the Botanical Society of Britain and Ireland. Unfortunately this hasn't been possible and the old mandates will automatically lapse. BSBI will therefore require new DD mandates with the service user number (SUN) 289996. A copy is included with this mailing of *BSBI News* and is also obtainable at http://www.bsbi.org.uk/membership.html. Members who have not previously completed DD mandates are urged to do so. Once established, they significantly reduce the time and cost of processing annual membership subscriptions.

Completed DD mandates should be sent by post to the Membership Secretary at the address indicated on the form. PDF copies

sent to gwynn.ellis@bsbi.org are also acceptable. When completing the DD mandate:

1. Ignore the 'reference' box. The system will generate a unique reference number in the format BS (for Botanical Society) followed by six digits, which will be used to identify the mandate to collect subscriptions in all DD communications.
2. In the 'official use' box write in your membership number as shown on the envelope in which the mailing was sent (also found in the 2013 membership list).
3. Please also write your email address clearly in the 'official use' box. The DD system automatically generates a notification of registration of the DD mandate and a 10 day advance notice of collection. Without an email address we have to print the notifications and post them to you.
4. It will be helpful if you indicate the year (2014 or 2015) to confirm when the subscriptions collection by DD starts, as we are simultaneously handling DDs for 2015 from members who had made separate arrangements for paying their 2014 subscriptions.

DD mandates in favour of the Botanical Society of Britain and Ireland for subscriptions from 2014 which we have already received from members who had not previously paid by this method will shortly be loaded into the new DD system, which is currently being tested.

BSBI will collect DDs on the 28th of any month subject to adequate notice to the payee. The routine annual collection date will be 28th January and will be adopted for 2015 and subsequent subscription years.

Please address any queries you may have about DD collections to me (clive.lovatt@bsbi.org). Please accept our apologies for the problems caused by the re-establishment of DD collection systems for the Botanical Society of Britain and Ireland.

Notes from the Editors

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GWYNN ELLIS (General Editor), *41 Marlborough Road, Roath, Cardiff, Wales, CF23 5BU* (Tel.: 02920 496042) (gwynn.ellis@bsbi.org)

A shorter than usual issue this time, I hope it is not connected with my putting the wrong deadline for contributions. It should, of course, have been March 1st not April 1st., I feel a right fool!!

Emails – again

My thanks to Jonathan Shanklin for pointing out why it is a good idea for Members to update their email addresses when they get new ones. For example VCRs often distribute newsletters or updates to meetings by email, and on occasion the Society may send out urgent information by email. So by letting the Society have your current email address you will get added value from the Society. If you don't have email you will still receive the information but it will take that little bit longer to arrive!

Publications Committee update

The list of Publications Committee members published in the *BSBI Yearbook 2014* is unfortunately incomplete. The complete list of members as of now is as follows. The names in **bold** do not appear in the *Yearbook*.

J P Poland (Chairman), C R Boon (Secretary), **P A Ashton**, A O Chater, **J A Edgington**, J R Edmondson (Book Reviews), M J Y Foley, R J Gornall (*NJB* Editor), T J James (*BSBI News*), A J Lockton, L Marsh (*NJB* Editorial Assistant), P H Oswald, P O'Hara (Summerfield Books), M S Porter (Plant Records), C D Preston, **P R Westley**.

Corrections to Officers telephone numbers

There are errors in mobile phone contact numbers for two Officers on the back page of *BSBI News* **125** and the front of *BSBI Yearbook 2014*. Ian Denholm's, mobile number is 07974-112-99**3**. and Louise Marsh's is 07971-9**7**2-529

NOTES

Carex vaginata Tausch (Sheathed Sedge) in dry limestone pavement in Westmorland (v.c.69)

JEREMY ROBERTS, *Eden Croft, 2 Wetheral Pasture, Carlisle, Cumbria, CA4 8HU*; (fjr@edencroft2.demon.co.uk)

In the eleven years since Dr Rod Corner discovered *Carex vaginata* on Dufton Fell in v.c.69 (Westmorland), new to England (Corner, 2004), we have learned much about its distribution and its habitat requirements. It has proved to be sufficiently widespread over the highest ranges in the northern Pennines that crossing the 'right sort of ground' triggers the thought that "*Carex vaginata* should be here", and a suitably close search may turn it up.

We now know of about 40 patches (and the plant grows invariably in discrete and dense patches, some of large extent) over a stretch of 41 kilometres, from Yad Moss on the South Tyne drainage in v.c.70 (Cumberland) via many sites over the Cross Fell/Mickle Fell ranges (v.c.c.69 and 70), to Great Shunner Fell in v.c.65 (North-west Yorkshire). Altitudes range from 670m. a.s.l. (Yad Moss) to 800m. a.s.l. (Little Dun Fell).

For almost all these sites, 'the right sort of ground' is intermittently-flushed sloping grasslands, the flushing most typically arising from below Carboniferous limestone outcrops. There is some variation in the degree of flushing which is tolerated by this plant. It does not in general occur in springs or constant seepages, which are at these altitudes often dominated by *Juncus effusus* (Soft Rush) and *Carex rostrata* (Bottle Sedge), although it may – as at Yad Moss – be close by, on the banks around, where it seems likely the water-table is less close to the surface.

Small sedges, particularly *Carex panicea* (Carnation Sedge), are almost constant associates, and *Carex bigelowii* (Stiff Sedge) is often nearby, especially on the deeper blanket peats above and around the flushed grasslands. There is often a sharp boundary between these two species. As Corner (2004) describes, "in these Pennine sites it behaves as a calcicole", and this remains generally true, with a very few sites being more acidic, although still evidently with mineral influence.

Given the relative consistency and predictability of the occurrences of the species in the northern Pennines, it was a great surprise in August 2009 to come across this species on Long Fell, above Brough (v.c. 69) in dry turf over and between limestone pavements, at the lower altitude of 605-620m. a.s.l., whilst surveying *Viola rupestris* (Teesdale Violet) in this extensive site. Six patches of the sedge were located on that visit, and a further two new patches were found on a visit in July 2013 with Phill Brown and Natural England staff. The plant was growing quite extraordinarily well after the cold and late spring of 2013, with many fruiting stems and vigorous vegetative patches (see inside back cover).

The sites are all on thin, superficial deposits on level ground or on moderate slopes with a broadly south-west aspect: *e.g*. in very thin turf on a slight slope of loose gravel – locally termed 'clitter' – covered in *Racomitrium uliginosum* (a frequent moss on leached peat-derived soils over limestone in this area); in hollows between broken outcrops and wider gaps within limestone 'pavement'; and on rather deeper soils, likely derived from glacial drift, in dampish hollows with no exposed limestone. Each patch covered a few square metres, within which the plant was vigorous and often dominant. Two patches had abundant *Carex ornithopoda* (Bird's-foot Sedge) nearby, particularly in solution-hollows in the pavements in thinner soils, probably more prone to drought.

The following table lists the associates noted in four patches of *Carex vaginata.* The habitats were as follows: 'A': open turf over

gravel on a shallow slope facing SSW. 'B': in hollows between broken outcrops. 'C': on rather deeper soils in a dampish hollow with no exposed limestone. 'D': on a slight slope of loose clitter covered in *Racomitrium*.

	A	**B**	**C**	**D**
	(NY77013 19502)	(NY76827 19632)	(NY76717 19713)	(NY76672 19764)
Achillea millefolium	P			P
Antennaria dioica	P			
Anthoxanthum odoratum			P	
Briza media	P	P		P
Campanula rotundifolia	P		P	P
Carex caryophyllea	P	P		
Carex pilulifera			P	
Festuca ovina	P		P	
Galium saxatile			P	P
Galium sterneri	P	P	P	P
Koeleria macrantha				P
Linum catharticum	P			
Luzula campestris			P	
Minuartia verna	P	P		
Polygala serpyllifolia	P			
Potentilla erecta	P			
Selaginella selaginoides			P	P
Sesleria caerulea	P	P	P	P
Thymus polytrichus	P	P	P	P
Vaccinium myrtillus			P	P
Viola lutea			P	
Viola riviniana	P		P	P
Ctenidium molluscum		P		
Racomitrium lanuginosum		P	P	P
Tortella tortuosa		P		

Although these colonies are at the lowest altitude yet known for the species in England, it must be said that the limestone pavements here are amongst the highest in the country. I am drawing attention to the occurrence of *Carex vaginata* in this habitat in the hope that it may be found to be more widespread in this 'new' habitat. The lists above may help to give an impression of the sorts of communities in which it occurs.

Note that Long Fell is within the military firing range of Warcop Training Area. Information on access may be found at www.gov.uk/government/publications/warcop-access-times

Acknowledgements:
I am grateful to Dr Kath Milnes of Natural England Cumbria Team for arranging access and transport.

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ROBINSON, L. (2003). Observations on *Alopecurus borealis* Trin. (Alpine Foxtail) at Green Fell in the northern Pennines, Cumbria, after foot and mouth'. *BSBI News,* **93**: 11–12.

ROBINSON, L. (2008). The discovery of *Alopecurus borealis* and *Carex vaginata* in the Yorkshire Dales (v.c. 65), with observations on *Saxifraga hirculus*'. *BSBI News*, 107**:** 6-7.

Two new sites for *Saxifraga hirculus* (Marsh Saxifrage) in the Swale catchment, North-west Yorkshire (v.c.65)

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On 3rd August 2012 I met up with Tim and Eileen Laurie for a day's botanising on the moorlands of Stainmore, at the head of Arkengarthdale, on the northern edge of v.c.65. We were intending to spend the day recording tetrads in an area of mainly acid blanket bog with occasional limestone outcrops.

Alongside Mudbeck, at the head of Arkengarthdale, we spotted a spring mound, a bright green conical hill in the middle of blanket bog. The vegetation on the mound was dominated by *Carex rostrata* (Bottle Sedge), but when we reached the top of the mound Tim noticed *Saxifraga hirculus* (Marsh Saxifrage) in flower, and upon further investigation three small clumps of the Saxifrage were found in a calcareous flush emanating from a spring at the summit of the mound and extending down the slope in a north-easterly direction for about eight metres. A further clump nine metres to the north of the spring head was also found. 81 shoots were counted, along with nine flower spikes. At 370m OD, this is the lowest site for the Saxifrage in Cumbria and North-west Yorkshire (see Colour Section, Plate 1).

Finding a totally new site for *Saxifraga hirculus* on these fells was completely unexpected, so Tim, Eileen and myself were really amazed when we found another flush with *Saxifraga hirculus* whilst tetrad recording on 26th July 2013 above Ravenseat at the head of Swaledale. We came across a calcareous flush below a spring head at Red Mea Well on Ravenseat Fell, where we found five patches of the Saxifrage covering an area approximately 2 × 1.5m, with 228 shoots, but no flowers (see photos on next page).

These two sites are approximately mid-way between the Pennine populations and the population on Great Shunner Fell and, looking at the geology of the area, there may well be further sites with the Saxifrage still to be found. Natural England have been informed of these finds.

Saxifraga hirculus site at Red Mea Well, Swaledale, with Linda Robinson and Eileen Laurie.

Saxifraga hirculus: vegetative shoot, Red Mea Well, Swaledale.
Both photos T. Laurie © 2013

An interesting cluster of orchid species

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The hills north of Bath are my home ground, and, as a farmer, I have taken an interest in the plants and the landscape of the area. Not much has changed in 50 years, just the usual ebb and flow of species and vegetation. Of course, knowing your home ground well is rewarding, especially over time, but most of the botanical change observed can be easily explained. Rare is the challenge and delight of an observation that cannot be easily explained.

Manor Farm, Langridge is a traditional mixed farm of 188 acres. The land consists of higher ground over limestone, with a pH of around 8, and lower ground over neutral silts, sands and clays. The cropping is grass and arable, with the arable confined to the higher alkaline ground. The grass consists of both neutral and alkaline semi-improved mowing ground and pasture, with areas of unimproved alkaline rough pasture on steep valley sides. The vascular species count for the farm is around 180, taken from a survey of 2008 of all enclosures, and the most interesting recent record is perhaps that for *Prunella laciniata* (Cut-leaved Selfheal).

Unusually, the arable on the farm is used to produce seed crops of native species. These crops are established as drilled single species row crops in blocks. Thus each field consists of adjacent strips of single species, differing in size, with 5-10 species per field.

This note concerns a 4.3 acre block of *Leontodon hispidus* (Rough Hawkbit) sown with wild hand collected seed in 1999 and maintained since by autumn topping and winter application of the selective herbicides metsulfuron-methyl and propyzamide. The crop is now 15 years old and continues to yield well, but has been colonised by other species over this period, including *Festuca rubra* (Red Fescue), *Linum catharticum* (Fairy Flax), *Rhinanthus minor* (Yellow-rattle), *Lotus corniculatus* (Common Bird's-foot-trefoil), *Plantago media* (Hoary Plantain), *Primula veris* (Cowslip) and others, while *L. hispidus* remains dominant. The presence of large numbers of *Ophrys apifera* (Bee Orchid) was noted in 2007, with numbers peaking in 2009, averaging almost 2/m^2. From 2009-2012 it became apparent that the crop had been colonised by other orchid species, in large numbers, with a total of seven species recorded flowering in 2012 (see Colour Section, Plate 1). Three of these species, *Dactylorhiza fuchsii* (Common Spotted-orchid), *Anacamptis pyrimidalis* (Pyramidal Orchid), and *Ophrys apifera,* were and are present, but rare, within 1km of the crop. The other four species, *Dactylorhiza praetermissa* (Southern Marsh-orchid), *Anacamptis morio* (Green-winged Orchid), *Plantanthera chlorantha* (Greater Butterfly-orchid) and *Neottia ovata* (Common Twayblade) are not known to occur in the wild less than 2km from the crop.

Participants on a *Flora locale* training day in 2012 made counts of orchids in flower along transects in the crop of *L. hispidus.* Derived estimates of the population size of these orchid species are given in Table 1, together with estimates of the population size of these species in the wild within 20km. These observations are remarkable for the number of orchid species present in the crop, and, to a lesser extent, the large population sizes. As expected, populations were larger for those species with wild populations closer to the crop. No orchids were found in other crops during the period 1999-2013 and no change was observed in wild populations within 2km during this period.

All orchid species have dust seed, capable of long distance dispersal on the wind, and this seed has poor to medium longevity, surviving perhaps up to 5-10 years or so in the soil (Whigham *et al.,* 2006). Also, all species must form, on germination, an enduring endo-mycorrhizal symbiosis with specific *Rhizoctonia* type Basidiomycete fungi. This association sustains the plant during the below ground juvenile phase, and continues to do so during the above ground adult phase. These fungi are

Table 1: Orchid species growing in a seed crop of *Leontodon hispidus*, and distance to wild populations of each species. Estimated population size given for each species at increasing distance from the plot.

Species	*Leontodon hispidus* plot	0-1km	1-2km	2-5km	5-10km	10-20km
Ophrys apifera	26,000	50-100	1,000-2,000	<10,000		
Dactylorhiza fuchsii	12,000	100-1,000	2,000-10,000	<100,000		
Anacamptis pyramidalis	4,000	50-100	1,000-2,000	<10,000		
Dactylorhiza praetermissa	25	0	0	0	0-10	1,000-10,000
Anacamptis morio	5	0	0	0-1	0-10	10-200
Plantanthera chlorantha	3	0	0	0-1	0-10	10-100
Neottia ovata	1	0	1-100	100-1,000	<10,000	

present where orchids grow, and occur in the absence of orchids, but are not ubiquitous (McCormick & Jacquemyn, 2013).

The dispersal of dust seed may explain how these seven species have arrived in the crop of *L. hispidus*, and it is reasonable to assume that the symbiont was already present, allowing establishment. But this alone is not sufficient to explain why these seven species have established in this crop, but not other crops, or elsewhere within 2km. It is possible that there are other unknown factors or requirements that are necessary, or conducive, to the establishment of orchids, and that these are met, in full or in part, by the conditions in this crop of *L. hispidus.* Speculating on this, two ideas come to mind:

- The orchid symbiont may also have a mycorrhizal association with *L. hispidus,* facilitating a net flow of nutrients via hyphal networks from *L. hispidus* to the orchids.
- The structure of the crop is similar to the short herb patches found in agricultural pastures. These patches are often relatively short lived, surviving for a few years before turning into patches of coarse grasses and tall herbs, and then back again to short herb. In agricultural grasslands this short cycle is driven by interactions between grazing factors and others. In the *L. hispidus* crop the short herb structure was maintained over an extended period by the application of herbicides, and this timescale may be important for successful establishment of the orchids. A trial winter application of glyphosate to part of the crop resulted in a coarse, more erect structure, and a loss of the orchids.

These observations may have applications. If we can fully understand the factors at play, we may then be able to create the conditions that favour the establishment of orchid species. Applying this knowledge to land management may then allow recovery of this interesting group of plants from wind blown dust seed, naturally.

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Some man-made habitats in Easter Ross (v.c.106)

BRIAN BALLINGER, *5 Shaftesbury Park, Dundee, DD2 1LB*; (brian@garrickwood.org.uk)

Easter Ross is a predominantly rural area, but there are small towns and villages and many places are very influenced by human activity. This article describes the flora of several such habitats, which have been little reported in Scotland.

1. Railway stations

The Far North and Kyle lines traverse the county and include 12 railway stations, some very quiet. These are Muir of Ord, Dingwall, Alness, Invergordon, Fearn, Tain, Ardgay, Culrain, Garve, Lochluichart, Achanalt and Achnasheen (Conon Bridge station was re-opened after this survey was carried out). Over the years, they have been lightly maintained and have provided a colourful display of wild flowers. However, in recent years management has become more active and the central areas of platforms have often become lifeless, although plants survive better around car parks and goods yards.

Lists of plants were made for nine of the stations in 2000 and the other three (on the Kyle line) in 2005, before the management became more active. Two visits were made between May and August and the plants in publicly accessible areas, including platforms, car parks and the edges of goods yards, were recorded. Obviously planted species were excluded. A similar survey was repeated in 2011. Records made in other years were omitted.

227 vascular plant species were noted in total on the 12 stations. 72 species found on the first survey were not found on the second occasion and 31 species were seen in 2011 that had not been noted in 2000-2005.

There was a decline of two or more station locations for 25 species and 13 species increased by two or more stations over the period of study.

In 2000-2005 the following occurred on 10 or more stations: *Agrostis capillaris* (Common Bent), *Bellis perennis* (Daisy), *Chamerion angustifolium* (Rosebay), *Cerastium fontanum* (Common Mouse-ear), *Holcus lanatus* (Yorkshire-fog), *Poa annua* (Annual Meadow-grass), *Ranunculus repens* (Creeping Buttercup), *Senecio vulgaris* (Groundsel), *Sagina procumbens* (Procumbent Pearlwort), and *Sonchus asper* (Rough Sow-thistle).

In 2011 the following were found in 10 or more stations: *Chamerion angustifolium*, *Epilobium montanum* (Broad-leaved Willowherb), *Holcus lanatus, Matricularia discoidea* (Pineappleweed), *Poa annua, Ranunculus repens, Senecio jacobaea* (Ragwort), *Trifolium repens* (White Clover) and *Urtica dioica* (Stinging Nettle).

