BSBI News

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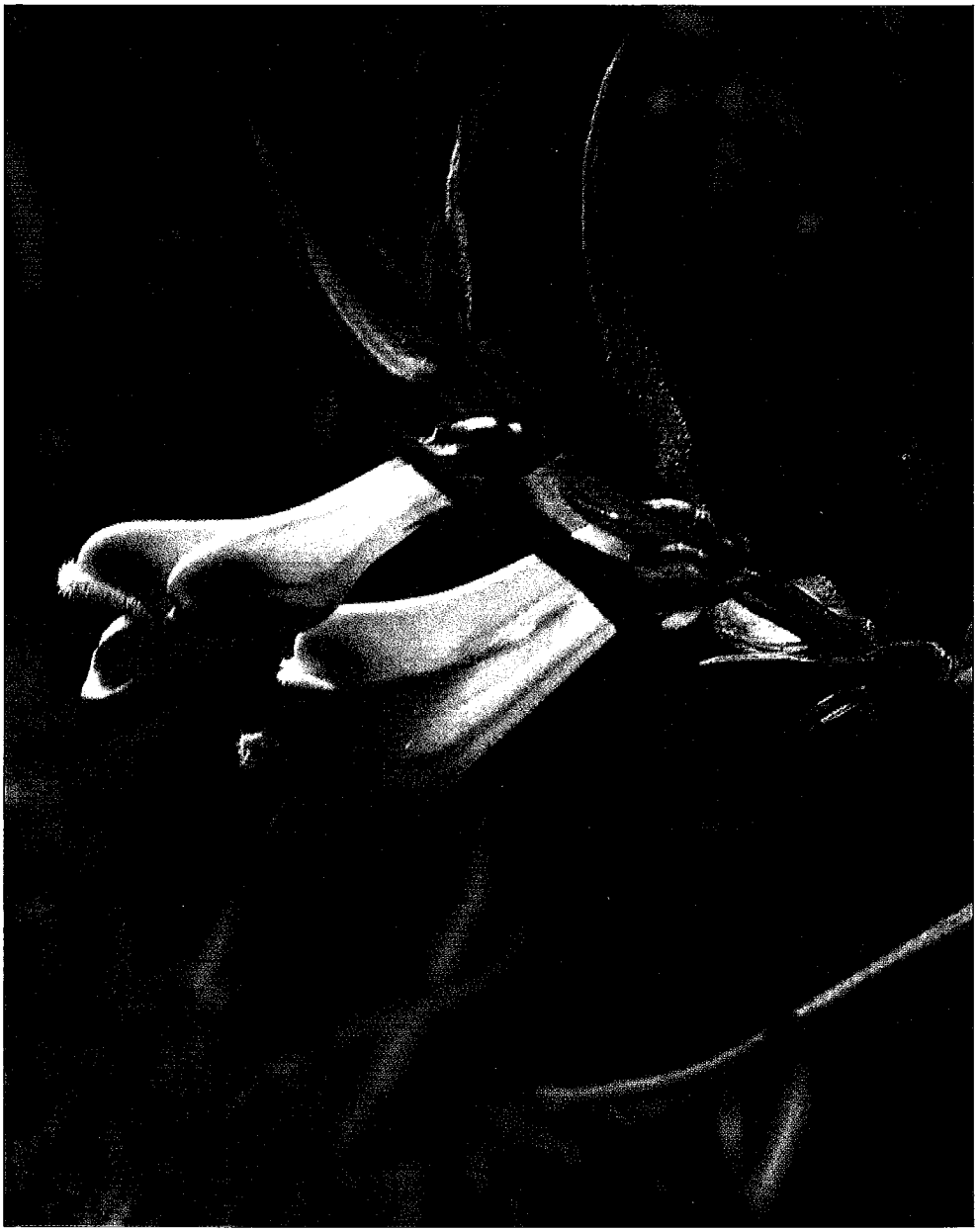
Botanical Society of the British Isles



Edited by Trevor James & Gwynn Ellis

Silene catholica close up of inflorescence

Silene catholica in cultivation, Wombourne, (v.c. 39).
Both photos Christopher Westall © 2007 (see p. 32)

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Cover picture – *Melampyrum pratense* ssp. *pratense* var. *hians* Castell Du SSSI (v.c. 44)
Photo R. Pryce © 2007 (see p. 52)

Editorial

GWYNN ELLIS, General Editor

I am delighted to welcome to the fold our new Receiving Editor, Trevor James. He has taken all (or most) of the contributions, that arrived in various formats, and converted them into standard Word documents. On the next page he has set out several guidelines and it would be extremely useful if all potential contributors could read these carefully and follow them as far as possible.

