

BSBI News

January 2012

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Edited by Trevor James & Gwynn Ellis



The Humshaugh Black Poplar, (v.c.67) in 2008.
Photo A.J. Richards © 2008 (see p. 32)



Lobelia urens (Heath Lobelia), Flimwell,
(v.c.14). Photo S. Harrap © 2011 (see p. 33)



Verbascum speciosum at Formby Point (v.c.59). Photos P. Smith © 2011 (see p. 56)

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Cover picture – : *Taraxacum fulvum* (Cinnamon-fruited Dandelion). Photo C. Ferguson-Smyth © 2011. Winner of *Sex life of plants* section of Scottish photo competition (see p. 75)

IMPORTANT NOTICES

From The President

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By the time you read this 2011 will be behind us – a successful year for the Society.

Higher than anticipated grant income enabled us to strengthen the staff complement around the Plant Unit, developing the DDB and delivering on a range of projects of mutual benefit to the Country Agencies and to ourselves.

Amongst a huge range of other activities to be proud of are - the first issues of the *New Journal of Botany*, continued production of *News*, the *Yearbook*, the Website, the National magazines, a highly successful Spring Conference and AGM in Galway, regional Annual Meetings, Exhibition Meetings and 40 Field Meetings.

All this has been achieved by our small team of dedicated staff and the much larger number of fantastic volunteers who collect and feed the plant data which fuels the Plant Unit (via Records Committee) as well as carry out all our other activities coordinated through Meetings, Publications, Training & Education and the Regional Committees – a massive thank you to everyone involved.

2012 promises to be an equally busy and exciting year.

In the current economic climate there are bound to be uncertainties about grant income for the Plant Unit. However the Agencies are increasingly reliant on information provided by us which ought to result in a more stable funding arrangement!

On the TPP front, we will be embarking on the final field season; but also making a major push to complete reports on species covered in previous years – some of which will appear as papers in the NJB.

A new initiative, the Plant Surveillance Scheme, largely developed by BSBI, is to be trialled over the summers of 2012/13 as part of a DEFRA funded project.

In addition to all our usual activities, we look forward to the Records Conference in Shrewsbury in April, our AGM and Conference in Reading in May, and the international conference in Edinburgh in September to celebrate progress in plant recording since publication of the first Atlas of the British Flora in 1962.

With all these enjoyable events in mind, I look forward to meeting as many of you as possible during the year.

Ian Bonner

BSBI Panel of Referees

MARY CLARE SHEAHAN, *61 Westmoreland Road, London, SW13 9RZ*; (m.sheahan@kew.org)
DAVID PEARMAN, *'Algiers', Feock, Truro, Cornwall, TR3 6RA*; (dpearman4@aol.com)

A remarkable advantage of belonging to the BSBI is that we have access to the scholarship and helpfulness of the large number (more than 100) of referees, who are prepared to give up their time to make identifications for members. They not only provide an extremely valuable service to us as individuals; their identifications also underpin much of the work of the society in producing accurate records and in publications such as floras.

It is of concern to us that the overall success of the system is sometimes obscured by the occasional problems, though we accept that these can cause difficulties. A number of referees are currently being sent more material to identify than they can reasonably cope with. Parcels may contain up to 100 individual specimens. It is not surprising that this can sometimes lead to delays in replying and a handful of referees find it difficult to deal with

enquiries within an acceptable time. There have been occasional complaints from people who have waited for up to three years or more for the return of their specimens, and in a (thankfully very few) cases their specimens have become lost or mislaid and never returned to them. Of course, there can only be sympathy for referees, many of whom are busy academics who find it hard to find time to deal with these extra-curricular labours. We are regularly in contact with referees to find out if they are happy to continue, and whether they would like assistance.

Another pressing problem is that universities are not producing field botanists in the same numbers as in the past. Up to now we have on the whole been able to keep abreast of replacements when referees retire, but the society would like to produce some more long-term solutions, and we have given much thought to how we might recruit new referees to the panel.

It is our belief (and hope) that there may be many members of the society who already have considerable knowledge of certain taxa, and who might be prepared to offer their

services. We are therefore appealing for volunteers to come forward. This article is addressed to two groups of volunteers: one of them is people who have already made some study of a particular taxon or group of taxa, feel reasonably well-informed about it, and would be happy to identify specimens for members. The other group would be of people who would like to learn more about certain taxa, perhaps with the assistance of specialists on the subject. What we have in mind is an assistant who could receive queries in the first instance, deal with those he or she is confident about, and keep problematic specimens to discuss with an existing referee or expert.

The only vacancy currently listed in the Yearbook is for *Betula*, but others we would like to fill include *Amaranthus*, *Aster*, *Crataegus* and *Crepis/Pilosella*. But members will note that there are very many genera for which there is currently no referee and it may well be that you are interested in one of those. If so, then please contact us and the Records Committee will discuss the suggestion.

EDITORIAL

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Congratulations to our members who were awarded MBE in the New Years Honours List (see p. 73).

***New Journal of Botany* – a correction**

Frank Horsman points out that on page 60 of the first issue of our new journal, there is a reference in the Teesdale section to “John Binton”. The correct name should be John Binks – apparently a typing error.

The second issue of *NJB* has been published and should have reached all members by now. If you have not received a copy please contact the Membership Secretary.

British Northern Hawkweeds

This book has now been published and all pre-publication orders were posted to members last year. If a copy you ordered has

not arrived again please contact the Membership Secretary

Local BSBI Groups

The note by Louise Marsh on p. 43 about the activities of a BSBI group set up in Leicestershire makes compulsive reading. I was amazed to discover that they have recruited 17 new BSBI members in only three years, with the possibility of several more in the pipeline. It just goes to show what can be achieved by a small group of determined and talented leaders. If this was to be replicated in other vice-counties we’d soon reach and exceed the magic number of 3,000 members, and, perhaps more importantly, we might manage to keep them for more than a couple of years by giving them something interesting and worthwhile to do on a local level.

NOTES

The flora of Great Dun Fell, twelve years on: a cautionary tale

R.W.M. CORNER, *Hawthorn Hill, 36 Wordsworth Street, Penrith, Cumbria, CA11 7QY*

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The flora surrounding the Civil Aviation Authority radar station on the exposed summit of Great Dun Fell at 848m within the Moor House National Nature Reserve in the northern Pennines of Cumbria was first noted to be unusual by Linda Robinson (LR) in 1996. A new station had been built in 1985, and the surroundings fenced off against grazing animals. Her photograph of the lush flora featured in Geoffrey Halliday's *A flora of Cumbria* (1997). She listed the plant species, noting that many were at a higher altitude than had been previously recorded for the British Isles and Ireland. Two further visits to the site were made in 1999, together with Rod Corner (RC), and the results published in *BSBI News* (Corner & Robinson, 2001). Later, information on the environmental restoration of the site showed that much of the altitudinal data given in the above was invalid, as many of the species had originated from introduced seed. Penny Anderson of Penny Anderson Associates Ltd. stated that the site had been seeded in 1986 and 1988, but the source and species mixture of the seed was not stated. It seems relevant that a research student who had been at the site mentioned to LR that seed bags noted there were of German origin. We were told that local plant material had also been collected and grown on, with 2800 plants of *Vaccinium myrtillus* (Bilberry), *Galium saxatile* (Heath Bedstraw) and *Carex bigelowii* (Stiff Sedge) planted; and, in addition, clumps of local rushes were divided and planted in the wet areas. Additionally, it was stated that the site had been monitored in 1988 to 1991, and again in 1998 and it was intended to publish the results of the changes over time (Anderson, 2001). Corner & Halliday (2002) criticised this introduction of 'foreign' seed into a National Nature Reserve. After 12 years, it was felt that the site should

be re-surveyed, and, having cleared access with the authorities, she and RC spent three hours examining the site in ideal sunny calm conditions on 27th July 2011. Noting that there were several 'absentees' in the list, LR bravely visited the perimeter of the site on 12th November 2011, in difficult conditions, and was able to reinstate some of them.

Since the last survey there has been an obvious increase in the size of the colonies of the more vigorous species. The yellow carpets of the buttercups *R. repens* (Creeping Buttercup) and *R. acris* (Meadow Buttercup), the concentrated beds of *Alchemilla glabra* (Smooth Lady's-mantle), *A. xanthochlora* (Pale Lady's-mantle), *Tussilago farfara* (Colt's-foot), the tall, massed stems of fruiting *Anthriscus sylvestris* (Cow Parsley) and flowering *Heracleum sphondylium* (Hogweed), with vegetative stands of *Chamerion angustifolium* (Rosebay Willowherb) were conspicuous (see Colour Section, plate 4 (1 & 2)). Interestingly, the *Chamerion* seemed not to flower here. *Luzula luzuloides* (White Wood-rush) had formed many additional strong colonies throughout the site and *Carex leporina* (Oval Sedge) has joined it as a species which has escaped from the confines of the station into the surrounding grassland, where the strongly growing tufts stood out from the bare sheep-grazed turf (Corner, 2000) (see CS, plate 4 (3 & 4)). *Saxifraga hypnoides* (Mossy Saxifrage) was a conspicuous mat-forming species scattered over the more base-rich areas, and had probably become commoner here. This herb-rich community covered most of the site, but a wet area on the north side, an acid stony habitat next to the station, and a small area of the original fell top habitat on the west side, provided other habitats.

Table 1. Species new to the site

<i>Agrostis capillaris</i>	Occasional
<i>Botrychium lunaria</i>	6 plants
<i>Cardamine flexuosa</i>	One small group
<i>Carex sylvatica</i>	One clump with 5 flowering heads
<i>Dactylorhiza maculata</i>	One spike
<i>Diphasiastrum alpinum</i>	Single group of very small plants
<i>Epilobium obscurum</i>	One plant
<i>Eriophorum angustifolium</i>	Very local
<i>Eriophorum vaginatum</i>	Several clumps
<i>Euphrasia nemorosa</i>	Rare
<i>Euphrasia cf. scottica</i>	Rare
<i>Huperzia selago</i>	One plant
<i>Hypericum tetragonum?</i>	One small sterile plant
<i>Hypochaeris radicata</i>	One plant
<i>Pilosella officinalis</i>	Rare
<i>Poa cf. pratensis</i>	Frequent
<i>Potentilla erecta</i>	One small clump
<i>Potentilla fruticosa</i>	One plant 12 ´ 12cm
<i>Salix phylicifolia</i> × <i>cinerea?</i>	One multi-branched shrub 30cms tall
<i>Scrophularia nodosa?</i>	One small sterile plant
<i>Sorbus aucuparia</i>	One plant 6cm tall
<i>Triglochin palustris</i>	A localised group of 20 small plants
<i>Veronica chamaedrys</i>	One good sized colony
<i>Vicia sepium</i>	One very small group

Table 1 lists species new to the site, with the single colony of *Carex sylvatica* (Wood Sedge) being most unexpected, and well above the old altitudinal record of 640m in the Clova mountains in the Scottish Highlands (Watson, 1852). *Triglochin palustris* (Marsh Arrowgrass), in the moist area, would have come in from local stock, as had the two cottongrasses, *Eriophorum vaginatum* (Hare's-tail Cottongrass) and *E. angustifolium* (Common Cottongrass), with the former being much the commoner. Not surprisingly, *Juncus effusus* (Soft Rush) had increased in quantity, with 20 tussocks. It was good to see that *Diphasiastrum alpinum* (Alpine Clubmoss) and *Huperzia selago* (Fir Clubmoss) had started to colonise the bare

stony ground, with *Botrychium lunaria* (Moonwort) in less acid conditions nearby. A single tiny plant of *Sorbus aucuparia* (Rowan) in the same bare area was not entirely unexpected, but a slightly larger plant of *Potentilla fruticosa* (Shrubby Cinquefoil) certainly was, and it is tempting to think that it has come from the good native stock from Upper Teesdale. The single plant of *Dactylorhiza maculata* (Heath Spotted-orchid) was new, and the colony of *D. fuchsii* (Common Spotted-orchid) had increased in size. A small sterile *Hypericum* sp. was tentatively identified as *H. tetragonum* (Square-stemmed St John's-wort), and a single small plant as sterile *Scrophularia nodosa* (Common Figwort). A number of very small willows

were all concentrated on the south-east side, and had grown larger since last observed, but were only c. 30cms tall. Not seen previously was a shiny-leaved species, which could be the hybrid *S. phyllicifolia* × *S. cinerea* (Tea-leaved × Grey Willow). They had been partially grazed, possibly by voles, although the single sheep disturbed in the site may have been partly responsible! *Sagina nodosa* (Knotted Pearlwort) was only just hanging on, with only two tiny flowering plants. It was interesting how *Geranium pratense* (Meadow

Crane's-bill), *Hypochaeris radicata* (Common Cat's-ear) and *Scorzoneroides autumnalis* var. *pratensis* (*Leontodon autumnalis* ssp. *pratensis*) (Autumn Hawkbit) maintained their single plant status, and *Centaurea nigra* (Common Knapweed) and *Primula veris* (Cowslip) also survived, with a single clump each. The *Euphrasia* spp. (Eyebrights) were tentatively identified, as were the *Salix* spp., but the *Hieracium* spp. (Hawkweeds) and the *Taraxacum* sp. (Dandelion) were lumped as aggregates.

Table 2. Species not re-found

<i>Alchemilla alpina</i>	<i>Malva moschata</i>
<i>Cardamine hirsuta</i>	<i>Matricaria discoidea</i>
<i>Carex demissa</i>	<i>Myosotis discolor</i>
<i>Conopodium majus</i>	<i>Phalaris arundinacea</i>
<i>Cryptogramma crispa</i>	<i>Phleum pratense</i>
<i>Cynosurus cristatus</i>	<i>Plantago lanceolata</i>
<i>Dryopteris</i> sp.	<i>Poa humilis</i>
<i>Elytrigia repens</i>	<i>Potentilla anserina</i>
<i>Epilobium hirsutum</i>	<i>Saxifraga aizoides</i>
<i>Epilobium montanum</i>	<i>Sedum acre</i>
<i>Euphrasia confusa</i>	<i>Sedum rupestre</i>
<i>Galium mollugo</i>	<i>Stachys sylvatica</i>
<i>Holcus lanatus</i>	<i>Veronica arvensis</i>
<i>Hypericum perforatum</i>	<i>Viola riviniana</i>
<i>Leontodon hispidus</i>	

Table 2 lists the species not re-found, although one can never be certain that the survey has been complete, even in such a comparatively small area, and identification problems have blurred the picture. The three species: *Alchemilla alpina* (Alpine Lady's-mantle), *Saxifraga aizoides* (Yellow Saxifrage) and *Sedum rupestre* (Reflexed Stonecrop), which stood out as being almost certain introductions, had gone, and may have been deliberately removed. *Epilobium hirsutum* (Great Willowherb) and *Phalaris arundinacea* (Reed Canary-grass), which had also looked out of place in the wet area, had also gone, and we could be reasonably certain that the following

were no longer present: *Carex demissa* (Common Yellow-sedge), *Conopodium majus* (Pignut), *Cynosurus cristatus* (Crested Dog's-tail), *Dryopteris filix-mas* (Male-fern), *Galium mollugo* (Hedge Bedstraw), *Malva moschata* (Musk-mallow), *Myosotis discolor* (Changing Forget-me-not), *Plantago lanceolata* (Ribwort Plantain), *Potentilla anserina* (Silverweed), *Sedum acre* (Biting Stonecrop), *Veronica arvensis* (Wall Speedwell) and *Viola riviniana* (Common Dog-violet). We were surprised that the large plant of *Cryptogramma crispa* (Parsley-fern) had gone. *Matricaria discoidea* (Pineappleweed) and *Stachys sylvatica* (Hedge Woundwort) had

been recorded in 1996, but not in 1999, and were not re-found in 2011, but *Rumex crispus* (Curled Dock), although seen in 1996, but not in 1999, had reappeared, with 6 plants. *Cardamine hirsuta* (Hairy Bittercress) and *C. flexuosa* (Wavy Bittercress) may have been confused. Vegetative *Holcus lanatus* (Yorkshire-fog) and *Elytrigia repens* (Common Couch) may have been missed, but it is difficult to explain the absence of *Phleum pratense* (Timothy) when *Alopecurus pratensis* (Meadow Foxtail) was so relatively common. *Hypochaeris radicata* had almost certainly been recorded previously in error as *Leontodon hispidus* (Rough Hawkbit). The large size of the colony of *Veronica chamaedrys* (Germander Speedwell) probably meant that it had been overlooked previously. The *Poa pratensis* (Smooth Meadow-grass) looked ‘odd’, and had been previously identified as *P. humilis* (Spreading Meadow-grass), but it is probably an introduced strain of *P. pratensis*, as was the large-flowered *Ranunculus repens*. The failure of *Chamerion angustifolium* to flower may show that these plants originated from a ‘lowland’ strain, which has been unable to acclimatise to more severe conditions. *Silene dioica* (Red Campion) was much reduced from competition, and may not survive much longer. Although *Vaccinium myrtillus* was mentioned as being re-introduced in the restoration process, not a single plant was observed here during our surveys.

Bryophytes and lichens

Only a very superficial examination of this flora was made. Dense and extensive mats of the moss *Rhytidiadelphus squarrosus* covered large areas as an under-storey in the herb-rich areas, and probably acts as a physical barrier to plant colonisation. Its presence in such quantity may well indicate the effects of atmospheric nitrogen deposition over the site. Dense cushions of *Bryum pseudotriquetrum*, *Dichodontium pellucidum* and fruiting *Philonotis fontana*, with mats of *Cratoneuron filicinum*, produced an extensive, variegated carpet over the moist soil on the north side; and the bare, acid, stony area close to the west

side of the station had the mosses *Pogonatum urnigerum*, *Dicranum scoparium* and the macro-lichen *Cladonia furcata*, with poorly developed *Cladonia portentosa*. Interestingly, *Cetraria islandica* occurred as a single large cushion.

Conclusions

Rawes (1981) found that there was a decline in species at sites left ungrazed for a period of eight years, during studies on the Moor House National Nature Reserve, with an on-going change in composition. No shrubs or trees appeared, but this may have been related to the small size of the protected areas. The present survey shows that there have been more losses than gains at the Great Dun Fell site, but comparisons with Rawes’ study are hardly relevant because of the artificial nature of the site and the confused origin of its flora. Willows have appeared very locally as small shrubs and probably came in naturally. Of the 42 plant species listed from this site in the altitudinal booklet (Pearman & Corner, 2004), most should probably be removed from any new edition, as there are now strong grounds for believing them to be introductions. Unfortunately, sorting out the provenance of the flora here will be a long term problem and may never be satisfactorily resolved. Penny Anderson Associates were contacted and told of this impending paper, and were asked to comment, but no communication has been received, nor have we received any details of their surveys.

In spite of the introduced flora, the site is still of interest, showing the dynamic interplay between species in an exposed wet and cold habitat, with gains and losses, and it is hoped that monitoring will continue into the future. Although the dome and buildings, with fans venting hot air over parts of the site, are incongruous and intrusive, on a fine day the glorious views from the elevated position, and the unusual flora, make botanising there worthwhile.

Acknowledgements:

The station personnel should be thanked for giving access to the site, and David Chamberlain of the Royal Botanic Garden, Edinburgh,

for identifying the moss *Dichodontium pellucidum*.

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New sites for Martin's Ramping-fumitory *Fumaria reuteri* in Hampshire (v.cc.11 & 12)

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On 24th September 2010 permission was sought from an allotment holder to view some interesting looking allotments in the Titchfield area of South Hampshire. While walking through the site, Gareth Knass noted a number of declining arable weeds, such as *Stachys arvensis* (Field Woundwort), and the Red Data List species *Misopates orontium* (Weasel's Snout) and *Spergula arvensis* (Corn Spurrey) as abundant weeds across many plots. Patches of other interesting arable plants were seen, including *Fumaria muralis* ssp. *boroei* (Common Ramping-fumitory) and *Lamium amplexicaule* (Henbit Dead-nettle). It was in the southern section of the allotments that a more robust ramping-fumitory was discovered, which looked different in structure and appearance from the Common Ramping-fumitory already noted. The plants were large and many flowered, with mostly short racemes on longer flower stalks. The sepals were generally non-toothed, and the plants were brightly

coloured. A number of photographs of the plants were taken and the photos were passed to Martin Rand and Tony Mundell, the County Recorders for Hampshire.

The photographs were inconclusive for identification, but the two possibilities were a robust variant of Common Ramping-fumitory (perhaps *F. muralis* ssp. *boroei* var. *major*) or the nationally rare Schedule 8 Wildlife & Countryside Act species *F. reuteri* (Martin's Ramping-fumitory). The site was re-visited to take a few more photos and some measurements, and these were sent to the BSBI referee for fumitories, Rose Murphy. She wrote back promptly asking for specimens and providing some further insight into identification criteria. Natural England and the landowners (Fareham Borough Council) were contacted, and three specimens were taken of the mystery fumitory, with a fourth specimen of what was considered to be one of the more robust Common Ramping-fumitories from the same area on the

13th October 2010. These specimens were packed in separate plastic bags and a Jiffy bag, and posted special delivery to Rose Murphy so that she had fresh material to examine.

The three specimens were all determined as Martin's Ramping-fumitory, and the fourth specimen was a Common Ramping-fumitory, but not the scarcer var. *major*. From a visit on 13th October 2010, Martin Rand and Gareth Knass recorded the Martin's Ramping-fumitory as widespread on at least five plots at the southern end of the allotments. Common Ramping-fumitory is also widespread here and further north in the allotments. The news was relayed to the allotment owners and the local allotment association, with information on the species, arable flora in general, and some advice on maintaining the population from Natural England, who oversee the Isle of Wight population, and from Plantlife.

Shortly after hearing about the discovery of *Fumaria reuteri* at Titchfield, John Norton e-mailed Martin Rand to say that he and Debbie Allan had walked past their local allotments in Gosport, on 25th October 2010, and were sure they had found the species. Photographs taken by Debbie show the almost untoothed sepals, but a specimen sent to Rose Murphy was immature and did not show the short peduncle and long raceme, so she was reluctant to verify the identification at that stage. Better material was obtained and sent to her in early May 2011, and the identification duly confirmed. A little later in 2011 Martin Rand and John Norton carried out a more thorough survey of the Gosport site, finding it rather uncommon, with the largest population confined to the fenced margins of the site.

On 23rd September 2011, just a year after the first discovery of *F. reuteri* in South Hampshire, John Moon was visiting Henry Edmunds' farm near Cholderton. This is quite a large farm that straddles the Hampshire/Wiltshire border, and Henry is well known as a champion of organic farming. The two of them spotted a group of about 20 unusual fumitories, which puzzled them, in a field within the North Hampshire part of the farm. A small fresh piece was sent via Tony Mundell to Rose Murphy, who determined it

as *F. reuteri*. John and Henry returned on 27th September 2011 and found that there were actually a few thousand plants of it scattered widely amongst the turnip crop. For the last five years this particular field has been grazed by cattle in winter and then used to raise Lapwings in spring. It is left fallow in summer until the Lapwings have fledged, then it is harrowed and sown with turnips. It seems likely that there were a few *F. reuteri* plants present at the beginning of this sequence of five years and that these have multiplied up as a result of the annual cultivation. Ironically Tony Mundell had been on a group visit with the Reading and District Natural History Society to the farm earlier on 25th June 2011 and had been delighted to see a few plants of *Fumaria parviflora* (Fine-leaved Fumitory) on the edge of the same field, but the group had not ventured across the sea of poppies out into the field itself.

Given the little run of recent reports of *Fumaria reuteri* (McHaffie, 2010; Hounsome, 2011), it seems not unlikely that new sites could be found for this species in Hampshire and elsewhere. The authors hope to make a more extensive search of Hampshire allotments during 2012.

Visiting

The allotment owners at Fareham and local allotment association are happy to receive visitors who arrange in advance when they intend to visit the site. The contact details are: Matt Wakefield, Horticultural Development Officer, Fareham Borough Council (Tel.: 01329 824543) (www.fareham.gov.uk).

Acknowledgements:

Rose Murphy, Peter Sell and Rosemary Parslow are thanked for their help in the identification of this species.

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A Lincolnshire *Epipactis*

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Epipactis dunensis (Dune Helleborine) is currently known from a single Lincolnshire site, Messingham Sand Quarry Lincolnshire Wildlife Trust reserve. Previously, it occurred at two other sites. Other than a short article using the same title as this one, however, nothing has been published on the status of the species in Lincolnshire and there has been no attempt to collate population data from the three sites. The current article is an attempt to chronicle the presence of this rare, endemic species in its Lincolnshire outpost and hopefully also to encourage botanists to search for other populations of the plant, which I am convinced must lurk elsewhere in the county.

Crowle Waste

Now part of the Crowle Moors Lincolnshire Wildlife Trust reserve, and long a SSSI for a variety of reasons, not least botanical, the site lies in the county of Lincolnshire but forms part of v.c.63 South-west Yorks. Part of the much larger Thorne Moors National Nature Reserve, it was for many years cut for peat, although, by the time of the discovery of *E. dunensis*, this had mostly ceased on Crowle Waste, albeit continuing for a number of years on Thorne Moors proper.

E. dunensis was first noted at Crowle on 5th July 1981, when the late Irene Weston (IW), found a total of 33 spikes of *E. helleborine* (Broad-leaved Helleborine) and *E. dunensis*. On 13th July, 30 spikes, all attributed to *E. dunensis*, were recorded, although they were not then in flower. Aware that this would constitute a first record for Lincolnshire, IW wrote to Franklyn Perring (FP), whom she evidently knew, requesting his help in the determination of the plants. He wrote back promptly, stating that he was no expert on *Epipactis* and suggested she might like to send a small specimen to the Referee, “Dr Knight”. This she evidently did, and, on 28th July, Dr J.T.H. Knight (JK) wrote back, indicating that he had received flowers and slides from her the previous Saturday while he was away on

holiday and that his daughter had kept them in a cool place until his return the previous night. He commented that the slides were very good and that he had taken the liberty of attaching self-adhesive discs on each one, evidently with an attempted determination. “I think no. 4 is the questionable one and could well be *Epipactis dunensis* Godfery”. He then went on to comment in detail on the specimens/slides, noting that he was guarded about both, stating: “The flowers are suspicious both in perianth segments and the ovaries, which do not quite fit with *Epipactis helleborine*.” However, he went on to say that *E. helleborine* was so variable that he had seen specimens resembling “exactly yours”. He determined one slide (No. 1) as *E. helleborine*, a good clustered specimen, commenting that he had seen one in Sussex with 27 flowering stems, from which it should be deduced that *Epipactis purpurata* (Violet Helleborine) “does not hold the prerogative of possessing clustered flowering stems.” He further noted that all the pollinia in the specimen flowers had disappeared, but that the flowers were afflicted with a fungus infection, which made determination difficult. He urged her to find “a sickly-looking plant with biflorous leaves” and to send him two flowers, one about to open and the other, just above it, in bud. This way he would be able to dissect the flowers and have a good look for the presence or absence of a glandular rostellum. “If that is weak or absent, the flowers will be those of *Ep. dunensis*.” IW must have acceded to his request promptly, for, on 7th August, JK wrote back: “Congratulations! It looks now as if we have a record for *E. dunensis* Godfery from Lincolnshire”. Dissection of one of the flowers had revealed complete dispersal of the pollinia and no semblance whatever of a glandular rostellum. In the same letter, JK comments at length as to how *E. muelleri* (Mueller's Helleborine) can be eliminated and on his suspicions that *E. dunensis* may yet turn out not to be endemic to Britain. He also writes of the

futility of attempting to identify *Epipactis* species from photographs.