Plants typical of a variety of habitats were present, consistent with the location of the stations. A full species list is on the Easter Ross (v.c.106) page of the BSBI website. Those of particular note included *Orobanche minor* (Common Broomrape), a new vice-county record and well outside its usual geographical area; *Crassula tillaea* (Mossy Stonecrop), first found in Easter Ross at Dingwall and Invergordon stations; and the only recent sites for *Senecio squalidus* (Oxford Ragwort), and *Trifolium arvense* (Haresfoot Clover) in v.c.106 were at stations.

2. Urban walls

Wild plants growing on urban walls have been surveyed in England (Payne, 1998; Woodell & Rosseter, 1959), but there is little information for Scotland. In this survey 12 small towns and villages in Easter Ross were visited on three occasions in 2011. The places included Alness, Conon Bridge, Cromarty, Dingwall, Evanton, Fortrose, Invergordon, Muir of Ord, Portmahomack, Rosemarkie, Strathpeffer and Tain, following a standard route round the older part of the town. Vascular plants that did not appear to be planted were noted if they were within the 30mph speed limit and the road was built up on both sides. The walls were virtually all mortared.

In all, 64 species were identified. The greatest proportion (41) was on east-facing walls, counting the first plant of that species noted.

The most frequently identified species were: *Taraxacum* sp. (Dandelion), *Festuca rubra* (Red Fescue), *Chamerion angustifolium* , *Cymbalaria muralis* (Ivy-leaved Toadflax), *Epilobium montanum*, *Asplenium trichomanes* (Maidenhair Spleenwort), *Asplenium scolopendrium* (Hart's-tongue), *Dryopteris filix-mas* (Male Fern), *Urtica dioica* and *Asplenium ruta-muraria* (Wall-rue). These sites constituted a high

proportion of the locations in the vice-county for some of the ferns. A full species list is given on the BSBI website.

3. Graveyards

Cemeteries are often oases of green space in urban areas (Dickson *et al*., 2000) and some surveys in England have yielded long lists (Ferris, 2012). The present survey included the 19 graveyards in Easter Ross (excluding the Black Isle and that part of v.c.106 that lies in modern Sutherland), 11 of which were in urban settings.

All sites were visited on two occasions between April and August 2012 and all identifiable vascular plant species noted. Obviously planted species were not included and some plants defied identification because of close grass-cutting.

In all, 174 species were recorded, with a range of 21-50 in the different locations. Others seen outwith the survey period were not included. The most commonly seen in order of frequency were: *Bellis perennis*, *Poa annua*, *Taraxacum* , *Trifolium repens*, *Cerastium fontanum*, *Sambucus nigra* (Elder), *Veronica chaemedrys* (Germander Speedwell) and *Galium aparine* (Cleavers).

No rarities were identified, but some places showed evidence of being derived from coastal grassland by the presence of such species as *Saxifraga granulata* (Meadow Saxifrage) and *Ranunculus bulbosus* (Bulbous Buttercup). In other locations, woodland species such as *Conopodium majus* (Pignut), *Stellaria holostea* (Greater Stitchwort) and *Moehringia trinervia* (Three-nerved Sandwort) were present. A few rubbish tips yielded extra species. A full species list appears on the BSBI website.

4. Other settings

Quarries. Some working quarries could not be visited and some small, old quarry areas were totally overgrown. Three disused quarries at Redcastle, Grudie and Rogie were visited in 2013 and yielded 56, 81 and 65 species respectively. These were a mixture of woodland, moorland and wasteland species. Of note were *Gentianella campestris* (Field Gentian) and *Drosera anglica* (Great Sundew).

Harbours. Harbours were perhaps less rewarding, larger sites being closed to visitors and small harbours having only mainly coastal species, such as *Triplerospermum maritimum* (Sea Mayweed), *Cakile maritima* (Sea Kale) and *Armeria maritima* (Thrift).

Various other man-made places are not described here.

Comment

Railway stations, urban walls, cemeteries and other man-made settings contain plants of interest and sometimes species that are unusual in the area.

The railway station surveys suggest some reduction in species richness in recent years, probably related to an increase in management, which is understandable, although in many ways regrettable. I plan to repeat this project.

Urban walls, although a fairly precarious situation for plants, seem to be especially important for some ferns in this area and managers should be encouraged to avoid excessive cleaning.

The flora of the cemeteries was a little disappointing and fewer species were seen than in some English surveys, although these tended to take place over a longer period. This study would have undoubtedly yielded more species if extra visits had been made. In the cemeteries there often appeared to be very frequent grass cutting and a use of herbicides, which would certainly not help plant diversity. As in so many situations, excessive tidiness should be discouraged.

These are only some of the man-made habitats, but such places are well worth studying.

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What bindweeds are native in Scotland?

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Introduction

Calystegia sepium (Hedge Bindweed) is today a familiar plant in much of Scotland, including Berwickshire (for which I am BSBI Vice-county Recorder). It has not always been so. In his *Flora of Berwick-upon-Tweed* (1829), George Johnston lists one station only: "in hedges west of Ladykirk House, but said to have been planted there as an ornamental flower". This record has led me to investigate the history of this and other bindweeds in Scotland.

Of the bindweeds present in Scotland *Calystegia soldanella* (Sea Bindweed) is a relatively uncommon plant of the seashore, but I know of no one who has questioned its native status. Conversely, *C. silvatica* (Large Bindweed) in all its varieties and *C. pulchra* (Hairy Bindweed) are universally considered to be neophytes in Britain as a whole, and it follows that their hybrid and those with *C. sepium* are also of recent origin. That leaves the status of *Calystegia sepium* and *Convolvulus arvensis* (Field Bindweed) to consider. Both are considered native throughout Britain in the 2002 *Atlas* (Preston *et al*, 2002).

Convolvulus arvensis

Taking *Convolvulus arvensis* first, I find no evidence of native status in Berwickshire. The species currently has two habitats: gardens/tradesmen's yards (including hedge banks adjacent) and disused railways. The distribution at 1km scale is essentially random. The only slight cluster is in and around the coastal town of Eyemouth, where it is found in ruderal situations near the sea as well as in gardens. It has only ever been recorded from 21 monads. I have never found it as an arable weed and the evidence for it being a former arable weed is tenuous. There is an 1853 record from "fields north of Eyemouth" that could easily relate to vegetative spread from gardens and an 1873 record from "sandy pasture above Hutton Castle Mill" to which the same caveat applies. I have only one railway record in Berwickshire (from 1946), but I found it in four out of 15 tetrads in a survey of the railway flora of Teviotdale (v.c.80) (Braithwaite, 1975). George Johnston, in his *Natural history of the eastern Borders* (1853), describes it as "not common", listing it for Berwickshire at Eyemouth and three villages. It was and is more common within the town of Berwick-upon-Tweed (v.c.68), where it is particularly associated with the Elizabethan town walls and the quayside. This suggests a typical archaeophyte, which is a 'follower of man', and one that spread in the nineteenth century along railways, perhaps by introduction with the ballast laid on their tracks.

One reason for its limited distribution appears to be that it has a problem in setting seed in Britain. Simpson (1982) writes that ripe fruits are rare in Suffolk and the same is reported from Norfolk by Petch & Swan (1968), while Grime *et al* (1990) record that seed-set appears to be restricted by climatic factors but that a very persistent seed bank is formed. In contrast, Salisbury (1961) estimates 600 seeds per plant and states that 37,000 seeds have been found in a single bushel of wheat, but the provenance of the wheat is not given. He regarded it as a serious agricultural weed.

Scottish floras often regard it as an incomer. Dickson *et al* (2000) consider it "accidental" in the Glasgow area, but no longer to be "not common", as reported by Hopkirk (1813). They point to a strong association with railway banks. Webster (1978) regards it as "introduced in north Scotland", finding it on "railway embankments, below walls and on sandy banks". Again there is no mention of arable fields. Lightfoot's *Flora Scotica* (1778) records it as "corn-fields, frequent", but it is as well to recall that Lightfoot was an Englishman from Gloucestershire and only spent a single summer in Scotland, so the habitat note could well reflect his experience at home. However, Smith *et al* (2002) give its

habitats in the Lothians as "roadsides, railway embankments, cereal fields and other cultivated land", so in the light soils prevalent there it does seem to be a long-established arable weed.

It seems clear then that the status and distribution of *Convolvulus arvensis* is very different in Scotland from that in England. There is no evidence of a native habitat and only very localised evidence of it being an arable weed, despite the widespread distribution in Scotland shown in both the 1962 *Atlas* (Perring & Walters, 1962) and the 2002 *Atlas.* Nevertheless it has clearly been present in Scotland for a long time and, at least in some areas, is likely to be an archaeophyte rather than a neophyte.

Calystegia sepium

Two subspecies of *Calystegia sepium* are present in Scotland. Ssp. *roseata* has a very limited distribution on the west coast, where it may well be native. Although the subspecies has only been recognised in floras relatively recently, there are early Scottish records (presumably from herbarium specimens) in the BSBI database from Dumfriesshire in 1838 and Kirkcudbright in 1842. In some respects this is an enigmatic subspecies. Although it has a predominantly coastal distribution in the southwest of Britain and Ireland, its habitat is not the shore itself, but rather scrub and rocks at the back of beaches and tall wetland vegetation (such as *Phalaris* reed beds) in estuaries. Paul Green (pers. comm.) considers it more robust than ssp. *sepium*, but to occupy essentially the same habitats as that subspecies in Ireland. It also occurs far inland in Britain, arguably as an introduction, so it is not clear what has stopped it becoming as widely distributed as ssp. *sepium*. The coastal distribution suggests a taxon dispersed by the sea and, indeed, *Calystegia* seeds are often found as drift seeds (Nelson, 2000).

This article begins above with the recollection of ssp. *sepium* being planted in hedges at Paxton House in Berwickshire. As it happens, the history of these hedges is remarkably complete. The policies of the great mansion that is Paxton House were laid out in the grand manner by the Home family at the close of the eighteenth century, with plants being purchased from many sources. In 1790 "7,000 best thorns and 1,000 sweet briars were purchased from Messrs. Archd. Dickson & son, nurserymen, Hassendean, near Hawick" (Jefferson-Davies & Snow, 2008). The nursery was at Hassendeanburn, just a stroll down the lane from where I live at Clarilaw. Thorburn (2010) has recently written a history of that nursery, founded in 1728, which was to expand to become a large business. By 1800 it had 100 employees and a Britain-wide customer base, although it was not until 1907 that its successor firm, Forbes nursery, was awarded a Royal warrant. The 1815 catalogue survives and quotes "THORNS, 1 year seedlings at 3s 0d per 1,200; SWEET BRIARS, 1 year seedlings at 5s 0d per 1,200', so the Paxton House order could have been purchased at that time for not much more than a pound. The older stock likely to have been bought for Paxton was a little more expensive. There are plenty of roses as well as bindweed in the hedges at Paxton today, but *Rosa rubiginosa* is not prominent: 'Sweet Briar' seems to have been a nurseryman's euphemism.

My view that it would indeed have been most natural for *Calystegia sepium* to have been included in the plantings at Paxton is supported indirectly by Walters (1993). In *Wild and garden plants* he quotes Robinson (1870) who, in *The wild garden*, illustrates *Calystegia silvatica* and commends it in the caption as "the type of nobler climbing plants, with annual stems, for hedgerows and shrubberies". If this relatively recent introduction was being promoted in 1870, should we not accept that its only slightly less noble cousin was being promoted in 1790 and that this is how it came to be in our garden at Clarilaw half-a-century later?

I suggest that this case study greatly clarifies the status of *Calystegia sepium* ssp. *sepium* in Scotland. If it was indeed being sold as a hedging plant at the time of the agricultural revolution, when there was a massive programme of hedge planting while the modern field system was being laid out

throughout the cultivated land of Scotland, it could have become widespread in a short period of time. Such a history would explain why ssp. *sepium* remains predominantly a hedge plant in Scotland, although it has spread to ruderal habitats in towns and cities. It is rarely found in Scotland in what is its most typical native habitat in England, tall-herb vegetation (especially *Phragmites* reed beds) in marshes and estuaries. It now occurs in a reed bed at St Abbs Head NNR in Berwickshire, but it was first recorded there only in 2006 and the related reservoir was not dammed until 1902. It also occurs by the Eye Water near its mouth, but that is within the town of Eyemouth. I have seen it by the Whiteadder Water climbing elegantly up the stems of *Heracleum mantegazzianum* (Giant Hogweed). Ssp. *sepium* can occur on the coast in Scotland, particularly on the west coast, where it occupies the back-of-the-beach habitat favoured by ssp. *roseata*, but I have only met with it where there are houses adjacent.

Hedge planting need not have been the only method of introduction. There is every reason to suppose that some introductions have been as unintended companions of herbaceous garden plants (as with *Convolvulus arvensis*). Salisbury (1961) states that *Calystegia* seeds can contaminate the seed of agricultural vetches. If such introductions have spread to adjacent hedges, it would be impossible to discern their source after the event. Dispersal by sea may well occur for ssp. *sepium* as well as for ssp. *roseata* and, if so, it would be unwise to rule out native status for the former on the west coast of Scotland. *C. sepium* is self-incompatible (Grime *at al*, 1900) so multiple introduction is essential for dispersal by seed, rather than as clones dispersed vegetatively.

Scottish flora writers have often had doubts over the status of *Calystegia sepium.* It is interesting that Druce included it in a list of 'Adventitious plants of Tweedside other than wool-introductions' (Hayward & Druce, 1919). He cites Johnston's 1829 record from Paxton and three of his own records: from the towns of Galashiels, Melrose and Peebles, 1905-1910. Turning to the west coast, *The flora of Dumfriesshire* (Scott-Elliot, 1896) gives the first record as early as 1789, but describes it only as "an outcast or escape along the shore, or by hedges, etc." The subspecies are not distinguished, nor hinted at by flower colour, so there is no indication of whether ssp. *sepium* as well as ssp. *roseata* might have been present on the shore and arguably native there. Dickson *et al* (2000) find it to be common in Glasgow, where it is described as "native and/or accidental". The first record there was not until 1837. It was not listed by Hobkirk (1813). If he knew the plant he did not regard it as indigenous. Webster (1978) regarded it as doubtfully native in Moray, Nairn and East Inverness "in hedges and bushy places, also as a garden weed". Significantly, there is no mention of reed beds or of the coast. Smith *et al* (2002) regard it as native in the Lothians and give its habitats as "roadsides, waste ground, riversides, railway embankments, hedgerows, scrub". Habitats were systematically recorded for the 'Flora of the Lothians' project: so it is significant that neither reed beds nor the coast is mentioned.

Introduced plants can often be picked out by their changing distributions, so it is necessary to address the fact that the Scottish hectad distribution of *Calystegia sepium* ssp. *sepium* is largely unchanged between the 1962 and 2002 *Atlases*. I would argue that this is explained by a very large number of points of original introduction in the decades around 1800. Comparison with *C. silvatica* is illuminating. Only a century after introduction, *C. silvatica* has much the same Scottish hectad distribution as *C. sepium*. I would argue that this is again explained by a very large number of points of original introduction. At 1km scale ssp. *sepium* remains only modestly frequent in Berwickshire, but the historical recording coverage is not sufficiently comprehensive to provide a baseline from which to gauge whether or not it is still spreading. Taking Britain as a whole, *Change in the British flora 1987-2004* (Braithwaite *et al*, 2006) does appear to evidence continuing

spread at tetrad scale (Relative Change +14% ± 7% in sixteen years). However, this result should be interpreted with caution because of the problems in recording *Calystegia* spp. in the field. The multiplicity of similar taxa means that identification can only be attempted when the plants are in flower, which is relatively late in the recording season. The consequence is that increased recording effort, say with several visits to a tetrad in a season rather than one, can disproportionately affect the results for *Calystegia* spp. compared with many other species.

Conclusion

I do not offer certainties about the history of the Scottish populations of *Convolvulus arvensis* and *Calystegia sepium*, but argue that the evidence presented here strongly suggests that *Convolvulus arvensis* is an archaeophyte rather than a native and that, while *Calystegia sepium* ssp. *roseata* may well be a very local native, there is little evidence for ssp. *sepium* as a native and it is probably a neophyte except perhaps as a rarity on the west coast.

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Hirta, St Kilda (v.c. 110), a remote island of flowers

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St Kilda consists of an archipelago situated in the North Atlantic. These islands formed from a volcanic event. They are akin to Darwin's Galapagos and Wallace's Malay Archipelago. Flora and fauna came here over time and developed unique characteristics to adopt and adapt to this archipelago. Archaeological evidence suggests 2000 years of human activity in Hirta, but, in 1930, all the villagers were evacuated.

I visited Hirta with the National Trust for Scotland's voluntary work programme and worked here from 20th June to 3rd July 2013. I felt very privileged to visit Hirta, which few people have the opportunity to visit. It is a remote island, situated 110 miles from the Scottish mainland. St Kilda is a World Heritage Site and is looked after by the National Trust for Scotland, Scottish Natural Heritage and the Ministry of Defence. The Ministry of Defence supply electricity and water, the most essential items.

During my work I recorded plants: within the Village area, Cleit, Blackhouses, Houses, and Graveyard; in Head Dyke but beyond the Village houses; in Abhainn Mhor; in the Quarry; in the Gap; and in and around the Helipad, Beach and Jetty.

Plants arrived on Hirta probably by different routes: air-borne seeds with clouds and rain; bird droppings and seed attached to birds' feathers; driftwood and water bringing plant materials onto the shore; and from human influences. There are no trees on Hirta. Martin Martin travelled to Hirta in 1697 and stated that "there is no sort of trees, not the least shrub grows here".

Plants seen within the Village area, Cleit, Blackhouses, Houses and graveyard.

The semi-circular village area consists of sixteen houses, including Blackhouses, grassy slopes, the burial ground, cleitan, the old Post Office, the white-painted Factor's home, the Kirk, the Manse, the Stores and the Army camp. In the old way of living in Blackhouses, people lived in one end of the room and their cattle were in the other side of the same room. All the manure drained into the field outside, where crops were grown. The cycle of life, birth and death took place within the Blackhouses. These blackhouses, constructed in 1830 and using lime mortar in their construction, now have no roofs. Although the doors were facing the sea they were quite a distance away from it. There were frequent thick sea mists and fog cover over Hirta that probably provided so much salt rich nutrients to the plant communities inside the blackhouses. Here inside and outside the blackhouses the walls were adorned with mainly fern communities. I recorded *Athyrium filix-femina* (Lady-fern), *Polypodium vulgare* (Polypody), *Dryopteris dilatata* (Broad Buckler-fern), *Asplenium marinum* (Sea Spleenwort) and *Asplenium adiantum-nigrum* (Black Spleenwort) here. There were also two grasses present: *Holcus lanatus* (Yorkshire-fog) and *Deschampsia flexuosa* (Wavy Hair-grass), growing very close to the fern communities.