One point that I would like to emphasise here is the need for illustrations to be accompanied by a caption giving **all** necessary details; and this includes the name of the photographer and date as well as the subject of the photograph and locality.

Observant readers may have noticed the gradual removal of vernacular names from titles of notes. There are two reasons for this; firstly to reduce the length of the title which can become quite unwieldy if several taxa are mentioned; and secondly, as only one name will need to be indexed, this will cut the number of entries.

Perhaps contributors could keep the length in mind when choosing a title. Not every note is suitable for the short pithy titles of John Poland or Tim Rich's *Cabbage Patch* articles from a decade or more ago (which still raise a chuckle in these old bones), but it should rarely be necessary to need more than one line! This is in no way a criticism of any current authors but something which I have only recently thought of while doing some preliminary planning for the next *News* Index!

I am delighted to send our **congratulations** to **Tony Primavesi** on reaching 90 not out and am grateful to Roger Maskew for the note which follows at the foot of the page.

Congratulations also to **Nick Stewart** on winning this year's Marsh Christian Award for Botanical Conservation. This is for 'a lifetime's achievement to an individual who has made an outstanding contribution in the field of botanical conservation Previous winners have included Phil Wilson, Ro FitzGerald and David Pearman!

And to **Trevor Evans** on the publication of his *Flora of Monmouthshire*; surely one of the most original Floras of recent years and incredible value for money.

Corrigendum

In *BSBI News* **106**: 40, due to slack proof reading the word 'venation' on lines 9 and 12 should read 'VERNATION' - my apologies to Maura Scannell for this error.

Where are they now: If any member knows the present whereabouts of any of the following members, I would be pleased to hear from them.

104611, Mr S P Corkhill, 8 Chapel Lane, Wimborne, Dorset, BH21 1PP

059306, Mr J Edelsten, 19 Macrae Court, Portsoy, Banff, Aberdeenshire, AB24 2RE

096317, Miss L J Healey, 3c Goda Road, Littlehampton, West Sussex, BN17 6AS

080151, Ms E Hickey, Cushinstown, Foulkesmills, Co. Wexford, Ireland

088144, Miss L Hutchby, 8 Bullington End Road, Castlethorpe, Milton Keynes, Bucks, MK19 7ER

093512, Mr R Kennedy, 11 Edmund Street, Walsden, Todmorden, OL14 7ST

093423, Dr J J H Kirby, Homefield, Queen's Street, Hook Norton, Banbury, Oxon, OX15 5PH

093059, Dr S J Langdon, Sundean, Barton Road, Barton, Malpas, Cheshire, SY14 7HU

099626, Mrs & Mr T Penfield, 2 Croftside, York, YO26 5LT

079790, Mrs J I Wilkinson, Bibury Villa, Bar Hill, Madeley, Cheshire, CW3 9QD.

Tony Primavesi – 90 not out

ROGER MASKEW, *Coppice House, Banalls Lane, Stoke Bliss, Tenbury Wells, Worcestershire, WR15 8RZ*

Tony Primavesi celebrated his 90th birthday on the 18th December (see Colour Section, Plate 4). He has been a member of BSBI for 48 years and is best known for his invaluable work on *Rosa* for much of that time. Apart from rather poor eyesight Tony is otherwise in good health and joined me on a rose-hunting trip as recently as last August.

A note from the new Receiving Editor

TREVOR JAMES, *56 Back Street, Ashwell, Baldock, Hertfordshire, SG7 5PE*

Gwynn will no doubt have given a great sigh of relief at not having had everything to do to bring this issue of *BSBI News* to your doormat! I would like to thank both him and Leander Wolstenholme for their support in the "hand-over" to me. Leander will be a hard act to follow, as he seems to have effortlessly carried out his task, largely behind the scenes, and the product has always been excellent.

The real thanks, of course, go to all those who have contributed so many interesting items to this issue. Do keep them coming, and especially all those photos and drawings that we need to make the publication both useful and attractive.