Around the same time as writing to FP and JK, IW and also Miss E.J. Gibbons evidently wrote to Professor A.J. Richards (AJR), who was by then well known in the field of *Epipactis* research. In a letter of 8th September AJR remarked that *E. dunensis* on peat and amongst *Pteridium aquilinum* (Bracken) was indeed a remarkable, albeit not entirely unprecedented, record. It was around this time that AJR and others began to have suspicions that one of the North East populations of what were then unequivocally thought to be *E. leptochila* (Narrow-lipped Helleborine) was in fact comprised of *E. dunensis*. He goes on to say that “the only real distinguishing marks between *E. leptochila* and *E. dunensis* are labellum shape and posture, and, of course, habitat.” He further comments that *E. dunensis* is probably merely a dune variant of *E. leptochila* and that it “deserves only subspecific rank, if that.” AJR ends the letter by stating he would be very interested in borrowing a few slides. Some time later, having evidently received the requested slides, he writes again to IW. In a short letter he concurs with the identification of some of the plants as *E. dunensis*, while stating that “rather more may be *helleborine* than you thought”. He goes on to provide a few guidelines as to the separation of the two taxa. Most of these hold good today, however a few would raise eyebrows: “*dunensis* is never (?) multi-stemmed; *helleborine* often is”; “*dunensis* never has pink tepals, although it is sometimes slightly pink on the labellum”; the lower leaves of *dunensis* are “not cordate or clasping”. In comments which some orchidophiles would do well to take on board today he also advises that “Weak plants of *helleborine* can be small, yellowish, two-ranked, with green flowers and single-stemmed.”

The Crowle plants continued to be monitored in some detail annually by IW and others. There were counts of 25 in 1982 (with 35 *E. helleborine*) and 48 (50 *E. helleborine*) in 1983. Subsequently the species was noted in each year until the final record in 1990; however regrettably there are no further counts.

The plants grew on the north part of Crowle Moors, on the track around what was then the North Reserve, much of which was formerly a small-gauge railway track for removing the cut peat. Slides (see inside back cover) show the plants growing up through copious amounts of *P. aquilinum*. The ownership of Crowle is fragmented into strips. The LWT holding consisted then of a North and South Reserve, widely separated by land owned by others. This still applies today, but just recently a link has been established between the North and South Reserves, though a significant part of the intervening land is still not owned by the LWT.

The track itself was largely removed by the then warden, Ken Green, in the 1970s. The baulks supporting the railway track were built up with warp (alluvium) and clinker. Precisely what the substrate where the helleborines grew is not recorded. Paul Kirby, the recorder for North Lincolnshire, has commented: “I can’t be absolutely sure but I think that the Dune Helleborines were only found on baulks that had supported railway track, whereas the Broad-leaved Helleborines, though present on the these baulks, also occurred elsewhere.” Examination of some of the slides taken by IW and others of the Crowle plants today reveals that a number of them are indeed obviously *E. dunensis* and that, as commented by AJR, many more, indeed the majority, are, *E. helleborine*. This makes an accurate assessment of the population size somewhat difficult.

It is widely considered that flooding extirpated the Crowle population. However, whilst the principal of the two main sites at Crowle was subsequently flooded, one other remains to this day. Ironically it may in fact be that a lack of water was responsible. 1989–1991 was a very dry period, with rainfall figures from RAF Finningley (18km SW of Crowle) showing mean rainfall as follows: 1979–1995: 572mm; 1980–1987: 615mm; and 1988–1995: 520mm.

E. helleborine continues to be present at Crowle. However, there have been no further records of *E. dunensis*, despite searching by the writer and others. There remains much habitat at Crowle which, superficially at least, resembles that of the 1980s, and the plant’s habit of growing up through stands of Bracken would

make it easily overlooked. I, at least, remain hopeful that the species may yet be re-found here.

Osgodby Corner

Osgodby Corner is part of the much larger Willingham Woods Forestry Commission complex near Market Rasen. The small area where the helleborines grew was planted partly with conifers and partly with broad-leaved trees. The conifers, mostly *Pinus nigra* ssp. *laricio* (Corsican Pine) were planted in 1955, and the broad-leaves, mostly *Quercus rubra* (Red Oak), ten years earlier, as a narrow strip around the periphery of the site. The substrate is acidic cover-sands.

In 1978 IW came across a small number of helleborines, which, at the time, and for some time thereafter, she identified as *E. helleborine*. Ten plants were located when the population was initially found, with 11 plants noted in 1979. She continued to monitor the population and, by 1982, had seemingly become convinced that the plants were in fact *E. dunensis*, then considered a variety of *E. leptochila*. This was presumably because of her experience with the Crowle population, which had recently been confirmed as this taxon. On 7th July 1982, 25 spikes, all in bud, were counted, and on 13th July of the same year she sent material to AJR. In a telephone call to IW on 18th July, John Richards confirmed her identification as *E. dunensis*. By 21st July 1982, a total of 46 spikes in full bloom was counted, some of which were photographed by IW and G.S. Phillips. A special visit, in the company of E.J. Gibbons, was made on 25th July to map the plants (see p. 13). As can be seen from the map the colony occurred over a relatively small area, growing amongst a ground cover of *Equisetum arvense* (Field Horsetail). At this time the woodland would still have been relatively young and immature, with relatively little competition for the helleborines. Photographs from the earlier visit were exhibited at the BSBI exhibition meeting in November 1982, and a short note published in *Watsonia* (Weston, 1983), with the title “A Lincolnshire *Epipactis*”. In the note IW remarked that the plants exhibited epichiles which were “in the young florets ... straight, typical of the form seen in *E. leptochila*, but recurved as the florets

matured to resemble a lip characteristic of *E. dunensis*”. She postulated that the Osgodby population could be an intermediate form between the two species. *E. leptochila*, as it was then understood, had not at that time been recorded in Lincolnshire, as it was before local government reorganisation; the plants on Crowle being marooned in Humberside.

Emboldened by the telephone call from John Richards, IW wrote again to Dr Knight. On 16th November 1982 he wrote back. The news was not good. He commented that her remarks about the behaviour of the epichile were quite out of character for *E. leptochila*, although that was in any event irrelevant, as it was “the nature of the column and the presence or absence of a glandular rostellum in unopened flowers” which was important. For emphasis he underlined these words. He went on to say that he presumed it was such material as had been sent to John Richards and that, had she sent him one or two fruits, he may still have been of assistance to her. “The fruits are so characteristic that I have been able to determine this species in the past from the nature of the fruits.” He concluded by saying that “as regards recording ... it looks as if it had better stand as *E. helleborine* (L.) Crantz for the time being”, John Richards’ determination as *E. dunensis* seemingly being insufficient. On 24th July of the following year, IW led a Wild Flower Society visit to the site specifically to see the helleborines; although seemingly this was an unofficial visit, as no record survives in the Wild Flower Society annals (P. Llewellyn, pers. comm.). Notwithstanding the comments of JK in 1982, it is clear from a BSBI record card completed by IW in the same year that she regarded the identification as proven, the plants being recorded as *Epipactis leptochila* var. *dunensis*. Examination of photographs taken at the time reveals plants typical of *E. dunensis* (see inside back cover).

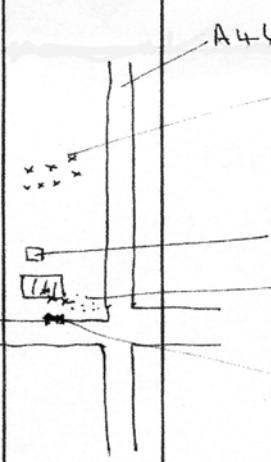
IW seemingly continued to monitor the site, although unfortunately there are no further surviving population counts. She last noted *E. dunensis* at Osgodby in 1989. Follow up visits in August 2005 (IW & Paul Kirby) and July 2010 by the writer failed to find any plants. In 2005 IW remarked that the area had changed

GRID REFERENCE		LOCALITY		
TF 099920		OSGODBY CORNER.		
TETRAD		HABITAT		
VICE-COUNTY		F.C. PLANTATION A OLD CONCRETE STANDING.		
DATE JULY		RECORDER(S) NAMES		
1982		WESTON.		

CONSENT TO RELEASE OF RECORDS

The records collected by the Atlas 2000 project will be sent to BRC on the understanding that the information provided by the recorder/compiler/determiner will be entered onto a computerised database and will be used for publication in an updated atlas, and subsequently for nature conservation, research and education and will be available for public information.

The information remains the intellectual property of the recorder/compiler/determiner at all times.

RARE, NOTABLE, CRITICAL, AND OTHER SPECIES, AND INFRASPECIFIC TAXA NOT INCLUDED OVERLEAF				
SPECIES	LOCALITY	6-FIG GRID	DATE	OTHER DETAILS
	F.C. OSGODBY PLANT. PINE PLANT. ROWS OF PINE TRAYBLADE AREA C. 10. A631.			25-40 overall in both visits Red brick ruined building DACT. FUCHSII. ENTRANCE.
				x = area APPROX <i>EPIPACTIS</i> . in <i>EQUISETUM ARISTENSE</i> COVE.
<i>EPIPACTIS LEPTOCALYA DUNENSIS</i>				

NOMENCLATURE FOLLOWS KENT (1992) LIST OF VASCULAR PLANTS OF THE BRITISH ISLES AND STACE (1991) NEW FLORA OF THE BRITISH ISLES

Osgodby record card of *Epipactis dunensis*, 1982, per Paul Kirby

dramatically – there was no sign of the *E. arvensis* among which the helleborines originally grew, and much of the area was under a continuous mat of *Hedera helix* (Common Ivy). In 2010 the situation was, if anything, even worse, with a ground layer carpeted with Ivy and a field layer dominated by tangled masses of impenetrable *Rubus* sp.(p.) (Bramble) and *Dryopteris dilatata* (Broad Buckler-fern). The site is now eminently unsuitable for the species. From photographs taken at the time, it is evident that, in the early 1980's, around the time the plant was first identified, the area where the plants grew was still a relatively immature area of woodland, with a rather closed canopy and consequently limited ground/field layer. By 1989 the plantation was evidently maturing and was clearly already unsuitable. By 2010, succession had well and truly taken hold, and the site is now an unremarkable piece of woodland. Even larger areas of potentially suitable habitat exist nearby, however, and it remains possible that *E. dunensis* could yet be re-discovered in the general area.

Messingham Sand Quarry LWT Reserve

After a lengthy 'absence' from the Lincolnshire flora, *E. dunensis* made a welcome re-appearance at Messingham Sand Quarry Lincolnshire Wildlife Trust Reserve in 2006. A former working sand quarry, the site has been leased and managed by Lincolnshire Wildlife Trust since 1981. The excavation of sand has left a series of lagoons of differing depths, with fringing beds of *Phragmites australis* (Common Reed). There is a small area of remnant heath, supporting *Calluna vulgaris* (Heather), *Genista anglica* (Petty Whin) and other heathland flora. Many of the tracks and drainage dykes are fringed with scrub, comprised of *Betula* (birch) and *Salix* (willow). Small areas of more mature woodland, including some planted conifers, complete a mosaic of habitats.

The plants have until recently been confined to an extremely limited area of no more than 20 square metres, growing in a damp, dingy hollow under *Betula* and *Salix*, in a strip of scrub woodland sandwiched between one of the principal areas of *Phragmites* marsh and one of the many broad tracks which criss-cross the site.

Interestingly, one of the dominant species of the ground layer is *E. arvensis*, which in some years carpets the ground; the helleborines growing through it seemingly without too much difficulty. The site appears to be becoming increasingly wet, with the *E. dunensis* favouring the drier, raised areas. Many of the plants are extremely small. A significant proportion do not flower each year, perhaps indicating habitat conditions are less than optimal.

The species was first found at this site by Vi Wilkin (then Voluntary Reserve Manager) on the annual Open Day in June 2006. Subsequently the population averaged around 12 or so spikes until a record count in 2009, when 23 were counted (pers. obs.). In 2010, when 14 spikes were recorded, a single plant was noted growing alongside the track bordering the main site, some 30m away. The annual mowing of this particular track had been delayed that year, thus, it seems, allowing the plant to mature and flower.

Concerned as to the management of the helleborines, I made representations to the reserve management in late 2010. As a consequence it was agreed that, inter alia, the track alongside and beyond the main site would not be mown over the summer. In 2011 a total of 19 spikes was noted at the main site and in two discreet populations along the trackside within 30m of it. As a precaution, the two populations were taped off and visitors deterred from entering the main site (see inside back cover). Many of the plants along the track were distinctly robust, more so than the plants at the main site, although robust plants have been found in previous years. With a significant range extension beyond the original core site and the thinning out of scrub connecting it with the trackside populations it is hoped the future of the species here is somewhat more secure than it otherwise might have been. Note that there is no open public access to Messingham; however interested naturalists are welcomed.

Varietal determination

All three Lincolnshire populations have been comprised of plants showing a distinct reddish base to the pedicel and a prominently pink-tinged epichile, and appear identical to the coastal plants. Inland plants in Northumber-

land and Cumbria (so called var. *tynensis*) typically show a green base to the pedicel and a cleaner, paler epichile, although are otherwise morphologically very similar. The Messingham plants, at least, are clearly autogamous, although a somewhat reduced viscidium is often apparent in recently opened flowers, as is also the case with coastal populations.

Similar inland populations have been found in recent years in an arc seemingly connecting the coastal Lancashire plants with those on Anglesey. It is likely there are more populations waiting to be found in this area. A huge population on the site of another former sand and gravel quarry near Wrexham had for many years masqueraded as *E. helleborine*, even being recorded as such on a BSBI meeting.

It must be stressed that none of the Lincolnshire plants have been genetically analysed. With plants at Messingham in some years showing features conceivably indicative of introgression with *E. helleborine* and with similar suspicions clouding at least some of the west coast plants, it remains possible the apparent adventurousness of the Lincolnshire helleborines is indicative of a promiscuous origin. However, if it walks like a duck...

Where did the plants come from?

E. dunensis has never been known from the Lincolnshire coast, the nearest east coast population being some considerable way to the

north in coastal County Durham. It is not known from whence the planted *Pinus* at Osgodby Corner originated, and so there is the possibility of the helleborines there having arrived as seeds on the roots of saplings transported from nurseries on the Lancashire coast, although this seems unlikely. Equally it is possible the plants arrived from wind-borne seed blown across from Lancashire or North Wales on the predominantly westerly airflow. More intriguing still is the thought they may in fact have originated independently of the other known populations from some quite separate selfing of *E. helleborine*. Unless and until the Lincolnshire plants have their DNA looked at, it is likely we will never know.

Acknowledgements:

Madge McLean of Axholme Camera Club kindly scanned old slides for me. Paul Kirby provided extensive and invaluable assistance, including the loan of original slides and photographs, upon which much of this article is based. He also provided constructive criticism of an early draft. Mathew Blissett of Lincolnshire Wildlife Trust permitted access to Messingham Sand Quarry SSSI and commented on the section relating to that site.

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Loss of Wrexham Herbarium

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During the 1970s and 1980s, while on the staff of the North East Wales Institute (previously Cartrefle College) at Wrexham, I built up an herbarium of some 1,000 sheets, mainly of plants collected in v.c.50 (Denbighshire) and v.c.51 (Flintshire). The collection was housed in herbarium cabinets at the College. It was registered in *British and Irish herbaria* by D.H.Kent and D.E.Allen (1984), p.71.

During the 1990s, after my retirement, the College was re-sited to another location in Wrexham, and became part of what is now

Glyndwr University. Unfortunately, due to a misunderstanding in the administration of the University, the herbarium was destroyed in August this year. When I made enquiries during November, I received a letter explaining that the Estates team were instructed, in error, to destroy the herbarium. The college authorities accepted responsibility for this unfortunate situation and offered their apologies. New administrative procedures have been put in place to try to avoid a similar loss in future.

Relict woodland on the cliffs and within the waterfall ravines of Swaledale

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This is a short introduction to a programme of current fieldwork designed to record the distribution of native tree species and woodland fragments throughout the River Swale catchment, west of Richmond. My intention is to publish a full account of the fieldwork in due course. For comparative purposes, adjacent areas within Wensleydale and the Tees–Greta Uplands (Stainmore) are also included. The area of this survey is very large (see Map, (p. 21) which shows Upper Swaledale the first of six study areas). With few exceptions, records have been confined to localities at or above the moorland edge. Woods wholly within improved pastures have been excluded. Thus, the scope has been confined to woodland localities on or clearly visible from CROW Access Land.

I have been concerned with the recording of archaeological landscapes throughout Wensleydale, Swaledale and the Swale – Tees/Greta Uplands (my study area) for almost 40 years, and was introduced to the significance of ancient woodland in the landscape by Andrew Fleming. It followed that no real understanding of the nature of early human activity in the Pennine Uplands (based on hunting and transhumance) was possible without considering the contemporary prehistoric woodland environment

My purpose in undertaking this survey is to place on record the relict woodland vegetation at the remote waterfall ravines and on the extensive limestone cliffs of Swaledale and adjacent areas. These localities can be regarded as refugia for native trees and formerly more extensive woodland, worthy of record on aesthetic grounds as the final refuge of specimen trees of great age, of individual character and of many different species. Each locality has unique botanical interest, with plant communities reflecting different geology, aspect, aridity, accessibility and

economic use or, more recently, modification from planting schemes. Each woodland locality may include specimen trees which possess an individual sculptural quality that reflects their hard and long life. Although having enjoyed a fairly intense interest in upland flora throughout my life, I am not a trained botanist and could not achieve the aims of this survey without the assistance and active participation of Linda Robinson (LR), one of the BSBI Recorders for v.c.65. LR has accompanied me on much of the fieldwork and all the credit for the botanical records must be assigned to her.

The survival of native woodland on the limestone scars and in the waterfall ravines of Wensleydale differs from that of Swaledale, and today does not include *Juniperus communis* (Juniper), and only very rarely *Taxus baccata* (Yew). *Populus tremula* (Aspen) is common at lower elevations only. The vegetation of Stainmore resembles that of Upper Swaledale, except for the absence of Juniper. Plants, including trees, recorded at very many of the sites have been listed by LR. Mosses and lichens have not been recorded with the exception of the non-flowering flora recorded by Dr Allan Pentecost on the exceptional tufa formation at the head of the ravine at How Edge Scars.

Preliminary conclusions on the data

1. Limestone Ash-wood, with and without Yew, is limited to localities on or below the top of the Main Limestone.
2. Aspen has been recorded in the Swale catchment above the confluence of Arkle Beck at a total of more than 20 sites. Aspen records are usually for cloned colonies where old ‘mother’ trees and three or four generations of young ramets springing from her roots are present. Regeneration of aspen is only possible when rabbit damage is minimal. Further work is necessary to deter-

- mine whether these colonies are clones and of single sex. (see Colour Section, plate 3 (1)). Elsewhere, Aspen has been recognised at Sleightholme Beck on Stainmore, on Deepdale Beck, and is widespread throughout Upper Teesdale and also in Lower Wensleydale.
3. Juniper has been recognised to date at more than 40 localities in the Swale Catchment upstream of Ellerton Scar. The prostrate form of Juniper is thought to be present at all or most of the localities.
 4. As elsewhere throughout the uplands, the Junipers which survive in Swaledale are usually single bushes or isolated populations of less than four bushes at any one location. These Junipers are not viable and, sadly recent rabbit ring-barking has led to severe damage or the death of very many isolated bushes. (see CS, plate 3 (2)).
 5. Juniper has not yet been found on Stainmore within the Greta catchment, but has recently been identified by LR, together with Aspen, in Baldersdale. Both Aspen and Juniper are widespread elsewhere in Upper Teesdale.
 6. No recent record of Juniper in Wensleydale exists (Millward, 1988).
 7. Yews are perhaps the most impressive of the relict woodland trees of the limestone scars of Swaledale. The similar limestone cliffs of Wensleydale are devoid of Yews; most of the high limestone scars of Wensleydale are barren of any woodland vegetation for that matter. The cliff Yews of Swaledale are of exceptional value for every reason, both as surviving specimen trees of great beauty, and as a resource for future research. Many will, I am certain, prove to be of immense age. (see CS, plate 3 (3)). It has become apparent that the cliff yews may be cloned populations.
 8. Discussion of Aspen, Juniper and Yew should not deflect attention or detract from the significant populations of trees of other species – *Fraxinus excelsior* (Ash), *Ulmus glabra* (Wych Elm), *Prunus padus* (Bird Cherry), *Prunus avium* (Wild Cherry), *Corylus avellana* (Hazel), *Rosa* spp. (roses), *Sorbus aucuparia* (Rowan), rare *Sorbus rupicola* (Rock Whitebeam), *Salix* spp. (sallows and other willow species), all present on and below the limestone cliffs and within the waterfall ravines of Swaledale.
 9. The risk that Yews, *Alnus glutinosa* (Alders), elms and other trees will suddenly succumb to virus disease is ever present. For example a large population of Yews at West Applegarth includes a significant and growing number of recently dead trees. This dire situation needs to be monitored under a programme of research from a British university at local level.
 10. Finally, and perhaps most significantly, I shall draw attention to the existence of an extensive and healthy population of *Tilia platyphyllos* (Large-leaved Lime) trees, mostly managed coppice, but also self-coppiced ancient trees on the face and top edge of sheer limestone cliffs, in the woods of Lower Swaledale. This population is scattered for upwards of 2km on the south-facing cliffs, eastward from West Applegarth, beyond Willance's Leap to Whitecliffe Woods. The presence of Large-leaved Limes in Swaledale, at the northern limit for this species in Britain, was, I believe, first recognised by Dr C.D. Pigott.
- Future contamination from planting schemes**
- I know that I shall be treading on toes in expressing my view that the planting of inappropriate 'berried' shrubs (*i.e.* *Crataegus monogyna* (Hawthorn)) in vast numbers above sheltered ravines with native woodland which includes *Prunus spinosa* (Blackthorn) but largely excludes Hawthorn will have long term effects which are not understood. The effects of this extensive planting on the native woodlands nearby are uncertain. As an example of the unforeseen consequences of plantation, may I refer the reader to the limestone cliff above Hooker Mill on the west facing slopes of Kisdon Hill, where a fine population of Aspen, Juniper (prostrate form) and ancient Yews is now (hopelessly) competing for space with a flourishing population of self seeded *Larix europaea* (Larch), which

originates from a small mature plantation located below the cliff. (see CS, plate 3 (4)). The Larch plantation was planted a century ago for the best of landscape reasons, when the presence of the Aspen, Juniper and Yew on the cliff were probably not recognised.

The woodland localities

Space limitations preclude the addition of a detailed gazetteer here; however brief accounts of just two localities representative of a high limestone cliff and a waterfall ravine cut through sandstones and shales (with local enrichment from marine shales and tufa springs) can be included:

1. Oxnop Scar (SD937952), 495m. (see CS, plate 3 (5 & 6)). West-facing sheer limestone cliff with Aspen on face of cliff and two Junipers. Surprisingly, this exposed high cliff also supports a varied relict woodland, with Ash, Blackthorn, *Sambucus nigra* (Elder), Hazel, and *Rosa mollis* (Downy Rose) at their local altitudinal limit.

Thalictrum minus (Lesser Meadow-rue) is also present (Table 1).

2. Great Ash Gill (NY869007), 420m. Stream cut ravine through Namurian Sandstones and mudstones with waterfalls, with two Aspen cloned colonies and two isolated Junipers (?prostrate form). Generally acidic vegetation, but with local enrichment from tufa springs just above the stream. *Rubus saxatilis* (Stone Bramble) and *Gymnocarpium dryopteris* (Oak Fern) are present (Table 1).

Finally for further details of this on-going Woodland Project, the reader is referred to the Swaledale and Arkengarthdale Archaeological Society (SWAAG) website: <http://www.swaag.org>, where accounts of the woodland fragments in their landscape setting and photographic portraits of all woodland localities visited are or will soon be available.

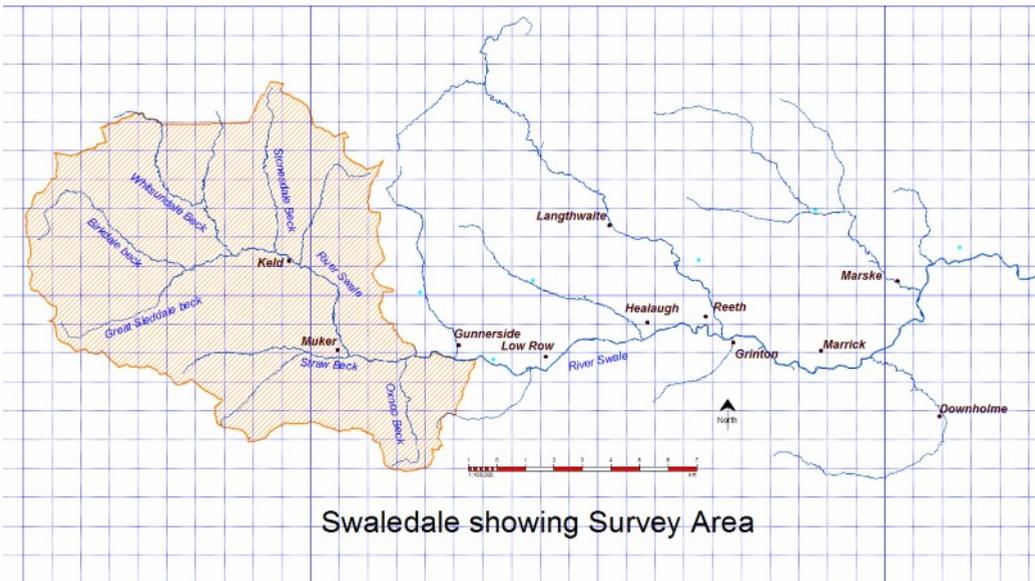
Table 1. Vascular plant species lists from Great Ash Gill and Oxnop Scar, courtesy Linda Robinson

Species	Acidic rock; Great Ash Gill	Limestone Oxnop Scar
<i>Acer pseudoplatanus</i>		*
<i>Achillea millefolium</i>		*
<i>Agrostis capillaris</i>		*
<i>Agrostis stolonifera</i>	*	
<i>Alchemilla glabra</i>	*	*
<i>Anthoxanthum odoratum</i>	*	
<i>Arabis hirsuta</i>		*
<i>Arenaria leptoclados</i>		*
<i>Arenaria serpyllifolia</i>		*
<i>Asplenium ruta-muraria</i>		*
<i>Asplenium trichomanes</i>		*
<i>Asplenium viride</i>	*	
<i>Bellis perennis</i>		*
<i>Betula pubescens</i>	*	
<i>Blechnum spicant</i>	*	
<i>Calluna vulgaris</i>	*	
<i>Campanula rotundifolia</i>	*	*
<i>Cardamine hirsuta</i>	*	
<i>Cardamine pratensis</i>	*	

<i>Carduus nutans</i>		*
<i>Carex caryophyllea</i>		*
<i>Carex flacca</i>		*
<i>Carex panicea</i>	*	
<i>Cerastium fontanum</i>	*	*
<i>Chamerion angustifolium</i>	*	*
<i>Chrysosplenium oppositifolium</i>	*	
<i>Cirsium palustre</i>	*	*
<i>Cirsium vulgare</i>		*
<i>Corylus avellana</i>		*
<i>Crataegus monogyna</i>	*	*
<i>Crepis paludosa</i>	*	
<i>Cruciata laevipes</i>		*
<i>Cynosurus cristatus</i>		*
<i>Cystopteris fragilis</i>	*	*
<i>Digitalis purpurea</i>	*	
<i>Draba incana</i>		*
<i>Dryopteris dilatata</i>	*	
<i>Dryopteris submontana</i>		*
<i>Epilobium brunnescens</i>	*	
<i>Epilobium montanum</i>		*
<i>Erica tetralix</i>	*	
<i>Eriophorum vaginatum</i>	*	
<i>Euphrasia confusa</i>		*
<i>Euphrasia sp.</i>		*
<i>Festuca ovina</i>		*
<i>Festuca rubra</i>	*	
<i>Fragaria vesca</i>	*	
<i>Fraxinus excelsior</i>		*
<i>Galium saxatile</i>	*	
<i>Galium sternerii</i>		*
<i>Galium verum</i>		*
<i>Geranium lucidum</i>		*
<i>Geranium robertianum</i>	*	*
<i>Geum rivale</i>	*	
<i>Gymnocarpium dryopteris</i>	*	
<i>Hedera helix</i>		*
<i>Helianthemum nummularium</i>		*
<i>Heracleum sphondylium</i>		*
<i>Hieracium sp.</i>	*	*
<i>Holcus lanatus</i>	*	
<i>Hornungia petraea</i>		*
<i>Hypericum pulchrum</i>	*	
<i>Juncus effusus</i>	*	

<i>Juncus squarrosus</i>	*	
<i>Juniperus communis</i> ssp. <i>nana</i>	*	*
<i>Koeleria macrantha</i>		*
<i>Linum catharticum</i>		*
<i>Luzula pilosa</i>		*
<i>Luzula sylvatica</i>	*	
<i>Molinia caerulea</i>	*	
<i>Montia fontana</i>	*	
<i>Mycelis muralis</i>		*
<i>Myosotis arvensis</i>		*
<i>Nardus stricta</i>		*
<i>Oxalis acetosella</i>	*	*
<i>Pilosella officinarum</i>		*
<i>Pimpinella saxifraga</i>		*
<i>Pinguicula vulgaris</i>	*	
<i>Plantago lanceolata</i>		*
<i>Poa annua</i>	*	*
<i>Populus tremula</i>	*	*
<i>Potentilla erecta</i>		*
<i>Potentilla sterilis</i>	*	*
<i>Primula vulgaris</i>	*	
<i>Prunella vulgaris</i>	*	*
<i>Prunus spinosa</i>		*
<i>Ranunculus acris</i>	*	*
<i>Ranunculus repens</i>		*
<i>Rubus saxatilis</i>	*	
<i>Rumex acetosa</i>	*	*
<i>Rumex acetosella</i>	*	
<i>Sagina procumbens</i>	*	
<i>Sambucus nigra</i>		*
<i>Saxifraga hypnoides</i>		*
<i>Scabiosa columbaria</i>		*
<i>Sedum acre</i>		*
<i>Senecio jacobaea</i>	*	*
<i>Sesleria caerulea</i>		*
<i>Solidago virgaurea</i>	*	
<i>Sorbus aucuparia</i>	*	*
<i>Stellaria alsine</i>	*	
<i>Taraxacum</i> agg.		*
<i>Teucrium scorodonia</i>	*	
<i>Thalictrum minus</i>		*
<i>Thymus polytrichus</i>		*
<i>Trichophorum germanicum</i>	*	

<i>Trifolium repens</i>		*
<i>Tussilago farfara</i>	*	
<i>Urtica dioica</i>	*	*
<i>Vaccinium myrtillus</i>	*	
<i>Veronica arvensis</i>		*
<i>Veronica chamaedrys</i>		*
<i>Veronica officinalis</i>		*
<i>Veronica serpyllifolia</i>		*
<i>Vicia sepium</i>	*	
<i>Viola lutea</i>		*
<i>Viola riviniana</i>	*	*



Discovery of two unrecorded peloric forms of *Ophrys sphegodes* in Dorset, 2010

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Introduction

The normal *Ophrys sphegodes* (Early Spider-orchid) flower consists of a perianth of six segments (bilaterally symmetrical), arranged in an outer and inner whorl, at the top of the flower stalk (pedicel), which includes the ovary. The outer perianth segments are large, pointed oblong and yellow-green in colour, with slightly wavy margins. The upper, outer perianth segment arches over the central column or rostellum and the upper inner whorl

is made up of three petals, of which two are alike and are similar to the outer sepals. These are tinged orange-brown on the margins. The third is much larger, coloured and marked, and is known as the labellum or lip. The labellum is velvety brown, with a furry hump on either side. In the centre there is a silver-grey 'H' mark, rarely red. The central column houses the pollinia, on each side, in pouches known as the thecae. There are pseudo eyes, which are an iridescent greenish grey.