Many plants had colonised the village area. *Bellis perennis* (Daisy) was now a dominant plant, but in 1927 a paper published by W.B. Turrill stated "only one clump found at an altitude of about 400ft on the sheltered S.W. slope of Conachair. Possibly introduced." Isolation from the mainland has probably caused some plants to be different genetically. I observed *Rumex acetosa* (Common Sorrel) found in the village has an extra pointed leaf lobe. No flowers were seen because these plants were eaten by the Soay sheep that graze in the village. Here I recorded *Athyrium filix-femina*, *Ficaria verna* (Lesser Celandine), *Viola riviniana* (Common Dog-violet), *Ranunculas acris* (Meadow Buttercup), *Ranunculas repens* (Creeping Buttercup), *Pteridium aquilinum* (Bracken), *Galium saxatile* (Heath Bedstraw), *Sagina subulata* var.*glabrata* (Heath Pearlwort), *Lolium perenne* (Rye-grass), *Sagina*

procumbens (Procumbent Pearlwort), *Festuca rubra* (Red Fescue), *Poa pratensis* (Smooth Meadow-grass), *Juncus effusus* (Soft-rush), *Cirsium vulgare* (Spear Thistle), *Urtica dioica* (Common Nettle), *Anthoxanthum odoratum* (Sweet Vernal-grass), *Trifolium repens* (White Clover), *Iris pseudacorus* (Yellow Iris), *Achillea millefolium* (Yarrow), *Potentilla erecta* (Upright Tormentil) and *Plantago lanceolate* (Ribwort Plantain).

A granite stone wall was situated in front of most houses and separated them from the grassy slopes. Plants seen on top of these stone walls were very dwarf, because this high wall always faces a strong wind. I recorded *Plantago coronopus* (Buck's-horn Plantain), *Plantago maritima* (Sea Plantain), *Achillea millefolium* and *Galium saxatile* here.

Soay sheep were first introduced to St Kilda in the Bronze Age. They were wild and had no predators or competitors here. Plants are consumed by Soay sheep populations that graze in the village area from 6.00 a.m. to 8.00 p.m. They like the delicious grasses and flowers of *Holcus lanatus*, *Rumex acetosa* and *Festuca rubra* but did not show much appetite for *Anthoxanthum odoratum*.

Plants growing in the village area obtain phosphate, nitrogen, calcium and other nutrients from the Soay sheep's urine and dung. Nutrients also come from the underlying rocks and the surrounding areas to nourish the plants that grew here.

One aspect of my voluntary work involved repairing cleit roofs and replacing fallen walls, accurately matched by using photographs. So I had the opportunity to have a good look at and to record plants growing on cleit roofs and close to the walls. In the cleit, people stored hay, birds such as Puffins and Fulmars, fish and manure. Each cleit is of a unique size, shape and stone structure, and the roofs are made up of large stone slabs. Finally roof tops are covered with turf. The walls of the cleit are constituted of an inner and an outer wall. Turfing of the roof involves checking and measuring the roof area that needs replacement and then clearing, followed by wetting it with water so that turf can adhere to it; then finally cutting a measured piece of turf to fit in. During the work I noticed that the soil that placed on the roof contained *Iris pseudacorus* tubers. I found Yellow Iris growing on top of the cleit. Also the turf that had been taken out of the ground was replaced with soil containing *Iris pseudacorus* tubers. This practice had probably increased the spread of the population. These plants were currently in full bloom.

Many grasses and flowering plants liked this special cleit-top habitat. Plants seen were *Poa annua* (Annual Meadow-grass), *Bellis perennis, Prunella vulgaris* (Self-heal), *Plantago maritima*, *Plantago coronopus*, *Festuca rubra*, *Festuca ovina* (Sheep's fescue), *Festuca vivipara* (Viviparous Sheep's-fescue), *Anthoxanthum odoratum*, *Poa pratensis*, *Nardus stricta* (Mat-grass), *Iris pseudacorus*, *Deschampsia flexuosa*, *Aira praecox* (Early Hair-grass) and *Armeria maritima* (Thrift) (see Colour Section, Plate 3). *Stellaria media* (Chickweed) and *Cerastium fontanum* (Common Mouse-ear) were seen on top of the cleit, as well as just below the outer walls. Also the ground was covered with *Rumex acetosa* ssp. *acetosa*, *Urtica dioica* and *Rumex obtusifolius* (Blunt-leaved Dock).

The burial ground in Hirta was a simple walled area. A small standing stone represented an individual person's last resting place before the 1930 evacuation. The wall was covered with the lichen *Ramalina siliquosa*. In the burial ground plants seen were *Iris pseudacorus*, *Urtica dioica*, *Stellaria media* and *Rumex acetosa* ssp. *acetosa*. Here I found *Rumex acetosa* growing with its normal leaf shape. A large wooden gate prevented Soay sheep grazing here.

Inside House no. 5 all the tools for the work party were kept. In front of this house I found *Taraxacum pankhurstianum*, a new dandelion endemic to Hirta, recently identified and characterised. The plants were in full bloom. On examination, the plants displayed hairy outer bracts, the leaves were hairy, coriaceous and had purple spots. One of the diagnostic features was a solid rose-pink stripe on the ligule. With conservation in mind I did not dissect the flowers to check the achenes.

Also next to this building there was slightly higher ground that was used as a Post Office in the past. Now only the flat grassy base of this building exists. This area contained a large number of probably two populations of dandelions. Photographic evidence and examination of plant populations suggested *T. pankhurstianum* and *T. faeroense.* Both were probably present, but this needs further investigation (see Colour Section, Plate 3).

Plants seen within the Head Dyke but beyond the houses of the village.

The Head Dyke is a huge, long wall built with granite stones. Within the Head Dyke insignificant small streams run down from the hill, Conachair. Some of the flushes continue running between the Blackhouses and sometimes they just disappeared into the ground. This creates a rich wetland that supports species-rich plant communities. Plants I saw here were: *Trichophorum cespitosum* (Northern Deergrass), *Anagallis tenella* (Bog Pimpernel), *Narthecium ossifragum* (Bog Asphodel), *Juncus bulbosus* (Bulbous Rush), *Ranunculus flammula* (Lesser Spearwort), *Carex echinata* (Star Sedge), *Calluna vulgaris* (Heather), *Festuca vivipara , Carex pulicaris* (Flea Sedge), *Carex flacca* (Glaucous Sedge), *Stellaria alsine* (Bog Stitchwort), *Carex demissa* (Common Yellow-sedge), *Carex oederi* (Small-fruited Yellow-sedge), *Carex binervis* (Green-ribbed Sedge), and small hummocks of *Sphagnum* mosses. Close to the Head Dyke wall I found *Poa humilis* (Spreading Meadow-grass).

There were over 100 plants of *Drosera rotundifolia* (Round-leaved Sundew) in this marshy ground. Each plant was covered with insects as its main source of nutrients (see Colour Section, Plate 3). In 1927 Turrill's report stated that only 15 plants were seen here. Now the purple form of *Pedicularis sylvatica* (Lousewort) and *Dactylorhiza maculata* ssp. *ericetorum* (Heath Spotted-orchid) were both in full bloom. It was only in this area I discovered the brilliant red fungus *Hygrocybe splendidissima*.

Plants in Abhainn Mhor

Abhainn Mhor is a botanical paradise. The river flows here through a geological fracture and many waterfalls cascade over big rocks. Geological reports stated that the ground is rich in such minerals as oxides of silicon, aluminium, iron, lead, calcium, sodium, potassium and manganese. This mineral- enriched water flowed all the way down to the sea. Plants thrive all around - ferns, sedges, grasses, rushes, mosses, lichens, liverworts, and flowering plants covered both banks. The location was well sheltered, away from grazing Soay sheep, moist, with steep and gentle slopes and rock crevices enriched with *Athyrium filix-femina*, *Blechnum spicant* (Hard-fern), *Polypodium vulgare* and *Angelica sylvestris* (Wild Angelica). Downstream grew *Primula vulgaris* (Primrose), *Agrostis stolonifera* (Creeping Bent), *Equisetum arvense* (Field Horsetail), *Ranunculus flammula*, *Eleocharis palustris* (Common Spike-rush), *Callitriche stagnalis* (Common Water-starwort) and *Montia fontana* (Blinks). Upstream revealed *Juncus bulbosus, Carex* × *fulva*, *Carex oederi*, *Carex pilulifera* and *Euphrasia arctica* ssp. *borealis* (Arctic Eyebright). Three grasses were frequent: *Deschampsia flexuosa, Nardus stricta* and *Festuca vivipara*. Zig-zaging upstream towards the source, I came across *Dactylorhiza maculata* ssp. *ericetorum* and *Polygala serpyllifolia* (Heath Milkwort) occurring here in two forms, with blue flowers and very light-blue flowers. There were also two forms of *Pedicularis sylvatica*: white flowered plants were prostate in nature and very hairy, while pink-flowered plants were of standard height. Then I saw the rare *Saxifraga oppositifolia* (Purple Saxifrage) growing in a large area just under a big rock. As I ventured upstream I discovered more of these rare plants. Flowering was over (30th June) and there was only one purple pink flower in full bloom amongst all the dry flowers. These plants were in a deep sheltered area, away from the strong St Kildan air, and many intrusive rocks provided good sheltered sites.

Plants in the Quarry

There was a quarry situated above the bay at the Mullach Sgar complex. The rocks were used for road building. These exposed rocks were granite, dolorites and granophyre. Massive stones are present at the entrance to the quarry but the floor of the quarry is flat. There is a road from the radar station passing the quarry leading to the army base at the village. The base of the quarry and rock face above it support many plants, some of them not seen before. Only one species of *Taraxacum*: *T. pankhurstianum* was seen here. *Euphrasia frigida* (Uplant Eyebright) and *Euphrasia arctica* ssp. *borealis*, *Danthonia decumbens* (Heath-grass), *Thymus praecox* (Wild Thyme), *Viola palustris* (Marsh Violet), *Selaginella selaginoides* (Lesser Clubmoss) and *Hypericum pulchrum* (Slender St John's-wort) grow here, with other plants. There were plants growing on the vertical quarry wall, with very little soil covering their roots, but the mineral-rich rocks supplied enough nutrients to the plants to sustain growth. Plants seen on the vertical rocks were *Ligusticum scoticum* (Scots Lovage), *Tripleurospermum maritimum* (Sea Mayweed), *Armeria maritima*, and a tall growth of *Deschampsia flexuosa*, *Festuca vivipara*, *Rumex acetosa* and *Anthoxanthanthum odoratum*. Here plants achieved their full height, away from the grazing of Soay sheep.

The Gap

The Gap is a deep hollow area formed by the action of ice sheets between two hills, Conachair and Oiseval. The Gap stands above the Head Dyke and can be seen from Village Bay. There are wet ground, rocky ground and slopes supporting many plant communities, and the growth of the plants is stunted, although the flowers are not compromised. Flowers are pollinated by day-flying moths. *Calluna vulgaris*, *Erica cinerea* (Bell Heather) and *Antennaria dioica* (Mountain Everlasting) were present here. Hanging ledges of the sharp vertical sea cliffs had *Sedum rosea* (Roseroot) and *Silene uniflora* (Sea Campion).

Plants in and around the Helipad, Jetty and Beach

The concrete jetty was built in 1901. Boats are still using it to ferry passengers and goods to and from the island. The Helipad is used by Army helicopters. During low tide Army vehicles can land in the bay area. There was a marshy area near the Helipad where I recorded many *Eriophorum angustifolium* (Common Cottongrass), *Hydrocotyle vulgaris* (Marsh Pennywort), *Eleocharis palustris*, *Potamogeton polygonifolius* (Bog Pondweed), *Luzula sylvatica* (Great Woodrush) and *Silene flos-cuculi* (Ragged Robin). There were many types of sedges and rushes present that I saw in other areas. All around the Helipad were *Juncus bufonius* (Toad Rush) and *Juncus ranarius* (Frog Rush). There was a wet path towards the Helipad and there I found many *Apium nodiflorum* (Fool's-water-cress). Two other new plants I saw here were *Glyceria fluitans* (Flote-grass) and *Juncus gerardii* (Saltmarsh Rush). *Scorzoneroides autumnalis* (Autumn Hawkbit), *Cardamine flexuosa* (Wavy Bittercress), *Plantago major* (Greater Plantain), and *Cirsium arvense* (Creeping Thistle) were not seen in other parts of the island. This was probably the route of entry for these immigrants!

In this remote island evolution has been playing its role in designing and shaping the flora. Here the survival of the flora means a constant battle between strong winds and Soay sheep grazing. The present plant list correlates well with the past. A newly identified endemic plant, *Taraxacum pankhurstianum,* has been recorded. These plants also get trodden by day trippers' feet. I have noticed *Dactylis glomerata* (Cock's-foot) growing in Harris and am sure it will not be long before Cock's-foot puts its foot in Hirta.

Acknowledgements:

I would like to thank the National Trust For Scotland for giving me the opportunity to work in Hirta, the work party leader Donald Patterson for his enthusiasm, James W. McIntosh for sharing the plant lists and to all the work party's three members for demonstrating a love of plants. My sincere thanks to Mrs Phyllis Garrod for checking the draft.

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Some unexpected finds and re-finds in 2013 in Northamptonshire (v.c.32)

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What can I say of 2013 about my finds and re-finds in my county? All totally unexpected!

With *Poa infirma* (Early Meadow-grass) now turning up almost everywhere in parts of the UK, especially with the likes of Paul Stanley, I decided to target St James's Retail Park off the Towcester Road in Northampton to see if I could find it there on the 30th March. I thought no one had looked around here for the species and it was worth a try. As well as checking kerb edges and mown verges, I also had a look in the shrub borders of the retail park to see what and if any weed species had come up in there. Of course, the shrub borders over time have been sprayed to death to control weeds but at the time of my visit a number of species were starting to appear. To my delight, I discovered non-flowering spider like rosettes of *Myosurus minimus* (Mousetail) (see front cover and inside front cover). In all, there were two populations growing quite close to each other within the shrub border, with the larger population growing under a blue fence bordering a path that went from the car park to the Towcester Road. I realised, due to the situation of the site, that it would again get sprayed to control weeds, and decided to bring three plants into cultivation.

Thanks to a tip off from botanical friend John Minney, on 2nd May there were at least 123 plants in flower or coming into flower at SP7495560087 and SP7496460096. According to the new *Flora of Northamptonshire and the Soke of Peterborough* (Gent & Wilson), the last record for my county was 1979, from fields near Spratton. However, Bob Bullock sent me an email in November 2008 when he said he had checked his records and found he saw Mousetail on 15th May 1981 at Whitehills School, Northampton, next to the school fence. There is a record of this site in the new *Flora* from 1975. On 30th March I did try to find out who did the shrub cutting and mowing of the site, including contacting the Council to find out, but without any luck. However, I decided not to give up and in the summer went into one of the stores on the retail park to see if they could help me. They gave me a number to try and later I found out the site had been passed onto someone else. Great news: I got in contact with the new owners and had a site meeting, which proved very encouraging. I

have been asked to mark the areas with red spray paint where the Mousetail is, if it comes up again, and let them know so the plants do not get sprayed off. However the spraying has created the ideal open bare conditions the Mousetail needs so I have asked them to spray the area in the autumn when the Mousetail should have well gone to seed. The plants that were brought into cultivation have done well. I have a mass of seedlings of which some have gone to Moulton College to grow on as back-up stock. However, sadly I did not find *Poa infirma* at this location.

Another area I was told to try for *Poa infirma* was the car parks at Silverstone Race Circuit. So, on 1st April I wandered in to see what I could find. It was a big area, and I checked various kerb edges, mown verges and the car parks, but sadly again no *Poa infirma*. One possible reason was that the flowering season was late in 2013 and it might not have been up yet or the species had not yet reached the site. However I did come across a nice population of *Montia fontana* (Blinks) at SP6695942333, growing on a kerb edge/mown lawn edge bordering a small car park not far from the visitors' centre (see inside back cover). Blinks was thought extinct in Northamptonshire until I re-discovered it at Harlestone Firs in 2005, and since then there has been no stopping me. In total I have now had this species in five sites and I am 100% sure it is in more locations in the county.

However all was not in vain. On 1st May I saw a likely place to try for *Poa infirma* on the west side of the A43 near Towcester, in the car park of a Travel Lodge Hotel. To my delight, I found *Poa infirma* in two spots around the very edge of the car park at SP6822648112, the largest population being at the base of a street lamp close to the entrance to the hotel car park at SP68258 48148. Due to fading light, I returned to photograph the plants the next day (see inside back cover). An American woman from the hotel asked if I was photographing bugs. She was quite curious. This is the third time *Poa infirma* has been found in Northamptonshire, with one of the previous records being mine in 2010 on a verge edge in Brackmills Industrial Estate near Northampton, while the first record for my county was spotted by the eagle-eyed Paul Stanley in 2010 at Moulton.

On 1st June I joined up with fellow county recorders to help record in Fawsley Park for the Northamptonshire Wildlife Trust's Biobltz event. Rob Wilson could not make the event so I mentioned to him I would be happy to record what I could find. One of the fields that is sheep-grazed looked promising, especially on the slopes towards Badby Woods. Here I saw a number of anthills that needed closer inspection. Growing on top of one of these anthills at SP5673558024, mainly in fruit but still obvious was *Moenchia erecta* (Upright Chickweed) (see inside front cover). The last record for this species from my county was 1877. Bingo!! I have been looking for this species as well as Mousetail in my county for the past 13 years or so without success. I cannot believe I had re-found both species in the same year!

Further searches I carried out revealed that the Upright Chickweed was also on another smaller anthill at SP5690657996 and on a slight grassy slope at SP5686858013, all in the same field. Fawsley Park is a brand new locality for the species in Northamptonshire.

On 31st December, I started looking along the busy A45 near the junction with the A14 to see if *Himantoglossum hircinum* (Lizard Orchid) has yet reached Northamptonshire. So far no luck, but, as Chris Ponsford, a famous fishing friend of mine, said to me "never say never", especially with me around!

Copyleft vs. Copyright, which is best for you and botany?

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[Editors' note:
We have no objection to the idea of the Society declaring material published in *BSBI News* to come under the Creative Commons licence, as suggested by Quentin, but the ultimate say must of course come from the respective authors and the rest of the Society, not its editors. We would also need to look into the logistics of how this might work. There are also a couple of other points. Firstly, the copyright statement at the back of each issue states merely that everything in the journal is 'copyright', but it does not state whose. In fact, it is possible for copyright to rest with both the authors and/or the Society, and perhaps we need to make which clear, so that the ridiculous scenario painted by Quentin could be avoided, at least. Secondly, despite what it says in that statement, under copyright law, it is perfectly possible for limited copies to be made, without request of permission, for *private, personal use*, so Quentin is right on that point. Finally, we also need to remember that copyright in an article rests with the printed form of that article. This right can be passed over to another person (or sold!). However, there is also another 'right' that covers what is written, Intellectual Property Right. This rests in the intellectual content of what is written, not the form in which it appears. So, for example, the idea of producing, say, a specific form of key to species, would rest with the deviser of that key, and this right cannot be separated from its owner, although they can legally waive their rights.

We would welcome comments on whether or not we should 'free up' the content of *BSBI News*, and on the limits we might want to put on that.]

Adventives & Aliens News 2

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'Adventives and Aliens News 2' has , if anything, an even more pronounced Sussex bias. This is because I have drawn on Home County records to make up numbers, wishing to hold back some interesting non-Sussex records for next time. I am relying on members to make 'News 3' longer and less regionally challenged!

v.c.13 (West Sussex)

Solanum melongena (Aubergine). Arundel (TQ0180507066), 13/4/2011, D. Donovan: single plant at edge of footpath. Unmistakeable (at least when in fruit) but only one record at hectad scale according to the BSBI database - this one!