I would just like to re-iterate a few notes of guidance to contributors, so that we can make the job of publication as painless as possible for all of us:

- I would prefer all text to come in electronic format if at all possible, preferably as a WORD document, although if you have not got Microsoft software, Rich Text Format copy (.rtf) is fine. I can scan documents, but sometimes it turns out to be quicker to re-type them, so, if you have already done so, it is best to just let me have your electronic original, not a printed copy.
- Remember, you can send me your copy by email (trevorjjames@btinternet.com), as long as it is not a massive file (I am on broadband internet). This also applies to photos, as long as they are not a massive size. Beware of "bitmap" or TIF formats for this reason (although they tend to be of higher quality, so may be OK). Remember that photos and other illustrations are best sent as separate files electronically, not embedded in WORD files.
- If your copy is handwritten, it helps me if you write on one side of the paper, well-spaced. If you send me typewritten copy, please make it double-spaced.
- It is also not necessary to format your text to any great extent. In fact, with electronic copy, it is a distraction, because Gwynn wants me to send him everything in Times Roman typeface, 10 point size, without capitals (except for names) and without fancy layouts! He does all the rest. So, the message is: the plainer the better! The only exception to this is that scientific names should be in italic font, and anything that needs to be emphasised can be underlined.
- We have a few (very few) house rules about how we present material. The first is that names of plants are given as scientific name first, followed by their accepted vernacular name in brackets. We try to make a point of including the vernacular name where we can in all articles, for the benefit of less expert botanists! English names follow those used in Stace (1997) where available. Scientific names usually follow the BSBI Vascular Plant List available on the website, unless there is a reason not to. References have a standard format (take a look at those in previous issues as a guide).

Apart from these straightforward requirements, we continue to be happy to publish pretty well anything of interest to our readership about or relating to the vascular plants and charophytes of the British Isles; and about plants that have arrived or may arrive here from elsewhere. We particularly welcome contributions from newcomers – don't feel shy! Finally, if your piece does not make it to the next publication, we will hold over material for a future one, so don't give up.

A Happy New Year to all.

A simple relational database for ecological recording

ANGUS HANNAH *(Recorder, v.c. 100), Glenmore, Rothesay, Isle of Bute, PA20 0QU*

Some members may feel as I do that it is desirable to record more information than the mere existence of a plant at a given place and date. I offer an account of a simple way to do this in the hope that a few readers may be encouraged to try it for themselves, and probably come up with something better than I have. The only constraints upon my recording for this database are that I must define the location and extent of the site (anything from $1m^2$ upwards, most often about 4m x 4m, but occasionally much larger) and try to record every species present along with a DAFOR value (1-5) to indicate its abundance within the plot. When recording in woodland, I include tree species from the immediate vicinity as well as those inside the plot.

By way of encouragement, before going into details, I will give some examples of results that are immediately available, once a few simple queries have been written. I can see a list for my area of the types of habitat in which any species occurs with varying degrees of frequency and abundance, a list of its most frequent companion plants, its preferred levels of moisture, acidity and nutrient as indicated by the other plants growing on the site, and many other things. It seems to me that gathering such information, and having it easily available, greatly increases the interest and value of our recording work, and well justifies the small additional labour of maintaining the database. An additional benefit for MapMate users is that there is no need to enter data twice. Creating an import file lets one enter a whole season's records into MapMate in a few minutes.

My rudimentary database runs in Microsoft Access, and consists of four related tables called 'Taxa', 'Sites', 'Records' and 'Categories'. 'Taxa' is, of course, a species list with associated ID numbers, which could be either BRC or Kent numbers, but in my case are simple serial numbers. When a new taxon has to be added, I simply insert a decimal figure at the appropriate point. I have four extra fields in this table for the Ellenberg values of L, F, R and N copied from Hill *et al.*, 2004, and this is where further attribute fields could be added to broaden the scope of one's enquiries.

The 'Sites' table includes 'Site ID', along with fields describing features of the site, such as grid reference, altitude, slope, land use, etc, and a further field, 'Category ID', of which more shortly. There is also a space for describing the plot location and perhaps indicating why it was chosen for recording. I frequently revisit plots in order to get a complete picture of what is present throughout the year, and records can contribute to phenological studies.