Naturally occurring floral abnormalities can be found in natural populations of orchids, although rare. Peloric mutations have radially symmetrical (actinomorphic) flowers, but occur in species characterised by bilaterally symmetric (zygomorphic) flowers.

Plant A (see inside back cover) typifies actinomorphy, with the labellum absent, showing only outer and inner perianth segments of normal colouration. A deviation in whorls has occurred, with an arrangement of five flowers on the stalk bearing four, four, five, and four segmented perianths. The third flower failed to open. All flowers had three anther caps, with pollinia intact but sealed within the thecae, thus any form of pollination would not be viable. This form is extreme and was unlikely to attract any pollinators.

Plant B (see inside back cover) shows an interesting and not unattractive mutant. The flower stalk bears three flowers, two of which are fully open. The lower flower has a normal reflexed labellum, with upper and inner petals. Two have become fused. The second flower has no labellum or a vestige of one, and this has upper and inner petals (three) showing hypochromy, a white colour anomaly, very rare with this taxon, with greenish-yellow veining. One petal on each flower shows part labelloid, part petaloid structure. This suggests an incomplete *cyc-1* gene mutation (petal development). Both flowers have three anther caps, with pollinia intact and viable, fully capable of visiting insect withdrawal. The plant itself is probably sterile, as with plant A. The top flower, with five anther caps, remained in a petal 'bonnet'-type structure. On visiting the plant at a later date this structure had not unfurled.

On re-visiting the Dorset site in 2011, both peloric plants had re-appeared; not in itself unusual owing to the level of mutation and the lack of labellums on plant A and part-label-lums on plant B. These mutational changes

will make for unusual growth patterns and will appear for two to three seasons. The normal plants of *Ophrys sphegodes* will re-flower at least two to three times depending on appropriate site management, grazing and weather patterns. On examining plant A, this had three perianths, two less than the 2010 plant. The second, four-segmented perianth displayed a further evolutionary change, and shows one half labelloid and the other half petaloid. Plant B exhibited no further mutational changes.

Acknowledgement:

I am grateful to my friend and fellow botanical adventurer, Andrew Merrick, for pointing out Plant B, having missed it!

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Archaeophyte herbal plants of the River Tweed

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On 8th August 2011, I was botanising in Berwickshire (v.c.81), on a steep bank at Dalcove Braes (NT63), overlooking the River Tweed, and paused for my lunch (see Colour Section, plate 4). The bank is a coarse conglomerate of sand and gravel, which may be the oldest stratum of the Upper Old Red Sandstone rather than a glacial moraine. It erodes to maintain an open habitat, colonised by rank weeds, especially *Carduus crispus* (Wetted Thistle). I noticed a large rosette of leaves which did not seem quite right for a thistle, and this I inspected after finishing my lunch. I was baffled, and collected a leaf. It took input from my wife, Paddy, to identify it as *Hyoscyamus niger* (Henbane). Re-visiting the site, I found a dozen flowering or fruiting plants of the Henbane, obscured by the thistles, and 168 rosettes of this biennial plant spread over 150m of the bank, suggesting a long-established colony. Associated species included *Ballota nigra* (Black Horehound), *Conium maculatum* (Hemlock), *Echium vulgare* (Viper's Bugloss), *Malva sylvestris* (Common Mallow) and *Reseda luteola* (Weld).

Henbane, once cultivated for use as an anaesthetic and for the hallucinations it can induce, had not been seen in Berwickshire since 1956, and I had not expected to re-find it, except perhaps on a building site round one of the villages near the coast, where it was known in the distant past and where viable buried seed might still persist. Interestingly, Henbane was reported at or near the Dalcove site in the second volume of George Johnston's *A flora of Berwick-upon-Tweed* in 1831. There, it is given for "North bank of the Tweed opposite Littledean Castle, Mr R.D. Thomson". Littledean Tower is on the south (Roxburghshire) side of the Tweed 1.5km upstream of Dalcove Braes. So we do indeed have persuasive evidence of a long-established colony of Henbane far away from sandy habitats at the coast, as Dalcove Braes is 40km from the sea. This is a rare occurrence for Scotland.

Dalcove Braes lies immediately below the small farmstead of Old Dalcove, where a

small house stands to this day, and this may be where the herbs were cultivated. There must surely have been a link with the hospital associated with Rutherford village, immediately across the river. The exact location of the hospital is not known, so it could have been at Dalcove. It was dedicated to St Mary Magdalene and was first recorded in 1276, though it may have been founded by James I of Scotland (1153-1163). Such hospitals often cared as much for travellers as for the sick and were frequently found near a river crossing. There was still a ferry across the Tweed at this point in 1863 and a ford nearby. The hospital and the village were destroyed by the English in 1544. The 1863 map shows an island in the Tweed at this point, with the stream on its north side undercutting Dalcove Braes. The braes are now separated from the river by a broad haugh, and the erosion, aided by cattle plodging that maintains the open habitat, may be slowing, as the erosion debris at the base of the bank is no longer washed away. The line of the former river channel is still visible on the haugh and its western limit is marked by a venerable Alder.

My mind then turned to the associated species: *Ballota*, *Conium*, *Echium*, *Malva* and *Reseda*. All these, like the *Hyoscyamus*, were cultivated in the past. The *Ballota* was sometimes used as an infusion; the *Conium* as a poultice and as a poison; the *Echium* as an aphrodisiac, and its roots as a red dye; the *Malva* as a poultice on wounds and the *Reseda* as a yellow dye. Unlike the *Hyoscyamus*, these four species have a series of sites in Berwickshire, often on sandstone rock exposures along the Tweed, though there are additional sites near habitation. A suspicion grew in my mind that something has been going on here that I had not considered before. Could it be that there was a small group of plants that had been cultivated as herbal plants, as in all probability at Dalcove, and had naturalised down the Tweed in this specialised habitat? The river banks and river gravels have long been known as habitats for a range of aliens, both archaeo-

phyte and neophyte, including herbal and cottage garden plants like *Chenopodium bonus-henricus* (Good-King-Henry), *Hesperis matronalis* (Dame's Violet), *Myrrhis odorata* (Sweet Cicely) and, I would argue, *Symphytum tuberosum* (Tuberous Comfrey). But what about the sandstone outcrops?

Species typical of the sandstone outcrops, in addition to the *Ballota*, *Conium*, *Echium*, *Malva* and *Reseda*, are *Dipsacus fullonum* (Teasel) and *Lactuca virosa* (Great Lettuce). The *Lactuca* is also a herbal plant, once used as a sedative. The odd one out is the *Dipsacus* and this just might hold the key to my hypothesis. For the *Dipsacus* was not recorded beside the Tweed until 1893 and, as the earlier nineteenth-century botanists could hardly have missed such a prominent species, this makes it a recent neophyte in this habitat. So how did it get there? First there needs to have been a source and, while George Johnston writing in 1853 records having once seen a small field planted with Teasel near Melrose, that is likely to have been *Dipsacus sativus* (Fuller's Teasel), grown for use in the tweed mills, so garden plants grown for ornament seem a more likely source. Then there needs to be a distribution route. *Dipsacus* is adapted for the distribution of its spiny fruits by animals but there is no reason why the river should not also play a part. But an essential element is the availability of landing stages and these are not lacking. The sandstone rock exposures by the Tweed reach right down to the river so the habitat is right there where seeds might be washed up in a flood. Once a plant is established on the rocks it will colonise upwards over time.

I suggest that this recent example supports the hypothesis that the other species in my group could have colonised in the same way. But, you may ask, surely some of them are native species? The *Echium* is almost certainly native on the Northumberland coast, but not necessarily so up the River Tweed. The *Conium* likewise might be native near the coast, but inland it is strongly associated with old buildings and, at least until recently, the Tweedside colonies were much the most extensive ones away from the coast. I have

observed it with some surprise on the ruins of Overton Tower, at 250m above Camptown near Jedburgh, and it grows by an old byre at our own home at Clarilaw, which much pre-dates the Victorian farmhouse. I had always imagined the *Lactuca* to be native as its habitat on the cliffs is so very distinctive, but, after learning of its herbal uses, I am now inclined to change my mind.

If these species are indeed archaeophytes, the dates of their first introduction become of interest. Alas, one cannot determine those from distribution patterns alone. Some of the introductions could date back to prehistory, but I leave further speculation to archaeologists.

Two further taxa might be considered: *Hypericum perforatum* (Perforate St John's-wort) and *H. ×desetangii* (Hybrid St John's-wort). The latter in particular is extraordinarily frequent by the Tweed in the absence of *H. maculatum* (Imperforate St John's-wort), both on the river banks and round the edge of the sandstone cliffs. *Hypericum* species, particularly *H. perforatum*, have also been used by herbalists. Neither taxon is necessarily native inland in the Scottish Borders but their present distribution may owe more to the coming of the railways than to herbalists, for they spread freely along the ballast and seed would have reached the river from the railway bridges.

So my hypothesis is this. There is an interesting group of archaeophyte herbal plants that have colonised the sandstone cliffs by the River Tweed outside their native ranges that comprise some or all of the following: *Ballota nigra* (Black Horehound), *Conium maculatum* (Hemlock), *Echium vulgare* (Viper's Bugloss), *Hypericum perforatum* (Perforate St John's-wort), *H. ×desetangii* (Hybrid St John's-wort), *Lactuca virosa* (Great Lettuce), *Malva sylvestris* (Common Mallow) and *Reseda luteola* (Weld). If you still consider one or two of these to be native, even inland in the hill-girdled Tweed Valley, I won't hold it against you, as we will never all come to agree on the subject of status, but, please, at least allow me to sow some seeds of thought in your mind as to what to take into account when next you consider native and alien status in a regional context.

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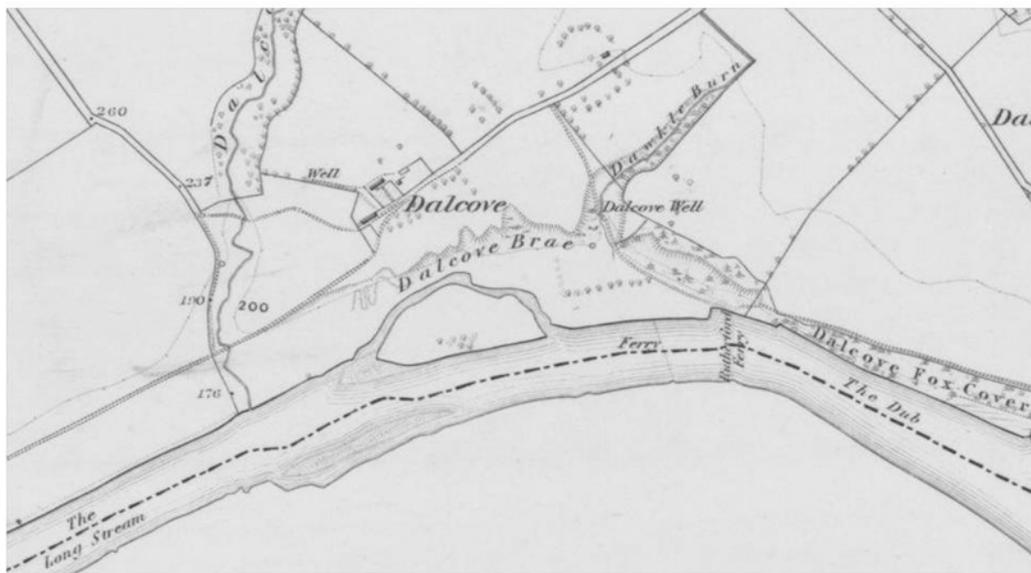
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Ordnance Survey Maps Six-inch 1st Edition, Berwickshire Sheet XXXI, surveyed 1858, published 1862.JPG

Neglected Couch: the enigma of *Elytrigia campestris* ssp. *maritima* - a confused couch!

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In earlier floras *Elytrigia campestris* ssp. *maritima* went through various name changes, e.g.: *Agropyron maritimum* (Koch & Ziz) Jansen & Wachter, (Clapham *et al.*, 1962) and *Elymus repens* ssp. *arenosus* auct. non (Spenn.) Melderis, and is retained as such in this genus by some to this day (Cope & Gray, 2009). With the useful practical solution of separating the rhizomatous couches into *Elytrigia*, it became *Elytrigia repens* ssp. *arenosa* auct. non (Spenn.) A. Löve, (Stace, 1997). However, in the present flora (Stace, 2010), it is placed as a subspecies within a European taxon called *Elytrigia campestris*

(Godr. & Gren.) Kerguélen, which is given the new epithet of ‘ssp. *maritima*’ (Tzvelev) H. Scholz (Scholz, 1998), and, for us at least, has the English name Neglected Couch.

This is undoubtedly a confused couch grass. Material was studied in detail by Trist (1995), who showed some variable aspects to the characters of this so-called taxon. Material was looked at in this study from several herbaria where it occurred, as this was part of a wider study of *Elytrigia* hybrids. For Neglected Couch, material has also been reviewed that was used in the taxonomic and nomenclatural changes by Scholz (1998).

Material was sought from Berlin Dahlem museum (B) of both *Elytrigia campestris* (revised to ssp. *campestris* in Scholz, 1998) and some plants that had been re-named ssp. *maritima*.

All the material seen in UK herbaria so far was either small to medium-sized *Elytrigia repens* (L.) Desv. (Common Couch), *E. atherica* (Link) Kerguelen (Sea Couch), or the hybrid between the two. The binomial for the latter is currently *E. ×drucei* Stace. This name is likely to stand correct, but there appear to be one or two problems surrounding the identification of some plants relating to the nomenclatural updates given in Stace (2001). A further note will be given on this topic at a later date.

In NMW, specimens re-determined by Trist were, in my opinion, small *E. repens* (NMW, numbers: 35.179.543; 29.527.189; 29.527.190 and 51.260.78). The first three of these sheets are G.A. Ringselle's, each being a duplicate for *Plantae Suecicae*, (Trist, 1995: 390).

Material was also looked at from Spurn Point, Hull (v.c.61) and sites listed by Cook (1999). Visits to the sites showed a similar situation to that given above for the herbarium material. However, the situation there seemed to be that, on more open bare ground and near to and on the tracks, plants were more often small forms of *E. atherica*, which became taller and denser on the sides of the tracks. *Elytrigia atherica* seems to occur in good numbers in this area, with some hybrid plants scattered around, whereas in other areas hybrids seem to be very common, with *E. atherica* being rare or absent (Greenwood, 2004).

The specimens from Berlin Dahlem museum (courtesy of H. Scholz) were also in question, based on plants known and since reviewed in Britain. Some of the plants from the Berlin Dahlem museum, Germany are summarised in the tables below. Two plants sent here as *E. campestris* ssp. *campestris* are summarised in Table 1.

Table 1. *E. campestris* ssp. *campestris*: floral, leaf and sheath characters

Character	B10 0020433–94/2009-1	B10 0325536–94/2009-2
Fertility	Fertile – anthers dehisced	Fertile – anthers dehisced
Main ridges in TS	Distinct elevated round topped	Distinct elevated round topped
Sheath margin hairs	Appear clean and glabrous	Appear clean and glabrous
No. spikes per sheet	5 spikes	2 spikes
Other	Cataphylls with hairs on margin	Not visible
Leaves	Without long hairs but scabrid	Without long hairs but scabrid

Some of the plants used in the typification of ssp. *maritima* Scholz were also reviewed (Table 2. These two plants, on different

sheets, were labelled by Scholz as *E. campestris* ssp. *maritima*.

Table 2. General aspects of plants on sheets: B10 0325537–94/2009-3 and B10 0325538–94/2009-4

Character	B10 0325537–94/2009-3	B10 0325538–94/2009-4
Fertility	Anthers indehiscent	Fertile – anthers dehisced
Main ridges in TS	confused round-flat-topped	Mainly flat-topped
Sheath margin hairs	Distinct hairs on free-margin	Distinct hairs on free-margin
No. spikes per sheet	8 spikes + shoots	2 spikes + 1 shoot
Other	Widest leaf 4.5mm	Widest leaf 5mm
Leaves	No long-hairs seen, barely scabrid	No long hairs seen, barely scabrid

E. campestris ssp. *campestris* was a distinct grass and, although the key in Scholtz (1998) says that it has the leaf sheath margins glabrous (or rarely with hairs on the free margin), two other plants of *E. campestris* reviewed had hairs on the free margin, but still appeared to be *E. campestris* s. str., based on the rib characters of the upper surface of the leaves. The main ribs of this taxon are distinctly rounded and often spaced from one another, with a smaller, rounded rib between. This species clearly has affinities to *E. atherica* and that relationship needs to be looked at, although it does appear distinct from the latter, of which the main ribs are distinctly flat-topped, more or less square in transverse section (TS).

The plants of *E. campestris* ssp. *maritima* Scholz, on two separate sheets, were clearly two different taxa. Plant B10 0325538–94/2009-4 was *E. atherica*, with distinct, flat-topped ribs (in TS), and appeared to be dehiscent. Plant B10 0325537–94/2009-3 was originally labelled as a hybrid on the sheet. There were eight spikes on the sheet, roughly 74 spikelets in total, with an average of about three flowers per spikelet, and (approximately) all 222 flowers had indehiscent anthers. The anthers were clearly small, dark brown, and the pollen grains sterile. This plant is a hybrid between *E. atherica* and *E. repens* (*E. ×drucei* Stace). These plants have rounded to confused, rounded-flat-topped ribs (in TS), and so they appeared superficially like *E. campestris sensu stricto*. Some plants of *E. atherica* × *E. repens* exhibit the long hairs found in *E. repens* on the upper surface of the leaves, but they are usually sparse to scattered and/or absent. In this case, none were seen, as it is not possible to unroll all the leaves to check for this character without splitting them.

From these limited findings it showed that the grass *E. campestris* ssp. *maritima* is an enigma and apparently confused with either small to medium-sized forms of *E. repens*, *E. atherica* and their hybrid. Therefore, though it is only one opinion, technically *E. campestris* ssp. *maritima* does not exist,

regardless of the name applied to it now or in the past, and *E. campestris* s. str. remains a single taxon, which has not been detected in Britain. As a number of the plants are *E. atherica* × *E. repens* (*E. ×drucei* Stace), then perhaps the English name of this hybrid couch should be ‘Confused Couch’ to reflect this chequered history.

Acknowledgements:

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Monitoring the fate of *Glaucium flavum* (Yellow Horned-poppy) at Sand Bay, North Somerset

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Glaucium flavum (Yellow Horned-poppy) is a short-lived maritime perennial. Plants do not flower until their second year and live for up to about five years. It is predominantly a colonist of free-draining shingle or sand, appearing to be intolerant of water-logging and showing a marked preference for basic substrates (Scott, 1963).

Nationally this species can be found around the coasts of England and Wales, extending in the east northwards to Spurn Point (v.c.61, S.E.Yorks.), then with a few isolated occurrences north to Fife and on the west coast northwards to Arran (v.c.100) and Great Cumbrae (v.c.99). In Ireland it is largely restricted to the eastern and southern coasts, but scattered in the west, north to Galway Bay. In North Somerset (v.c.6) *Glaucium flavum* had declined dramatically by the beginning of the twentieth century, which White (1912) attributed to the pressure of tourists. Sightings since then have been sporadic. Roe (1981) declared it “completely gone”, the last known records being at Burnham in 1924 and Kewstoke Bay in 1917. However, a solitary plant was found in 1956 on shingle near the base of Brean Down (Willis, 1982). In 1981, a large flowering plant was seen at Burnham; a single seedling was found in 1982 at Kewstoke Bay (Sand Bay) and one plant was recorded on the south side of Brean Down in 1992. These were the last records until 2008.

The decline and loss of *Glaucium flavum* in North Somerset was attributed to habitat degradation and trampling by tourists. Its former abundance and sporadic re-appearances suggest that, although there is little shingle along the coast here, the substrate is not unsuitable. Yet despite re-colonisation episodes, until 2008 this species had failed to become re-established in North Somerset. When, in the summer of 2008, 39 young plants of *Glaucium flavum* were observed along the length of the strandline in Sand Bay, this gave

an opportunity for monitoring either the establishment or the failure of a natural population of the species in this area.

Sand Bay (also referred to as Kewstoke Bay) lies just north of the town of Weston-super-Mare, and is bounded by two rocky promontories: Worlebury Hill to the south and Sand Point to the north. The bay is backed by a narrow band of sand dunes for most of its length, while the northern end has a growing section of salt marsh. Composition of the beach varies from sand to a mix of sand and shingle, with muddy sand further to seaward. The whole bay is part of the Severn Estuary SSSI and is a botanically important site. Fifteen other v.c.6 Rare Plant Register species have post-1987 records: *Althaea officinalis* (Marsh-mallow), *Atriplex laciniata* (Frosted Orache), *Atriplex littoralis* (Grass-leaved Orache), *Atriplex portulacoides* (Sea-purslane), *Carex extensa* (Long-bracted Sedge), *Cynoglossum officinale* (Hound’s-tongue), *Honckenya peploides* (Sea Sandwort), *Juncus maritimus* (Sea Rush), *Parapholis incurva* (Curved Hard-grass), *Salicornia dolichostachya* (Long-spiked Glasswort), *Salsola kali* ssp. *kali* (Prickly Saltwort), *Calystegia soldanella* (Sea Bindweed), *Eryngium maritimum* (Sea-holly), *Polygonum oxyspermum* ssp. *raii* (Ray’s Knotgrass) and *Trifolium squamosum* (Sea Clover), although the last four are feared lost.

Monitoring methodology

The first monitoring of young *Glaucium flavum* plants was carried out in early September 2008. The position of each plant was recorded using a GPS, and, in addition, the size of each plant was recorded on each visit, this being the width of rosette measured across the widest part of the plant. This was repeated in November 2008, and in March, July, September and December of 2009. Photographs of some sites were taken as records.

Distribution of new seedlings was noted, as was the number of plants flowering and producing ripe seed. A search for new seedlings was carried out at intervals during 2010 and 2011.

Results

Thirty-seven plants were found at the first monitoring in September 2008, but already two plants which had been seen at the time of

discovery could no longer be found. The number of plants seen on each visit is shown in Table 1. The greatest concentration of plants was found in the centre of the bay. Additional plants were found in November 2008 and July 2009, but, despite this, the number of extant plants declined steadily on each visit and only two plants remained by December 2009.

Table 1: Number of plants seen on each visit

	Sept 2008	Nov 2008	Mar 2009	Jul 2009	Sept 2009	Dec 2009	Mar 2010
No. of new plants recorded	37	6	0	5	0	0	0
No. of plants lost	2*	17	8	7	10	4	2
No. of plants present	37	26	18	16	6	2	0
Total seen to date	39	45	45	50	50	50	50

*2 plants seen at time of discovery could not be found during first monitoring visit

Using the recorded GPS coordinates, it was possible to check each of the original 37 plant positions at every visit so that where plants were lost we could consider possible reasons. We observed that in 2009 the predominant cause of plant loss was burial: by debris washed up by spring tides (see Colour Section, plate 2(1)), and subsequently by blown sand, which accreted sufficiently to cover the debris entirely (see CS, plate 2(2)). In this way new fore-dunes were continuously built in a seaward direction during 2008 and 2009. From the position of a line of *Malva arborea* (Tree-mallows), which it could be postulated had arisen from seed washed up in the past, it appeared that the dune system had recently advanced seaward considerably (see CS, plate 2(3)). As the new fore-dunes became colonised, competition ensued, so that the habitat eventually became less favourable for the emergence of *Glaucium flavum* seedlings. The five new seedlings found in 2009 were not on the current strandline, but were further back in sand where the 2008 fore-dunes and/or strandline may have been. These seedlings did not survive. No *Glaucium flavum* plant that was lost was ever re-discovered on subsequent visits.

Measurements of plant size (maximum width of rosette) showed no relationship with fate of plant (Table 2). The largest plant sizes

were recorded in November 2008 (plants in their first year). Most plants decreased in size. Where an individual plant continued to decline in size in 2009, it was observed to be due to constant burial by either debris or blown sand. The seedlings could not outgrow the accretion rate. Plants of all sizes succumbed to burial (see CS, plate 2(5)). The two plants remaining in December 2009 were considerably different in size at all times.

Of the six plants that flowered, four were amongst the largest in November 2008, two were amongst the smallest. The two *Glaucium flavum* plants that survived to produce ripe seed were not large plants at flowering, but produced four and five seed pods respectively. Both had been lost by December 2009.

In early March 2010, very high spring tides removed all of the fore-dunes that had built up during 2009. The remaining two *Glaucium flavum* plants were lost at this time. Large amounts of debris were thrown up on to the fixed dunes and by July 2010 plants normally associated with the strandline at Sand Bay, such as *Beta vulgaris* ssp. *maritima* (Sea Beet), *Atriplex laciniata*, *Salsola kali* ssp. *kali* and a few *Atriplex littoralis* were to be found growing through the debris (see CS, plate 2(6)).