Mentha pulegium (Pennyroyal). Shottermill (SU8829132264), 12/9/2013, M. Shaw / Sussex Botanical Recording Society: established on a grassy verge on the west side of Marley Lane. A rare native, it can also be introduced with grass seed, as it almost certainly was here. The introduced plants are often more robust and upright and are sometimes segregated as var. *erecta* (Mill.) Syme (see also v.c. 14).

v.c.14 (East Sussex)

Mentha pulegium (Pennyroyal). Known for some years at the edge of Ardingly Reservoir (TQ334297), having probably been brought in with grass seed. It was last recorded here by Ernie Sears in 2005, and could still be present.

Galium parisiense (Wall Bedstraw). Stone Cross (TQ6068104655), 5/9/2013, M. Berry and D. Nicolle: small patch in grass where a field backs onto a nursery off Dittons Road. Another species thought to be native in parts of its British range, it might have been introduced here with imported top soil. Most other records for v.c.14 are concentrated in the Brighton area (comm.:Tony Spiers, 2004 onwards). Another species that seems to be spreading, (see also v.c.15), contrary to Stace's *New flora* (2010), where it is said to be "decreasing."

Anisantha madritensis (Compact Brome). Newhaven (TQ44770182, TQ4484401639), 28/6/2012, M. Berry: sandy waste ground along North Quay Road. All the Newhaven plants I have looked at to date have had spikelets with hairy glumes and lemmas, and are hence referable to var. *ciliatus*. For excellent drawings of this taxon by Graham Easy see *BSBI News*, 53:37. A surprisingly rare plant in Sussex, it has not been recorded at Winchelsea Beach (TQ912155) since 2003, when observed along the base of a sea wall in numerous spots by Paul Harmes and Tony Spiers.

Allium trifoliatum (Hirsute Garlic). Rottingdean (TQ373021), 13/5/2001, A. Spiers: throw out, cliff top by Marine Drive. Apart from the pink-striped or subtly pink-suffused tepals and less hairy leaves, this species seems to be very similar to *A. subhirsutum* (Hairy Garlic) and may be under recorded. I would be interested to hear of other records.

v.c.15 (East Kent)

Galium parisiense (Wall Bedstraw). Lydd Ranges, 6/8/2012, O.Leyshon *et al*.: in various spots and habitats, *e.g*. TR0281919686, on lakeside banks in a light but closed sward.

v.c.21 (Middlesex)

Ellisiophyllum pinnatum (Wall. ex Benth.) Makino. Buckingham Palace Gardens (TQ2870079500), 12/4/2013, M. Crawley: self-sown in paving. A rarely grown garden plant native to East Asia. It was once known as *Sibthorpia pinnata*, and it has the low-growing, patch-forming habit and thin, lobed leaves of native *S. europaea* (Cornish Moneywort); but the leaves are more deeply and pinnately lobed, and it has larger (7-12 mm across), solitary white flowers, held aloft on longer (2.5 - 6cm) pedicels. The first British record?

v.c.63 (South-west Yorks)

Anoda cristata var. *brachyantha* (Spurred Anoda). Kinsley (SE423143), 10/2013, J. Guest (comm. and det. E.J. Clement):

growing with *Datura* species in neglected garden of a timber supplier, where there had been tipping. This variety has smaller flowers than the form commonly grown as a garden plant. An annual, it is similar to some other members of the Malvaceae, *e.g. Malope* species, but is unusual in that it lacks an epicalyx. It is illustrated in *BSBI News*, **47**: 37. The vector in this case might have been bird seed.

I finish with a reminder to send records to the addresses given above, with full details of location, grid reference, date, etc. I would also like to hear from anyone with artistic ability who would be willing, free of charge I am afraid, to draw plants either from fresh material sent in the post, or from living material grown on from seed, etc. I can offer no inducement beyond the obvious statement that it would add to the portfolio of any aspiring artist/illustrator, as well as immeasurably to the interest of 'Adventives & Aliens News'! Finally my gratitude to those who have already sent records, regardless of whether or not they have been featured so far, and to Eric Clement for his continued support.

Every ORCID is unique

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We often need to give things unambiguous names, for those things we make unique identifiers. For example, most people do not have a unique name, not even me, so to identify a bank account we use a combination of the sort code and account number. There are many other examples: ISBNs for book titles, telephone numbers, email addresses, URLs, postcodes and even cows have unique identifiers these days. A person's name is a good example of why we need identifiers. Firstly, many people share the same name and even when they have a unique name it can be written in many ways. This becomes particularly important when we share data.

So what does this have to do with botany? Well, we have lots of different things we want to keep track of: people, places, taxa, observations, publications and specimens. While it might seem obvious to have identifiers for these things, it is only recently we have had standards available.

Since the turn of the millennium most academic publications have carried a Digital Object Identifier or DOI. They look like this: http://dx.doi.org/10.1179/2042349712Y.0000000014. DOIs are not intended to be read by humans, but by computers. However, they are very useful. They let you uniquely identify a publication, meaning you can track citation of that article and avoid duplication in databases. Another example is the ORCID (pronounced 'orc-id'). Mine looks like this: http://orcid.org/0000-0002-0596-5376. The ORCID is an identifier for scientists. It is a free open system and you can apply for one yourself, no matter what your academic background is. All BSBI members are doing science and are eligible. Like DOIs, they help people get recognition for their work. So, women who change their name upon marriage do not lose credit for their work and you do not get mistaken for someone else when your middle initial is dropped by an editor.

Nevertheless, it is important if we have identifiers that we use them. Databases need to preserve them, particularly when exchanging data. MapMate and the BSBI's Distribution Database both have unique identifiers for observations. These are essential for synchronisation systems. However, we need to look after them. If we extract data to work on, we should preserve these identifiers. If not, any correction made to an isolated set, cannot be easily updated in the source database.

So, I ask the creators of database systems to use identifiers such as DOI and ORCID and maintainers of data to preserve the unique identifiers of observations. They are arguably the most important fields in the database.

Owing to the connectedness of the modern world, identifiers are becoming more common. Other examples in botany are bar-codes on herbarium specimens, Index Herbariorum codes and authority abbreviations. Simple as they are, these identifiers streamline every stage of data curation. Yet, it takes the community as a whole to embrace their use and recognise how important they are. Next time you are on-line, register for an ORCID (orcid.org), and then send a suggestion to the maintainer of whichever database you use to encourage support of ORCIDs, DOIs and other identifiers.

Anemanthele lessoniana is here

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At one of the Surrey Botanical Society social evenings an October or so ago, I glanced across the room and, about forty feet away, noticed two ladies with puzzled expressions examining a grass specimen. Even at that distance something about the jizz of the culm and skeletal inflorescence suggested *Anemanthele lessoniana* (New Zealand Wind-grass), and so it proved on closer inspection. I forget where that particular piece came from but the species is increasing. I first saw it in 2007 as a diaspora of small plants, self-sown from large human-planted ones, at the edges of pathways in London Zoo (v.c.21). Since then it has increased in the zoo and I have seen it in about a dozen other places, all in the south-east of this island, because that is where I do most of my botanising.

Naturalised populations show a preference for damp woodland edges, as at TQ44077597 in Oxleas Wood (v.c.16) and SU89365761 in Frimley (v.c.17). In three such colonies that I have checked it has increased in both numbers and size of tufts, but life is much more precarious for those occurring as street weeds: they tend to fall victim to the herbicidal maniacs that poison our pavements each year. At this moment (midnight on February14th 2014) the BSBI Distribution Database lists 78 records in 51 hectads since 1974, the majority being post 1990. They are scattered the length of the British Isles, in 40 hectads from the western tip of Cornwall north as far as Speyside, plus 11 in south-east Ireland. They suffer severely from recorder bias, the same few names being associated with most of the records. There is also considerable variation in numbers of records per year: most years there are none, one or two, but there was a spike accounting for five-sixths of the records beginning in 2005 and ending in 2009. I do not know when the grass was first introduced to the British Isles. Records were at first rather sporadic but have become less so and now occur annually, suggesting either that it is escaping more or that folk are getting to know it.

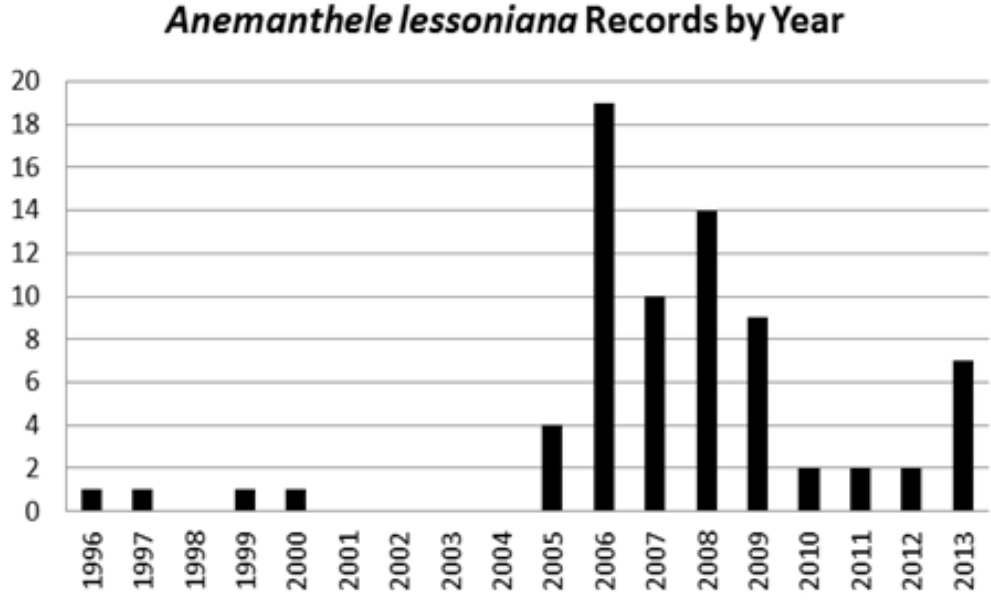

Fig.1: Records of *A. lessoniana* from 1996-2013

The spike in the mid noughties may show a real peak in numbers or just a period of particular interest by botanists. I suspect the latter, because, since I first put finger to keyboard for this profile, I have found it in several new places. One was by a trackside at the foot of a garden hedge and as the lady who owns the house was there I asked her about it. She bought it about 20 years ago and had it in a pot but soon got rid of it. Too late! It had set seed and ever since then has sprung up inside and outside her garden (see Colour Section, Plate 2). Her story may be typical: the plant is said to be grown for its autumn and winter colours but all the ones I have seen look pretty scruffy after the flowering period and may soon lose their attraction for gardeners.

Once known, the grass is distinctive vegetatively and more so in flower. The panicle is narrow at first but soon becomes very open. The combination of tough tufted tillers with numerous narrow leaves, all in shades of green, reddish-brown and buff is unlike any other grass that I have come across. The spikelet structure is detailed in the BSBI Handbook *Grasses of the British Isles*, but useful vegetative characters are: evergreen; densely tufted, usually to c.60cm; texture tough and wiry, so tough that pulling on a single tiller may uproot smaller plants; stems with 6-9 nodes; leaves to 30cm × 5mm, tapering to a fine point, antrorsely scabrid on the margins, pubescent just above the ligule when young, mid-green and closely-ribbed above, smooth, somewhat shiny and darker green below, acquiring maroon highlights later in the year, sometimes inrolled; ligule to 1mm, membranous and decurrent down the edges of the sheath as a pale margin; sheaths open, ciliate. It is included in Poland & Clement (2009).

A. lessoniana is a tufted perennial grass endemic to New Zealand but grown in many countries as an ornamental. The generic name is derived from the Greek *anemos* for 'wind' and *anthele* 'plume', and the species is named for René Primevère Lesson, a 19th century French botanist and surgeon. Synonyms are *Stipa arundinacea* and *Oryzopsis lessoniana*. As well as New Zealand Wind-grass, presumably derived from the generic name and its country of origin (or maybe the other way round), its common names include Pheasant's-tail from the appearance of the inflorescence, Gossamer Grass, and, to the Maoris, Hunangamoho.

The scatter of British records with a few local concentrations is another aspect of recorder bias. I do not believe this is a true reflection of its distribution and familiarity with the grass will surely show that there is far more of it about than we have yet shown.

Acknowledgement:
I would like to thank Eric Clement for helpful comments on this note.

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Taraxacum vanum H. Øllgaard: a new Dandelion for the British Isles

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From 10th-12th May 2013, a *Taraxacum* workshop was held in East Perth, organised by Martin Robsinson on behalf of the BSBI Scottish Committee. Before I left for this workshop, I collected a few dandelions from near my home in Croft-on-Tees, Co. Durham (v.c.66) (NZ288099). John Richards, who was leading the workshop, examined these in a fresh condition and recognised one as being unusual. He made a herbarium specimen (see photo p. 28) and retained the specimen. At a later date he identified the material as *T. vanum* H. Øllgaard

(1978), a species described from central Jutland, Denmark, where it has several known localities. It has also been recorded from the Netherlands, but not previously from the British Isles.

Taraxacum vanum is classified in section Ruderalia. In this section, it is recognised as an attractively coloured plant with flat, clear green leaves, lacking dark marks and with narrow rose-purple petioles. The leaves are not markedly heterophyllous. The end-lobes are shortly sagittate, and the side lobes short and acute, often lacking teeth distally. The exterior bracts are recurved, slightly twisted and pale grey above, and the flowering heads are rather small.

T. vanum is most likely to be confused with small, early-season *T. aequilobum* Dahlst., with which it shares twisted bracts, but the bracts in the latter are longer and greener and the leaves a darker colour, more three-dimensional and usually with tar-marks. *T. aequilobum* also has much larger flowering heads. Amongst British species, *T. vanum* is probably most closely related to *T. adiantifrons* Ekman and *T. valens* Markl., both of which are more heterophyllous and have longer end-lobes of characteristic shapes (Dudman & Richards, 1997).

With Taraxaca of a ruderal habit, it is difficult to say where they are native, and *T. vanum* does not seem to be particularly common anywhere. However, as it has not been recorded from the British Isles previously, it is likely that it will prove to be a scarce adventives with a scattered distribution, which may not persist.

Acknowledgement:
I would like to gratefully acknowledge the kind advice and help from John Richards in writing this article.

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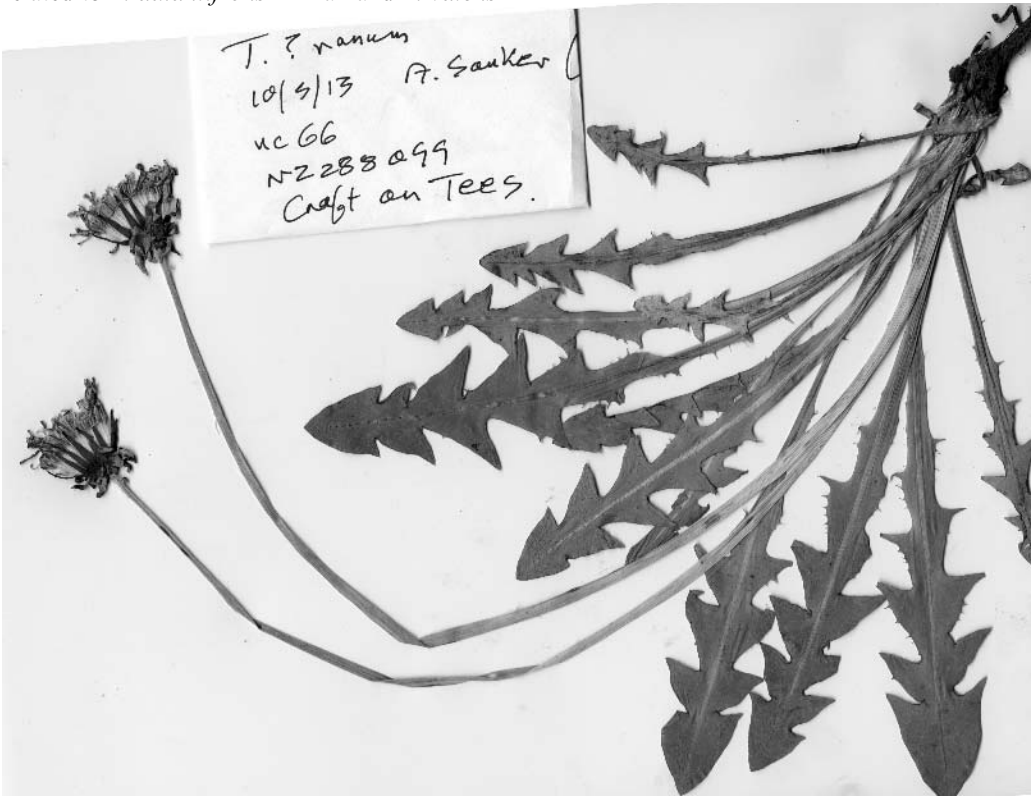

Taraxacum vanum, Croft-on-Tees, Co Durham (v.c.66). Photo F. Sarker © 2013

Habitat management projects: progress report from Northamptonshire and beyond

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The voluntary habitat management projects I have been involved with in late 2013/early 2014 have been changing, with new ones being undertaken, while some projects other parties have now taken on, which is great news. As some of you may be aware I have been helping out where I can with various rare and scarce species here, there and almost everywhere from about the year 2000. If I could do more I would! Anyway, this is to show you what I have been up to and hopefully some of my pictures of some of the projects will be included in *BSBI News* for you to see.

Tower Cress

In Northamptonshire, we are lucky enough to hold one of two current populations I know of for *Pseudoturritis turrita* (Tower Cress) in the UK, at Gayton churchyard (SP70645477), the other being at St John's College in Cambridge. Earlier this year I had a text from Richard Penson that a natural history group had visited Gayton churchyard and realised the plant had been wiped out through maintenance of the wall on which the plant grew. As soon as I got a chance I went to see what had happened. I realised when I got there some of the churchyard wall had been touched up, but the section of wall where the Tower Cress grows had not been affected. In fact the group were looking for the plant in the wrong place or they were not looking hard enough. However, one thing is certain: the population was under threat from encroaching ivy, so something had to be done. Luckily, I saw a number for one of the church wardens on the board at the churchyard entrance, whom I contacted: Andy Hartley. He did not realise he had a special plant and was happy for me to remove the ivy from the wall to give the Tower Cress a chance. I did this on 24th October to reveal only one mature rosette, which should flower in 2014 (see Colour Section, Plate 4). But not all is bad news. A number of plants grow on the very top of the wall, which were in seed. Seeds from these specimens were collected and sown in the wall ledge, so hopefully more plants will occur low down in future years for everyone to see.

I also contacted Stephanie Miles at the Millennium Seed Bank and asked if she wanted seed from the Gayton churchyard population. She told me they only had seed from the Cambridge population and would appreciate some from Gayton, so I sent a good bag full to her.

Field Garlic

I contacted Camille Newton, who is Wildlife Sites Officer for the Habitat Biodiversity Audit for Warwickshire, regarding how one of only two sites in Warwickshire for *Allium oleraceum* (Field Garlic) was faring, by the A3400 Birmingham Road (SP17655981). I was a bit concerned, as I had not done any habitat management on this site for a few years. Camille mentioned it was getting a bit scrubbed over now, with only a safety strip that had been mown along the front of the embankment by the roadside. So this time I called up help from Camille, her partner Alex and Phill Clayton, who all came and helped out. The embankment was brush-cut, and all arisings removed and placed at the ends of the embankment out of harm's way. There was quite a bit of Blackthorn encroachment and I was lucky enough to find a bulbil head of one of the Field Garlic plants (see inside back cover). These were collected and are going to be grown at the Habitat Survival Trust's grounds at Henley-in-Arden, not far away, so that there is a back-up stock.

Downy Woundwort

On Monday 23rd December I went in the pouring rain to check on the situation with the *Stachys germanica* (Downy Woundwort) site on the Saltway in Oxfordshire (SP384195). The site had been mown and the arisings had been removed, probably a few months previously, but what was left was a good deal of thatch, moss and fallen leaves, all of which are

detrimental to the *Stachys*. In fact no *Stachys germanica* was going to germinate in that lot! So, with a garden fork on Christmas Eve I re-opened the areas where the two old enclosures used to be that had *Stachys germanica* in the past (see Colour Section, Plate 4). I decided to enlarge the areas where the old enclosures were in case of dormant seed that has not been disturbed for a long time. One plot I had created was about 41m long by 5m wide, while the second plot was about 47m long by 8m at the widest point. Botanical friend Bill Clark, who lives locally, is going to let me know if anything comes up. Fingers crossed something does!

Perfoliate Pennycress

I got a tip-off recently from Bill Clark that Palmers Bank (SP377179), a site for *Microthlaspi perfoliatum* (Perfoliate Pennycress) in Oxfordshire, was in need of some urgent action. So we joined forces on 2nd January and created a cleared plot 14m long by 6m wide using garden and hand forks. Each grass clod that was removed was bashed against the garden fork in case trapped Pennycress seeds were in the grass roots. In fact, Bill had cleared a very small spot with just a hand fork a few months previously, which had already resulted in eight rosettes appearing, so this was promising news to start with. Hopefully, with what we have done, there should be double figures of the plant this year. Bill mentioned he will keep an eye out and let me know.

Ordnance Survey OpenData and MapMate

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I had been getting bored with my MapMate distribution maps, with only a little background detail, and have been experimenting using maps with a 'picture map' as a background. Unlike most maps which one might wish to set up as a background to such outputs, the Ordnance Survey 1:250,000 road map (colour raster) is now available free and can be used for all purposes without a licence fee as long as its source is acknowledged. It is available electronically on the web (https://www.ordnancesurvey.co.uk/opendata download/products.html) and is provided as a free DVD to new Memory-Map users.

I set the map up in MapMate and found it most useful for some species, an obvious example being the roadside halophytes, such as *Spergularia marina* (Lesser Sea-spurrey), as in the example on the back cover, with my 'normal' MapMate map for comparison.

Sadly MapMate 'lost' the three picture maps I had created soon after the map presented here was created. It seems that MapMate is not a robust platform for pictures and that the file path to the pictures can rupture, so I cannot recommend readers to try it out using the standard MapMate procedures. There are other issues when using 'picture maps' in MapMate. The usual method of copying the map to Word produces a document which displays on screen but does not print. The EMF format map has to be converted to JPEG format before inserting into Word.

Bob Ellis and I have now found ways of overcoming some of the problems and are planning a technical note for the BSBI website in the next few months. We are also investigating whether MapMate can be upgraded. If you have any experiences with 'picture maps' to share with us, we would be delighted to hear from you.

In the meantime I can offer a 'low-tech' alternative. If the chosen 'picture map' is copied into Word, a suitable species map prepared from a normal MapMate Atlas or from DMAP can be copied into a Text Box superimposed on the 'picture map', with the Text Box transparency set to 100%. Some fiddling is required to line up the two maps, which is why I label the procedure 'low-tech', but the outcome can be made very similar to the above example.

Juncus acutiflorus, *J. articulatus* and their hybrid

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Juncus acutiflorus (Sharp-flowered Rush) as a fertile species seemed to be quite elusive and there are many colonies that appear to be almost sterile. Some populations have few - many capsules, varying from year to year. The capsules, when present, are pale yellowish brown, with relatively thin walls, and produce up to c.20 seeds. They are drawn out to an acuminate tip, ± without the distinct shoulders of *J. articulatus* (Jointed Rush). Often being so sterile, I had wondered if many of these plants were hybrids or a largely sterile species. Having now studied the hybrid with *J. articulatus* (= *J.* ×*surrejanus*) in more detail, most plants do not appear to be hybrids. It seems that these are mostly small to large, poorly-fruiting colonies of *J. acutiflorus* and, contrary to Wilcox (2011), the hybrid appears to be less common than possibly either parent in most places, with *J. acutiflorus*, where it occurs, often abundant. However, vouchers and abundance details are needed to assess the status of the hybrid.

The starting point had always been a problem, due to plants that were mostly sterile, in case they were not the true species *J. acutiflorus*. I had previously received some material from Assington, Suffolk (courtesy of Nick Millar), which were the most fertile plants seen and these were taken to be *J. acutiflorus*. The cells in the stem just below the inflorescence were looked at to see if they were different from *J. articulatus* (Figs. 1 & 2).

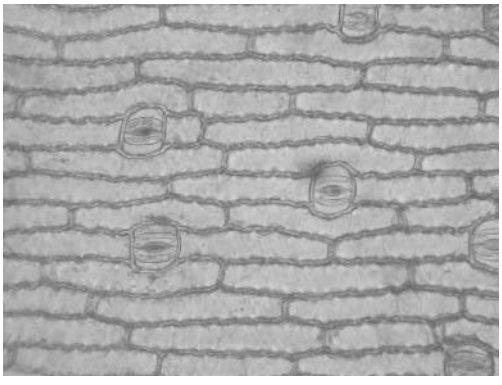

Fig. 1. Cells of the stem just below the inflorescence in *Juncus articulatus*

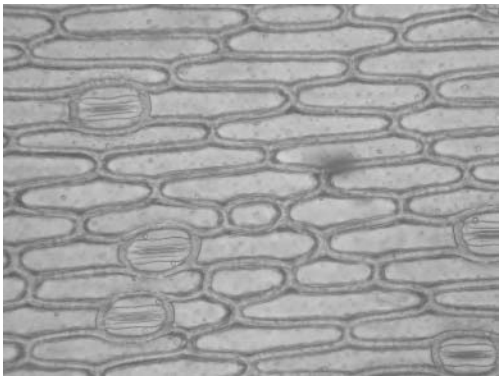

Fig. 2. Cells of the stem just below the inflorescence in *Juncus acutiflorus*

These cells show distinct differences between these two taxa and a similar technique has been noted for other rushes (Wilcox, 2010). This difference between these two rushes, of cell type and shape, appears not to have been referred to elsewhere for these two taxa. However 'cell size' for *J. acutiflorus* is given in Kirschner *et al*. (2002), but not as a differentiation between *J. acutiflorus* and *J. articulatus*. It is used for a difference between the two subspecies in *J. acutiflorus*. For ssp. *acutiflorus* it says: "all epidermal cells (1-)1.5-2 times as long as wide and ssp. *rugosus*, the same but alternating between cells 3-5 times as long as wide". Only ssp. *acutiflorus* occurs in the UK and, as far as I can tell, the cells can be much more than two times as long as wide in our plants (see Fig. 2, above). Ssp. *rugosus* is quite rare and confined to SW Europe (S.W. Spain and C. & S. Portugal), but it differs markedly in having strong transverse ridges on the stems, leaves and sheaths (Kirschner *et al*., 2002), which seems to be a better determiner of the subspecies than the size of the cells. These transverse ridges maybe environmentally induced or a genetic mutation, but also it is possible that ssp. *rugosus* could be a species in its own right. It would be interesting to know if *J. articulatus*

occurs in the same habitat and whether there are any hybrid plants with transverse ridges.

Figure 1 (p. 31) shows the cells in the stem (just below the inflorescence) of *J. articulatus*. It can be seen that the cells are more or less oblong, mostly much longer than wide and more or less equal in width for most of their length. The walls are obviously wrinkled and relatively thin-walled, with more or less squared ends. Figure 2 (p. 31) shows the cells in the stem of *J. acutiflorus*. These cells have thicker, ± smooth walls with no wrinkling. They can also be seen to be relatively much more (stretched) oval in shape (to many being almost round in some plants, as inferred in Kirschner *et al*. (2002)). Note that they can look a bit like stretched out coat-hangers in shape! Due to some being long, they exhibit a more oblong shape but become narrower and more rounded at each end (not square), but still smooth-walled. The hybrid, *J.* ×*surrejanus* (Fig. 3), can be variable towards one or the other in the shape of the cells. However, they are usually more obviously longer than wide and more oblong, like the *J. articulatus* parent, and there is some (but not as obvious) wrinkling of the cell walls.

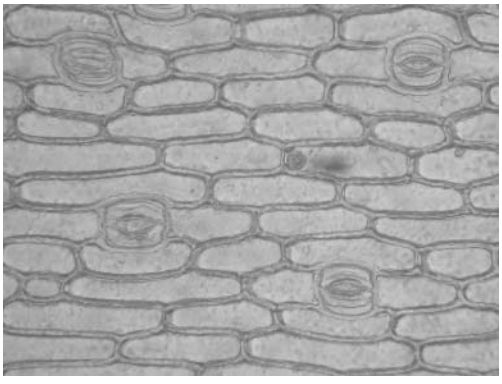

Fig. 3. Cells of the stem just below the inflorescence in *Juncus* ×*surrejanus*

Note that the stomata appear to be longer than wide in most *J. acutiflorus* specimens (Fig. 2, p. 31) and almost square (Fig. 1, p. 31) in *J. articulatus*. However, there is some variation and to what degree that feature is stable or whether some of the variation is due to hybridisation in these two species is unknown at present, as this character was not looked at in detail.

The cell character is useful but may not be necessary, as the general appearance of each taxon is quite different. However, with the general inflorescence type and cell character you should be able to identify each taxon. Figure 4 (p. 34) shows two fairly typical *J.* ×*surrejanus*, which are either side of the middle plant, *J. acutiflorus*. Jointed Rush is rather invariably fertile, having dark brown to blackish-brown fruits with plenty of seed, and is unlikely to be confused with either, though, like both parents, it can be very variable in its inflorescence type (usually to do with habitat, such as shade or exposure etc). In early flowering plants (without fruits), the distinct cells in the stem of *J. articulatus* should identify it. Well-grown plants of *J. articulatus* are more similar to the hybrid in inflorescence shape but, as said, *J. articulatus* is usually a fertile plant, with the hybrid mostly appearing relatively sterile. Like *J articulatus*, the hybrid flowers look larger than those of *J. acutiflorus* (compare in Fig. 4, p. 34), which tends to have smaller flowers, but they can 'appear' larger if capsules are present. Therefore the hybrid tends to look more like a large, tall, sterile *J. articulatus*, with more or less rounded, relatively large 'pompom-like' heads, which can also appear 'spiky', due to the sharp tepals sticking out (some of which are turned out to varying degrees at the tip like *J. acutiflorus*). The tall stature of the hybrid is usually more like that of *J. acutiflorus*.

Previously, plants thought to be hybrids in some areas are just ± sterile *J. acutiflorus*. I have seen few hybrids in a limited number of places, like those in Figure 4 (p. 34). They are not as common as the vast, often sterile to partially sterile stands of *J. acutiflorus*. It is possible that *J. acutiflorus* could be of hybrid origin itself, but it may just be that it does not need to produce seeds, as it is quite successful as a rhizomatous, patch-forming perennial. M. Bradshaw has sent '*Juncus*' to the author of this type in quantity from Teesdale, with a number of these plants having been determined as the hybrid. The cell type and their

shape in the stem below the inflorescence clearly show two quite different taxa and the morphology of the hybrids are quite different from *J. acutiflorus*, with its larger, pompom-like, often sterile heads in more open inflorescences. This hybrid rush has been found to produce a few seeds on occasion (Blackstock & Roberts, 1986) and further studies on other hybrid rushes thought to be sterile (see Stace, 2010): *e.g*. Baltic Rush × Hard Rush (*J. balticus* × *J. inflexus*) and Baltic Rush × Soft Rush (*J. balticus* × *J. effusus*) have been grown to maturity by the author from seed found in these rushes (Wilcox, 2010).

In Wilcox (2011), the two variants of the Baltic Rush × Hard Rush (described as 'var. *allenii*' and 'var. *lythamensis*') are still being maintained in cultivation, grown from seed collected from the wild hybrid clones. These grew true from seed collected, but the names were invalidly published at the time without a Latin description, etc. However, I still believe they are worthy of a rank. Apparently the nomenclatural rules have changed and the need for a Latin description of new taxa may not be necessary, though many journals may still prefer it. Further investigation of the two variants is required, but it could still be possible to validate those names at a later date. Perhaps experimental reciprocal crosses might provide a clearer answer, but rushes are not easy to cross. It is possible that the hybrid at Lytham could be (though not very likely) a different hybrid. It would be useful if *J. balticus* could be hybridised with *J. conglomeratus* (Compact Rush). This might seem unlikely but it would at least be interesting to see what the result looked like if it was successful. Also, for Wilcox (2011), the list of hybrids in Table 1 neglected to include Baltic Rush × Soft Rush (*J.* ×*obotritorum*) but this hybrid was mentioned in the text. Since this article, my attention was drawn to a paper which shows that Jointed Rush × Alpine Rush (*J. alpinoarticulatus*) (*J.* ×*alpiniformis*), has been found to have a low percentage of fertility in some plants. Also a hybrid not yet found in the UK (*J. articulatus* × *J. bulbosus* (Bulbous Rush)), is mentioned in Kirschner *et al*. (2002) for two areas of Sweden, and, though it seems unlikely, one or two of the illustrations therein look promising. However, an odd sterile plant from Ullswater (sent in 2012, by V. Hack, as *J. bulbosus*) could be this hybrid and further work is required to assess the status of this and those from Sweden.

Acknowledgements:
Special thanks to Tim Blackstock (for Welsh material from the 1986 study), also to Nick Millar, M. Bradshaw and M.C. Sheehan.

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Fig. 4. Left hand plant, one form of *Juncus* ×*surrejanus* from London area (specimen sent by M.C. Sheehan), middle plant, typical plant of *J. acutiflorus* from Harden Moor near Ilkley, West Yorks, and right hand plant a typical Welsh specimen of *J.* ×*surrejanus*, from Tim Blackstock collected during the 1986 study, see text

Notes from Wisley (v.c.17): a brief discussion of putative hybrids between *Arum italicum* Mill. and *A. maculatum* L. and a request for plant material

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Over the years morphologically intermediate hybrids between *A. italicum* Mill. and *A. maculatum* L. have often been reported for the British Isles (*e.g*. Lovis, 1954; Clapham *et al*., 1962; Lovis & Prime, 1975; Prime *et al*., 1955; Boyce, 1993; Sell & Murrell, 1996; Stace, 2010) and in horticulture a number of cultivars are thought to be hybrids with this parentage (Rice, 2006). Hybrids are thought to involve both subspecies of *A. italicum* found in the British Isles, the introduced and now naturalised ssp. *italicum* and the native ssp. *neglectum* (F. Towns.) Prime.

At RHS Garden Wisley *A. maculatum* occurs as a native and in places grows alongside naturalised *A. italicum*. At such places apparent intermediates occur. Images 1–4 (see Colour Section, Plate 3) show some of the morphological variation observed and Table 1 summarises this variation in comparison with *A. italicum* ssp. *italicum* and *A. maculatum*, the descriptions of which are based on those of Sell & Murrell (1996), Stace (2010) and personal observations.

At least some of the variation observed at Wisley might be thought to approach ssp. *neglectum*, which differs from ssp. *italicum* in its leaves being occasionally dark-spotted, broader, with more rounded, less divergent, sometimes overlapping basal leaf lobes and having less prominent pale markings (Prime, 1961; Sell & Murrell, 1996; Stace, 2010). However, this subspecies is restricted in its range to the far south and south-west of England, the Channel Islands and Glamorgan, south Wales, and is not grown at Wisley.

Table1. Leaf variation displayed in putative hybrids 1–4 at RHS Garden Wisley, compared with *A. italicum* ssp. *italicum* and *A. maculatum,* based on Sell & Murrell (1996), Stace (2010) and personal observations (see photos in Colour Section, Plate 3)

A. italicum ssp. *italicum*	*A. maculatum*	Putative hybrid No. 1	Putative hybrid No. 2	Putative hybrid No. 3	Putative hybrid No. 4
Leaves narrow	Leaves broad	Leaves broad	Leaves narrow	Leaves intermediate	Leaves broad
Leaves with whitish markings (on veins and other parts of the leaf blade)	Leaves without whitish markings	Leaves with whitish markings	Leaves with whitish markings	Leaves with whitish markings	Leaves with whitish markings
Leaves not dark-spotted	Leaves dark-spotted	Leaves dark-spotted	Leaves dark-spotted	Leaves dark-spotted	Leaves dark-spotted
Basal leaf lobes divergent	Basal leaf lobes not divergent	Basal leaf lobes not divergent	Basal leaf lobes divergent	Basal leaf lobes semi-divergent	Basal leaf lobes semi-divergent

Sell & Murrell (1996) and Stace (2010) stated that leaves of ssp. *italicum* never have dark spots. In contrast to this, Boyce (1993) reported that leaves of this subspecies can be dark-spotted. Later, in an extensive study of *A. italicum* in western France and southern Spain, Boyce (2006) concluded that leaf shape, together with dark spotting and other leaf coloration, clearly formed a continuum of morphological variation across ssp. *italicum*

and ssp. *neglectum* and consequently sank ssp. *neglectum* into a broadly circumscribed ssp. *italicum*. Subsequently, Rice (2010) applied these findings to garden plants, stating that most cultivars with broad leaves and dark spotting that were formerly considered to be hybrids between *A. italicum* and *A. maculatum* lay within the variation of *A. italicum* ssp. *italicum*. However, the combining of the two subspecies is not supported by molecular evidence (Porteous, 2005).

Though crossing of the two species might be restricted by a difference in flowering time (*A.italicum* generally flowers later than *A. maculatum*), chromosome counts provide clear support for the existence of hybrids, with Sell & Murrell (1996) and Stace (2010) reporting 2n=56 for *A. maculatum* and 2n= 84 for *A. italicum*, with 2n=70 for hybrids. However, Stace (2010) also lists a further count of 2n=84 for *A. maculatum*. If *A. maculatum* plants with 2n=84 occur, hybrids involving these will not be identified from chromosome counts. Molecular investigation would be required to unravel the origins of these plants.

The Royal Horticultural Society plans to undertake a molecular research project to further investigate putative hybrids of *A. maculatum* and *A. italicum,* both in the wild and in cultivation. The purpose of the project would be to test a wide range of morphological variation, with the aim of better characterising the hybrids, shedding light on the morphological limits of *A. italicum* and providing a stable nomenclature for horticulture. If any BSBI members know of plants showing intermediacy between these two species either inside or outside of gardens, we would be very grateful to receive samples for analysis. Ideally these would be two leaves sent as fresh as possible in a plastic bag, with provenance details and a photograph of the plant. Samples should be sent to me at the above address.