Table 2: Size of plant in November 2008 and fate in 2009-2010

Size (cm) Nov 2008	Size (cm)/fate Mar 2009	Size (cm)/fate Jul 2009	Size (cm)/fate Sept 2009	Size (cm)/fate Dec 2009	Fate Mar 2010
19	8	flowered	lost	0	0
18	10	flowered	fruited	lost	0
17	11	9	lost	0	0
16	?	flowered	lost	0	0
16	lost	0	0	0	0
15	10	flowered	lost	0	0
15	10	lost	0	0	0
12	4	lost	0	0	0
12	lost	0	0	0	0
12	15	12	11	ALIVE	lost
10	lost	0	0	0	0
10	lost	0	0	0	0
10	8	?	lost	0	0
10	12	flowered	fruited	lost	0
7	5	lost	0	0	0
6	5	8	7	ALIVE	lost
4	6	flowered	lost	0	0
4	4	7	6	lost	0

No *Glaucium flavum* seedlings were found, either in the debris on the fixed dune system or on the new strandline. To allow for possible seed germination in the second year, occasional monitoring was carried out during spring and summer of 2011, but no seedlings were found.

Discussion

Glaucium flavum is predominantly a plant of shingle or sandy beaches, colonising bare ground in well-drained sites that are generally, except for the highest spring tides, above the high tide line (Scott, 1963). The seedlings at Sand Bay were distributed along the 2008 strandline, with some of the plants at the extreme landward edge of this. The amount of vegetation that might be expected either on a sandy or a shingle beach will inevitably depend on the stability of the beach. It is considered that for short-lived perennials, such as *Glaucium flavum*, to become established the beach should remain stable for a period of more than three years (Randall,

2004). Observations from 2009 to 2010 show the Sand Bay strandline to be extremely unstable. This is illustrated by images of the site backed by a line of *Malva arborea* taken during 2009 and 2010 (see CS, plate 2 (3 & 4)). The large fore-dunes had been completely eroded in March 2010 and replaced with shingle by September. The *Malva arborea* had died by September 2010, but the remains of the plants were still visible. The beach at Sand Bay has not remained stable and so may never become a suitable habitat for *Glaucium flavum*.

At Sand Bay there is shingle on parts of the beach, but none above the high tide line, which is sand. Experiments on the effect of substrate on seedling establishment, both by greenhouse and field trials at Sizewell beach, found that *Glaucium flavum* emergence was greater in sandy plots but that survivorship and growth were greater in shingle plots (Walmsley & Davy, 1997a). At Sizewell beach, as at Sand Bay, *Glaucium flavum*

seedlings exhibited a high mortality rate. However, at Sizewell, burial was described as being through tidal inundation, whereas at Sand Bay burial during 2009 was by tidal debris and also by large volumes of blown sand. The slower growth of *Glaucium flavum* in sandy plots at Sizewell was described as “unexplained”, but at Sand Bay it was observed that even where tidal inundation was not a factor, blown sand accreted faster than the seedlings could grow. This accretion favoured other strandline species, such as *Salsola kali* ssp. *kali*, *Atriplex laciniata* and *Atriplex littoralis*. These species, although very abundant in 2009, were found in much smaller quantities in 2010, when the foredunes had been eroded by the high spring tide. Laboratory experiments on burial survivorship using shingle rather than sand (Low, online report) also found *Glaucium flavum* to be extremely intolerant of burial. At Sand Bay, no plant lost due to burial was ever rediscovered, thus confirming intolerance to burial at this site.

There did not appear to be any correlation between seedling size and either survival or flowering at Sand Bay. Only two *Glaucium flavum* plants at Sand Bay bore fruit, producing four and five seed pods respectively. Scott (1963) found an average of 20 pods per plant and quoted a mean of 282 seeds per pod (Scott, 1963). Although the Sand Bay plants had a below average number of pods, these nine pods may have contained over 2500 seeds. Even if the number of seeds was also below average there should still have been a considerable number of seeds released at Sand Bay in 2009. *Glaucium flavum* seed has been shown to germinate usually in the second season and the seed remains viable even after seven years (Walmsley & Davy, 1997b). The delay in germination is attributed to the hard testa, which takes time to deteriorate. There are also specific requirements for germination, and dormancy can be induced by high temperatures or salinity factors (Walmsley & Davy, 1997b). No seedlings were found either on the strandline or among the debris washed up onto the fixed dune region in 2010 or 2011. It is

possible that seeds may yet germinate, but even should this occur establishment of the species is unlikely to be successful in this habitat.

From observation, it would appear to be the instability of the strandline that is a considerable obstacle to the establishment of *Glaucium flavum* at Sand Bay. This instability is twofold, being caused both by deposition and by subsequent erosion. The rate of accretion of blown sand in particular will always be a serious problem for emerging *Glaucium flavum* seedlings, even for those that germinate above the high tide line. This may in fact be the single factor most responsible for *Glaucium flavum* growing less well on sandy sites in general.

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Black Poplars (*Populus nigra* ssp. *betulifolia*) in South Northumberland (v.c.67)

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Since the results of the BSBI Black Poplar Survey were published (Milne-Redhead, 1990), it has been generally accepted that the western subspecies of the Black Poplar, *Populus nigra* subsp. *betulifolia* is native to lowland flood-plains in southern England and Wales, south of a line from the Mersey to the Humber. Hobson (1991) also suggests that it is native to the Irish Midlands. In these areas it is a scarce and localised tree, and several authorities suggest that it is the rarest British native tree (presumably excluding apomictic segregates) with about 7000 individuals surviving (Cottrell, 2004), a figure perhaps depending on an estimate by Mabey (1996). As for most native trees, it is interesting to consider what the word 'native' means here. Massive and sometimes clonal individuals in areas remote from habitation are clearly hundreds of years old and presumably predate the advent of modern transport. Poplars are readily propagated from shoots, and most extant individuals were probably planted originally. However, prior to 1800 it seems very unlikely that propagules would have been carried long distances, but are much more likely to have originated from local genotypes, surviving by serial propagation by man from pre-agricultural times.

In this context it is perhaps surprising that Hutchinson & Preston (2002) state 'it is no longer possible to separate native trees from those planted long ago', inferring, wrongly in my view, that this is a useful distinction in the case of indigenous trees of considerable age. Consequently, the map published in 'The New Atlas' is meaningless with respect to northern England, as it includes some of the thousands of individuals that have been planted in recent years as part of reclamation and reforestation schemes. It would have been useful to distinguish ancient individuals which probably predate 1800 and which are therefore likely to have descended from local native stock, not a difficult task in this species.

In recent years, the northern native limit of the Black Poplar has been subject to varying opinions. Meikle (1984) states firmly that north of the Mersey-Humber line that 'it may occur as planted trees but cannot be considered indigenous'. Later, as a result of the BSBI survey, Milne-Redhead (1990) states that it is native as far north as the River Tees. This view seems to have been held generally, so that the Durham Biodiversity Action Plan considers that only a few native trees survive in the county, near the River Skerne in the Tees basin close to Darlington. This is supported by DNA fingerprinting, which shows that individuals sampled from further north in Durham are of well-known clones (A'Hara *in litt.*) and so are likely to have been planted within the last hundred years. Most popular planted clones are male (Cottrell, 2004).

However, Stace (2010) goes further, stating that Black Poplars are native north to Cumberland and South Northumberland. This statement depends in part on Halliday (1997) who cites three localities for the native tree beside the River Eden in Cumberland (v.c.70). Until 2011, the only Northumberland record concerned a single female tree found by G.A. Swan in 1995 beside a watercourse on an old farm boundary just north of Humshaugh (see inside front cover). This is a massive tree (>3 m dbh), more than half of which was lost to gales in the winter 2010-11. In the v.c.67 draft Rare Plant Register (Flora North-East website), I made a case for this to be considered a native tree, but DNA fingerprinting has shown it to be clone 32 on the National Register, a clone planted over much of England (Stuart A'Hara *pers. comm.*). In this context, it is interesting that such an apparently ancient tree seems to have been planted.

I was delighted in September 2011 to stumble across a group of four trees while recording west of Stamfordham in a remote monad, NZ0672, selected randomly for the Flora North-East Common Plant Survey.

Much of this monad is taken up by a large marshy basin in which the only agricultural activity is rough cattle grazing and there is no human habitation. Parts are very wet, even dangerously so, and can only be crossed safely by keeping to ancient field boundaries which are raised above the water table. The Black Poplars have all lodged many years previously, so that the upright stools that now grow from them appear themselves to be 50-100 years old. They grow 20-40 m from a field boundary and range over 150 m. Three individuals cannot be closely approached as the ground is too wet. They are associated with old individuals of oak (*Quercus robur*) and alder (*Alnus glutinosa*) which root into drier ground nearer to the field boundary.

There are several features of these Black Poplars which lead me to think that they may represent local native stock, namely their apparent age, the remoteness of the locality, the very wet ground, and the fact that they were not part of the field boundary. It seems likely that the ground has never been drained successfully, so that there was neither the motive or the means for the trees to have been felled, and it is quite possible that the trees represent aboriginal stock and have never been planted.

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***Lobelia urens* (Heath Lobelia) at Flimwell: an update**

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Shimwell (2009) gave a synopsis of the history of *Lobelia urens* (Heath Lobelia) at Flimwell in East Sussex. On a visit in August 2008 he found no sign of the species within the 23ha compound of the former bird park, but discovered around 50 flowering plants in an area along the eastern boundary.

On 29th August 2010, together with Anne Harrap and Nigel Redman, I visited the Flimwell bird park site, which, to all intents and purposes, remains abandoned. We made our way south from the A268 through the overgrown car park and, via patches of broken glass and other debris, past the large ruined wooden chalet, to an open area of c. 80 × 40m, extending to the SSW and surrounded by

trees, centred at about TQ72103088. In this area of short, rabbit-cropped turf, interspersed with brambles and patches of *Pulicaria dysenterica* (Common Fleabane), we found 300-400 flowering *L. urens*, with the greatest concentration at the southern end of the clearing (see inside front cover). We did not make any attempt to classify the vegetation, but it was certainly undistinguished and rather 'weedy'. Many of the lobelias had been 'coppiced', probably by nibbling rabbits, and had produced several stems.

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Floral diversity of road verges at Ainsdale, Merseyside

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Road verges are a potentially important habitat for wild flowers, though their value can often depend crucially on the type of management employed. Also significant is the nature of the underlying substrate and therefore soil type. Kenilworth Road, Ainsdale, near Southport, Merseyside, (v.c. 59) (SD306123) is bounded by verges that were formed when the suburban housing estate that the road serves was built on sand-dunes in the early 1970s. They extend for about 500m on both sides of the road and vary in width from about three to 34m, covering a total area of about 6750 m² (0.7ha) (see Colour Section, plate 4). The extent to which the verges were initially modified, for example by importation of topsoil and re-seeding, is not known, but seems to have been minimal. Management has since consisted largely of occasional mowing and it is not thought that any fertilisers have been applied. The only herbicides used have been confined to small areas around road signs and lamp posts. As a result, the verge community resembles a species-rich, grazed, fixed dune. Inherently low soil fertility, local trampling by pedestrians and susceptibility to summer drought has created a rather patchy, open sward, with occasional bare areas, especially along the road and pavement edges, where winter salt applications have also suppressed the vegetation. Having been leached for about 40 years, the substrate may have lost some of the high calcium content associated with the younger Sefton Coast sand dunes (Smith, 2009).

A survey of the verges in spring and early summer 1999 produced 59 vascular taxa, four being regionally or nationally notable. They included *Herniaria glabra* (Smooth Rupture-

wort), a nationally rare species, which has its headquarters in the Brecklands of East Anglia. First discovered here in 1988, *H. glabra* was thought to be of casual origin, perhaps as a garden escape, and was the subject of detailed surveys in 1999 and 2004. These revealed an increase of 111% between the two dates from 71 to 150 patches (Smith, 2005). Interestingly, *H. glabra* was listed 180 years ago, with other wild flowers, for the Southport area by Whittle (1831). It was also noted by Dickinson (1851), who writes: "Mr John Harrison of St. Helens brought me on two occasions in 1850 fresh specimens gathered near St Helens Old Railway, at a distance from any house, yet I cannot but consider it as an outcast from some garden". He also mentions its listing in Glazebrook's *Guide to Southport* and Aughton's *List of Southport plants*. This species was not recorded in later regional floras (e.g. Green, 1933; Savidge *et al.*, 1963), but the fact that the plant was known hereabouts so long ago might prompt a review of its local status.

The verges were surveyed again in April-June 2011. A total of 84 vascular taxa was recorded, including seven regionally/nationally notable species (Table 1), representing an increase of 42% in species-richness since 1999. The verges are also rich in mosses and lichens, but these were not identified. Only eight plants found previously were not seen in 2011, while 31 new species were added. Over the two surveys, the verges supported 93 taxa, 12 (13%) being non-native or introduced native taxa. As before, *H. glabra* was a major component of the flora and appears to have increased further, though this was not established quantitatively.

Table 1. Nationally and regionally notable taxa recorded on the Kenilworth Road verges

r = rare; o = occasional; f = frequent; l = locally; v = very.

NR = Nationally Rare; NS = Nationally Scarce; SCI = Species of Conservation Importance in North West England; * = non-native or introduced native taxon.

Taxon	English name	1999	2011	Status
<i>Herniaria glabra</i> *	Smooth Rupture-wort	o	lf	NR
<i>Myosotis ramosissima</i>	Early Forget-me-not	r	r	SCI
<i>Ornithopus perpusillus</i>	Bird's-foot		lf	SCI
<i>Trifolium micranthum</i>	Slender Trefoil		r	SCI
<i>Trifolium striatum</i>	Knotted Clover		lf	SCI
<i>Vicia lathyroides</i>	Spring Vetch	o	o	SCI
<i>Vulpia fasciculata</i>	Dune Fescue	lf	vlo	NS
Total: 7				

A particular feature is the frequency and variety of winter annuals, including especially *Aira caryophylla* (Silver Hair-grass), *A. praecox* (Early Hair-grass), *Aphanes arvensis* (Parsley-piert), *Arenaria serpyllifolia* (Thyme-leaved Sandwort), *Cerastium diffusum* (Sea Mouse-ear), *C. semidecandrum* (Little Mouse-ear), *Erophila verna* (Common Whitlow-grass), *Myosotis discolor* (Changing Forget-me-not), *Veronica arvensis* (Wall Speedwell) and *Vulpia bromoides* (Squirreltail Fescue), all of which occur in some quantity. Other annuals were less common, including the nationally scarce *Vulpia fasciculata* (Dune Fescue) and the regionally notable *Myosotis ramosissima* (Early Forget-me-not) and *Vicia lathyroides* (Spring Vetch). Evidently, these species readily colonise the short open sward with frequent bare patches. Other significant finds in 2011 were *Ornithopus perpusillus* (Bird's-foot), *Trifolium striatum* (Knotted Clover) (see Colour Section, plate 4) and *T. micranthum* (Least Trefoil), all being regionally notable (Table 1). The presence of *O. perpusillus* and also frequent *Rumex acetosella* (Sheep's-sorrel), with Ellenberg reaction values of 4, suggests a moderately acid soil, at least in places (Hill *et al.*, 2004).

The dominant grasses are *Agrostis capillaris* (Common Bent), *Festuca rubra* (Red Fescue) and *F. ovina* (Sheep's Fescue), the high species-richness and abundant mosses and

lichens suggesting a community close to the UK National Vegetation Classification's SD8b: *Festuca rubra-Galium verum* fixed dune, *Luzula campestris* sub-community. However, a shift towards dryer, more acidic conditions in some areas of the verges may indicate a vegetation type closer to SD12: *Carex arenaria-Festuca ovina-Agrostis capillaris* dune grassland (Rodwell, 2000).

Mowing the Kenilworth Road verges has evidently been successful in maintaining this fixed-dune habitat and even increasing species-richness, despite the inevitable dog-fouling and the fact that arisings are not thought to be collected. This form of management may have application elsewhere on the Sefton Coast sand-dunes, where rich fixed-dune communities are threatened by scrub invasion and the overgrowth of coarse grasses, such as *Arrhenatherum elatius* (False Oat-grass) (Smith, 2009). In places, this has been addressed by the introduction of livestock-grazing, a well-established management practice for maintaining diverse dune communities (Plassmann *et al.*, 2010; Rodwell, 2000). However, grazing can be expensive in manpower and infrastructure (Smith, 2009). Because of the large areas involved and topographic constraints, mowing is less often used but has produced benefits at Altcar Rifle Range (SD290040) and in some dune-slacks where grazing is not possible (Smith, 2009).

The present study suggests that wider application of mowing in dune areas accessible to machinery could be beneficial.

Acknowledgements:

We are grateful to Dr Mary Dean for assistance with field work.

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Late flowering of *Smyrniium olusatrum* (Alexanders.) in v.cc.25/27

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During the closing weeks of October and the opening weeks of November 2011, I noticed several flowering plants of *Smyrniium olusatrum* L. (Alexanders.) on the coastline between Lowestoft, East Suffolk (TM59) and Gorleston in East Norfolk (TM59). In fact *S. olusatrum* is the UK's most easterly plant, growing by Ness Point in Lowestoft. Here, and along to Gorleston, the plants had many umbels with extended stigmas. At the time of writing, it has been so far a very mild autumn, with temperatures reaching a consistent 15°C, typical early spring temperatures, when the flowers would be opening. The plants were

introduced from the Mediterranean by the Romans, and the species is typically coastal, but can be found as far inland as Norwich, where seeds have presumably floated up from the river systems. Even the rust fungus *Puccinia smyrnii*, which grows on the Alexanders, was common, another spring species. The plant can survive the cold east winds but does not like more than five days of freezing temperatures that kill or significantly damage the plants, which take weeks to recover.

Reference:

MABEY R. (1996). *Flora Britannica*. Sinclair-Stevenson, London.

***Trichophorum cespitosum* (Northern Deergrass) and allied taxa in RSPB Abernethy Forest NNR**

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This note outlines current knowledge of the distribution, relative abundance and habitats of the three taxa: *Trichophorum cespitosum* (Northern Deergrass), *T. germanicum* (Deergrass), and their hybrid *T. ×foersteri* in the RSPB Abernethy Forest NNR and nearby areas. Abernethy Forest is the largest of the remnant Caledonian pinewoods, and is situated on the northern flanks of the Cairngorm Mountains. Most locations referred to in this note are at relatively low altitude, from 210m to 410m AOD, but some collections were made at over 1100m AOD.

I first found *T. cespitosum* (Northern Deergrass) in July 2004, growing beside a runnel leading down to a *Myrica gale* (Bog-myrtle) dominated mire, on the south side of Tulloch Moor (NH9616) in v.c.96. Here, one or two clumps were growing in close proximity to species such as *Narthecium ossifragum* (Bog Asphodel) and *Carex panicea* (Carnation Sedge). Two days later, I found *T. cespitosum* growing in the lagg zone of an extensive blanket bog c.600m to the north-west of the original site, within the RSPB reserve. Here, the topography indicated that there might be some local movement of water off the surrounding heathland, although the flora was distinctly acidic, dominated by *Eriophorum vaginatum* (Hare's-tail Cotton-grass). Although I continued to occasionally look at *Trichophorum* specimens in the course of general botanising, it was not until July 2010 that I found an additional site for *T. cespitosum*, again on Tulloch Moor, but this time within a very gently sloping valley mire, in monad NH9516. Here, *Carex pauciflora* (Few-flowered Sedge) was very frequent amongst typical M18 bog vegetation (*Erica tetralix*-*Sphagnum papillosum* raised and blanket mire), with abundant *Sphagnum* species. NVC communities are described in Rodwell (1991, 1992).

Although there were considerable floristic differences between these three sites, at all of

them there was some indication of ground-water movement. The adjacent heathland is the species-rich *Pyrola media* – *Lathyrus linifolius* sub-community H16a of *Calluna vulgaris*-*Arctostaphylos uva-ursi* heath. This heath type supports a number of species indicative of more mesotrophic conditions than is the norm on dry heaths in this part of the Cairngorms. Hence I was able to convince myself that the sites were not too dissimilar to those described by Swan (1999).

In June 2011, I showed *T. cespitosum* to a small group of local botanists, re-kindling my enthusiasm for looking for this species. On 25th July 2011, I looked for, but did not find the population of *T. cespitosum* I had found in the lagg zone on Tulloch Moor seven years earlier. Moving on, I cut across an area of M18 bog, and found a few clumps of fruiting *T. cespitosum* on the ombrotrophic bog surface, well away from any soligenous influences. This rang immediate bells, as Roberts (2011) had recently published a note on finding a very large population growing on Butterburn Flow in Cumbria, in rather similar habitat. Suspecting that *T. cespitosum* might occur in similar habitats elsewhere, over the next three weeks I looked for *Trichophorum* growing on a sample of the many areas of bog within the forest area of Abernethy.

My efforts proved successful. In total I have now made 54 individual records of *T. cespitosum* at 33 locations (different 6-figure grid references), in 11 1km grid squares, in nine tetrads. Twenty-six of the recorded locations were within the RSPB Abernethy Forest NNR. The remaining sites were on immediately adjacent bogs. Records were from v.c.95 and v.c.96. All 54 individual records I made of *T. cespitosum* were of fruiting plants. I checked stem cross-sections of specimens for 36 of these records, and in all cases my field identification was correct.

Of the 33 recorded locations, *T. cespitosum* grew on deep peat deposits at 32. Of these, at

only three (all in close proximity) was there evidence of a mineral-rich soligenous influence. This site, in monad NH9618, has such species as *Carex dioica* (Dioecious Sedge) and *Eleocharis quinqueflora* (Few-flowered Spike-rush) as close associates. This is part of the mire complex described by McVean & Ratcliffe (1962) (p. 128). All but two of the locations were on undisturbed bogs. The other two were in areas where peats had been cut in the past. Although my recent survey effort has been deliberately biased towards bogs, from my knowledge of the extent of such habitats here, and the relative lack of other suitable habitat for *Trichophorum* on low ground at Abernethy, I am confident that the primary habitat for this species in Abernethy Forest is M18 bog. Apart from on Tulloch Moor, all the bogs with *T. cespitosum* are partially wooded, carrying an open canopy of low growing native *Pinus sylvestris* ssp. *scotica* (Scots Pine). These bog woodlands in Abernethy Forest form part of the most extensive example of this habitat type in Scotland.

At all locations, *T. cespitosum* was accompanied by *T. ×foersteri* (Hybrid Deergress), which was always much the more abundant of the two taxa. Of 28 records I have made of this taxon, 26 have been from bogs, and only two (in v.c.94, not within Abernethy) were on wet heath. All records were confirmed by checking stem sections under a microscope. On one or two occasions I collected putative hybrids, which on detailed examination proved to be *T. germanicum* (Deergress) that had failed to set fruit. On no occasion did specimens collected as the hybrid turn out to be *T. cespitosum*.

I have also recorded *T. germanicum* on 35 occasions at a range of locations in v.cc. 94, 95 and 96, both within and outwith Abernethy. Habitat was recorded for 25 records: 16 from M16 *Erica tetralix* – *Sphagnum compactum* wet heath, five from high altitude U7 *Nardus stricta*-*Carex bigelowii* snowbeds, and four from bogs. Some populations showed no indication of having set fruit, and it is possible I overlooked this species on bogs, amongst the much more abundant sterile hybrid. However

I did deliberately search for this species on bogs at Abernethy, and feel it must be, at most, very local here, in this habitat. Conversely, on wet heaths, which at Abernethy occur at slightly higher altitude around the southern margin of the forest (above c.400m AOD), *T. germanicum* was the only taxon I could find. The wet heath community here is very species-poor, and lacks *Sphagnum compactum*, at times being perhaps better described as intermediate between M16 wet heath and H12 *Calluna vulgaris*-*Vaccinium myrtillus* heath. The small sample of plants from high altitude (to more than 1000m AOD), were all of *T. germanicum*.

Jeremy Roberts' web pages (<http://www.edencroft2.demon.co.uk/index.html>) include an absolute wealth of detail on the identification of these three taxa, both in the field and under the microscope. They are an essential resource for anyone wishing to get to grips with them. I can only add a few additional comments. Stem cross sections of *T. germanicum*, in my experience, usually show larger aerenchyma (air channels) than is, at the time of writing, illustrated by Roberts. When cutting stem sections under a stereo microscope at $\times 10$ magnification, those of *T. germanicum* are almost instantly recognisable, the clear aerenchyma standing out even when viewed with incident illumination against a white background. Cutting sections requires some practice. Using a fresh, sharp razor blade improves the quality of sections a great deal. I cut on a glass slide, and razor blades are quickly blunted. Inevitably you get a mix of thicknesses of section when cutting by hand. Too thick and the section is too opaque to see details clearly. Too thin, and sections of *T. cespitosum*, which lack aerenchyma, can appear to have pale patches amongst the green tissue. With a little experience it becomes obvious which sections are the ones to look at more closely.

On the basis of confirmed identifications, *T. cespitosum* is nationally rare. However, targeted fieldwork has been geographically very restricted, and presumably the species is under-recorded. A more accurate picture of this



1. *Alchemilla glabra*



2. *Anthriscus sylvestris* & *Chamerion angustifolium*



3. *Carex leporina* escaping from exclosure



4. *Luzula luzuloides*

All photos taken at Great Dun Fell, radar area (v.c.69) by R.W.M. Corner © 2011 (see p.



General view of Kenilworth road verges (v.c.59). Photo P. Smith © 2011 (see p. 34)



One of the regionally notable plants *Trifolium striatum* on Kenilworth road verges (v.c.59). Photo P. Smith © 2011 (see p. 35)



Dalcove Braes from the old lane to Dalcove (v.c.81). Photo M. Braithwaite © 2010 (see p. 23)



Cotula coronopifolia, Nene Valley nr Irthlingborough (v.c.32). Photo R. Wilson © 2011 (see p. 50)



Hypericum coris at Newchurch (v.c.10) with close-up showing sessile-glandular sepals. Both photos P.J. Barden © 2011 (see p. 50)



3.1m tall Rosebay Willowherb in garden, Milltown, Co. Kerry, July 2011. Photo: M. O'Sullivan © 2011 (see p. 42)



Campanula garganica (Adriatic Bellflower), Norris Castle, (v.c.10). Photo M. Cotterell © 2011 (see p. 49)



Cortaderia selloana – self sown by car park, RHS Wisley



Cortaderia selloana – male (l) and female (r) inflorescences from self sown plants.

Both photos B. Phillips (RHS) © 2011 (see p. 57)



1. Debris covering former site of a *Glaucium flavum* plant, March 2009



2. Blown sand covering the debris shown in 1, July 2009



3. Beach in front of Tree-mallows: sand accretion over debris, September 2009



4. Beach in front of Tree-mallows: erosion by high spring tide, March 2010



5. Young *Glaucium flavum* plant inundated by sand, September 2008



6. Strandline species colonising debris on the fixed dunes, July 2010

All Photos taken at Sand Bay (v.c.6); 1-4 & 6 © M.A. Webster, 5 © H.J. Crouch (see p. 28)



BSBI members at Lockington SSSI, (v.c.55).
Photo L. Marsh. © 2010 (see p. 43)



Carduus nutans, a new record from Tixover, (v.c.55). Photo L. Marsh © 2010 (see p. 43)



1. Birkdale Common, Little Sleddale, 435m. Aspen clones in ravine



2. Birkdale Common, Little Sleddale: isolated Juniper at falls.



3. Arkengarthdale: Fell End, 400m. Cliff Yews.



4. Kisdon Hill: Hooker Mill Scar, 410m. Limestone cliff with Aspen, Juniper, Yew and self seeded Larch



5. Oxnop Scar, 495m. West-facing sheer limestone cliff (Main Limestone) with Aspen (?clones) on face of cliff and two Junipers



6. Oxnop Scar: Junipers on cliff face

All Photos T. Laurie © 2010 (see p. 16)



Iberis x Arabis? Plant spontaneously appeared in garden, Chepstow, 2010. Photo T.G. Evans © 2010 (see p. 51)



Pine cone with diminutive *Ophrys apifera* growing between scales, Newport, (v.c.10). Photo C. Pope, © 2011 (see p. 44)

species' actual distribution will take some time to develop. Unfortunately this is confounded by the considerable confusion over which taxon recorders actually mean when their records refer to *T. cespitosum*, as this name may refer (as here) to the rarer species, or to the aggregate of both species and the hybrid.