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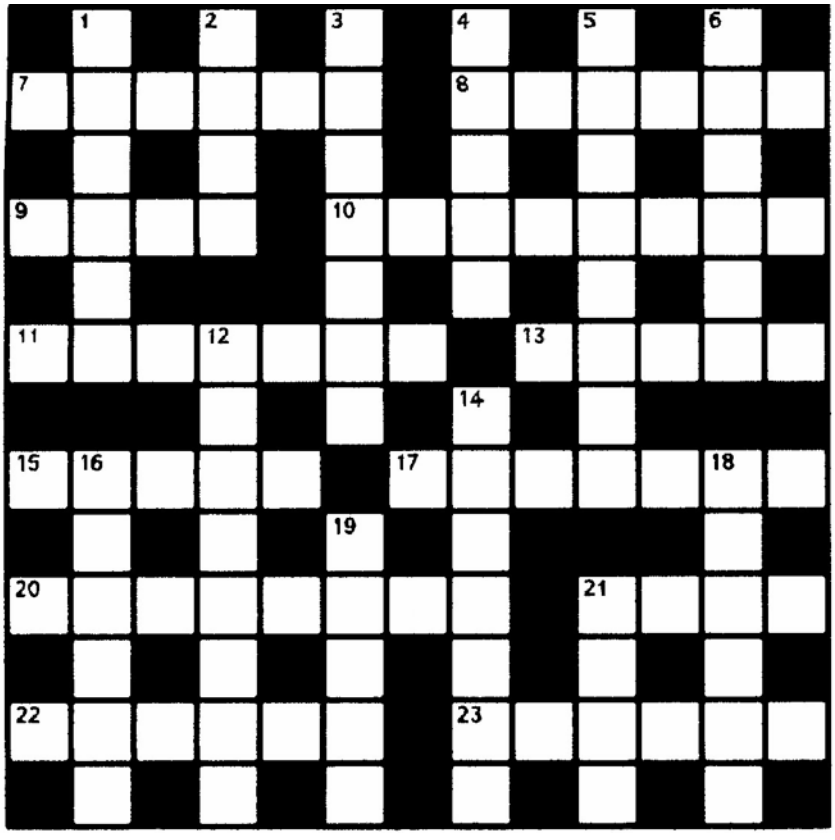
BOTANICAL CROSSWORD 22

by CRUCIADA



Across

7. Cry I am letting out about possible gale (6)
8. Prunus belonging to me sounds very upper-class (6)
9. First learnt of honour given to Frank Perring in rounded division (4)
10. Two vehicles parking to secure self-sufficient fruit (8)
11. Inheritance patterns of some garden incumbents when last clone's inserted (7)
13. Biological group shows no reneging on duty (5)
15. Home of some bluebells, catchflies and brooms (5)
17. Heard to behave as though brain surgery, say, leaves crown at height (7)
20. This (probable) archaeophyte may score in play (8)
21. Friend offers Paraguay tea (4)
22. Explanatory diagram of fruit seen by river (6)
23. Can see problems in what shells do to kernels (6)

Down

1. Form of cascading inflorescence gathered to make me cosy (6)
2. Rosebay said to appear after this Abies comes down to earth (4)
3. Father very briefly connected with flower of remembrance (7)
4. Sees what something has if 5 (5)
5. Dotted aggressive young fellow, they say, at gallery (8)
6. Some of the xylem bryophyte exhibits as very young plant (6)
12. Marjoram is our main focus around garden opening (8)
14. Ivy, the spaniel, perhaps? (7)
16. O'Reilly's party of six returning to folding of leaves (6)
18. Blunt old boy to lose circle of employment (6)
19. Sharpen your original product of nectar (5)
21. Spice that is borne with authority (4)

REQUESTS

A *Folk flora*: your help needed

ROY VICKERY, *9 Terrapin Court, Terrapin Road, London, SW17 8QW*; (roy@plant-lore.com)

Work progresses on a *Folk flora* which updates and expands Roy Vickery's *Dictionary of plant-lore* (Oxford University Press, 1995).

The *Dictionary* provided an overall summary of the folklore and traditional uses of wild and cultivated plants throughout the British Isles, concentrating on what was known and remembered late in the twentieth century, with approximately 30% of the material in it being extracted from the author's Plant-lore Archive.

The *Flora* will include material collected since 1995, and will indicate where different beliefs and practices are, or were, known; how widely is British and Irish plant-lore known beyond these islands? It will also attempt to indicate when beliefs and practices were, or are, known. When, for example, did people begin to believe that placing red and white flowers together foretell death? The *Flora* will be illustrated and contain information on plant-names, derived from the writer's database of some 13,500 English local names. Like the *Dictionary*, it will be arranged primarily according to plants' standard English names. Draft articles on a large number of species have been prepared, and appropriate illustrations are accumulating.

Plant-lore Archive developed from the Folklore Society's 'Survey of Unlucky Flowers' which was conducted in the early 1980s. It holds over 6,600 items of information from approximately 1,620 contributors, a large number of press-cuttings, off-prints, photographs and other material. All aspects of the folklore and traditional uses of plants are included, the emphasis being on contemporary (*i.e.* current and remembered) beliefs and practices.

Information is sought concerning:

- Traditional beliefs concerning plants
- Local names of plants
- Herbal remedies and other uses of plants
- Plants and plant materials used in traditional customs and religious festivals
- Sayings, riddles, tales and legends concerning plants
- Traditional times for sowing and harvesting crops, and practices associated with the cultivation of plants
- Plants used for foretelling the future
- Children's games and pastimes which use plants
- Wild plants gathered for food.

Material from all parts of the British Isles and comparative material from overseas is welcome, no matter how widespread and well-known it is thought to be. Every record is unique and valuable. For further information see www.plant-lore.com .

Please send your contributions to me, at the address above.

Veronica hederifolia agg. – Ivy-leaved Speedwell in the UK

MICHAEL WILCOX, *43 Roundwood Glen, Greengates, Bradford, BD10 0HW*; (michaelpw22@hotmail.com)

In the UK, there are two subspecies of *Veronica hederifolia* L (Ivy-leaved Speedwell), ssp. *hederifolia* and ssp. *lucorum* (Klett & Richt.) Hartl. It is said that up to 25% may not be nameable (Stace, 2010). However, both are quite distinct and treated as species in Europe, *V. hederifolia* s. str. (= ssp. *hederifolia*) and *V. sublobata* (= ssp. *lucorum*). Please collect vouchers (I would be happy to have a look but note there is a BSBI referee in the Yearbook). Specimens can be sent fresh in a small plastic bag, with about 5(+) stems. It may be that at some point we will call them species, as they are quite different from one another, but perhaps there is an over-reliance on one or two characters at times. It is probable that 'ssp. *hederifolia*' could be an archaeophyte here and that 'ssp. *lucorum*' could be native, occurring as it does in more natural habitats.

Reference:

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NEWS FROM MEMBERS

Thank you BSBI

Professor Sir GHILLEAN PRANCE FRS, VMH

Thank you for your acknowledgement of my 60 years as a member of BSBI in the last issue of *BSBI News*. I had not realised that it had been quite so long. In recent years I have not been very active with the Society, but I have always kept my membership, even when I lived abroad for 25 years, because the important role that BSBI played in my life. Once I started to study botany at Oxford I soon developed an interest in tropical botany and the rainforest so it was a long way from British botany. However, I joined BSBI as a schoolboy, when 15 years old and it helped to stimulate and encourage my interest in botany. It has also been interesting to read BSBI literature and *Watsonia* wherever I was in the world to keep in touch with my solid roots in British botany. I remember several excursions that were particularly seminal in my pursuit of a career in botany. The first was a field trip to Sudbury in Suffolk with Frank Perring, a wonderful teacher and encourager. I remember having to help scrape the mud off the bottom of his car as he was studying seed dispersal along roadways at that time, but above all I remember being guided through the CTW flora by Frank and learning how to use it. Frank soon had me collecting data around my home in Gloucestershire for the first edition of the *Atlas of the British flora*. The second trip was to the Isle of Skye when I was an undergraduate. It was my luck that Dr Peter Davis of the Royal Botanic Garden Edinburgh was on the same trip. This meant that discussions went far afield from Skye and centred around Turkey. From this developed my organisation of the Oxford University Expedition to Turkey 1960 to collect specimens for Dr. Davis.

I have written this up really to stress the importance for BSBI to cater for young people. How will there be future botanists and conservationists if we do not take time to stimulate the younger generation? Thank you BSBI for heading me into a successful, enjoyable and productive career in botany.

OBITUARY NOTES

In the last issue the late **Dr P I Aihe** was referred to as 'he'. Dr Aihe was in fact a lady!

Since the publication of *BSBI News* **125**, we regret to report that the news of the deaths of the following members has reached us. We send regrets and sympathies to all the families.

Mr J A Bentley of Gordonstoun, Banff, a member since 2009.

Mrs J E Gaffney of Swaffham, Norfolk, a member since 1959.

Mr J S Godfree of Meesden, Hertfordshire, a member since 1972.

Mr N Jee of Castel, Guernsey, a member since 1957.

Mr P G Lawson of Southwold, Suffolk, a member since 1969.

Dr J M Newton of Hornby, Lancaster, a member since 1978.

Dr N C B Peters of Torquay, Devon, a member since 1989.

Mr J Tayles of Stewartby, Bedfordshire, a member since 2012.

Mr A M Wilshaw of Clifton, South Yorkshire, a member since 2012.

Mr N Woodhead of Denton, Manchester, a member since 1997.

Obituaries of some of these may appear in *BSBI Yearbook 2015*.

BOOK NOTES

Berwickshire BSBI Botanical Site Register, 2013. Michael Braithwaite Privately circulated

DAVID PEARMAN, *'Algiers', Feock, Truro, Cornwall, TR3 6RA*; (dpearman4@aol.com)

This is a work that is not for sale, although the author has a handful of copies available for genuine researchers. But specimen pages are available to all and sundry, and interested parties should apply to the author. It might well sound strange to be describing something that most members will not see, but, with respect, it is the concept that I am so taken with and I hope that my account will be sufficient to whet the appetite for others to attempt such an exercise.

The meat of this, not unsubstantial, over 400-page book, is a description of over 380 sites, arranged by 10km squares, with species lists for each and maps for many. I think it would be fair to say that that nothing like this has been produced elsewhere in the British Isles. Many of us are familiar with the concept of a Rare Plant Register (they exist, in one form or another, for about 30 counties, with many more in preparation), but these, however attractively laid out, are lists of sites per species, with or without explanatory text. If one finds a rare species, a RPR allows you to know its context in the county, but with no overview of the site in which it occurs. What other species should be found there? What has been lost? Is the site in good health, or is it a shadow of the past? So this work is akin to a 'Rare Site Register' and gains so much from the visual impact of the maps (just over 200 of these) for all the important sites.

As I have noted, the book is arranged by 10km squares. For each there is an overview, with a map, showing the sites covered. The sites are broken into manageable sections, rather than have 'super' sites, such as 'North Norfolk coast' or 'South Dorset coast', which are so large as to be indigestible. Each site is then described in detail, again with an overview, and also with lists and counts of the rare or scarce species. Archaeophytes are treated as natives, and, like those, recent arrivals or introductions are shown as such. But, in a major enhancement, there are lists too of both the key and ancillary axiophytes (I dislike the word, preferring 'indicator species', but the former has gained currency), of the 'intrusive' aliens (but not the surely more ubiquitous intrusive natives) and also losses of rare and scarce species. The last is both valuable and salutary. The more interesting sites have thumbnails of the OS 1:25000 map, with indicative boundaries. As I have said, these maps greatly enhance the value of the accounts. (see illustration p. 41)

The overall coverage of sites aims to be comprehensive, as the underlying sample survey at 1km scale worked across 10km squares selectively, searching for sites of botanical interest. Of the 380 odd sites covered (together with a 'catch-up' of sundry and arable sites for each 10km square) 249 sites are judged worthy of conservation and are graded into categories of habitat, from moderately good to outstanding. There are appendices of extinctions and SSSIs, but also of frequencies of rare and scarce species, and, more unusually, of axiophytes and neophytes too, although these, of course, are based only on the partial survey.

I do not know the health or otherwise of the conservation movement in Berwickshire, or how constrained by funds and staff are Scottish Natural Heritage and the Scottish Wildlife Trust, or how they will be able to use this remarkable work. All counties have networks of SSSIs, and many networks too of the next tier down, Wildlife Sites or Sites of Nature Conservation Interest or whatever, but none have the entire suite and more described, mapped and judged in one work. Again, I do

not know how landowners in England, Ireland and Wales, with their different laws on access, would take to such a work, which maps and describes each site for all to see. Like most things, what seems terrible in theory (right to roam, private sites appearing on Local Plans, recording on private land) is rarely that in practice. All I know is that conservationists in the lowlands, where I have lived all my life, would have a bible in their hands if they had such a work for their patch. I say that, assuming that all the pressures and most of the losses are in the lowlands, the more inhabited areas with the most development pressure, but Michael's work shows the more insidious and less obvious pressures in the uplands too.

Berwickshire BSBI Botanical Site Register

76.24. Elba Wood, 7860, Habitat fine ♥♥♥
Oak and mixed woodland, riverside. 8.1 hectares.

An attractive stretch of rocky riverside leads to Elba, where Strait Leap is the name given to a gorge at the bend in the river. *Populus tremula* grows on the rocks with a good colony of *Ranunculus auricomus* above in which the flowers are mostly perfect, rather than with the reduced number of petals so often seen. There are a few native junipers in the oakwood above and more have recently been planted. *Hieracium sabaudum* occurs at Strait Leap.

S	Rare or scarce species	Popul[n]	GR-NT	10m	Date	Rec[der]	P	Comment
*	*Ranunculus auricomus*	25x2m	786603	89	2005	MEB	1	Flowers mostly perfect
*	*Spergularia rubra*		785604		1998	MEB	¾	

Selected axiophytes: *Elymus caninus,* 7860, *Equisetum sylvaticum,* 788607, *Juniperus communis,* 788606, seven native bushes (with recent plantings), *Populus tremula,* 787603, *Solidago virgaurea,* 785604

Other axiophytes: *Aira caryophyllea, Ajuga reptans, Anemone nemorosa, Conopodium majus, Helictotrichon pratense, Leontodon hispidus, Luzula pilosa, Ononis repens, Quercus petraea, Rhinanthus minor, Stellaria holostea, Valeriana officinalis*

Intrusive neophytes: *Fallopia japonica*

Former rare or scarce species: *Melampyrum pratense,* 7860, 1970, COB

What does an amateur botanist need to know?

JOHN PRESLAND, *175c Ashley Lane, Winsley, Bradford-on-Avon, Wilts., BA15 2HR*; (johnpresland2@tiscali.co.uk)

Many BSBI members may like to call themselves amateur botanists. In my own case, there is some ambiguity, since I did study botany as part of my degree course and I taught it to A and S levels for three years, before pursuing a career in something completely different. At that point, I claim to have become an amateur. Plainly there are different ways of being an amateur, and the knowledge required will be different for different holders of the label. When I decided to write a book on botany, I needed to consider who it was for and what they needed to know.

Many people like to look at wild flowers for their beauty and perhaps most of them also like to put a name to what they are admiring. Some just like to hear somebody else do this and may be quite happy to forget it afterwards. Others, however, are keen to learn the names of as many plants as possible and to become able to identify them independently. Perhaps this is where amateur botany really begins. It leads one on a path where one learns the names of the various parts of plants whose characteristics help identify the different species. The acquisition of an identification book is an early landmark, and some may progress to using a flora to identify plants systematically using keys. The process is helped by learning what species habitually grow in different types of habitat, since this can be a clue to their identity. The more one can learn about these aspects of botany, the easier and more certain identification can become.

Identifying plants is a rewarding activity, but becomes more so if one can do something with the knowledge. This leads hosts of botanists to go out into the field and record what they find as an organised activity. Simply drawing up an ever-expanding list of plants seen is extremely satisfying, and more so if supplemented by a collection of photos, a much easier process since the arrival of digital photography. The lists can become part of a process to gather together information which can be used to know all the plants that grow in a particular area and, by combining this information, in the whole country. It enables identification of plants and habitats that need protection because of their rarity and risk of elimination. This provides information to defend plants and plant communities against urban development and other uses of the countryside that threaten them, as well as for enhancing and creating areas where plants can thrive. A whole field of knowledge underlies this and can enrich the activity. Knowing what kinds of plants grow in particular habitats and why and how they interact in the formation of different kinds of plant community is a part of it - the whole field of ecology. So is understanding the principles and practices of nature conservation - minefield of acronyms that it is.

There is no reason why some amateur botanists should not become interested in a wider field of activity involving understanding how different plants find nourishment, grow and reproduce. This may lead to a curiosity about the ways in which they inherit characteristics from their parents, and how what is inherited combines with factors in the environment to produce a mature plant and determine its activity. This, in turn, leads to questions about why and how there are so many different species of plant and how one can place them in some overall scheme of thinking about the world - the areas of classification and evolution. A fascinating diversion is how plants got their names.

But what are the boundaries of interest for amateur botanists? Many confine their activities mainly to flowering plants, conifers and ferns, but mosses and liverworts are also a field of great interest. Algae, fungi and lichens, once treated as plants by botanists, are now regarded as belonging to kingdoms separate from those of plants and animals. However, as Evert and Eichhorn, authors of the latest edition of the very comprehensive and up-to-date *Raven biology of plants*, say,

"they are normally considered part of the botanical portion of the curriculum", so they are studied by botanists. Then, are we interested only in native British plants, when plants from elsewhere, including some cultivated in gardens, are often fascinating from a botanical point of view? Further, how far can plants be studied without taking some account of the animals which live on and interact with them?

I decided that the book I would write would cover all the areas of knowledge mentioned above and thus cater for all interests. It now exists under the title *Botany for naturalists: a colour guide* and is available on a print-to-order basis from Amazon for £16.63 - and yes, there is a good reason for the strange price. To provide for variation of interest it is divided into short, clearly labelled elements, which can be looked at or ignored according to need and taste. Mainly, each consists of a plate in which a short text is accompanied by up to something like a page of illustrative photos. To maximize accessibility, very little prior knowledge is assumed and access is not expected to resources found mostly in scientific contexts - not even a microscope. It is not a commercial venture, because it deals with a specialised area of interest, but it was something I wanted to share. Readers can even have an input – one of the advantages of this kind of publishing is that corrections or improvements can be made after it has gone on sale. Suggestions to this end are welcome.

The Amazon page for this book lists all the contents and shows sample pages of text and pictures.

RECORDERS AND RECORDING

Panel of Referees and Specialists

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

Rodney Burton has asked to be removed from the list for queries about European floras (he has not, in fact, received any inquiries since taking it on). He is happy to remain as referee for *Medicago*, *Conyza* and *Galium*. Also, he will have a new address by the time this issue of *BSBI News* is received. This will be: 40 Pollyhaugh, Eynsford, Kent DA4 0HF.

Tim Rich has asked that the comments saying that – 'Material will be retained for Welsh National Herbarium unless return requested' be removed from his accounts of Brassicaceae, *Sorbus* and *Gentianella* in *BSBI Yearbook 2014*.