Acknowledgements:

Michael Braithwaite confirmed my first original specimens of *T. cespitosum*, and also a recent collection (a new vice-county record for v.c.95). Ian Perks collected specimens from high altitude sites in the Cairngorms. Jeremy Roberts and Michael Braithwaite commented on an earlier draft of this note.

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Return of *Fumaria bastardii* to Sussex

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In September 2011, four members of the Sussex Botanical Recording Society (H. Proctor, J. Linsell, M. Berry and R. Wells) were recording for the new 'Flora of Sussex' project in the Camber area of East Sussex (v.c.14), close to the border with Kent, in tetrad TQ91Z.

While examining stony ground alongside an isolated house (TQ99181818), we came across a patch of a pale-flowered fumitory. Using the key in *Fumitories of Britain and Ireland* (Murphy, 2009), this was later determined as *Fumaria bastardii* (Tall Ramping-fumitory), and the identification was subsequently confirmed by Rose Murphy.

The last confirmed record for Sussex was in 1959, when Ken Bull found it growing in Egerton Park, Bexhill. The Camber record represents an even more easterly outpost for what is generally thought of as a western/Atlantic species in Britain.

The substrate of this new site is probably fairly acidic, with an abundance of such species as *Teucrium scorodonia* (Wood Sage). Immediately to the north of the house lies an area with heath-like affinities, where *Cytisus*

scoparius (Broom), *Ceratocarpus claviculata* (Climbing Corydalis) and *Senecio sylvaticus* (Heath Groundsel) occur. Nearby are sites for *Jasione montana* (Sheep's-bit) and *Sedum anglicum* (English Stonecrop), species I think of as also having somewhat western tendencies.

The fumitory was growing in what could loosely be termed a flower bed, but a neglected one, with *Beta vulgaris* ssp. *maritima* (Sea Beet), *Tripleurospermum maritimum* (Sea Mayweed) and two small bushes of *Suada vera* (Shrubby Seablite) for company.

It will be interesting to see if its occurrence at Camber proves to be as ephemeral as its earlier one at Bexhill.

Acknowledgements:

We would like to thank Paul Harmes for drawing our attention to the significance of this record, and for contacting Rose Murphy; and Rose Murphy for confirming the plant's identity.

Reference:

MURPHY, R.J. (2009). *Fumitories of Britain and Ireland*. BSBI, London.

***Phytophthora* disease – a threat to our native vegetation?**

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 (on behalf of the BSBI Scottish Committee)

There have been several recent outbreaks of the introduced *Phytophthora* species: *P. kernoviae* and *P. ramorum*, affecting a wide range of trees and shrubs. Of particular concern is their effect on certain tree species, and moorland/heathland species, such as *Vaccinium myrtillus* (Bilberry/Blaeberry). To date, they have been largely confined to western parks and gardens, but if they become established in natural or semi-natural environments, they will become difficult to control and potentially devastating for native vegetation.

The diseases are spread by movement of infected plant material and soil, in water, in droplets in the air and potentially via walkers' boots. An important host plant, where BSBI members may notice the disease, is *Rhododendron ponticum* (Rhododendron). *R. ponticum* was, until recently, regarded as the most likely source of infection in other species. In 2009, in south-west England, however, infected Japanese Larch (*Larix kaempferi*) trees were found, infecting a range of other under-storey species, and there was no *R. ponticum* in the near vicinity. Outbreaks on Japanese Larch have now been found all up the western side of Britain, including Western Scotland.

The Botanical Society of Scotland (*BSS News 97*) carried an article by SASA (Science & Advice for Scottish Agriculture), which is conducting a survey to establish whether these pathogens have spread to Blaeberrys in Scottish heathland. This article includes a description of diseased *Vaccinium myrtillus* twigs. These turn black and prematurely shed

their leaves. The area of affected twigs may be clearly seen from some distance. Dr Alexandra Schlenzig of SASA (Roddinglaw Rd., Edinburgh, EH12 9FJ) is keen to have samples sent to her for diagnosis, as long as her particular sampling protocol is followed.

In addition, for more information on how to identify other infected plants you can download Defra leaflets on *Phytophthora ramorum* and *Phytophthora kernoviae* (<http://thefera.co.uk/plants/plantHealth/pests/Diseases/phytophthora/>)

Generally, any reports of suspected *Phytophthora* infections on woodland or forest trees (but not trees or hedges in gardens) go to Forest Research. Enquiries in northern Britain (*i.e.* north of the Mersey/Humber line) can be emailed to: ddas.nrs@forestry.gsi.gov.uk, and those south of that line can go to: ddas.ah@forestry.gsi.gov.uk.

However, any enquiry concerning suspected *Phytophthora* infection of a non-tree species (*i.e.* in shrubs or other plants) should go to: planthealth.info@fera.gsi.gov.uk

How you can help

- Apply good boot hygiene, particularly where infection is suspected.
- Observe quarantined areas.
- Use foot baths, where provided.
- Become familiar with the signs of the disease: <http://www.forestry.gov.uk/website/forestry.nsf/byunique/infid-5vfmzu>
<http://fera.defra.gov.uk/plants/publications/documents/factsheets/pramparks.pdf>
- Report possible infections.

Can vice-county boundaries change over time?

MICHAEL BRAITHWAITE, '*Clarilaw*', *Hawick, Roxburghshire, TD9 8PT*

The NBN Trust has launched a data validation tool, NBN Record Cleaner, which *inter alia* checks whether the grid references of all the sites in a vice-county database are within its geographic boundaries. When I tried this tool on my BSBI Berwickshire dataset, it threw up a small number of errors. Included in these were botanical records relating to two small strips of land on the Berwickshire side of the River Tweed that it considered related to North Northumberland, England, v.c.68, not to Berwickshire, Scotland, v.c.81. The history of both these localities proves to be of interest.

The first is at Lees Haugh (NT854389), near Coldstream, on the inside of a sharp bend in the river, where it meanders through an alluvial plain. This is top-quality agricultural land, protected from floods by embankments, where the botanical interest lies within a narrow strip at the riverside and in the aquatic species on the river bed. The vice-county boundary has been digitised by the NBN Trust from the O.S. first edition 6-inch maps, surveyed in 1858, and the vice-county boundary is placed along the median line of the river at that time. There has been substantial accretion to this section of the Berwickshire bank since then, so much so that the bank is now further south than the old median line. The NBN boundary thus places a 400 × 50m strip of river bank on the Scottish bank, with *Rorippa ×anceps*, in England, with a further stretch of the river bed. This is neither a practical solution for field recording nor is it the legal position. The legal position, per the Registers of Scotland website (www.ros.gov.uk) is that the boundary changes over time to follow the current course of the river, remaining at the median line in the river, except where there are islands, so the current O.S. map, surveyed c. 1970, differs from the NBN map. Meanwhile, the Google Earth image shows that there has been further accretion and that the current O.S. map is already 100m out of line with reality. The farmer is on a winner; indeed the flood embankments were rebuilt about 20 years ago to take in some of the land gained.

The second locality is at Green Knowes (NT926498), opposite Horncliffe, and has a different history. At the time of the O.S. first edition 6-inch map, surveyed in 1858, there was a small island in the river here, which belonged to England, but by that date was already closer to the Scottish bank than the English bank. The national boundary was mid-channel on the Scottish side of the island. The channel between the island and the Scottish bank was deliberately filled in by 1897, with the island being made part of a larger field. As the change is man-made, the law is that the boundary does not change, so the O.S. maps from 1926 mark the relevant portion of field as being in England, notwithstanding that it is on the north bank. It is about 100 × 30m, together with a section of the river bed, where *Potamogeton ×olivaceus* grows. The current O.S. boundary and the NBN boundary coincide. But, here again, we have a situation that is not very practical for field recording, so I and my neighbouring vice-county recorder may well agree to ignore the niceties for BSBI purposes.

Arthur Chater has noted a similar issue in Cardiganshire, where a vegetated gravel spit at SN160485, in the estuary at the mouth of the River Teifi, has elongated over time to such an extent that the tip, an area 20 × 20m, is now in the adjacent vice-county, Pembrokeshire. Here, the legal position may be complicated by the fact that the foreshore belongs to the Crown Estate but, in essence, it is the same as at Lees Haugh – all the gravel spit is legally in Cardiganshire.

So it seems that we have an issue here that is worthy of debate. Should vice-county boundaries be immutable, or should they change over time in response to changes in the courses of rivers and to the coastline? There is no suggestion that vice-counties should change in response to political boundary changes or to man-made works. It is just a question of whether they should change in response to natural forces where this would follow the legal position.

Can vice-county boundaries change over time? – a response on reading a draft of Michael Braithwaite’s article

ARTHUR CHATER, *Windover, Penyrangor, Aberystwyth, Dyfed, SY23 1BJ*

I am adamantly of the opinion that v.c. boundaries are fixed and immutable. Once people start altering them for their own convenience, there is confusion, if not mayhem. Among the many reasons are that it is not only we botanists that use them. If you record species A in a part of v.c.81, that is on the south side of the river, and deem it to be in v.c.68, I may come along and record a rust on it that I will say is in v.c.81. But as species A is apparently not recorded from this v.c., there is a problem.

Secondly, just as the river has changed its course in the last 150 years, so it will change again, or perhaps change back, in the future. So, any records you make in the contentious areas will need to be annotated ‘v.c.81 *sensu* Braithwaite, 2011’, and you will need to deposit an explanation somewhere every time you modify the traditional boundary. If botanists are allowed to do this, and dictate their preferences to others, what about the ornithologists, who would find it more useful to put the

whole of a lake into one v.c. when the boundary runs down the middle? Or the bat recorders, who want to remove a wobble because of a flight line? It is horribly reminiscent of the proposal someone once made that sites should be allocated to single tetrads, irrespective of whether they crossed an actual tetrad boundary.

The only way to be fair, and for everyone to understand, is to stick to the official v.c. boundaries. Where a sandbank, for example, has become colonised off the coast, where no v.c. boundary is shown, it may of course be necessary to extrapolate the boundary to demarcate it, but this is quite different from altering an existing boundary.

I do agree, though, that it is important for Vice-county Recorders and others to be aware of anomalies such as Michael describes; and, as David Pearman would say, these anomalies are fun. I have had several very enjoyable outings with Richard Pryce visiting each others’ enclaves on the wrong sides of the Teifi.

[**Editor’s note:** for the record, the NBN Trust carried out a complex programme some time ago, using very efficient contractors from India, to digitise the original vice-county boundaries, annotated by the late J.E. Dandy on O.S. 1:10,560 maps as a preparation for producing his BSBI publication *Watsonian vice-counties of Great Britain* (1969), these now being held by the Natural History Museum. The maps were scanned and the boundaries digitised, subsequently made available electronically to all as a ‘standard’ for use in databases etc., along with digital images of the original scanned maps. In doing

this, these sorts of issues were considered, but Arthur Chater’s position was adopted – that the Watsonian boundaries, as H.C. Watson (and Dandy) depicted, were the standard, not modern boundaries, however ‘inconvenient’ they might be on the ground; the aim being to ‘fix’ the recording areas, rather than reflect any subsequent changes. Arthur may also like to know that Watson’s/Dandy’s boundaries were in fact extrapolated out to sea for the purposes of this operation, so that it is now possible to use them for inshore recording as well.]

Rosebay Willowherb

MICHAEL O’SULLIVAN, *Knockavota, Milltown, Co. Kerry, Ireland*

I was interested in the article by Jack Oliver relating to *Chamerion angustifolium* (Rosebay Willowherb) in *BSBI News* 118. In particular,

I was interested in the height aspect given for the species. My local wood, Kilderry, was partly clear-felled in 2001, and, during the

following years, there was extensive colonisation of these plants. In competition with *Pteridium aquilinum* (Bracken), the average height was two metres.

Some years ago, I took some plants into my small, sheltered garden, and I observed them

increasing in height every year; the average being 2.8m. One specimen was recorded this year (2011) at 3.1m (see Colour Section, plate 1). It all goes to show that the species, given shelter and support, can reach exceptional heights.

Local BSBI groups: why every vice-county should have one

LOUISE MARSH, *University of Leicester Herbarium, Leicester, LE1 7RH;*
(louise-marsh@talktalk.net)

In 2008, three recent BSBI members, enthused by our first national BSBI meetings, decided to email other local botanists in our v.c. (55), only some of whom we knew, to suggest setting up a local BSBI group. Our experience since then has been so positive that we should like to share it more widely, and encourage people to consider setting up a local group this year. Or, if you are in one of the small, but growing, number of vice-counties already enjoying the benefits of a local group, we'd like to hear from you and pool ideas to further strengthen our groups. We are convinced local BSBI groups can attract and engage new members, boost botanical recording and help raise the Society's profile, and wonder if other members agree?

More members for BSBI

Our local group now comprises 87 botanists: 42 BSBI members and 45 people on our guest list. Seventeen of the 42 members were previously on the guest list, joining after attending our field meetings and/or the University of Leicester Botanic Garden's Plant ID course and FISC (see Colour Section, plate 2).

We soon realised that many keen, local amateur botanists hadn't appreciated how much the BSBI could offer them, and so hadn't seriously considered the advantages of membership. However, many pointed out that they would have been far less inclined to join the Society had there been no local group in which they could participate and from which they could benefit.

Botanising together sharpens all our skills

A local group can encourage beginner and improver botanists to get more involved with

training and recording. We have found that communal botany sharpens all our skills, with experts challenged and encouraged to demonstrate field characters, beginners trained and supported in field ID, recording and taking voucher specimens, and improvers both receiving, and passing on, field ID tips. In the field, a local group meeting demonstrates the BSBI/FSC Skills Pyramid in action! The range of skill levels also means local groups are good test-beds for comparing and contrasting different ID keys and taxonomies.

More publicity for BSBI

We have also raised the BSBI's profile and explained the Society's work to a wider audience, whether by participating in public events like Bioblitzes and talking to local media, by cultivating and strengthening links with local conservation groups, ID courses, records centres and local authority ecologists, or just by letting local landowners and managers know why we are requesting permission to survey on their land. Most of the latter are happy to help once they understand the importance of botanical records, and that BSBI members are only interested in recording the local flora, although we are happy to point landowners in the direction of management advice via our local Wildlife Trust, with whom we have a close working relationship (our very supportive Vice-county Recorder is also their Head of Conservation)

Leicester's Bioblitz mass recording events in 2010 and 2011 were coordinated by our city council's nature conservation officer, attended by thousands of people, and gave our group the opportunity to demonstrate and contextualise the taking of records. The Bioblitz co-

ordinator has since been invaluable in arranging access to otherwise inaccessible brownfield sites, rich in aliens. Access has been the group's biggest challenge, with early plans to help re-survey all Habitat Study Sites from the last Flora scuppered by patchy access, so the network of contacts built up through the group has proved a great help. Local contacts have also helped members to find volunteering and work opportunities in the v.c., assisting other conservation groups with site surveys, and working hard to clear the backlog of mounting at the University of Leicester's Herbarium. It may only be a coincidence that, while none of the three founder members of the group was in paid botanical employment in 2008, they all are now, having arguably benefited from the synergy of volunteering, botanical courses and FISCs, and local BSBI meetings.

The future: a growing network of local BSBI groups?

We wonder if a network of local groups, perhaps with its own web-page, would be useful, both for local group members and also for newcomers to the BSBI website? A local group can be a helpful first point of contact for the interested public, many of whom understandably lack the confidence and/or skills to submit their records to the Vice-county Recorder.

We think our group has also benefited from being a local BSBI group, rather than a simple local plant group. We have received help and support from the Society, with a free hosted web-page, and we in turn have been able to promote the BSBI's work. We think other local groups would also benefit from the affiliation. We have botanists in neighbouring vice-counties on our mailing list, some with their own local groups (and meetings to which we are invited) and some who haven't yet taken the plunge. John and Monika Walton, in adjacent v.c.38, have revitalised recording in their v.c. with the recent reformation of their local flora group: around 65 members, 35 of whom are BSBI members; an excellent web-page; and the indefatigable Waltons still find time to attend our meetings as well!

We offer all this as evidence of the growing demand for more local BSBI field meetings, hosted by a growing national network of local BSBI groups, and encourage you to help meet this demand and enjoy more field botany in the process. Take a look at the hand-out – available on our webpage – on tips for starting or strengthening a local group, and let us know your experience and share your tips for a successful local group. Get in touch via <http://www.bsbi.org.uk/leicestershire.html>

A remarkable Bee Orchid plant

BILL SHEPARD, *Flat 18, Furze Brake, Whitepit Lane, Newport, Isle of Wight, PO30 1NJ*

On 20th June 2011, a grounds maintenance man at St Paul's cemetery, Fairlee, Newport, Isle of Wight, brought me a remarkable specimen which he had found. It was a discarded *Pinus sylvestris* (Scots Pine) cone from which an *Ophrys apifera* (Bee Orchid) flower was emerging from between the scales (see Colour Section, plate 3).

On further investigation, I found that the tiny Bee Orchid plant was indeed growing from between the scales of the cone. In dissecting the cone, I carefully removed three tough outer woody scales. I was then able to remove the orchid plant with root attached.

The plant itself, including the single flower that terminated the aerial stem, was 40mm. At the base of the stem was a three-branched root, the longest of which was 5mm, two others were 4mm. There was no swelling (tuber) separating the root system from the aerial stem. Examination of the flower under a microscope (×40 magnification) showed neither stigma or stamens.

Bee Orchid plants are sometimes found growing in the vicinity of the cemetery. I would be most interested to know whether anyone else has ever come across a similar specimen, or if any explanation can be given for this remarkable occurrence.

New names and taxa in the third edition of Stace – corrections

BOB ELLIS, *11 Havelock Road, Norwich, NR2 3HQ*

DAVID PEARMAN, *'Algiers', Feock, Truro, Cornwall, TR3 6RA*

An error in the first part (*BSBI News* 115) was brought to our attention and, although it was corrected on the spreadsheet on the website, the correction has not yet been published in *BSBI News*:

'*Lepidium squamatum*' should be *Lepidium coronopus*.

Similarly, in the second part (*BSBI News* 116) all references to '×*Schedololium*' should be to ×*Schedolium*.

We apologise for any confusion caused.

A further point was drawn to our attention regarding *Sorbus proctoriana*, which was dealt with by Clive Stace in his article on the first reprint of the *New flora of the British Isles* in *BSBI News*, 118. The changes listed in that article will be incorporated into the spreadsheet on the website.

Strange Cotswold Water Park Marsh Horsetails

JACK OLIVER, *High View, Rhyls Lane, Lockeridge, Marlborough, Wiltshire, SN8 4ED*

There are at least two species of horsetail at the east end of Mallard Lake, west of Ashton Keynes: *Equisetum fluviatile* (Water Horsetail) in zones 3 and 4 (see diagram, p. 47), and an extraordinarily protean range of *Equisetum palustre* (Marsh Horsetail) plants, found in all zones, 1-4. Page (1982) emphasises "...extensive environmentally-induced variation..." in *E. palustre*. Even so, his descriptions and pictures from Gloucestershire and Scottish populations do not encompass all the exceptional degrees of variability of the Cotswold Water Park plants. Some of these are as follows:

1. Heights or lengths of main axes 25-75cm in zone 1; but 50-100cm in zone 2; plants vertical, or flaccid, and supported by the surrounding vegetation, or creeping (fig. 1, p. 47); some main stems split into two or three verticals (rare – zone 2 only).
2. Whorls of branches on 6-17 main stem nodes, 0-10 branches per node.
3. Undamaged branches 0.5-45cms long, often much overtopping the main axes; compound re-branching some years, especially towards the end of summer.
4. Floating forms in late summer (in among the *E. fluviatile* stems). These come from

under-water *E. palustre* vertical stems in zone 4; in turn, from thick, black rhizomes, connected with deep levels in zones 1, 2 and 3 respectively. The stem and branch architecture is the same as in land forms (fig. 2, p. 48).

5. Most first branch internodes reduced to a pleated cupule above the black ochreolae (plate 2), but some longer; black sheath teeth and their usual white margins variable; sheaths usually green below teeth (as in Page, 1982), but sometimes black (as in Jermy & Camus, 1988).

6. Fertile stems

Zone 1: from one in 20 to one in three plants in some patches developed multi-whorl polystachions in July 2010. Dense swards of massed *E. palustre* were composed of densely-branched, creeping stems (fig. 1), mixed in with tangles of limp semi-verticals (figs. 3 & 4, p. 48). Terminal and peripheral cones were in confused profusion. Even though most plants were undamaged and not cropped, they did not match standard illustrations or descriptions (Table 1, p. 47).

Zone 2: many *E. palustre* plants semi-shaded by small Ash, Alder, Sallow and White Willow trees at the edge, and consequently becoming tall and much

branched; very few plants with cones, these few with central-terminal cones and usually some peripherals as well.

Zone 3a (open, but with *Juncus* (rushes) and *Eleocharis* (spike-rushes)): both the rushes and the two *Equisetum* species had heavy, indiscriminate cropping by Canada Geese (and Mute Swans?); no polystachions seen in the surviving stems of *E. palustre*, but three unbranched, fertile stems with textbook central, stalked cones found.

Zone 3b (amongst *Typha latifolia* (Bulrush\Reedmace) verticals): numerous vigorous *E. palustre* with two, three and four-whorled polystachions in July 2010.

Zone 4 (with *Elodea nuttallii* (Nuttall's Pondweed) and two *Chara* (stonewort) species): the main *E. fluviatile* verticals were severely cropped by waterfowl, with a few spindly compensatory branches. As the summer progressed, the *E. palustre* colonised the open water with emerging verticals, which could collapse over the water surface. (Similar to the land form (fig. 1), but floating). No cones were present; and no rootlets formed above the lake bottom (as can occur in *E. fluviatile*).

The ripe peripheral cones produced a grey-green dust, which, under the microscope, seemed to consist of healthy spores and elaters (fig. 5, p. 48). So far I have not managed to grow gametophytes from the dust from either central or peripheral mature *E. palustre* cones.

Discussion and summary

Two of the polystachion plants from the *Typha* area in zone 3b had remnants of a main axis cone stalk, as if a coot, moorhen or a duck had pecked out the central cone in early July. Like a flowering plant, the Marsh Horsetail could (theoretically) have compensated by producing a mass of peripheral branch cones. Whilst damage to the main axis may contribute to polystachion formation, the accepted theory, I have six reasons for thinking that this is not the main, or even an important factor (Oliver, 2011). Grose (1957) likewise implied that there were genetic propensities largely accounting for the recurrence of polystachions in 12 of the Wiltshire *E. palustre* populations.

In this study, it was generally the *least* damaged plants that produced the *best* 2-5-whorled polystachions, with the most peripheral branch-tip cones, and with 2010 as one of the best years. On line 7 of the Table (central cone lengths), it is theoretically possible that some June or early July central cones were pecked by waterfowl, or affected by invertebrate infestation in the early stages of development; but 5-15mm peripheral and central cones are produced in runs from June to September, starting with the 1-2mm purple cone buds.

E. palustre is one of the most common and widespread plants in cool and cold areas of the northern hemisphere, with decumbent forms common (Clapham *et al.*, 1987; Rook, 2004). However, I am not aware of big plants as in fig. 1 (no. 10 in the Table) being described elsewhere, in which there is no central cone axis, but a line of 18 fully-formed branch-tip cones from five consecutive whorls, with new ones starting to develop. Nor can I find any references to multi-whorl polystachions with intact central cone axes, or to floating forms of *E. palustre*.

Acknowledgements:

My thanks to Martin Barber for his help.

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Table 1. *Equisetum palustre* polystachions, from zones 1 and 3. July 2010

Specimen nos.	1	2	3	4	5	6	7	8	9	10
Heights/lengths of main stems (cms.)	40	70	36	50	39	40	41	44	25	60
Main stem nodes above ground	6	12	8	11	9	8	9	12	9	17 (+3)
Whorled nodes (from ground)	4 (3-6th)	3 (10-12th)	5 (4-8th)	6 (6-11th)	3 (7-9th)	5 (4-8th)	5 (5-9th)	6 (6-11th)	4 (5-8th)	12 (6-17th)
Longest branches (cms.) (Branch nodes)	45 (12) 41 (12)	18 (11)	16 (10)	27 (10) 25 (9) 22 (10)	15 (7)	27 (12)	9.5 (7)	12 (7)	24 (10) 18 (9) 18 (9)	30 (13) 28 (11) 27 (9)
Coned whorls (from ground)	3 (4-6th)	2 (11-12th)	3 (6-8th)	4 (8-11th)	2 (8-9th)	3 (5-7th)	3 (7-9th)	2 (10-11th)	3 (6-8th)	5 (6)* (8-12th) (13th)
Central cone (length)	Young (15mm)	Young (14mm)	Spent (over)	Spent + new, small cone	Spent (over)	Spent (over)	Cluster of 5 (4-9mm)	Spent + new small cone	Young (12mm)	Central axis ends in branch
Number of peripheral cones	5	11	13	12	10	9	10	10	10	18+*
All cones	6	12	14	13	11	10	15	11	11	18+*

*: Two or more further 1-2mm cones starting to form. Nos 2, 3, 7 & 10 illustrated.

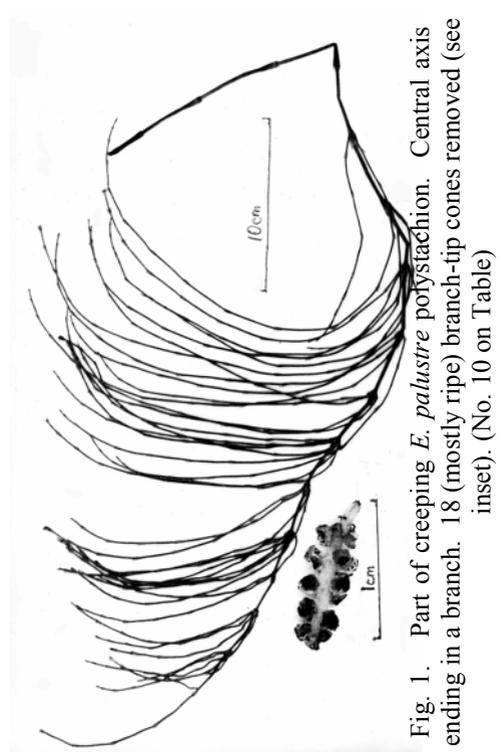
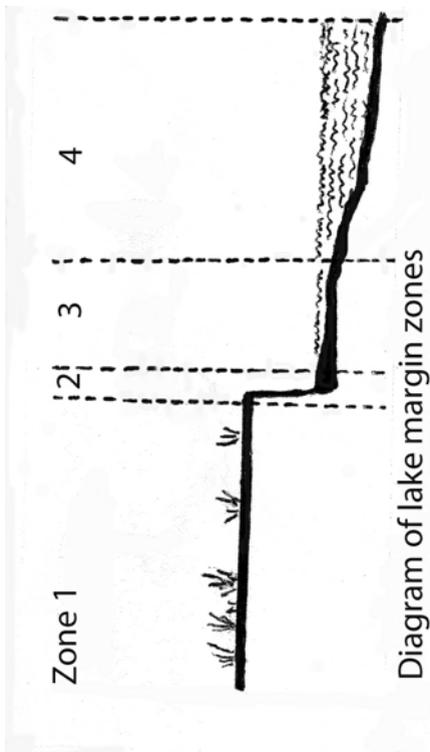


Fig. 1. Part of creeping *E. palustre* polystachion. Central axis ending in a branch. 18 (mostly ripe) branch-tip cones removed (see inset). (No. 10 on Table)

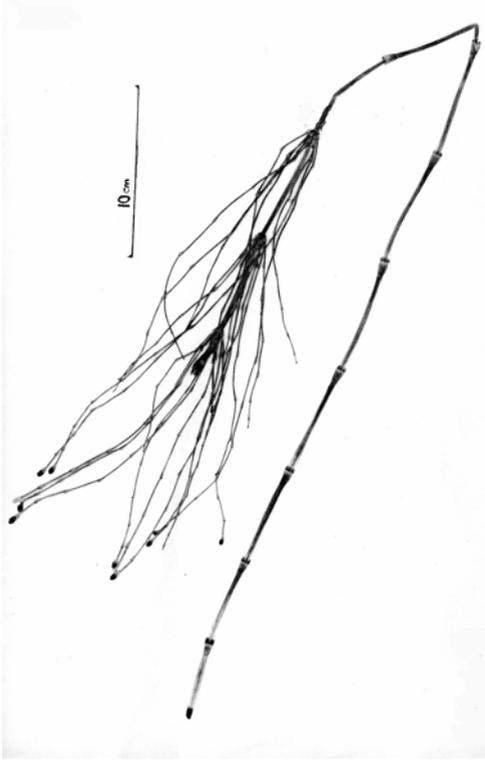


Fig. 3. A tall 2-whorl *E. palustre* polystachion (no. 2 on Table); some cones lost.