Panel of Vice-county Recorders

DAVID PEARMAN, *'Algiers', Feock, Truro, Cornwall, TR3 6RA*; (dpearman4@aol.com)

New Recorders and changes:

23 Oxon. – Sue Helm

39 Staffs. – Ian Hopkins (joint). John Hawksford to continue as point of contact.

44 Carms. – Kath Pryce (joint). Richard Pryce to continue as point of contact.

79 & 80 Selkirks. & Roxburghs. – Jeff Waddell (joint). Rod Corner to continue as point of contact.

108 W. Sutherland. – Ian Evans (joint) and point of contact.

110 Outer Hebrides. – Paul Smith becomes sole recorder.

Retirements:

23 Oxon. – John Killick.

I would like to thank John for his sterling efforts over so many years – since 1981 in fact.

Pete Stroh will be collating changes to the Vice-county Recorder network from now on. Please feel free to contact him at peter.stroh@bsbi.org, or by phone: 01832 734156.

Atlas 2020 – the way ahead

KEVIN WALKER, *97 Dragon Parade, Harrogate, North Yorkshire, HG1 5DG*; (kevin.walker@bsbi.org)

Welcome to what we plan to be a regular column of news and updates on *Atlas 2020*. This will be the Society's third national hectad distribution atlas, in which we aim to provide updated distribution maps and assess changes in species' distributions between 2000 and 2019. With only six field seasons left, the need for a 'plan of action' has become paramount and so over the winter we have been developing our plans on a number of fronts: (1) how the project will be coordinated, managed, and funded; (2) what the outputs will be; (3) how to ensure we achieve sufficient hectad coverage; (4) how best to support recorders in achieving this, including the production of guidance, targeted surveys/field meetings, *etc*.; and (5) how *Atlas 2020* will interact with other projects. These plans are by no means finalised, but we felt it was important to start communicating them to you now rather than after the field season, when the deadline will be that much nearer.

What will *Atlas 2020* look like?

This question might seem a little premature, given that publication is six years away, but we feel it is important at least to be clear about the outputs now, as our approach will be very different from previous atlas projects. Crucially we feel that the need for a printed atlas is much less of a priority this time around, and that we should invest our resources in interpreting the records rather than seeing them as an end in themselves. This approach has been used successfully by other natural history groups, most notably Butterfly Conservation (BC) who published *The state of the UK's butterflies 2011* (Fox *et al*., 2011) a decade after the *Millennium atlas* (Asher *et al*., 2001). This allowed BC to explore the data collected more fully and focus on a much wider range of issues, some of which had only been alluded to in the *Millennium atlas* (*e.g*. drivers of change, differences between specialists and generalists, impact of conservation measures, *etc*.). We still plan to produce maps, but these will be available 'online' or on a CD-rom (as in the last atlas) that can be purchased and downloaded locally onto PCs. This would allow us to display the records more dynamically, for example, at a variety of scales, within different date-classes, with the 'oldest-records on top' or by displaying status categories in different ways. Other key outputs are also likely to include a new Vascular Plant Red Data List assessment for Great Britain, utilising the records collected for the project, as well as the use of the data by academics for a wide range of research projects.

The atlas team

The production of the last atlas was ostensibly carried out by David Pearman, Trevor Dines and Chris Preston, with support from other staff and voluntary officers from the BSBI and the Centre for Ecology and Hydrology (CEH). This time around the Society has five national officers to coordinate and support recorders in Scotland (Jim McIntosh) and Wales (Polly Spencer Vellacott and Paul Green) and to a lesser extent in England (Pete Stroh) and Ireland (Maria Long), although it should be noted that both Pete and Maria only work a day a week in this role. Furthermore, with Tom Humphrey and Bob Ellis in post, we are much better organised in terms of electronic submission and storage of records, data checking and display. That being said, we will still need on overall 'champion' to lead and deliver the project (see the flyer with this *BSBI News*). Ideally, we would like this to be a volunteer, whose role would be to ensure that our plans are effectively coordinated between all involved (*i.e*. staff, committees, volunteers, *etc*.) and to promote and enthuse both internally and externally. We realise that this is a huge responsibility for a single volunteer and so we are investigating potential funding for at least a part-time post to work alongside the

volunteer to ensure the partnership between BSBI staff and volunteers is as successful as we can make it.

Getting to the finishing line

For our key volunteers – the Vice-county Recorders (VCRs) – the thought of producing another atlas, even at hectad resolution, in six years is likely to be a daunting prospect and many might conceivably be asking "how on earth can they expect us to achieve that?" Clearly the Society has a responsibility to support our key volunteers, especially in remote, mountainous areas, where the terrain is very rough, but recorders are few and far between. The Records and Research (R&R) Committee and our atlas working group are therefore working together to assess what support our recorders need and where this suppport is best utilised. To this end Paul Smith, VCR for the Outer Hebrides and Chair of the R&R Committee, has produced a 'recording strategy' to help recorders ensure they achieve the best coverage they can before the decade is out (this follows this article, p. 46). It also includes suggestions how coverage will be achieved for where there is no active recording taking place. We realise, however, that most botanists who would like to contribute are not VCRs and we are keen that there are ways for you to get involved. Possibly the most obvious is to offer your services to your VCR, who can then allocate some squares to you. Alternatively, you could come along to some of the field meetings that we plan to organise for under-recorded regions from the 2015 field season onwards; or why not plan a holiday in a remote part of the country that needs recording? Such trips can often be highly rewarding, both in terms of the botany and adventure. If this appeals and you want some ideas of where to go then get in touch with Quentin Groom (quentin.groom@bsbi.org) who will send you a list of under-recorded hectads.

Other projects

Atlas 2020 is not the only national project we will be running over the next six years. Many of you will have been involved with the *Monitoring Scheme* led by Tim Rich (repeated as *Local Change* in 2003-2004). Although this was due to be repeated in 2019 we have decided to postpone it so recorders are not distracted in the final year of the project. We will, however, still be running two other national projects in parallel with the atlas, both of which are open to botanists of all levels of expertise. The first, launched this winter, is SPLASH – Survey of Plants and Lichens associated with Ash – which aims to track changes to the ground flora and epiphytes associated with ash trees caused by ash-die-back (see: http://www.brc.ac.uk/splash/home). The second is a new UK plant surveillance scheme, which is being developed in collaboration with Plantlife and the Centre for Ecology and Hydrology (CEH), with funding from JNCC (see http://www.brc.ac.uk/pss/). This scheme, which is still under development and is due to be launched in 2015, will be a fantastic opportunity for botanists of all levels of expertise to get involved in a scheme designed to help to track changes in our flora at a national scale rather than just tell us where species occur (or once occurred).

Funding

For the last atlas we received funding from Defra to support Trevor Dines' post as well as other staff and voluntary officers in CEH and the BSBI, plus money from the Wildflower Society (WFS) to help with surveying under-recorded areas. The WFS have already generously agreed to fund some targeted survey work but it seems it seems very unlikely that we will receive any funding from government given current cut-backs. We are therefore investigating other sources of funding, such as charitable trusts and 'sponsorship'. The British Trust for Ornithology's (BTO) new breeding birds atlas (Balmer *et al*., 2013) was funded almost entirely from 'sponsorship' for individual species and this does raise the possibility that we could do the same for an equivalent number of plants; for example the 300-350 species that are likely to form the core of the next GB Red List.

Keeping you informed

We hope that this update has gone some way to answering at least some of the questions you

may have had about *Atlas 2020*. If not, then please feel free to get in touch and we will try to address any queries you may have. Also, keep an eye on the website, as shortly we plan to produce an *Atlas 2020* web-page that brings together all the information you will need about the project, including key resources, such as recording cards, guidance documents, lists of under-recorded squares and targeted field meetings, *etc*. We will also provide updates in this column as well as at BSBI events such as national and regional AGMs, Annual Exhibition Meetings, and the Recorders' Conference.

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Atlas 2020 – getting to the finish line

PAUL SMITH, Chairman: Recording and Research Committee, *128 Llancayo Street, Bargoed, Mid* Glamorgan, CF81 8TP; (pa.smith@mypostoffice.co.uk)

We are now roughly two-thirds of the way through the recording period for *Atlas 2020*, and lots of good recording work has been taking place since 2000. An analysis of records on the DDb shows that 26% of hectads in England, Wales and Scotland (v.cc. 1-112) have post-2000 tetrad (or better) records for two-thirds or more of all taxa that have ever been recorded in them. Another 36% of hectads have between half and two-thirds of species with modern tetrad records. But this still leaves more than 1000 hectads where this rough measure shows more recording is needed, as well as gaps to fill, even in the better-recorded hectads. For Ireland (v.cc. H1-H40) the corresponding percentages are 10% and 9% with almost 800 hectads where more recording is needed. These statistics probably under-represent the amount of progress, however, as there are delays in records getting to the DDb for many vice-counties. We are aware of many of these, but please let us know if you have post-2000 data which has yet to be loaded.

An *Atlas 2020* sub-group of the Recording & Research Committee met for the first time in January 2014, and one of the main recommendations was the need for an action plan to ensure recorders achieve sufficient hectad coverage by 2019. It was thought that this plan should comprise three main elements:

1. A recording strategy that stated clearly what recorders were expected to do.
2. The establishment of an early warning system to identify and prioritise hectads for further recording.
3. Develop other ways for botanists to get involved.

The first two action points are specifically targeted at Vice-county Recorders (VCRs), but the third action is aimed at the wider recording community. Details of each element are given below.

A clear recording strategy

Records should be collected at either tetrad or monad resolution (or at sites within these) and then submitted electronically (by MapMate synch or for other formats through Quentin Groom (quentin.groom@bsbi.org) (see also p. 48)). Bear in mind that, unlike *Atlas 2000*, there will not be an option to compile master-cards for hectads (because we want tetrad or better resolution and record details for inclusion in the DDb) or to submit records on paper (as we will not have resources to deal with them). Ideally, we would like five tetrads recorded in each hectad, but accept that fewer will be done in the uplands and more inaccessible areas. Vice-county recorders will usually know which tetrads (monads) are likely to be worth visiting, but Quentin Groom will be able to provide you with suggested tetrads to visit

based on an analysis of existing data if required (note that guidance on sub-sampling Vice-counties and hectads is available on the BSBI website).

A sensible recording strategy for each hectad might include:

- First record one tetrad chosen to have reasonably good habitat coverage;
- Then record a tetrad with no previous records;
- Re-visit a known 'hotspot' (*i.e.* species-rich tetrad);
- Search for additional species known from the hectad.

A minimum of five tetrads should be recorded for each hectad. When this has been achieved for all hectads in the Vice-county, then go on to further steps if time and resources allow. Some judgement can be applied to make good use of time and resources, but do plan to achieve the minimum coverage by 2020 (*i.e.* within the next six field seasons).

The establishment of an early warning system

So that we can match up resources with areas that need assistance the most, we want to know where there are challenges to achieving this minimum level of coverage. To identify hectads where this coverage is at risk employ the following strategy:

- First do some thinking and planning about your recording strategy according to step 1 above. If you identify hectads which are too difficult for you to record, please pass a list of them to the relevant Country Officer as soon as possible. Together, we can then plan how to help with these areas over the next six years, as we do not want to be left with a significant number of difficult-to-access hectads in the last few seasons of recording.
- For hectads shared between vice-counties, do discuss with neighbouring recorders about how coverage will be managed. If you would like to swap some hectads with other Vice-counties to reduce travel costs (*e.g.* if you live on the edge of your Vice-county), please get in touch with neighbouring VCRs. If that does not work out, let us know, and we will try to broker a deal with other recorders.

Helping out in other ways

There are several ways for any BSBI member to help with recording for *Atlas 2020*, from targeted field meetings to conscripting people to record certain squares. Here are a few suggestions:

- Do you regularly botanise on your holidays? If so, why not contact the relevant Country Officer (or in due course the *Atlas 2020* coordinator) and he/she will suggest where you could go on your holidays to help with under-recorded hectads/areas.
- Many Vice-counties have areas that are botanical tourist destinations. If you visit one of these, please make it a resolution to complete a recording card for someone else's county.
- In the run-up to *Atlas 2020*, the field meeting programmes will have a focus on recording under-worked areas – so please keep an eye out for these on the website.
- A small budget is available to assist with travel costs for recording, some generously contributed by the Wild Flower Society (who will look kindly on proposals which can involve their members), and some from BSBI. If you would like to bid for assistance, please contact Paul Smith (address above). Your application does not need to be very long, but should explain why this will be efficient use of these limited funds. For example, you might be going to some remote places, more than one person will go on each trip, or the recording will complement other projects.
- After receiving feedback from recorders, we will organise a 'flying squad' to target particularly challenging areas. Please get in touch if you would like to be part of this squad.

We appreciate that there is a lot to do for *Atlas 2020*, and so one of the first decisions we have made is to postpone the next *Monitoring Scheme* survey so that efforts can be concentrated on achieving coverage for the atlas. If there are other things we can do to help, by all means feed suggestions through Country Officers, or directly to me.

NOTES FROM THE OFFICERS

From the Hon. General Secretary – *LYNNE FARRELL*

41 High Street, Hemingford Grey, Cambs., PE28 9BJ:
(01480 462728) (lynneonmull@btinternet.com)

This is the last time I will write the HGS notes, as in early June I will hand over the reins to a new HGS. At the moment we do not have a person appointed to the post, although we do have a few people to approach. But if there is someone out there who would like to help the BSBI in one way or another, then please do get in touch with me - sooner rather than later this time!

All the permanent working Committees have met recently and I await their minutes to confirm changes in their composition, so this information will come later.

In June we have a new event: the Annual Spring/Summer meeting - being held at Birnam/Dunkeld, Perthshire from 4th – 7th. Many attractive field excursions have been planned for this and places are booking up very quickly- so book now to avoid disappointment!

The AGM for the new BSBI will take place now on 22nd November 2014 as part of the Annual Exhibition Meeting, being held at Leicester University this year, and we hope that you will enjoy attending this event, which is also attracting increased attendance and participation.

So, I will return to being a Vice-county Recorder and helping BSBI as a Trustee and on the Meetings Committee - enough to keep me occupied anyway.

Thank you all for your help over the past five years, which has had its challenges and triumphs, but that is what life is about.

Update on BSBI staff

From the Head of Operations – *JANE HOULDSWORTH*

16 Carlisle Street, Bromley Cross, Bolton, BL7 9JF;
(Tel.: 07584 250 070; jane.houldsworth@bsbi.org)

Using our data

The BSBI is seeing an increase in the interest in our data and the information it can provide, both from our members and from universities, research institutions, conservation organisations *etc*. To ensure our systems can cope with the demand, and to develop the DDb so it is easier to use and can answer the majority of queries most people wish to ask it, we have set out clear priorities for our two members of staff responsible for data.

Our **Database Officer, Tom Humphrey**, will concentrate solely on:

- Moving the DDb onto a commercial server to make sure it remains secure and stable.
- Producing guidance documentation aimed at users of the DDb so it can be used to its full potential.
- Improving the validation of records on the DDb, both existing records and procedures for adding new records into it.
- Implementing a system of defaults for status at national, county and hectad level.

Our **Data Technical Support Officer, Quentin Groom**, will work closely with Tom, supporting him with development and management of the DDb, specifically on including taxonomy and the prioritisation, collation, formatting, import and use of data. Quentin should be your first port of call if you have any data or DDb related queries (quentin.groom@bsbi.org).

Publicity & outreach

BSBI started to increase its publicity and outreach activities in summer 2012 and this will continue this year. **Louise Marsh** has

signed a new contract to continue providing support and activity on this topic in 2014. Her tasks this year will focus on developing and joining up our various methods of communications, including our use of Twitter and other forms of social media, creating better links with journalists and others who can help us talk about our Society, exploring support for local groups and getting volunteers involved in publicity and outreach work wherever possible.

BSBI now has an official Twitter feed, @BSBIbotany, so take a look if you are a Twitter user, or are considering becoming one.

Please contact Louise (louise.marsh@bsbi.org) if you would like any support or wish to get involved with publicity and outreach activity.

Update on Projects

From the Head of Science – Kevin Walker

97 Dragon Parade, Harrogate, North Yorkshire, HG1 5DG;
(kevin.walker@bsbi.org; Tel.: 01423 538553)

Last autumn we embarked on some major planning and development work with regard to key projects that BSBI staff are involved with. This section gives just a flavour of some of them (note that the Atlas 2020 project is covered under Recording & Recorders in this edition of *BSBI News*).

Plant status

Work since the publication of the *New Atlas* has highlighted the inadequacies of our current classification of species and records with regards to plant status as well as the way we record and store such information in modern databases. The Records and Research Committee has therefore tasked a working group to look into these issues and this group met for the first time in London in late November to discuss a wide range of issues concerning plant status, including:

- how best to apply statuses at a range of different levels (*e.g.* record, hectad, county, national).
- defining more clearly the habitats in which to record (and which habitats not to record).
- how to deal with difficult taxa.
- how to apply statuses to historic records.
- how to define status categories more clearly, and in particular how we can more effectively capture information on origin and establishment of the introduced species.

The main outputs from this group will be a new system for applying status categories at the record level that covers both native and alien taxa, as well as guidance on how best to use this system both in the field and within data capture systems.

The group are tasked with developing these ideas into guidance that can be communicated to recorders well before the 2015 field season.

Threatened Plants Project (TPP)

Survey work for the 50 species included in the Threatened Plants Project is complete and Jane Squirrel and Bob Ellis are now completing the digitisation work in preparation for analyses, which will take place during 2014. Kevin Walker and Pete Stroh will then complete summaries for each of the 50 species, with a view to publishing the findings as a book in 2015.

The Irish Species Project (ISP)

The Committee for Ireland, along with support from staff, has launched a project to study eight species of concern to them. These are species that are moderately widespread in Ireland, but certainly scarce and/or declining.

This project will use a similar sampling approach and methodology to the Threatened Plants Project (TPP), with modifications to suit the Irish situation. The aim will be to focus attention on recording the eight species, and to re-visit some historic localities to collect information on population sizes, habitats, management, threats, *etc*. It will be a two-year project, starting in 2014.

A new UK plant surveillance scheme

Those of you with good memories will remember that in 2010 BSBI, along with Plantlife and the Centre for Ecology and Hydrology (CEH) produced a report on 'designing a new plant surveillance scheme' for JNCC. Following that publication the BSBI was funded to run a pilot scheme, which was completed in 2013. More recently, meetings have been held between the BSBI, the JNCC, Plantlife and the CEH to discuss the further development of this scheme, with a view to a full launch in 2015. In summary, the JNCC have secured significant funding to launch this as a complementary scheme to other high profile national recording projects, such as the Butterfly Monitoring Scheme and Breeding Bird Survey.

This is excellent news and will put plants on an equal footing with birds and butterflies, but it will require significant development and funding before the scheme will be up and running.

There will be a number of phases to this:

- Further work on sampling design, field method, target species and field guidance.
- Continuation of the scheme in 2014, including further field testing and marketing.
- Negotiations with Plantlife and the CEH as to roles and responsibilities within the new scheme.
- Finalisation of the bid for funding.