Fig. 5. Spores (40 μ diameter) and elaters (150-200 μ long) from branch-end (peripheral) cones of *E. palustre*

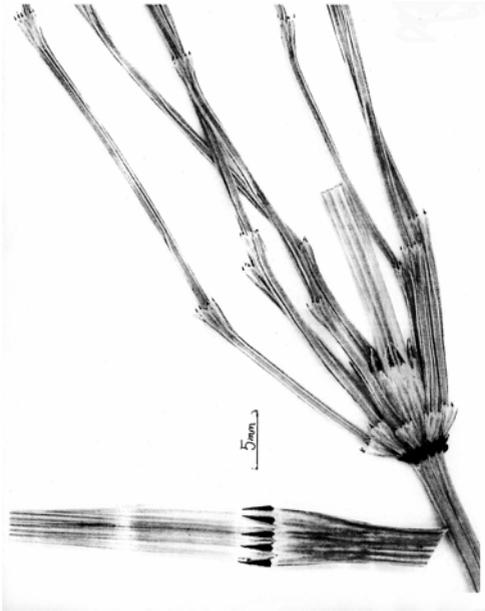


Fig. 2. Usual stem architecture of *E. palustre*: erect, creeping or aquatic forms.



Fig. 4. Two 3-whorl *E. palustre* polystachions (nos. 3 and 7 on Table); some cones lost.

ALIENS

Adriatic Bellflower (*Campanula garganica* Ten.) recorded as an established alien

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On 25th June 2011, the Botany Section of the Isle of Wight Natural History & Archaeological Society paid a visit to Norris Castle, East Cowes, Isle of Wight (SZ515959). This is a private, late 18th century landscaped estate, adjoining the Osborne estate, to which public access has rarely been granted in the past. We parked alongside the Gothic farm building, comprising a farmyard built like a castle, with long walls, square corner towers and an impressive entrance, completed in 1805.

Our attention was soon drawn to a bellflower, which appeared to be well established on the outer wall and corner tower at the north-eastern corner of the farm building. About 100 plants were growing in the mortar along an excess of 20m of north-west and south-east facing walls, from the top of the wall (at about 5m) downwards to 1m above the ground. The plant appeared at first sight to be intermediate in character between *Campanula portenschlagiana* (Adria Bell-flower) and *C. poscharskyana* (Trailing Bell-flower). The flowers had deeply divided, patent corolla lobes, similar to those of Trailing Bellflower but somewhat smaller. The plants had a more compact habit than Trailing Bellflower, with minutely sparse pubescence and orbicular to reniform, coarsely toothed leaves. The plant and its habitat are shown in the Colour Section, plate 1.

Fresh material was sent to Eric Clement, who identified it as *C. garganica* (Adriatic Bellflower). It is an endemic found on shady rocks in south-east Italy (Monte Gargano) and western Greece (Kephallinia), which was first recorded in cultivation in this country in 1830 (G. Nicholson: *Dictionary of Gardening* (1884-1888)), with many varieties and horticultural forms. According to Eric, there is one previous casual record outside gardens from this country.

The castellated farm walls enclosed a walled garden during Victorian and Edwardian times, where fruit, vegetables and cut flowers were grown. Since then, the garden has fallen into neglect and become overgrown until recently. Mark Coventry, who farms the estate, has known the plant growing on the walls for at least 50 years, which suggests that it has actually been established here for much longer. The farm buildings are surrounded by agricultural land and woodlands. There are no gardens in the immediate neighbourhood.

It is quite possible that this plant has been under-recorded as an established alien, due to confusion with the other two much more frequent wall bellflowers. The relevant part of the key given in *Flora Europaea* (Vol. 4: 76 (1976)) should serve to distinguish between them and is reproduced here in a slightly modified form:

Corolla infundibuliform-campanulate, lobed for ¼ its length	90. <i>portenschlagiana</i>
Corolla rotate to infundibuliform, lobed for ¼ - ¾ its length	
Corolla 20-40mm in diameter; calyx-teeth 8-12 mm	91. <i>poscharskyana</i>
Corolla 10-20mm in diameter; calyx-teeth 3-5 mm	92. <i>garganica</i>

References to full descriptions and further illustrations can be found in Clement & Foster *Alien plants of the British Isles* (BSBI, 1994).

Acknowledgement:

I would like to thank Eric Clement for identifying the plant, providing information about it and for helpful comments on this short note.

Buttonweed (*Cotula coronopifolia*) found in Northamptonshire

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In July 2011, local naturalist Tony Balbi was surveying a large area of former gravel pits in the valley of the River Nene near Irthlingborough, hopefully the area of a future Wildlife Trust nature reserve, when he discovered a large colony of *Cotula coronopifolia* (Buttonweed) – the only time this has been recorded in Northamptonshire. Shortly after we were told of this discovery, my co-recorder Gill Gent, two local botanists, Martin Dove and Roy Dexter, I set out to see this new species for ourselves.

The field where the Buttonweed grows is part of the Nene floodplain and can be under water in winter. As we entered the field the flora looked distinctly uninteresting. Although there was more variety around some of the wetter patches, with areas of *Persicaria maculosa* (Redshank) and other species associated with this type of habitat, it was still not terribly exciting, but more interesting than the cropped grassland in most of the field. Skirting these areas, while watching our GPS, we kept heading towards the map reference we had been given. This brought us to a couple of large areas, shallow depressions that were largely

devoid of plant life, probably the remains of now dry vernal ponds. Around the larger of these was a swathe of *Matricaria discoidea* (Pineappleweed), but the smaller was surrounded by thousands of flowering plants of Buttonweed (see Colour Section, plate 4). This appeared to be well established in this one spot, and, judging by the number and spread of the plants, it had been present for a number of years. It was probably brought to the site by winter-visiting wildfowl, surviving the frost of winter beneath the floods. The Buttonweed field adjoins part of the area of the valley that forms the Upper Nene Valley Gravel Pits SSSI, stretching from Northampton downstream past Thrapston, the former pits, now flooded, being designated primarily for wildfowl and waders, but also for the diversity of plant life. It is to be hoped that the management plan that is being written for the proposed new reserve will make due allowance for this species that has only been recorded in 2-3 dozen hectads since the start of this century. A sample was collected and the identification has been confirmed by Eric Clement.

Hypericum coris L. (Heath-leaved St John's-wort) on the Isle of Wight (v.c.10)

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PHILIP J. BARDEN, *13 Lockeridge Road, Bere Alston, Devon, PL20 7AW*

DAVID J. BARDEN, *91 Newbridge Road, Llantrisant, Mid-Glamorgan, CF72 8EY*

On 5th September 2011, one of us (PS) was examining the large population of *Erigeron karvinskianus* (Mexican Fleabane) on the high, west-facing boundary wall of Newchurch churchyard, Isle of Wight (v.c.10). In doing so, an unusual *Hypericum* was spotted that was unlike anything previously encountered. A search of the internet produced a tentative identification of *Hypericum coris* L. (Heath-leaved St John's-wort), which was confirmed following correspondence with Colin Pope (the vice-county recorder) and Eric Clement. Remarkably, the very same spot was independently

visited two days later by PJB, who also noted the unusual plant, contacted his son (DJB) for his opinion about what it might be, and reached the same conclusion.

Even at first glance, *H. coris* looks unlike any native species of *Hypericum* (or indeed any common alien species of that genus). However, the very narrow, whorled leaves suggest *Hypericum* section *Coridium*, and of the species in this section, *H. coris* is definitely the best fit, having both four-whorled leaves and strongly sessile-glandular sepals (see Colour Section, plate 1). The other species in section *Coridium*

either have three-whorled leaves (*H. empetri-folium*), eglandular sepals (*H. amblycalyx*), or very much smaller leaves (*H. ericoides*).

The site is near the top of a mortared retaining wall constructed of limestone, with an open westerly aspect, matching its wild habitat of “sunny, calcareous rocks” in north and central Italy, Switzerland and south-east France, as described in *Flora Europaea*. Nine plants were present, and all of these had flowered in 2011, with just one plant putting out a couple of late blooms at the time of the discovery.

Eric Clement confirmed that *H. coris* was first reported in cultivation in Britain in 1640, and that, apart from an obvious (and persistent) introduction on a roadside bank near Stow-on-the-Wold (v.c.33), noted in 1995 and reported in 1997 (see *BSBI News*, 73: 40), there had been no previous records of it being naturalised in the country.

Newchurch church is well-visited by botanists, principally because of its population

of *Digitaria sanguinalis* (Hairy Finger-grass), and the fact that *H. coris* had not been spotted earlier suggests that it is not long-established. In line with this, a local resident had mentioned to Colin Pope that the *Erigeron karvinskianus* was introduced “some years ago” by someone who brought it back on holiday from the Continent, fitting in with Colin’s observation that it was actively colonising in 2000, but apparently absent five years earlier. It is therefore possible that the *H. coris* might have been (accidentally?) introduced at the same time as the *Erigeron*, although how this might have happened is a matter for speculation. It is not currently clear whether all nine plants established themselves at the same time, or if it is actually self-seeding – time may tell. However, it may be significant that no plants were present lower down on the wall, despite plenty of apparently suitable habitat being present there.

Iberis × *Arabis*?

TREVOR EVANS, ‘La Cuesta’, Mountain Road, Chepstow, Gwent, NP16 5BS

In 2009 I had to dig out a shrub and a number of bushes arising from its suckers because it was threatening an attractive *Viburnum* in a corner of a lawn in front of my house. I then dug the area thoroughly and removed seedlings and plants from among the limestone rocks that enabled me to level the lawn in 1950. Among these rocks I had grown rock plants e.g. *Aubretia*, *Iberis umbellata* (Garden Candytuft), and *Arabis caucasica* (Garden Arabis). In late summer of 2010, I noticed a smallish plant new to me (see Colour Section, plate 3). It had white flowers with four rectangular petals, with the two lower (outer) petals larger than the two upper ones. The fruits, when they appeared, were definitely siliques, though they were completely sterile and shrivelled, without a single seed being produced. Stolons from the base of the plant spread along the surface of the soil and eventually formed rosettes of glabrous, rough-edged leaves like those on the stems, which had appressed hairs. The flowers shouted *Iberis* (Tim Rich, in his *Crucifers of Great Britain and Ireland*, p. 43, states that *Iberis* is distinct in having large (this plant had

large flowers for its size) asymmetrical petals (it certainly had those). The fruits were not those of *Iberis* and they were sterile. The plant must be a hybrid, considering the plants that had been growing among the rocks edging my lawn until recently. I also grew several other species of *Arabis* in my garden so that my drawings for Tim Rich’s *Crucifers* handbook would be accurate, however they did not survive beyond the early years of 1990s.

I was so taken by the *BSBI News* 115 account of 334 plants that had been re-named in Stace’s 3rd edition of the *New flora of the British Isles* that I forgot to finish perusing it until weeks later, when I saw a photograph of a plant named *Arabis procurrens* that matched my plant. I pressed the plant, mounted it on a NMW herbarium sheet and presented to Tim earlier last year.

Since then I have considered how a plant could have arrived from the Balkans and found its way into widely separated spots in the British Isles. It is not a showy plant. Maybe alpine gardeners have imported it for their rock gardens. It looks as if it could form colonies. Tim showed me a

specimen in NMW that came from Manchester Museum. If the plant came from Manchester via Brookwood Cemetery, Woking, Sunning-well Churchyard and now my garden in Chepstow, Monmouthshire, one has to wonder how the plants travelled to such dispersed sites considering they do not produce seeds.

How do we know that the plants in the Balkans have been named correctly? I went to Romania at Easter at the end of the 1970s, with

a group of pupils from Chepstow Secondary School, with parties to Hungary in 1985, to Bulgaria in 1988, to south-west Turkey in 1990 and north-east Turkey in 1997, but nowhere near the Balkans since then. I would like Eric Clement to comment how he can be so definite the plant is not a hybrid; has DNA been used to confirm it?

Scrophularia grandiflora in Surrey (v.c.17)

GEORGE HOUNSOME, 14 St John's Rise, Woking, Surrey, GU21 1PW;
(george.hounsome@btinternet.com)

In May 2011 I was recording the flora in SU9958, one of my local monads in suburban Woking (v.c.17), when I came across a plant that was obviously a figwort of some sort but a species completely unknown to me. It was about 45cm tall and growing out of a short retaining wall between a raised pavement and the street (see inside back cover). The whole plant was densely glandular-hairy. The stem and basal leaves were pinnate or almost so, with two or three pairs of ovate, acute, coarsely-toothed leaflets and a relatively large terminal lobe. The flowers were in clusters in the axils of the upper leaves/bracts and were 1cm or more long, yellowish inside and pale reddish-purple outside. I was initially unable to find a name to get a handle on what it might be, but Eric Clement suggested using the RHS Plant Finder and, sure enough, a trawl through the species listed there under *Scrophularia*, compared with the images available on the internet, produced a good match for *Scrophularia grandiflora*.

One needs to be a bit circumspect with the internet as a resource, so, as I happened to be at Kew a couple of days later, I visited the Natural Order Beds in the rather forlorn hope that it would be there for comparison. This time I was lucky! There it was, labelled *S. grandiflora* ssp. *grandiflora*. *Flora Europaea* gives two ssp. for *S. grandiflora*: ssp. *grandiflora* (densely glandular-pubescent, lower lvs. lyrate, corolla 12–18 mm.) from Central Portugal and ssp. *reuteri* (more or less glandular-pubescent, lower leaves

usually undivided, corolla 9-12 (-14) mm.), from the mountains of west-central Spain. The plant I found seems closest to the type ssp., and looked just like the one at Kew. As a point of interest, figworts are so called because the Doctrine of Signatures suggested they could be used to treat piles, once called 'figs', because the cluster of root tubers is said to resemble them. I have not yet been able to make a direct comparison to confirm it.

The source of this plant was a nearby garden, and the lady of the household told me they had bought a plant ten years or so previously, and that it had sprung up in odd places ever since. The first one I found was sprayed by the council shortly afterwards and succumbed immediately (whereas the *Buddleia* growing next to it survived to flowering!), but there was another at the foot of a wall, out of range of the herbicidal maniacs, that escaped to reach maturity and set seed. It shows no sign of spreading very far and must be regarded only as an interesting casual, but it was a pleasure to find it.

I would like to thank Eric Clement for putting me on track for the identification and David Bevan for the information from *Flora Europaea*.

References:

- Royal Horticultural Society. (2011). *RHS Plantfinder 2011-2012*. Royal Horticultural Society, London.
- TUTIN, T.G. *et al.* (eds.) (1972). *Flora Europaea*. Vol. 3. Cambridge University Press, Cambridge.

Problems over identification of *Pyracantha* bushes

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Pyracantha (Firethorns) is a small genus of popularly cultivated, usually thorny shrubs originating from south-eastern Europe to eastern Asia. The fruits (pomes) are loved by birds, and hence plants soon appear in wild places in temperate climates. Seed-chilling is necessary for germination. In Britain they have yet to reach pest status, unlike in South Africa and elsewhere.

Most books claim a minimum of seven species (as listed in the key below), but study soon reveals that most of these ‘species’ are 100% inter-fertile. This is not a surprise, since the taxa are based mostly on trivial characters of leaf shape and indumentum. The flowers and fruit are more or less uniform. The isolated native populations, alone, are easily identified.

I note that the wondrous D.J. Mabberley’s *The plant book* (2nd ed.) (1997) called for exactly nine species, whereas the 3rd edition

(2008) claims about three, commenting that *P. coccinea* (Firethorn) was “native in G.B. in warmer inter-glacials”. The late Dr C. Kalkman’s account of *Pyracantha* in *The families and genera of vascular plants* (ed. K. Kubitzki, 2004) (vol. 6: 380) claims about three (but, again, does not list them). Clearly, horticulturalists have enthusiastically named superior garden plants, like *P. rogersiana* (Asian Firethorn), whereas a varietal, or subspecific rank is far more appropriate.

Several keys to *Pyracantha* ‘species’ exist, but none of them do I find effective, e.g. *The European garden flora* 4: 438-439 (1998) covers seven species, but starts badly – the lead numbers in the first dichotomy should be reversed; viz.: it should read 3, 2, and not: 2, 3. With much reluctance, I offer yet another (non-dichotomous) key that, doubtless, will be at most a minimal improvement.

Leaf underside persistently tomentose; leaves oblong to oblong-obovate	<i>angustifolia</i>
Leaf underside tomentose, becoming sub-glabrous; leaves elliptic to obovate-elliptical	<i>coccinea</i>
Leaf underside glabrous or almost so (<i>crenulata</i> agg.)	
Leaf margin of short shoots entire (or almost so); inflorescence hairy.	
Leaves 4-8 × 1.5-2cm, margins flat	<i>atalantioides</i>
Leaves 2-4 × 1-1.5cm, margins slightly recurved	<i>koidzumii</i>
Leaf margin toothed, occasionally weakly so.	
Inflorescence hairy, sometimes thinly; leaf-margin crenate-serrate	<i>crenatoserrata</i>
Inflorescence glabrous (or almost so)	
Leaf margin crenate; leaf apex acute or mucronate	<i>crenulata</i>
Leaf margin unequally serrulate; leaf apex obtuse	<i>rogersiana</i>

Note that with the three main taxa above, we are exactly back to the treatment in L.H. Bailey’s *Cyclopedia*, vol. 3: 2863-2864 (1937). Reducing species even further is possible. W.J. Bean’s classic *Trees and shrubs hardy in the British Isles*, vol. 3: 442 (3rd ed.) (1976) says of *P. crenulata* that it “can scarcely be regarded as more than a variety of *P. coccinea*”.

Most recent literature replaces the name *P. crenatoserrata* by *P. fortuneana* (Maxim.)

H.L. Li. Maybe the holotype of the latter in **L** is conspecific, but the ?isotype at **K** is referable (by W.J. Bean and others) to a *Photinia* species! A mixed gathering?

Not mentioned in the key above is *P. inermis* Vidal (1949), a native of Indo-China and China (south-west Yunnan). Is this a thornless variant of *P. crenulata*?

Clement & Foster’s *Alien plants of the British Isles* (1994) gives full references to four escaping taxa. Since then, I can trace

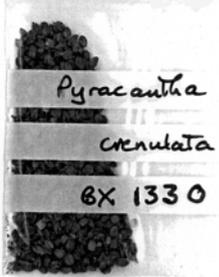
3 cm

Taxon: *Pyracantha crenulata* (D. Don.)
M. J. Roemer
Var. *crenulata*

Habitat: garden
Locality: 15 Parkhurst Road
Bexley, Kent

Notes: evergreen spiny shrub, currently 2m. high
fls. white; fruit red.
from seed received as indet. shrub (SIHPA 975)

Grown by: D J Nicolle
No: BX 1330
Date: 24 May 2009



E. Britton 1(3): 592
1912

Herb. E. J. CLEMENT

only one addition: *P. crenatoserrata*, found by Dr A.C. Leslie on an old railway track in Cambridge (TL461616), October 2003, **CGE** (*Nature in Cambridgeshire* **46**: 89 (2004)).

I firmly believe that in Britain most recent escapees are now of hybrid blood (maybe with three or more parents). These are so often generously planted in droves by councils. Hence, formally coining varietal names is of limited value, but one does already exist: *P. crenulata* var. *rogersiana* A.B. Jackson (plus the autonym, var. *crenulata*).

David Nicolle, ever eager to help, has provided us with an illustration (see p. 54) – a photocopy of a duplicate in **Herb. EJC** of his BX 1330 herbarium gathering, cultivated at Bexley, Kent, May 2009; grown directly from seeds of SHPA 975, which was collected (as an ‘indet. shrub’) in the wild in the Himalaya, Nepal, where only one taxon is on record:

P. crenulata var. *crenulata*. Oddly, SHPA does not appear in the valuable list of Collectors References in the *RHS plant finder 2011-2012* (pp. 20-23). Help! Is there a more complete list published elsewhere? It refers, of course, to Chris Chadwell’s *Sino-Himalayan Plant Association*, and specifically those plants collected by his collaborators. In the *SHPA Journal*, identifications of Chadwell’s and SHPA collection numbers are often discussed, e.g., see vol. **43**: 27-28 (August 2011) for the latest reviews.

This ramble (it is no more!) draws attention to a problematic genus, for which, at present, I can offer no firm, specific determinations.

Postscript

A.C. Leslie draws attention to a useful key at www.efloras.org (Flora of China), but *P. rogersiana* does not appear at any rank!

***Saxifraga umbrosa* – one of our rarest flowers?**

NORMAN A. THOMPSON, 6 *The Grove, Marton, Middlesbrough, Cleveland, TS7 8AA*

Over many years I have been trying to make a photographic record of all the British saxifrages, and now require the last two, one of which is *Saxifraga umbrosa* (Pyrenean Saxifrage).

When I received my copy of the *New atlas of the British & Irish flora*, I immediately looked for the distribution map for *S. umbrosa*, but there wasn’t one. All the index said was “See CD”. As I am 85, I am not into computers and CDs, but recently I had the brilliant idea of getting my grand-daughter to play it for me. I do not think that *S. umbrosa* was mentioned. She then looked on the internet to see what came up. A map of north Yorkshire seemed to have two red dots. I contacted the North & East Yorkshire Environmental Data Centre, which was the contact given, and they were very helpful. They gave me the grid references of the two 10km squares. I looked up these on the map and realised that they were the same locations that Nan Sykes, in her book *Wild plants in the North York Moors* gives as *Saxifraga ×urbium* (London Pride), so it looks as though

NEYEDC has been given the wrong information.

Prof. John Richards gave a site near Hexham, which I visited, but was unable to find it. I contacted him, and he went to have a look, but he couldn’t find it either. He concluded that it must have been washed away in a flood, as it was very near to the water’s edge. That left me with the site in Hesledon Gill, mid-west Yorkshire, which Prof. Stace states has been known there since 1792. He also vaguely mentions that it might occur in Derbyshire and Dunbarton. I went up to the Hesledon site last year, on a terrible day. I would not have gone, but it was the only day the driver could manage. The waterfalls were blowing up vertically, and when I got down to the river, it was in full spate, and totally impassable. A friend had found for me from one of his friends the grid reference, and he said that it was many years since he had been there, that there were very few plants, and that the site was on the far side of the river.

It would appear, therefore, that, from the above description, *Saxifraga umbrosa* would

seem to be one of our rarest flowers. If any member has a detailed description of the location of the plant at its locality at Hesledon,

I should be very pleased to hear from them. It would be very helpful for me when I go next year to look for it again.

***Verbascum speciosum* (Hungarian Mullein) new to north-west England at Formby, Merseyside (v.c.59)**

PHILIP H. SMITH, 9 Hayward Court, Watchyard Lane, Formby, Liverpool, L37 3QP

In the heat-wave of 30th September 2011, I decided to visit the Ravenmeols woodland, on the Formby sand-dunes to photograph Red Admirals (*Vanessa atalanta*) nectaring on flowering *Hedera hibernica* (Atlantic Ivy). However, my attention was soon distracted by the flower-spikes of an enormous *Verbascum* (Mullein) on the edge of a glade. There were two flowering individuals and four first-year rosettes within an area of about 2 × 12m at grid ref. SD2803605860. It was clearly different from any member of this genus I had seen before on the Sefton Coast, being about 2m tall, with a candelabra-like inflorescence supporting numerous small (2-3cm) pale-yellow flowers. Examination with a hand-lens showed that the leaves and stems were densely clothed in short branched hairs. I took photographs (see inside front cover) and a small amount of material which keyed out in Stace (2010) to *Verbascum speciosum* (Hungarian Mullein), a native of south-east Europe. This provisional identification was confirmed by the *Verbascum* referee, Victor Johnstone. He writes that it has become a troublesome plant in his garden due to its high seed production and fertility, and further states that the horticultural trade could be responsible for *V. speciosum* turning up in the wild, as plants he has purchased as *V. olympicum* have

frequently turned out to be either *V. speciosum* or *V. bombyciferum*.

The habitat at Ravenmeols is somewhat decalcified fixed-dune, dominated by *Carex arenaria* (Sand Sedge), within an area fenced off in 2004 and planted with young *Pinus nigra* ssp. *laricio* (Corsican Pine) by the land-owner, Sefton Borough Council. Other associates are *Agrostis capillaris* (Common Bent), *Cardamine hirsuta* (Hairy Bitter-cress), *Geranium molle* (Dove's-foot Crane's-bill), *Luzula campestris* (Field Wood-rush) and *Rumex acetosella* (Sheep's-sorrel). A well-used informal footpath runs nearby and the site is about 150m from the nearest garden, although *V. speciosum* is not grown there.

According to the most recent (2011) distribution map on the BSBI website, *V. speciosum* has a mostly south-eastern distribution in Britain, having been reported from only 53 hectads (24 post-2000). There appear to have been no previously notified records for any of the north-west England vice-counties (v.cc. **58, 59, 60, 69, 70**).

Acknowledgements:

I am grateful to Victor Johnstone for providing a determination by return of post.

Reference:

STACE, C.A. (2010). *New flora of the British Isles*. 3rd edition. Cambridge University Press, Cambridge.

Notes from Wisley (v.c.17): the sex forms of *Cortaderia selloana*

JAMES ARMITAGE, Botany Department, RHS Garden, Wisley, Woking, Surrey, GU23 6QB

Cortaderia selloana (Schult. & Schult. f.) Asch. & Graebn. (Pampas-grass), was introduced to cultivation in the British Isles in 1843, when David Moore of Glasnevin, Dublin, received seeds sent from Argentina (Stapf, 1905). It has been popular in cultivation ever since and, for the great majority of that time, has been a well-behaved garden plant, so much so that only seven years ago confirmation that it was self-sowing at all was required (Clement, 2005). It is difficult to believe now that there could have been any doubt. A quick look at the online BSBI Maps Scheme (www.bsbi.org.uk/atlas/main.php) shows that it has been recorded from 425 hectads.

At RHS Garden Wisley, self-sown plants can regularly be found around the site, and a sward of seedlings appeared in a plot where a trial of pampas grasses had been held. Nevertheless it was with some surprise that Barry Phillips and I found 14 young plants, three already flowering, growing in a small area of the car park beneath some Scot's Pines. These were in addition to five mature and semi-mature plants that had been spotted during a previous survey.

Cortaderia selloana is highly invasive in other parts of the world, including California, New Zealand and Hawaii, but what has brought its long lag phase to an end in Britain is not clear. As it does not begin to flower until autumn, it may be that longer growing seasons are allowing seeds to ripen more regularly, but the complex breeding system the species possesses may also be a factor. Edgar & Connor (2000) report that, in natural populations, 51% of plants are hermaphrodite while 49% are female and, though hermaphrodites produce seed, “these are unlikely to give rise to many plants; the reproductive system, thus, is chiefly dioecious”.

Wilcox (2007) points out some of the differences between *C. selloana* and *C. richardii* (Endl.) Zotov, but there are also clear differences between the sex forms within *C. selloana*, so that they can be told apart even

from a distance and in winter time. The female inflorescence is borne all around a usually upright stem, while hermaphrodites are one-sided on more arching stems. Female inflorescences are white, while in hermaphrodites they are often pink-tinged or age to a dirty greyish brown. The lemmas of female florets bear long hairs, which gives the inflorescence as a whole a silky, fleecy appearance and texture. Female inflorescences remain full well into winter, while hermaphrodites are soon skeletal. Hermaphrodite flowers tend to emerge slightly earlier. (see Colour Section, plate 1). Although, with their mane-like inflorescences, some hermaphrodite plants are undoubtedly attractive, it is likely that females have been favoured over the years, and a lack of pollen may be one reason the species was kept in check for so long. The appearance of hermaphrodites among those seedlings that did appear may have contributed to the extremely rapid increase in naturalised plants observed in recent times.

I am not aware of a list that deals comprehensively with the gender of named cultivars of *C. selloana*, but such a thing may be of use to members wishing to trace the source of naturalised plants. The table (p. 58) lists the gender of all selections listed in the 2011-12 edition of *RHS Plant Finder*, with some others which may occasionally be encountered in gardens.

References:

- CLEMENT, E.J. (2005). ‘*Cortaderia* does self sow abundantly in Britain’. *BSBI News* **99**: 47-48.
- EDGAR, E. & CONNOR, H.E. (2000). *Flora of New Zealand*. Vol. V: *Grasses*. Manaaki Whenua Press, New Zealand.
- STAPF, O. (1905). ‘The pampas grasses (*Cortaderia* Stapf)’. *Flora and Sylva* **3**: 171-176.
- WILCOX, M. (2007). ‘*Cortaderia* information’. *BSBI News* **106**: 33.

Table: Gender of *Cortaderia selloana* selections listed in the *RHS Plant Finder*

Female	Hermaphrodite (functionally male)
‘Albolineata’	‘Andes Silver’
‘Aureolineata’	‘Candy Floss’**
‘Cool Ice’	‘Highfield Pink’
‘Evita’	‘Pink Feather’
‘Gold Band’	‘Pink Phantom’
‘Golden Goblin’	‘Rendatleri’
‘Icalma’	‘Roi des Roses’
‘Monstrosa’	‘Rosea’
‘Patagonia’	
‘Petite Plumes’	
‘Pumila’	
‘Silver Comet’	
‘Silver Feather’ (‘Notcort’)	
‘Silver Fountain’	
‘Silver Stripe’	
‘Splendid Star’	
‘Sunningdale Silver’	
‘White Feather’*	

*Seed-raised so sex may vary.

**The erroneous attribution of this cultivar to *C. jubata* (Lem.) Stapf will be discussed in a future edition of *Hanburyana*.

NOTICES

Commander John Martin Williamson Topp, OBE (1937-2011)

CLIVE M. LOVATT, (BSBI Administrative Officer), 67 Park Street, Penrhinwceiber, Mountain Ash, CF45 3YW; accounts@bsbi.org.uk

Commander Topp was born in 1937 and died on 15th March 2011. He was a naval officer who had been the British Representative on the British Indian Ocean Territory, situated midway between Madagascar and Sri Lanka, resident at the US Military base on Diego Garcia, the largest island in the Chagos Archipelago. He joined the BSBI in 1974 and had membership addresses in Hampshire and London. For many years he maintained a home on Ibiza and led BSBI foreign field meetings to the Spanish Eastern Pyrenees in

1990 and to Ibiza in 1999. He was a member of the Meetings Committee.

Letters in *BSBI News* show that he had a dry, mocking wit. His guide to ‘*field meetingship*’ no doubt deliberately owes something to Stephen Potter’s *Gamesmanship*. He suggests that participants should “assume that your leader knows everything” and describes the CTW *Excursion flora* as “having a good weight to impressiveness ratio”. He also wrote in the same manner on the rather

pedantic format of the official English names of plants.

At the Exhibition Meeting in 1986 he referred to an annotated checklist of the flora of Diego Garcia, presumably of his own authorship, covering 180 species, with notes on their distribution and ecology, 65 species more than were found in a checklist of 20 years earlier.

His OBE was granted in 2004, for services to the environment and conservation in the British Indian Ocean Territories. He was the founder, and webmaster, of the Chagos Conservation Trust, and would have been exceptionally proud, if perhaps with mixed feelings, when the Territory (excluding Diego Garcia) became an IUCN Category 1 Marine Protected Area in 2010. He received a warm ‘farewell’ from the President in exile, Allen Vincatassin, notwithstanding the report in Wikileaks that the protection of the military base and the continued exclusion of the former residents was all part of the package. Photographs of Commander Topp can be found online at: <http://www.coralcaybookings.com/>

blog/index.php/2011/05/26/commander-john-mw-topp-obe-rn-fls-1937-2011/

Commander Topp kindly left two legacies to the BSBI, and had the generosity to index-link them so that their value after he made his will in 2004 would not be eroded. He left £12,529.79 with the condition that: “*such sum to be used to assist amateur or professional botanists (with priority for any who serve or have served in Her Majesty’s Royal Navy or the Army) to undertake studies in the field at home or abroad as the Society may decide*”. Some of the reasons for this can be seen in the short account above. The reason for the second legacy is that he was, according to Sarah Stille, a regular attendee at the Welsh AGMs, which he always seemed to enjoy: £1,252.91 was left to the Welsh Branch of the BSBI, with the request that it should “*enable the membership of the said Society to enjoy drinks at my expense at the Society’s [Welsh] Annual General Meeting*”. We will ensure that his wishes are followed, and no doubt our Welsh members will raise their glasses to his memory for some years to come.

Information about ‘Plant Records’ in the *New Journal of Botany*

MIKE PORTER (Plant Records Editor), 5 West Avenue, Wigton, Cumbria, CA7 9LG

Please note that there will be no ‘Plant Records’ in the second issue of the *New Journal of Botany*. My hope is to compile records for every other issue of the *NJB* (*i.e.* Issues 1, 3, 5 *etc.*). Since it is intended to eventually have four issues of *NJB* per year, this will mean two sets of Plant Records per year – as with *Watsonia*. I hope this will meet with general approval.

Also, my ‘wanadoo’ email address is now defunct, so material for ‘Plant Records’ should be sent to: carexmike@yahoo.co.uk. I am concerned that records sent over the past few months using the ‘wanadoo’ address may not have reached me so would like to ask any Vice-county Recorders who have sent records via ‘wanadoo’ since May to check with me to see if I have received them.

Annual Exhibition Meeting: vegetative i.d. quiz

JOHN POLAND, 91 Ethelburt Avenue, Southampton, Hants., SO16 3DF;
(jpp197@alumni.soton.ac.uk)

Thanks to everyone who took part in my quiz at the Annual Exhibition Meeting in London last November. The prize was simply a mention of highest scoring entries in *BSBI News*. Congratulations are due to Geoffrey Hall, Geoff Joyce, Brian Laney and John Swindells for highly admirable scores for what was quite a tricky test of i.d. skills.

The answers, along with the diagnostic identification characters, are given below:

- (1) *Thuja plicata* (Western Red-cedar) – Conifer; leaves imbricate, opposite, pineapple-scented; branchlets in one plane.
- (2) *Brachyglottis ×jubar* (Shrub Ragwort) – Evergreen shrub; leaves simple, alternate, toothed, white-felted below.
- (3) *Viburnum rhytidophyllum* (Wrinkled Viburnum) – Evergreen shrub; leaves simple, opposite, toothed, stellate-hairy; stipules absent.
- (4) *Parietaria judaica* (Pellitory-of-the-wall) – Tufted perennial; leaves simple, alternate, entire, <4cm, hooked hairs below.
- (5) *Cotoneaster franchetii* (Franchet's Cotoneaster) – Evergreen shrub; leaves simple, alternate, entire, net-veined, <3.5cm, white-woolly below; stipules present.
- (6) *Lonicera nitida* (Wilson's Honeysuckle) – Evergreen shrub; leaves simple, opposite, entire, 0.5-1cm, held at 90° to twig.
- (7) *Aucuba japonica* (Spotted-laurel) – Evergreen shrub; leaves opposite, toothed, yellow-spotted.
- (8) *Saxifraga granulata* (Meadow Saxifrage) – Tufted perennial; leaves simple, alternate, palmately lobed, <3cm, cordate at base, teeth with submarginal hydathodes
- (9) *Solanum dulcamara* (Bittersweet) – Scrambling woody perennial; leaves simple, alternate, two lobes at base, odourous.
- (10) *Taxus baccata* (Yew) – Conifer; young twigs ridged, green; leaves single, midrib raised both sides.
- (11) *Rumex obtusifolius* (Broad-leaved Dock) – Tufted perennial; ochrea present; leaves simple, alternate, unlobed, 20-40cm, cordate at base, strongly papillate on veins below.
- (12) *Robinia pseudoacacia* (False-acacia) – Deciduous tree; leaves one-pinnate; leaflets entire; stipules present (becoming spiny).
- (13) *Ligustrum ovalifolium* (Garden Privet) – Shrub (± evergreen); leaves simple, opposite, entire; twigs without interpetiolar ridge, hairy.
- (14) *Elaeagnus ×submacrophylla* – Evergreen shrub; leaves simple, alternate, ovate, with peltate scales.
- (15) *Cotoneaster horizontalis/atropurpureus* (Wall Cotoneaster/Purple-flowered Cotoneaster) – Deciduous low shrub; leaves alternate, entire, <1.5cm, hairless below, not net-veined; stipules present.

No-one correctly guessed *Saxifraga granulata* on their quiz sheets, with *Sibthorpia europaea* (Cornish Moneywort) given as the most popular wrong answer. *S. europaea* is prostrate and roots at the nodes, most unlike the compact rosettes of *S. granulata* (although this may not have been entirely obvious from my specimen!).

Don't forget that the BSBI is running Field Identification Skills Certificate (FISC) tests, so, if anyone would like to try something a little more serious, visit www.bsbi.org.uk for details.

REQUESTS

Can you save these aliens?

CLIVE STACE, 'Cringlee', Claybrooke Road, Ullesthorpe, Leics., LE17 5AB

DAVID PEARMAN, 'Algiers', Feock, Truro, Cornwall, TR3 6RA

The inventory of species (the 'standard list') included in the *New flora of the British Isles* (1991, 1997, 2010) and *New atlas of the British & Irish flora* (2002) is based on extensive discussions held in the 1980s with many field botanists, notably David McClintock, Douglas Kent and Eric Clement. That was over 20 years ago, and we feel that it is now time to update the list by deleting those species that no longer occur and adding newcomers. This process has been pursued continually with regard to naturalised taxa, but the list of casuals is beginning to look dated (largely due to the demise of wool-aliens).

The following species are included in *New flora* and in the *New atlas* project, but each has no record or only one record in the BSBI database post 1986. Unless we can find better evidence of their continued presence we shall remove them from the 'standard list', although of course the BSBI will continue to collect any records of them that are made.

If any members have records of any of these species from 1987 onwards we would be most grateful to hear of them. Please send records to CAS either by post or (preferably) to: cstace@btinternet.com.

<i>Achillea ligustica</i>	<i>Dichondra micrantha</i>	<i>Lepidium hyssopifolium</i>
<i>Aethorrhiza bulbosa</i>	<i>Dysphania (Chenopodium)</i>	<i>Leptochloa fusca</i>
<i>Agrostis hyemalis</i>	<i>carinata</i>	<i>Malva preissiana (Lavatera</i>
<i>Amaranthus capensis</i>	<i>D. cristata</i>	<i>plebeia)</i>
<i>Amaranthus palmeri</i>	<i>D. multifida</i>	<i>Monsonia brevirostrata</i>
<i>Ammophila breviligulata</i>	<i>D. pumilio</i>	<i>Myriophyllum heterophyllum</i>
<i>Amphibromus (Helictotrichon)</i>	<i>Ehrharta stipoides</i>	<i>Myriophyllum verrucosum</i>
<i>neesii</i>	<i>Eleusine multiflora</i>	<i>Ononis alopecuroides</i>
<i>Astragalus cicer</i>	<i>Eleusine tristachya</i>	<i>Ononis baetica</i>
<i>Atriplex suberecta</i>	<i>Eragrostis minor</i>	<i>Ononis natrix</i>
<i>Bidens bipinnata</i>	<i>Eragrostis parviflora</i>	<i>Onopordum nervosum</i>
<i>Bromus japonicus</i>	<i>Eragrostis tef</i>	<i>Phalaris brachystachys</i>
<i>Calotis cuneifolia</i>	<i>Eragrostis virescens</i>	<i>Ridolfia segetum</i>
<i>Carduus acanthoides</i>	<i>Eriochloa pseudoacrotricha</i>	<i>Rosa ×paulii</i>
<i>Cenchrus echinatus</i>	<i>Fumaria (any hybrids)</i>	<i>Rumex brownii</i>
<i>Centranthus calcitrapae</i>	<i>Gastridium phleoides</i>	<i>Rytidosperma racemosum</i>
<i>Ceratochloa brevis</i>	<i>Geropogon glaber (Tragopogon</i>	<i>Schismus barbatus</i>
<i>Ceratochloa carinata</i>	<i>hybridus)</i>	<i>Scolymus hispanicus</i>
<i>Ceratochloa staminea</i>	<i>Hainardia cylindrica</i>	<i>Senecio pterophorus</i>
<i>Chenopodium bushianum</i>	<i>Hedypnois cretica</i>	<i>Sida rhombifolia</i>
<i>Chenopodium nitriariaceum</i>	<i>Holosteum umbellatum</i>	<i>Siegesbeckia orientalis</i>
<i>Chloris divaricata</i>	<i>Hordeum euclaston</i>	<i>Spiraea ×brachybotrys</i>
<i>Chloris truncata</i>	<i>Hordeum pubiflorum</i>	<i>Sporobolus africanus</i>
<i>Chloris virgata</i>	<i>Hordeum pusillum</i>	<i>Stipa capensis</i>
<i>Chrysocoma tenuifolia</i>	<i>Lamarckia aurea</i>	<i>Tetragonia tetragonioides</i>
<i>Coronilla scorpioides</i>	<i>Lathyrus sativus</i>	<i>Tragus australianus</i>
<i>Cullen (Psoralea) americanum</i>	<i>Lepidium africanum</i>	<i>Tragus berteronianus</i>
<i>Cynodon incompletus</i>	<i>Lepidium bonariense</i>	<i>Tragus racemosus</i>
<i>Dactyloctenium radicans</i>	<i>Lepidium divaricatum</i>	<i>Trigonella corniculata</i>
<i>Daucus glochidiatus</i>	<i>Lepidium graminifolium</i>	

Blinks (*Montia fontana*) (subspecies)

MICHAEL WILCOX, 32 Shawbridge St., Clitheroe, Lancashire, BB7 1LZ;
(michaelpw22@hotmail.com)

Montia fontana (Blinks) can be a frequent plant in many kinds of damp places throughout the British Isles, (Stace, 2010). In the UK it is split into four subspecies: ssp. *fontana*, ssp. *chondrosperma*, ssp. *variabilis* and ssp. *amporitana* (see the excellent plates in Stace (2010): 506). The BSBI maps show very scattered records of the subspecies, in very varied date-classes. It is easy to record Blinks as the nominate species, as it is often seen without mature seeds, and often we do not have the time to go back to check for ripe seeds, which may have gone anyway, but they are required to identify the subspecies.

I would like to encourage the recording of the subspecies and would be interested in receiving Blinks with ripe seeds (either just the seeds or some of the plant with ripe/ripening seeds). If it is not fruiting at all then please send a bit of a live plant with roots in a small plastic bag. Plants can then be kept in a small tub of water (e.g. a yoghurt pot) for

some time. I will grow these on to see what seed type they have (using Stace). If you already record the subspecies I would still be pleased to receive some named voucher material with seeds for each subspecies noted. Location, grid reference, date, vice county and recorder/s please (any other info welcome). This is mainly for non-fruiting plants to grow on and to get a better idea of the distributions of the subspecies. Like many other plants, these plants would benefit from molecular studies and if anyone knows of anyone doing this I would be interested in any information. The rank of subspecies is and will remain disputed, until such time as genetic studies can be carried out (Blinks is treated at different levels elsewhere). I look forward to hearing from you.

Reference:

STACE, C.A. (2010). *New flora of the British Isles*. 3rd ed. Cambridge University Press, Cambridge.

Gentianopsis ciliata (Fringed Gentian) recovery project: request for help

SIMON J. LEACH, *Natural England, Riverside Chambers, Castle Street, Taunton, Somerset, TA1 4AP*; (simon.j.leach@naturalengland.org.uk)

JO HODGKINS, *National Trust, Hughenden Manor, High Wycombe, Bucks, HP14 4LA*; (joanne.hodgkins@nationaltrust.org.uk)

The National Trust and Natural England have begun a project to restore the fortunes of *Gentianopsis ciliata* (Fringed Gentian) at its sole extant, presumed-native site in Britain. The work has two elements: (1) scrub control and re-instatement of appropriate grazing management to produce and maintain suitable habitat conditions for the species; and (2) creation of a ‘captive’ stock of plants, to be held in reserve for augmenting the wild population, should this become necessary. With currently little or no seed being produced in the wild (only one flower in 2011), we had hoped to use seeds – collected from the native site – being stored at the Millennium Seed Bank,

Wakehurst; but unfortunately we have now learnt that these were found to be non-viable.

We realise this is a long shot, especially so as *G. ciliata* was added to Schedule 8 in 1988, but does anyone out there have seeds or plants in cultivation known to have been derived from the wild population in the Chilterns? And if anyone does, might it be possible for a small quantity to be donated to the project to enable the establishment of a captive population at the National Trust’s Plant Conservation Programme facilities in Devon? We would be grateful if anyone with either material or information could, in the first instance, contact SJL at the email address above. Many thanks.

Seeking variations in *Alnus glutinosa*

MICHAEL BELL, 10 Cambridge Avenue, Forest Hall, Newcastle-upon-Tyne, NE12 8AR;
(michael@beaverbell.co.uk)

I have joined the BSBI to further my project of developing *Alnus glutinosa* (Alder) as a grain crop.

My reasons are:

- To find something that can be profitably grown on the uplands – 40% of Britain's land area. There was little money in hill farming in my childhood in the Cheviots and there is less now.
- This country cannot feed itself. I have tested that alder seeds are edible and they could be used for any of the many purposes that any grain (wheat, rice, etc.) is used for.
- Alder fixes nitrogen and *A. glutinosa* grows as far south as Tunisia, which is on the latitude of northern India and the main body of China.

There are 30 species of alder in the world, so there are worldwide opportunities. I have made enough progress to warrant asking others to spend just a little time on it.

In particular I have:

- Found seeds which, at about 6mm on the longest axis, are about the size of some rice grains. They germinate to produce cotyledons 8mm across, which is much bigger than usual. I did this by going round wild trees, breaking open the cones, and sieving the seeds. (I may have sieved many millions of seeds, but it is much harder to see many millions of trees. That's what I am asking the Society's help for.)
- Found a very fast growing tree, which has reached 3m in three years, and will probably fruit in its 4th year.
- Developed methods of growing seeds this year and grafting them onto adult trees to get fertilisation next year, so shortening the breeding cycle from 6-7 years to two years.

But still I want more! It would be asking too much to ask others to search for bigger seeds. That needs a sieve and lots of patient work, though I would be willing to supply the necessary kit to anybody who wants to do it. What I would like to do is to ask members to be alert for Alders which show unusual traits, such as:

- Less robust cones. It can be difficult to get the seeds out, and the cones seem to use a lot of the tree's effort.
- Different growth habits. The different growth habits of ornamental trees and the ballerina apple were found by accident. There should be similar variations in Alder. I found a dwarf variety of Alder, but I am not sure how to use it. Variations of growth habit might make a huge difference to mechanical harvesting.
- Any other interesting variation. It is hard to know what use it might be put to, but it might have interaction with another variation. Although Alders classically grow near water, they also grow on well-drained sites. Some Alders are 'philanderers' – they have masses of catkins but very few cones. I do not want them!

If members find something of interest, I would be very grateful to get a specimen.

Please send a letter or e-mail or phone message to me. We could arrange to meet at a convenient time and place and you could take me to it, or you could mark the tree in some way and send me a grid reference (GPS is nominally accurate to one metre), or over the winter season, you could send me twigs with catkins, with a note of what is interesting about it. I can let it flower in the spring to fertilise my other stocks.

Appeal for digital photos for BSBI Annual Review 2011

CLIVE M. LOVATT, (BSBI Administrative Officer), 67 Park Street, Penrhwi-ceiber, Mountain Ash, CF45 3YW; accounts@bsbi.org.uk

Anyone with interesting and good quality digital photos which would help to give an account of the BSBI's activities in 2011 can send them to Clive Lovatt at: accounts@bsbi.org.uk, as soon as possible on appearance of

this note. Particularly welcome will be pictures of named botanists in the field or at indoor meetings, and of Bluebells, which are our emblem, albeit in stylised form.

101 rare plants of Wales: request for digital images

LAUREN CRANMER & TIM RICH, *National Museum of Wales, Cardiff, CF10 3NP*

We are preparing a popular guide to rare Welsh plants, to raise their profile in the public eye. Each species will have a short account understandable to a non-specialist audience, a distribution map and a photograph. Care will be taken not to give any sensitive locations to protect vulnerable populations.

If anybody has any good quality digital photographs of the species listed below, these would be greatly appreciated (we have slides of many but the quality is never the same from scans). We offer a copy of *101 rare plants of Wales* in return for any we use, and their sources will be acknowledged.

<i>Artemisia campestris</i> ssp. <i>maritima</i>	<i>Liparis loeselii</i>
<i>Asplenium trichomanes</i> ssp. <i>pachyrachis</i>	<i>Luronium natans</i>
<i>Aster linosyris</i>	<i>Lycopodiella inundata</i>
<i>Bupleurum tenuissimum</i>	<i>Lycopodium clavatum</i>
<i>Campanula patula</i>	<i>Marrubium vulgare</i>
<i>Carex divisa</i>	<i>Matthiola sinuata</i>
<i>Carex muricata</i> ssp. <i>muricata</i>	<i>Melittis melissophyllum</i>
<i>Centaurea cyanus</i>	<i>Mentha pulegium</i>
<i>Cephalanthera longifolia</i>	<i>Monotropa hypopitys</i>
<i>Cerastium arcticum</i> (non-Shetland)	<i>Neotinea ustulata</i>
<i>Chamaemelum nobile</i>	<i>Oenanthe fistulosa</i>
<i>Clinopodium acinos</i>	<i>Pilularia globulifera</i>
<i>Dactylorhiza purpurella</i> ssp. <i>cambrensis</i>	<i>Poa glauca</i>
<i>Dianthus armeria</i>	<i>Polystichum lonchitis</i>
<i>Draba aizoides</i>	<i>Potamogeton compressus</i>
<i>Eleocharis parvula</i>	<i>Potentilla rupestris</i>
<i>Eriophorum gracile</i>	<i>Pseudorchis albida</i>
<i>Euphorbia serrulata</i>	<i>Pulicaria vulgaris</i>
<i>Euphrasia cambrica</i>	<i>Ranunculus arvensis</i>
<i>Euphrasia officinalis</i> ssp. <i>anglica</i>	<i>Ranunculus tripartitus</i>
<i>Euphrasia ostenfeldii</i>	<i>Rumex rupestris</i>
<i>Euphrasia pseudokernerii</i>	<i>Salsola kali</i> ssp. <i>kali</i>
<i>Euphrasia rivularis</i>	<i>Saxifraga cespitosa</i>
<i>Euphrasia rostkoviana</i> ssp. <i>montana</i>	<i>Scandix pecten-veneris</i>
<i>Gagea bohemica</i>	<i>Scleranthus annuus</i>
<i>Galeopsis angustifolia</i>	<i>Scorzonera humilis</i>
<i>Galeopsis segetum</i>	<i>Senecio cambrensis</i>
<i>Galeopsis speciosa</i>	<i>Silene gallica</i>
<i>Genista pilosa</i>	<i>Stellaria nemorum</i> ssp. <i>montana</i>
<i>Gentianella anglica</i>	<i>Stellaria palustris</i>
<i>Gymnadenia borealis</i>	<i>Tephrosieris integrifolia</i> ssp. <i>maritima</i>
<i>Gymnadenia conopsea</i>	<i>Trichomanes speciosum</i> (sporophyte)
<i>Gymnadenia densiflora</i>	<i>Trifolium strictum</i>
<i>Hammarbya paludosa</i>	<i>Trollius europaeus</i>
<i>Hordeum marinum</i>	<i>Vicia orobus</i>
<i>Hypericum linariifolium</i>	<i>Viola lactea</i>
<i>Impatiens noli-tangere</i>	<i>Woodsia ilvensis</i>
<i>Juncus capitatus</i>	

Please send them to either: Lauren.Cranmer@museumwales.ac.uk or Tim.Rich@museumwales.ac.uk

OFFERS

Botanical meetings in Devon

DAVID J. ALLEN, *Higher Quantock, Stockland, Honiton, Devon, EX14 9DX* (Chairman)

If you live in, or are planning to visit Devon, you might be interested in the field meetings organised by the Devonshire Association's Botany Section. These meetings are held across the county and cover all of Devon's varied habitats. Non-members are welcome to attend, and will be able to draw on the exper-

tise of some of the county's most experienced botanists.

If you would like a copy of the 2012 programme you can email the Section secretary (Tim Purches) at tnpurches@hotmail.co.uk, or send a stamped address envelope to: 22 Hopton Close, Plymouth, Devon, PL6 5JJ.

Plant slides from foreign countries, from the collection of the late Stephanie Thomson (VC Recorder for Herefordshire)

Slides/transparencies of flora and habitats taken by Stephanie and Peter Thomson – BSBI members for over 50 years – during their many foreign excursions; all boxed and carefully labelled, some with accompanying notes.

Poland	August 1989	14 boxes
Corfu	September 1987	8 boxes
Rhodes	April 1986	200 slides
Andalucia	April 1990	8 boxes
Algarve	April 1995	9 boxes
Norway	1969	1 box
Australia	1990s	18 boxes
		with detailed notes
Slovenia	1999	with notes

Cyprus	2001	
Pontresinas		
(Switzerland)	2000	
Canada	July 1990	20+ boxes
Mixed Wengen (Switzerland) & Crete		
Mixed Central European mountains +		
Europe-Alpine		

Free for collection or to someone who is willing to pay the postage. Alternatively, could be collected at the April Recorders' Meeting in Shrewsbury.

The slides are currently held at Herefordshire Biological Records Centre.

Please contact Peter Garner (email: petergarner@live.co.uk; Tel.: 01684 564957)

Gofynne seed list 2012

ANDREW SHAW, *Gofynne, Llanynis, Builth Wells, Powys, LD2 3HN*;
(andrewshaw@hotmail.com)

A small quantity of seed from any of the following species is sent free upon receipt of a s.a.e.

Anogramma leptophylla (spores)

Bupleurum baldense

Chenopodium vulvaria

Corrigiola littoralis

Crepis foetida

Cyperus fuscus

Herniaria glabra

Hypericum humifusum × *H. linariifolium*

Juncus pygmaeus

Lactuca saligna

Lonicera xylosteum

Lotus subbiflorus

Myosurus minimus

Ononis reclinata

Petrorhagia nanteuilii

Pulicaria vulgaris

Ranunculus parviflorus

Trifolium strictum

Seeds from Ware – 2011 collections

GORDON HANSON, 1 Coltsfoot Road, Ware, Herts., SH12 7NW

Please enclose suitable labelled small packets and S.A.E. for anything required.

Aconogonon alpinum – cult.

Albuca shawii – cult.

Alcea froloviana – cult.

Allium polyanthum – cult.

Alyssoides sinuata – cult.

Amaranthus blitoides – ex wool waste

Amaranthus hybridus – Mexico

Anemone virginiana – USA

Anomatheca laxa – USA

Aquilegia canadensis – Canada

Aquilegia fragrans – cult.

Bassia scoparia – Canada

Beckmannia syzigachne – Russia

Bupleurum heldreichii – cult.

Carduus pycnocephalus – Turkey

Ceratochloa cathartica – New Zealand

Chenopodium chenopodioides – Sussex

Chloris virgata – cult.

Colutea arborescens – cult.

Commelina hasskarlii – ex lentils

Coreopsis leavenworthii – USA

Coronilla valentina – Croatia

Digitalis ciliata – cult.

Digitalis purpurea ssp. *maderense* – Madeira

Echium pininana – Cornwall

Eryngium biebersteinianum – Kashmir

Eucomis zambesiaca – cult.

Geranium rubescens – cult.

Helenium amarum – Canada

Hieracium argillaceum – Herts.

Hieracium grandidens – Derbys.

Hieracium pulmonarioides – cult.

Hieracium sabaudum – N. Wales

Hieracium subaequialtum – Derbys.

Hieracium sublepistoides – Derbys.

Iberis gibraltaria – cult.

Iris pseudacorus – Turkey

Isoplexis canariensis – Tenerife

Kniphofia sp. – natltd Herts.