As mentioned in the January edition of *BSBI News*, we will be seeking a small number of volunteers for this survey season to help test some of the materials currently being developed, so if you are interested in getting involved please email me at the address above.

Survey of plants and lichens associated with ash (SPLASH)

This is a new scheme to measure the potential impacts of ash die-back on the ground flora and epiphytes associated with ash trees, which has now been launched through the British Bryological Society, British Lichen Society and the BSBI, through our publications and social media, and on the scheme website (see http://www.brc.ac.uk/splash/). Recorders who might be interested in participating in this scheme need to register on the website to take part, where they will be issued with a survey square plus guidelines on how to complete the survey.

Oli Pescott at CEH is acting as the coordinator for this scheme and plans are being made as to how it can be further promoted within the BSBI, using volunteers where possible.

Red Lists for England, Ireland and Scotland

The data analyses and threat assessments undertaken for the new England Red List are now complete and have produced some extremely interesting results, particularly with respect to species declines in lowland England. As expected, it has shown that once widespread species such as *Drosera anglica* (Great Sundew) are threatened at an England level, but less expected are a suite of very common species such as *Campanula rotundifolia* (Harebell) that, although still seemingly very widespread, have undergone real declines in recent decades, possibly due to hard-to-detect drivers, such as atmospheric air pollution. Pete Stroh and others are currently working on the text of the book, which will be launched at a BSBI event in the autumn. We are hoping to give all English Vice-county Recorders a free copy and that others will be able to either download a pdf or buy a copy from Summerfield Books.

A similar exercise is currently being carried out covering both jurisdictions on the island of Ireland by a project team led jointly by the Republic's National Parks and Wildlife Service and the Northern Ireland Environment Agency, using data supplied by the BSBI. We are hopeful that Scottish Natural Heritage will provide the funding needed to do the same for Scotland.

A new Red List for Great Britain

The Species Status Assessment Group maintains the Vascular Plant Red List for Great Britain on behalf of the organisations involved in its production (BSBI, Plantlife, CEH, Natural England, Natural Resources Wales, Scottish Natural Heritage, Natural History Museum, Kew). Recently, the group made the decision to carry out the next assess-

ment after all the records have been collated for Atlas 2020. This means that the new GB Red List will probably be one of the key outputs of the next atlas and would hopefully be published by 2022 (but please do not hold us to that!).

Species accounts for rare, scarce and threatened species

Over the past two years Kevin Walker and Peter Stroh have produced c.80 'species dossiers' for a range of rare, scarce and threatened species, as part of contracts with Natural Resources Wales, Natural England and Scottish Natural Heritage. These all follow a standard format, covering identification, biogeography, habitats, ecology, management and threats and are based on thorough reviews of published information. They fall short of a Biological Flora but are much more detailed than the accounts in, say, the Red Data Book or *Scarce plants*.

Ideally we would like to have produced equivalent accounts for all taxa in the next Red Data Book (see above), which would be in the order of 300-350 taxa. However, to achieve that goal by 2020 means completing 3.5 species accounts per month for the next 6 years. Hopefully more authors could be involved with this! We are currently exploring ways to achieve this and hope to bring you further news in the next *BSBI News*, including how to access these accounts (possibly via a dedicated webpage on the BSBI website).

From the Scottish Officer – *JIM MCINTOSH*

c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR;
(Tel: 0131 2482894; jim.mcintosh@bsbi.org.uk)

New BSBI MapMate Handbook now available on-line

If you use MapMate but have not visited the BSBI MapMate website (http://mapmate.bsbi.org.uk) before, I strongly recommend you do! We have just updated it with the truly excellent and comprehensive BSBI MapMate Handbook by Martin Rand. There is much to learn here, even for those who consider themselves proficient, and I would urge all BSBI MapMate users to browse this valuable new resource. The handbook is in Adobe pdf format and can be downloaded, viewed or printed chapter by chapter. It expands on, and completely supersedes, all previous versions.

Ten chapters and three annexes cover almost everything you might ever want to know about MapMate. The most important chapters, to begin with, are on installing and setting the program up, keeping it up to date; on data entry, data exchange and backing up (the Data Entry chapter could be usefully printed off and kept as a reference). There are also excellent chapters on reporting and maintaining data and mapping. For the more advanced there is a chapter on schedules and catalogues.

At first the handbook might seem daunting – it is so compendious. However, to help you navigate there is a comprehensive index and once you have found the right chapter you can use Adobe's "Find" feature to search for particular words or phrases. The layout is clear and attractive and the subject material is cleverly colour-coded so that intermediate and advanced material can be identified easily and skipped if not required. Purple text boxes contain fascinating discussions on concepts, or best practice, or under the bonnet features. Yellow triangles warn about issues where care is required.

The handbook can be used in three ways: to dip into when help is required on specific topics; for periodic revision (I was amazed how much I learnt reading up on data entry, which I thought I knew well) or, more systematically, as a training course, or part of one. To this end, a training dataset is available to download and can be used in conjunction with the exercises given in the handbook. The exercises can then be followed verbatim.

As well as the new handbook, there are 31 training videos on the website on everything from setting up, data entry, data exchange, analysis and mapping. The videos are short, straightforward guides on how to do specific MapMate tasks. The ability to pause and

rewind at any point is particularly useful. We have just updated it with several new training videos on creating species richness maps and a page of custom queries – all of which will be useful for Atlas 2020 planning.

I would like to thank *everyone* involved in this project, but particularly Martin Rand, the author of the handbook, and Martin Harvey, the website developer. We are grateful to Scottish Natural Heritage for their support of this work; and I am pleased to report that MapMate have endorsed the BSBI MapMate website by adding a link to it and the BSBI logo on their homepage, and will promote it in their regular newsletters to the wider MapMate community.

We would welcome feedback and suggestions – particularly for additional custom queries which would be useful for Atlas 2020 – please send to me.

From the Welsh Officers – *POLLY SPENCER-VELLACOTT & PAUL GREEN*

POLLY SPENCER-VELLACOTT: *c/o Natural Resources Wales, Chester Road, Buckley, CH7 3AJ* (Tel.: 03000 653893; polly.spencer-vellacott@bsbi.org). Normal working hours approx. 8.15-3.15 Wed-Fri

PAUL GREEN *c/o BioSyB, National Museum of Wales, Cardiff, CF10 3NP* (Tel.: 02920 573152; 077 72111113 paul.green@bsbi.org)

We have put together a list of four priority target species to survey during 2014. These are: *Antennaria dioica* (Mountain Everlasting), *Hammarbya paludosa* (Bog Orchid), *Pseudorchis albida* (Small-white Orchid) and *Trollius europaeus* (Globeflower). We will also be surveying other species on SSSIs across Wales. If you would like to help survey a species or join us in the field, please do contact us. We will try and put up on the BSBI Welsh page the sites we intend to visit each month.

One of the first species we will be surveying this year is *Taraxacum palustre*, in conjunction with the BSBI *Taraxacum* workshop, arranged at the end of April. As all the Welsh sites for *T. palustre* are on Anglesey we hope to survey them during the days following the workshop. If you would like to join us to look for this rare dandelion in Wales do not hesitate to contact us.

Both the *Taraxacum* and *Rubus* workshops are currently fully booked, although we are happy to put names on a waiting list in case anyone has to drop out. With such a high level of interest they will have to be repeated in the future (in different venues).

We have a blog on our BSBI Welsh page, on which we are trying to put up photos of species we see each week while out, along with our other activities. Please follow our blog, and the other BSBI blogs in Wales (bsbicymru.blogspot.co.uk).

The first BSBI meeting of the year was in Wales at the beginning of March and nine members met in pouring rain to look at winter tree identification at Castle Wood in Denbighshire (although we looked at conifers, as well as broadleaves). Luckily, the rain eased off and, with the expertise of the participants, we were able to look at bryophytes, lichens and invertebrates as well as trees!

Please note Polly's new contact details.

Publicity & Outreach

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)

This is just a quick request for you all to send me more material for BSBI's Publicity Blog, which is being renamed 'News & Views', in the hope that even more of you will want to contribute to it! If you are out botanising this year – whether for a specific project (like SPLASH), attending a national BSBI field meeting or square-bashing in your vice-county towards Atlas 2020 – we would like to put you on the 'News & Views' page.

Your news, your views

Please send a short note (50-100 words will do) about what you were doing (and why!) and a couple of photographs. Please also let me know about forthcoming botanical events, publications or training aids and opportunities that you think might be of interest to fellow BSBI members and any potential members.

Reaching a wider audience

The former Blog attracted over 30,000 page-views in its first year, so it is an excellent way for us all to share the latest news and to promote BSBI, and botany in general, to a wider audience. We are particularly keen to hear from anyone attending training sessions, getting involved with local group meetings or promoting BSBI at local events. Do not forget that if you are attending a local event, like a Bioblitz or Recorders' Conference, we can also send you display material.

Promoting the society

Contact me to book BSBI banners, posters and display copies of publications like the Mapping booklet, *New Journal of Botany* or even back copies of *BSBI News* itself! We can also send you multiple copies of the prospectus, the Annual Review and the new BSBI bookmark, for distribution or permanent display in your v.c.

The 'T' word!

Can I also ask any of you who have avoided Twitter like the proverbial plague to momentarily set aside any preconceptions and take a few minutes to look at @BSBIbotany – this is the BSBI's official Twitter account. It is proving a surprisingly good way to keep up with academic papers on botany (the ones that do not come to *NJB*!) and I am also seeing quite a few jobs that might appeal to BSBI members. Click on the Twitter icon on the BSBI homepage and scroll down to see the kind of things I am putting up there (you have to be logged in with Google, Gmail or Facebook, sorry!). If you are already on Twitter, 1,300 people or organisations have started following @BSBIbotany since we launched the official account three months ago. Why not join us? One rule: you can tweet but no twaddle – we only want to hear about botany, please!

Birdfair

BSBI will be appearing again at this year's British Birdfair at Rutland Water, Leics. **v.c.55** (15th–17th September) and we have invited the Biological Records Centre, celebrating their fiftieth anniversary this year, to share the stand with us. Our exhibit will focus on botanical recording, with joint projects such as SPLASH and the National Plant Monitoring Scheme (see *BSBI News*, **125**). We hope to repeat our success at Birdfair 2013, where we won Best Stand (Conservation).

DIARY FOR 2014

LYNNE FARRELL, Hon. Gen. Sec., *41 High Street, Hemingford Grey, Cambs., PE28 9BJ*; (lynneonmull@btinternet.com)

13 May	Scottish Committee
4-7 June	Summer Meeting and final AGM of old BSBI, Birnam & Dunkeld, Perthshire
18-20 June	Welsh AGM, Tintern, Monmouthshire
19 June	Welsh Committee, Tintern
21 June	Irish Committee
23 July	Board of Trustees, London
13 Sep	Irish AGM, N. Ireland
23 Sep	Scottish Committee
24 Sep	Meetings Committee, Natural History Museum, London
7 Oct	Records & Research Committee, Linnean Society, London
11 Oct	Irish Committee
15 Oct	Publications Committee, Linnean Society, London
21 Oct	Training & Education Committee, Shrewsbury
25 Oct	Welsh Committee
1 Nov	Scottish Annual Meeting, Edinburgh
22 Nov	Annual Exhibition Meeting and Annual General Meeting of new BSBI, Leicester
10 Dec	Board of Trustees, London

STOP PRESS

Trevor Evans 90th birthday

Our Honorary Member, Trevor Evans, celebrated his 90th birthday on 6 April at Mathen, Chepstow. There were many family and botanical friends present, including some from as far as Australia and Leeds. He was in his usual entertaining form and, as usual, pulled everyone's legs mercilessly. He was presented with a pot of seedlings of the Evans' Whitebeam named after him. Congratulations Trevor!

TIM RICH

Trevor Evans at his 90th birthday celebration holding a pot of seedlings of Evans' Whitebeam. Photo T Rich © 2014

Solutions to Botanical Crossword 22

Across
7. MYRICA 8. PLUMMY 9. LOBE
10. AUTOCARP 11. GENOMES
13. TAXON 15. SPAIN 17. TREETOP
20. SYCAMORE 21. MATE 22. FIGURE
23. ENCASE

Down
1. CYMOSE 2. FIRE 3. PAPAVER
4. SPOTS 5. PUNCTATE 6. EMBRYO
12. ORIGANUM 14. CREEPER 16. PTYXIS
18. OBTUSE 19. HONEY 21. MACE

Crib to Botanical Crossword 22

Across
7. anagram CRY I AM 8. PLUM/MY
9. L/OBE 10. AUTO/CAR/P
11. G<E>NOMES 13. TAX/reverse NO
15. Spanish bluebells etc. 17. treat/op
20. anagram MAY SCORE
21. double definition 22. FIG/URE
23. anagram CAN SEE

Down
1. anagram ME COSY 2. FIR + E
3. PAPA/VER(Y) 4. double definition
5. punk/Tate 6. xylEM BRYOphyte
12. anagram OUR MAIN + G(arden)
14. double definition 16. PTY/rev SIX
18. OB/T(O)/USE 19. HONE/Y
21. double definition

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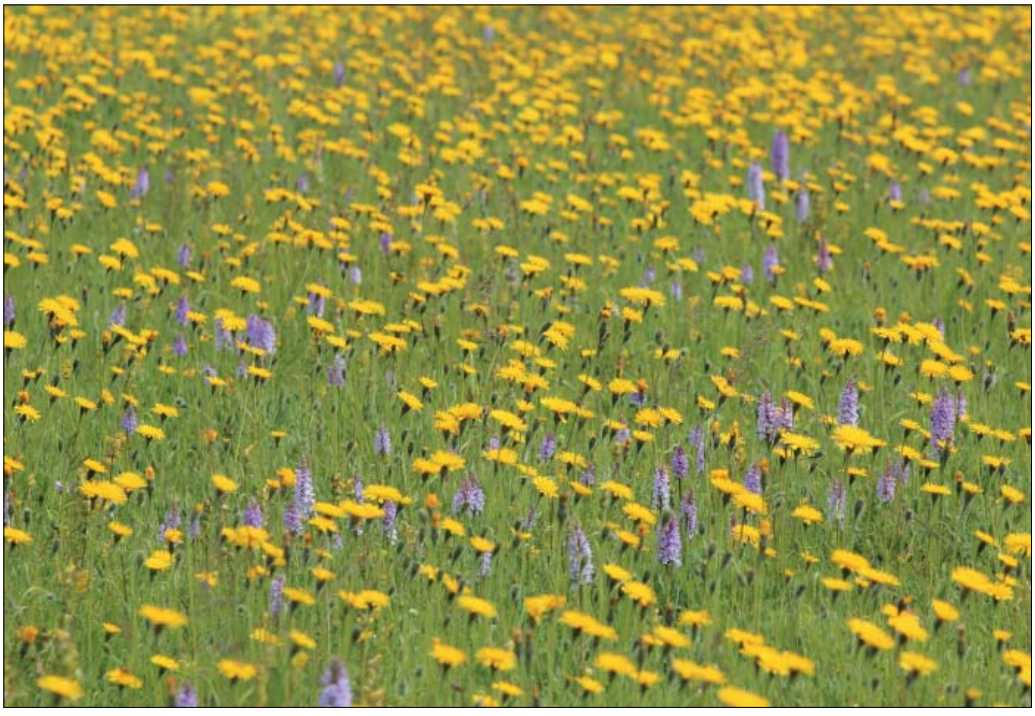


Seed crop of *Leontodon hispidus* with orchid species, at Langridge, Bath (v.c.6)
Photo D. MacIntyre © 2013 (see p. 9)

Saxifraga hirculus locality, Tim and Eileen Laurie at spring mound, Arkengarthdale with close-up of flower inset. Photos L. Robinson © 2012 (see p. 7)

Anemanthele lessoniana as a street weed in Farnham (v.c.17), 2014

Anemanthele lessoniana, with 'pheasant-tail'-like young panicle, at a woodland edge near Woking (v.c.17), 2008

Anemanthele lessoniana, showing an open fruiting inflorescence, at a woodland edge near Woking (v.c.17), 2013

Arum putative hybrid 1

Arum putative hybrid 2

Arum putative hybrid 3

Arum putative hybrid 4

All *Arum* putative hybrid photos taken at Wisley (v.c.17), RHS/Barry Phillips © 2013 (see p. 35)

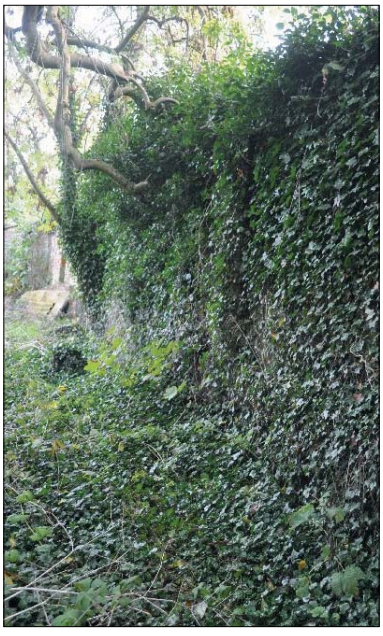
Drosera rotundifolia (Round-leaved Sundew) near the Head Dyke

Taraxacum faeroense, showing streaky ligule stripe

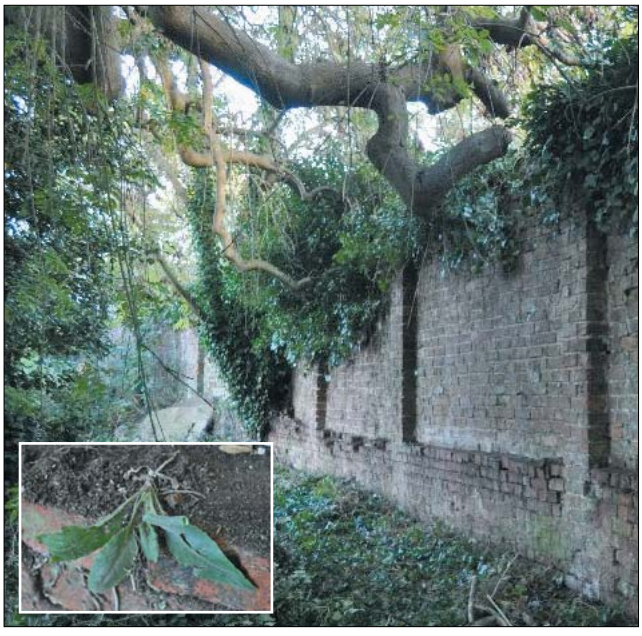
Taraxacum pankhurstianum, showing solid rose-pink stripe on ligule

Cleit covered with grasses, mosses and *Armeria maritima* (Thrift) (see p. 18)

All photos taken on St Kilda (v.c.110) by F. Sarker © 2013 (see p. 19)



Ivy swamping wall where *Pseudoturritis turrita* occurs



Same wall after Ivy removed with uncovered rosette of *Pseudoturritis turrita* (Tower Cress) inset

Both photos taken at Gayton churchyard wall, v.c.32 by B. Laney © 2013 (see p. 29)

Site with moss, fallen leaves and thatch – with no open ground for *Stachys germanica*

One of the re-opened plots, for *Stachys germanica* (Downy Woundwort)

Both photos taken at Saltway v.c.22 by B. Laney © 2013 (see p. 30)