Liatis pilosa – USA

Ligusticum lucidum – cult.

Ligustrum lucidum – Cyprus

Luzula nivea – Canada

Lotus cytisoides – Croatia

Mandragora officinarum – Cyprus

Melaspheerula graminea – cult.

Mestoklema tuberosum – cult.

Morina persica – Greece

Nectaroscordum siculum – Avon

Nepeta italica – Turkey

Nothofagus alpina – Chile

Oenothera sp. – Chile

Onobrychis altissima – Turkey

Opopanax acaule – Turkey

Opopanax bracteatum – Turkey

Opopanax carduchorum – Turkey

Opopanax hispidus – Turkey

Opopanax messeniicum – Greece

Oxalis valdiviensis – cult.

Papaver ? *persicum* – Turkey

Paracaryum angustifolium – cult.

Penstemon hirsutus – USA

Petrorhagia nanteuilii – Spain

Petrorhagia prolifera – Croatia

Phacelia tanacetifolia – Herts.

Physalis heterophylla – Canada

Phytolacca acinosa – cult.

Pilosella officinarum – cult.

Rumex caucasicus – Turkey

Rumex crispus – Canada

Rumex obtusifolius – Canada

Rumex rupestris – Anglesey

Salvia deserta – Kazakhstan

Salvia patens – cult.

Salvia sclarea – Tajikistan

Salvia verbenaca – Croatia

Salvia verticillata – Turkey

Salvia virgata – Turkey

Scilla autumnalis – cult.

Scrophularia vernalis – Norfolk

Scutellaria altissima – cult.

Sigesbeckia serrata – ex wool waste

Silene colorata – Italy

Silene fruticosa – Cyprus

Silene nocturna – Turkey

Sisymbrium strictissimum – cult.

Sonchus palustris – Kent

Stachys cretica – Turkey

Stipa cernua – USA

Strobilanthes atropurpurea – cult.

Tragopogon turkestanicus – cult.

Verbascum phlomoides – Turkey

Verbascum levanticum – Cyprus

Verbascum roripifolium – Turkey

Verbascum speciosum – Surrey

Verbascum thapsus – Turkey

Vicia tenuifolia – Tajikistan

Vicia villosa – Spain

Xanthium canadense – Canada

NEWS OF MEMBERS

Gwynn Ellis – Marsh Award for Botany

SIMON LEACH, *Natural England, Riverside Chambers, Castle Street, Taunton, Somerset, TAI 4AP*

IAN TAYLOR, *Natural England, Juniper House, Murley Moss, Oxenholme Road, Kendal, Cumbria, LA9 7RL*

NICOLA HUTCHINSON, *Plantlife, 14 Rolleston Street, Salisbury, Wiltshire, SP1 1DX*

MICHAEL F. FAY, *Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3DS*

TIM RICH, *Welsh National Herbarium, Dept Biodiversity & Systematic Biology, National Museum of Wales, Cardiff, CF10 3NP*

Gwynn has held numerous roles within the Botanical Society of the British Isles, at various times being Vice-President, Membership Secretary, Honorary General Secretary, member of the Records Committee (for at least the last 20 years) and the Publications Committee, producer of the BSBI Yearbook, secretary to the Wales Committee, compiler of Welsh records for the *BSBI Welsh Bulletin*, etc. He currently sits on the Society's Publications Committee and until very recently on the Records Committee. Behind the scenes, Gwynn also organises from his home the distribution of various BSBI publications (e.g. *Change in the British flora 1987-2004*, published in 2006), including 'pre-pub' offers to BSBI members – he is an expert packer and poster of unwieldy volumes!

His most obvious achievement, however, is *BSBI News*. Gwynn took on the role of editing *BSBI News* in 1986 (No. 43), and did this job single-handedly from then until September 2002 (No. 91), thereafter doing it jointly (apart from No. 106) – first with Leander Wolstenholme (Nos. 92-105), and then with Trevor James (107 onwards). This means he has now edited and produced camera-ready copy of *BSBI News* for a quarter of a century!

His editing skills are legendary, and have been employed widely by the Society. He has co-edited several publications, e.g. *The Vice-county census catalogue* (2003) and *Current taxonomic research on the British and European flora* (2006).

His role as BSBI chief 'indexer' is often overlooked. Yet he has 'done the index' for

many important publications, e.g. the *New atlas of the British and Irish flora* (2002), both the 2nd (1997) and 3rd (2010) editions of Stace's *New flora of the British Isles*, Newton & Randall's *Atlas of British and Irish brambles* (2004) and vol. 3 of Sell & Murrells's *Flora of Great Britain and Ireland*. He is also frequently involved in proof-reading such publications, e.g. Stace's *New flora*, for which he is acknowledged in the 3rd edition for not only "compiling the very full index" but also for "exhaustively proof-reading most of the text..." (at more than 1200 pages, that was some job!). He is also a skilled typesetter, being responsible, for example, for typesetting *The vegetative key to the British flora* (Poland & Clement, 2009).

Gwynn's contribution to botany has so often tended to be 'behind the scenes', assisting his fellow botanists to place the fruits of their labours on permanent record. In *Watsonia*, for example, his main contributions have been book reviews and obituaries – celebrations, if you like, of the achievements of others – rather than scientific papers of his own. Yet there have been innumerable articles and notes in *BSBI News* and the *BSBI Welsh Bulletin*, of course, and – let's not forget – he is also the author of books like *Flowering plants of Wales* (1983) and *Aliens in the British flora* (1993), and a co-author of the *Flora of Glamorgan* (Wade, Kay & Ellis, 1994).

In 1995, Gwynn retired from the National Museum of Wales, where he managed the Welsh National Herbarium. He had been inspired by herbarium specimens as a student

at Aberystwyth. He is thoroughly Welsh, and proudly so. He enjoys a pint, and rugby of course. He has a great sense of fun, and may pull the occasional practical joke on his

friends. He's a thoroughly good bloke, and certainly if you're looking for an 'unsung hero' in the botanical world, Gwynn's your man!



Gwynn Ellis. Photo © Whild Associates

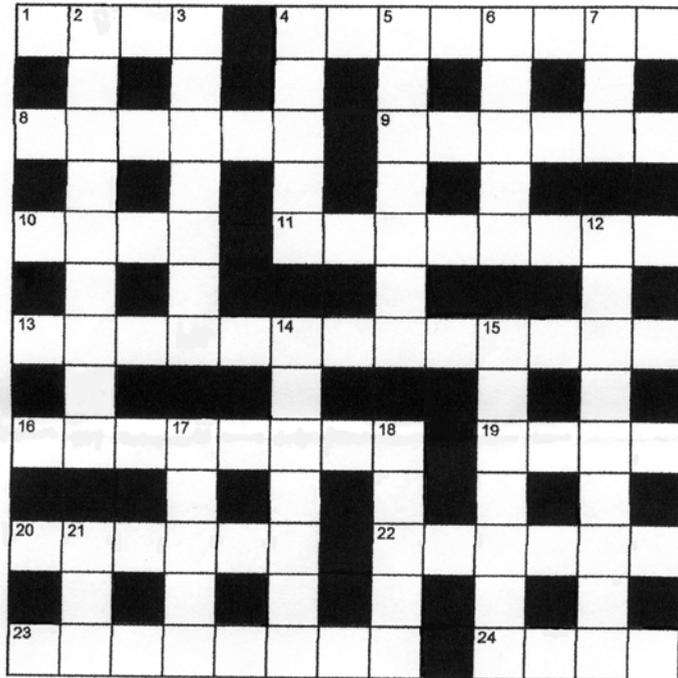
May I just say that while it was a great privilege and honour to be given this award and I am very grateful to all involved, I must acknowledge the help of my wife, Maria, who for the past 25 years has put up with one of our three bedrooms being turned into an office, and a second into a storeroom, and with the front room, hall and landing being lined with boxes and books that no longer fit in the

storeroom! During that period she has also stuck up to 200,000 mailing labels onto envelopes and then helped stuff the envelopes with between five and ten or more separate inserts so in that 25 years she could well have handled over one million items. It is no exaggeration to say that I could not have done what I have done without her help and encouragement.

RGE

BOTANICAL CROSSWORD 17

by CRUCIADA



Across

1. Feature of Orchids, *Violas etc.*, acts as incentive (4)
4. One moving in to establish itself in gut is at end of tract (8)
8. It is heard to remain masculine, naturally (6)
9. Morning passed by gooseberry, perhaps, preparing surprise attack (6)
10. Spores found here or in international system (4)
11. Mr Milligan allowed us to see grass feature (8)
13. Could this grass be waving after hearing bark? (5,4,4)
16. Any hitch planned is bound to have bells on (8)
19. Flag leaders in reeds, in swamps (4)
20. Use soap at preparation of marmalade plum (6)
22. Bird I'm backing to expose main vein (6)
23. Sell cannabis composite? (8)
24. Barks of *Laurus* trees (4)

Down

2. Hog play to be thrown out when suffering bad health (9)
3. Has this fumitory secured a representative in band? (7)
4. They bear the seeds of colour vision (5)
5. Meadow is one that ain't what it used to be at budburst (7)
6. No blemish found in this fir (5)
7. Start giving rocket to relative (3)
12. In treatment of debility, I use quality of food plants (9)
14. Make an arrangement to include visit to clinic with teeth (7)
15. Shamrock trimmed by extreme tractor if bud comes up (4,3)
17. Original cotton and some hairs make up pappus (5)
18. Muggy murmur of identification (5)
21. Cleavers this goosegrass this sticky willy, for example (3)

BOOK NOTES

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

The following titles are to be reviewed in forthcoming issues of *New Journal of Botany*. Also included are brief notices of books that are not being given a full review (marked *).

**Remembered remedies: Scottish traditional plant lore*. Anne Barker. Birlinn, 2011. ISBN 978 1 78027 004 3. £9.99 p/b. By no means restricted to Scottish native plants (e.g. "Oil of Cloves") the subjects of this pocket-sized book are grouped under broad habitat headings. The information was collected by an oral history project of the same name. Not all the entries are for 'remedies' - included are notes on methods of gathering lichens for use as dyes.

The story of south Yorkshire botany: including the first transcription of Jonathan Salt's Flora Sheffieldiensis. Graeme L.D. Coles. Yorkshire Naturalists' Union, 2011. ISBN 978 0 9565378 1 2. £12.00 p/b.

The book of leaves. Allan J. Coombes. New Holland, 2011. ISBN 978 1 78009 059 7. £24.99 h/b.

European garden flora (5 vols., 2nd edition). James Cullen, Sabina Knees & Janet Cubey (eds.). Cambridge University Press, 2011. ISBN (set) 978 0 521 76167 3. £600 h/b.

Atlas of British and Irish hawkweeds. David McCosh & Tim Rich. BSBI, 2011. ISBN 978 0 901158 44 4. £16.00 p/b.

The changing nature of Scotland. Susan J. Marrs, Simon Foster, Catriona Hendrie, Edward C. Mackey and Des Thompson

(eds.). TSO Scotland, 2011. ISBN 978 0 11 497359 9. £27.50 h/b.

Webb's An Irish Flora (8th edition). John Parnell & Tom Curtis (eds.). Cork University Press, 2011. ISBN 978 1 85918 478 3. €35.00 h/b.

**A sedentary job? (or forty years as a botanist at Kew Gardens)*. Alan Radcliffe-Smith. Foreword by Sir Ghillean Prance. Privately distributed by David Radcliffe-Smith, 2010. 219 pp. No ISBN; not for sale. Autobiography of a Kew taxonomist and monographer, distributed in exchange for donations to Hope Now and Mission Aviation Fellowship. A highly readable account of the life and work of a slightly eccentric but well-loved member of the Kew herbarium staff, with detailed travelogues of his major expeditions (e.g. to Socotra and Dhofar) and brief detours into his spiritual life, awoken by Billy Graham.

Flora of King's Lynn. Frances Schumann & Robin Stevenson. Norfolk & Norwich Naturalists' Society, 2011. Occasional Paper 13. ISBN 0 9501130 8 5. £8 p/b.

Some aspects of the botany of the Shetland Islands. Walter Scott. The author, 2011. ISBN 978-0956783608. £26.00 h/b.

The south Yorkshire plant atlas. Geoffrey Wilmore, Jeff Lunn & John Rodwell (eds.). Yorkshire Naturalists' Union and Yorkshire & The Humber Ecological Data Trust, 2011. ISBN 978 0 9565378 0 5 £47.00 h/b.

OBITUARY NOTES

MARY BRIGGS, 9 Arun Prospect, Pulborough, West Sussex, RH20 1AL

* An obituary has been or will be published in the *BSBI Yearbook*

Since *BSBI News* 118, we regret to report that the news of the deaths of the following members has reached us. The list includes two

of our longest standing members, two vice-county Recorders and one BSBI Referee.

Prof J K Morton of the University of Waterloo, Canada, joined the Society in 1948 before moving overseas but kept up his membership until the end.

***Miss M J P Scannell** of Ballsbridge, Ireland, a member since 1964 and Recorder for Cork, v.cc. **H3, 4 & 5**, since 1962 and an Honorary member of the Society since 1995.

Maura was a very influential person in Irish botanical life for many decades, and co-author of important works such as the two Census catalogues: The Flora of Ireland, and with Prof. David Webb, The Flora of Connemara and the Burren.

Maura was also instrumental in the founding of the Irish section of the BSBI in the 1960s, and she was also influential in building Glasnevin's reputation as a centre of taxonomic knowledge. An example of this cited by her colleagues was her "dogged determination" to identify the Renvyle *Hydrilla*, flowering the plant at Glasnevin to prove that it was *Hydrilla verticillata*. Maura worked at Glasnevin for many years and received the National Botanic Gardens Medal. At the presentation Maura emphasised that botanists should record their findings with scientific rigour.

An obituary will be published in *BSBI Yearbook* 2013; meanwhile one is available, with photograph, on the National Botanic Gardens website, linked through the Homepage. Among others, one was published in 2011 in The Irish Times under the headline "Leading Botanist known for dedication and attention to detail".

***Mrs M Wainwright** of Oswestry, Shropshire, a member since 1985, Recorder for v.c. **47** (Montgomeryshire) from 1985 to 2008 and Marjorie was joint author of *Flora of Montgomeryshire* (1995).

***Mr P Taylor** of RGB, Kew, Richmond Surrey, a member since 1946 and Referee for *Utricularia*. Peter was also a skilled cabinet maker and as noted in the Obituary in *BSBI Yearbook* 2012, he specialised in making harpsichords and clavichords. Peter told me that the wood of *Populus nigra* was particularly good for harpsichords and during the BSBI Black Poplar Survey we were asked to direct his way any fallen true Black Poplar trees or branches.

Soon after Peter retired to West Sussex he bought some local woodland to safeguard it for future conservation. It was similar to the *Carpinus betulus* woodland around White Cottage when the BSBI "Office" was there. *Cardamine impatiens* was found in both woods where the Hornbeam had been coppiced, growing with *Ophioglossum vulgatum* and *Platanthera chlorantha*, together with a wealth of spring flora and spring warbler birds.

We also report with regret the deaths of the following members:

Mr T R Harwood of Morecambe, Lancs, a member since 1991.

Mrs J M Humphris of Watton, Norfolk, a member since 1992.

Mrs P J Kington of Biddulph, Staffs, a member since 2010.

Dr P Lumley of Graveley, Herts., a member since 2003.

We send regrets and sympathies to all the families.

Obituaries in *BSBI Yearbook*

MARY BRIGGS, 9 Arun Prospect, Pulborough, West Sussex, RH20 1AL

Many members have contacted me expressing dissatisfaction or unhappiness that Obituaries are now published in the *Yearbook* and only once annually.

If you feel strongly about this too I would be grateful if you would please let us know, preferably by contacting the Editors.

RECORDERS AND RECORDING

Panel of Referees and Specialists

MARY CLARE SHEAHAN, *61 Westmoreland Road, Barnes, London, SW13 9RZ;*
(m.sheahan@kew.org)

We are glad to welcome Mark Watson as general referee for Apiaceae, and Fred Rumsey is joining Alison Paul as general referee for ferns.

Alison Lean is retiring as Referee for *Rhinanthus*, and we would like to thank her very much for the help she has given members over the past 15 years.

Please note that the list of taxa in the *BSBI Yearbook 2012* has been re-ordered in accordance with the third edition of Stace, so you may find some families in unexpected positions (as well as some unfamiliar names). There have also been a few changes in the address list.

Panel of Vice-county Recorders

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

New recorders and changes:

All these appointments are reflected in the 2012 Yearbook, but are reproduced here for convenience. Please refer to the *Yearbook* for addresses and emails (where applicable):

V.c.5 S. Somerset. Paul Green, recorder since 1993, retires.

V.c.13 W. Sussex. Mary Briggs, recorder since 1975, retires.

V.c.48 Merioneth. Sarah Stille to be joint Recorder. Dr R. Gritten remains the contact.

V.c.78 Peebles. Luke Gaskell and Kathy Velander. Mr D.J. McCosh, recorder since 1961, retires.

V.c.86 Stirlings. Philip Sansum to be joint Recorder. Mrs E. Stewart remains the contact.

V.c.96 Easternness. Adam Fraser to be joint Recorder. Miss S. Smyth remains the contact.

V.c.99 Dumbarton. Pamela Murdoch to be joint Recorder. Dr J. Holland remains the contact.

V.c.H2 N. Kerry. Drs P.S & M.B. Wyse-Jackson, recorders since 1982, retire.

V.c.H3, H4, H5 Cork. Miss Maura Scannell, recorder since 1967, has died.

V.c.H12 Co Wexford: Ro FitzGerald, recorder since 1989, retires.

As ever, I would like to thank those retiring for their sterling efforts over so many years. This simple thanks seems so inadequate after often 30 or more years of help, and we could not do what we do without that entirely voluntary help.

Changes of address:

V.c.40 Salop. Dr S.J. Whild, to 9 Albert Street, Shrewsbury, SY1 2HT.

Recording Strategy

NICK MILLER, *Tiger Hill Cottage, Bures, Suffolk, CO8 5BW*

The BSBI now has a most welcome recording strategy, and I would like to make a heartfelt plea for its effective promotion!

I am sure, like me, the initial reaction of many grassroots recorders may be bewilderment – the ten-year date class has a nice decimal ring to it, but surely the accurate

recording of a county's flora takes twenty-odd years – so the records gathered in ten years will be counter-productive for any comparability or any picture of distribution?

Not so, if, as per the Strategy, each county uses manifest 'targets' *i.e.*, a list of axiophytes, and a policy for the commonest species of

collecting only hectad records. Targets are lacking for many counties, but would be relatively easy to a) produce, b) circulate to grassroots recorders for comment, c) promulgate. Good alternatives to an axiophyte list are: plants which on county dot maps show a clearly localised distribution (about 150 species in my county, plus obvious rarities); with coverage of one or more target sites in each hectad (and/or in each ‘landscape unit’). All additional records will be a bonus, so

following the strategy will not exclude volunteers recording favourite haunts/species.

It is necessary to explain that this will achieve the benefits that county floras do – after all, most counties now have, or by 2020 will have, a completeness of coverage at tetrad level that may not need repeating for half a century. In urging the adoption of a policy in all counties, I am aware that local arrangements will have to reflect the county’s terrain and the likely size of its volunteer pool.

NOTES FROM THE OFFICERS

From the Hon General Secretary – *LYNNE FARRELL*

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

Members of long-standing

We would like to offer our congratulations to the following people who have now been members for 60 years: Mrs P.A. Evans, Dr P.A. Gay, Prof C.H. Gimingham, Dr D.J. Hambler, Mr P.H. Oswald, Mr P.D. Sell, Mr B.A. Whitton, Mr R.D. Wise.

Annual Exhibition Meeting at the Natural History Museum, London, 29 Nov. 2011

This was a new venue in London and I received many complimentary remarks, both about the venue and the event itself, which included a programme of short talks. 157 members and 27 guests attended.

New e-mail address

Please note that I have a new e-mail address, owing to my PC having been hacked into recently. I am not in a Spanish jail!

Many congratulations to 2 BSBI members who have been awarded an MBE in the New Year Honour’s List:

Mr Trevor George Evans (recorder for v.c.35) – for services to conservation and to wildlife in Monmouthshire

Mrs Dorothy Hardy – national park voluntary ranger, for services to conservation.

And **Mrs Susan Pippa Bonner** (wife of our President) – for voluntary service to the North Wales Wildlife Trust

From the acting Scottish Officer – *ANGUS HANNAH*

Glenmore, Rothesay, Isle of Bute, PA20 0QU;
(Tel.: 01700 503879; butesedge@yahoo.co.uk)

Jim McIntosh

Jim is finding life tough out in the South Atlantic. “SAS training must be easier!..” to quote his latest blog. You can follow his adventures on <http://furtherthanthe furthest.blogspot.com>

Scottish Officer Funding

We are pleased to report that SNH have approved funding for the post for the forthcoming year, and in principle for two further

years, though the full amount cannot be guaranteed beyond the first year.

Kindrogan Weekend for Scottish VCRs (or prospective VCRs)

I am organising a weekend workshop at Kindrogan on 2nd – 4th March 2012 to support Scottish VCRs through the various challenges they face. There will be sessions on rare plant registers (led by Chris Metherell); the Distribution Database and relations with local

records centres (Tom Humphrey); data cleaning and the NBN data validation tool (Graham French); public access to data (Kevin Walker); and recording critical groups (Richard Pankhurst). We will also have general discussions of the BSBI recording strategy, and the recording of status and habitat. A very few places remain, so if you have not yet expressed your interest, please contact me quickly.

MapMate support

Two contractors have been employed to make MapMate easier for everyone to use. Martin Harvey has already made a set of excellent videos, which demonstrate the procedures for using the programme in a range of simple tasks, and has agreed to make a few more to fill the gaps and tackle more complex subjects. You can see the original set on the BSBI Website through the MapMate support link. Martin Rand has undertaken to revise the MapMate handbook thoroughly, and the result of his work should be available next spring, initially in PDF form for download. Although focusing on vascular plants, both these projects will potentially benefit all MapMate users.

Field Meetings

A full and varied programme of field meetings has been organised for 2012, and details are in the Yearbook. Four of the meetings are specifically intended to be educational, with an emphasis on how to identify an unknown plant. An *Alchemilla* workshop in Ullapool (which had to be postponed last year) is designed to help recorders identify alpine species, especially *A. wickuriae*, for the Threatened Plant Project.

This year's Scottish Recording Week will be based in a luxury lodge in Kirkcudbrightshire. Please apply early, as places are strictly limited (English, Irish and Welsh members are also welcome!).

Vice-county Recorders

Several new joint recorders have recently been appointed, including Luke Gaskell and Kathy Velander in v.c.78 (Peebles), Pamela Murdoch in v.c.99 (Dunbarton), Philip Sansum in v.c.86 (Stirling) and Adam Fraser in v.c.96 (Easterness). Barbara Hogarth has intimated her wish to retire from the recordership of v.c.90 (Angus), but has kindly agreed to remain in post until a successor can be found. Please see the notice below.

Recorder vacancy - v.c.90:Angus

A vice-county recorder vacancy has arisen in the above vice-county. We are looking particularly for a keen field recorder, since we already have an offer of help with the data entry/computer side of the work. Angus is a medium sized county of relatively compact shape but very varied terrain, extending from the city of Dundee along the coast, with dunes, flats and coastal cliffs to beyond Montrose, and including the Sidlaw hills, much of Strathmore, and the glens of Esk, Clova, Prosen and Isla, with the famous alpine flora of Caenlochan. A reasonable level of physical fitness is therefore required. Residence in the county, though preferable, is not essential, but it would be necessary to commit to spending several weeks there each season.

Expressions of interest should be sent to me at the address above, or e-mail butesedge@yahoo.co.uk before 29th February.

2011 Scottish Annual Meeting

RUTH MCGUIRE, Volunteer Publicity Officer, BSBI Scotland, (bsbiscotland@gmail.com)

The 2011 Scottish Annual Meeting, held on Saturday 5th November at the Botanic Garden in Edinburgh, was a great success, with an excellent attendance. A new element was added this year in the form of a photographic competition. There was excellent quality in the entries demonstrating that wild flowers make a great subject for the photographer.

The photographs were displayed throughout the day and delegates had the opportunity to view them and also vote for their favourites. There were three categories: *Arable weeds*, *The sex life of plants* and *Flowers of Scotland*, the winners being announced towards the end of the meeting. It was a fun element, and the competition received favourable feedback on

the day. The winning entries (see front and back covers) were:

Arable weeds: Martin Robinson, with *Galeopsis speciosa* (Large-flowered Hemp-nettle).

Sex life of plants: Claudia Ferguson-Smyth, with *Cinnamon-fruited Dandelion*.

Flowers of Scotland: Martin Robinson, tied with Claudia Ferguson-Smyth, with *Linnaea*

borealis (Twinflower) and *Sparganium erectum* (Branched Bur-reed) respectively.

It is intended that the competition will run again in 2012, and we expect more entries.

Next year's categories will be announced early in 2012, and details will be available on the Scottish pages of the website.

DIARY

N.B. These dates may be supplementary to those in the 2012 Calendar in *BSBI Yearbook 2012*

25 Jan Records Committee, London
 1 Feb Meetings Committee, NHM, London
 8 Feb Training & Education Committee, Shrewsbury
 10 Feb Welsh Committee, Aberystwyth
 15 Feb Publications Committee, London
 22 Feb Database Sub-committee, Leicester
 29 Feb Executive, Linnean Society, London

10 Mar Scottish Committee
 21 Mar Council, Linnean Society, London
 13-15 Apr Recorders' Conference, Shrewsbury
 5 May Scottish Committee
 12-13 May AGM, Reading
 20-22 June Welsh AGM, Llangollen

Solution to Crossword 17

2 PATHOLOGY; 3 RAMPING; 4 CONES; 5 LEAFING; 6 NOBLE; 7 SIS; 12 EDIBILITY; 14 HUMID; 21 AKA

1 SPUR; 4 COLONIST; 8 STAMEN; 9 AMBUSH; 10 SORI; 11 SPIKELT; 13 RUGH DOG'S TAIL; 16 HYACINTH; 19 IRIS; 20 SAPOTA; 22 MIDRIB; 23 HAWKWEED; 24 BAYS

Down

Across

Crib

2 anagram HOG PLAY TO; 3 R<A/MP>ING; 4 double definition; 5 LEA/FING; 6 NOBLEMISH; 7 SISymbrium; 12 anagram DEBILITY +1; 14 D<ENT>ATE; 15 T(racto)/R/IF reverse BUD; 17 C(otton) LOCK; 18 HUM/ID; 21 cleavers aka goosegrass

1 double definition; 4 COLON/IS/T(ract); 8 stay men; 9 AM/BU SH; 10 S<OR>L; 11 SPIKE/LT; 13 ruff ('hearing bark') causing dog's tail to wave; 16 anagram ANY HITCH; 19 In Reeds In Swamps; 20 anagram SOAP AT; 22 reverse BIRDIM; 23 Charade; 24 double definition

Down

Across

CONTRIBUTIONS INTENDED FOR *BSBI NEWS 120* should reach the Receiving Editor before March 1st

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Ophrys sphegodes, peloric Type A *Ophrys sphegodes*, pseudopeloric Type B showing petal 'bonnet' structure (r).
All *Ophrys* photos taken at Purbeck (v.c.9) by M.R.Chalk © 2010 (see p. 22)



Scrophularia grandiflora in suburban Woking (v.c.17). Photos G. Hounsome © 2011 (see p. 52)



Plotting *Epipactis dumensis* at Crowle Waste, v.c.63. Photographer unknown., 1983 (see p. 11)



Epipactis dumensis, Osgodby, Lincs. Photo: R.P. Weston © 1982 (see p. 12)



Epipactis dumensis, Messingham Lincs. Photo M. Lynes © 2011 (see p. 14)



Arable weeds: *Galeopsis speciosa* (Large-flowered Hemp-nettle). Photo M. Robinson © 2009



Flowers of Scotland: *Sparganium erectum* (Branched Bur-reed). Photo C. Ferguson-Smyth © 2006



Flowers of Scotland: *Limnæa borealis* (Twin-flower). Photo M. Robinson © 2006

Winners of the 2011 Scottish Annual Meeting photographic competition (see p. 75)