The 'Records' table itself is very simple: it consists of four fields only: date, site ID, taxon ID and frequency (the DAFOR value); and this allows records to be entered very rapidly, once the site details have been filled in. I do not use a form for data entry, as I find it is more easily done by typing directly into the table. I should add that my records are made on a customised sheet resembling a normal recording card, but with space for entering the DAFOR values and essential site details, with taxon ID numbers corresponding to those used in the database; and, as I also record common mosses (my competence does not extend to rarer ones) these are included on the sheet. One could use a standard recording card if BRC numbers were used for taxon ID and one wished to record only vascular plants.

For many purposes, these three tables would suffice, but as I have a particular interest in the relationship between plant communities and their habitats, and in the extent to which the NVC communities can be applied, or refined and adapted to the needs of an area from which no samples were available to their authors (see Rodwell, 1991), I created a fourth table, 'Categories', with a view to defining the phytosociological community and/or habitat category to which a site should be assigned. This remains very much work in progress, and

no more should be said here. It is enough to indicate the open-endedness of this approach to recording, since the simple database can be developed in any way desired, to further one's personal interests. In the course of recording for this database, I have amassed 12,000 records for 589 taxa on the Isle of Bute over the last three years, and an incidental advantage is that every one has an 8-figure grid reference.

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Plant status – alien *v.* native

David Pearman, *'Algiers', Feock, Truro, Cornwall, TR3 6RA*

I was pleased to receive a riposte from Dr Peterken to my *Watsonia* paper, and as it happens I had a reply from Oliver Rackham too, also claiming native status for the *Euphorbia*, and these two are far more expert foresters than I will ever be! However, I would like to mention again three points that I covered in the paper.

- I went to great trouble to stress that I, like Professor Webb, had considered a whole range of criteria (ten in total) for a great range of species, all in one exercise rather than cherry-picking one species at a time, and then had tried to come to a decision based on all. Another point that, perhaps, I did not make is that underlying and contributing to the decisions we made is a scoring system for each criterion. Thus there are ten criteria and a range of scores for each. Dr Peterken mentions three criteria (first record, semi-natural vegetation and disjunct distribution), and, for his notes, concentrates on first records in his part of the world, which is quite different from taking a countrywide view. I would maintain that a local approach is much less satisfactory, in that often odd and special things are recorded first, and botanical exploration over the British Isles was very uneven.
- I quite agree that the status of many species is uncertain (and for some this will always be so). The evidence is poor – it is history, not real science. But, as I said, it does seem far better to set out all the known facts before deciding whether to 'live with uncertainty' or not. We are putting forward hypotheses to be tested, and if nobody puts them forward they are never tested! One of our main points was that there had been no serious work on this subject for the best part of a century, despite the massive increase in available research in so many fields.
- Finally, once more, the reason for looking again at the available facts underlying native or alien status is because of the obsession of the conservation industry with nativeness. Simply, and this was set out more fully in the paper, this policy conserves natives and consigns perceived aliens to the pit! Archaeophytes, long accepted on the Continent and trailed here by Webb 20 years ago, were promptly accepted here after the '*New Atlas*' as 'honorary natives'. Quite right. I argued, at the end of my *Watsonia* paper, that the way is open for the conservationists to similarly accept that species whose status is uncertain, such as Fritillary, Meadow Clary and others listed at the end of my paper, 'could well be included in conservation efforts, on the grounds that they have cultural resonance, act in harmony with other species that we value in their habitats and have a long association in those sites. This would be all the more possible since almost all conservation efforts are perforce concentrated on the management of the habitat rather than the individual species therein. Furthermore the list would not be long.'

The discovery of *Alopecurus borealis* and *Carex vaginata* in the Yorkshire Dales (v.c. 65) with observations on *Saxifraga hirculus*

LINDA ROBINSON, *The Cottage, Melmerby, Penrith, Cumbria, CA10 1HN*

On 23rd July 2007 I went up Great Shunner Fell, the third highest mountain in the Yorkshire Dales, to see the *Saxifraga hirculus* (Yellow Marsh-saxifrage) flushes. I was keen to see their condition, as I had recently been told they had been ungrazed for the last 8 – 12 years. I approached the fell from the east and walked round the spring line just below the summit, when, to my surprise, shortly after crossing the Pennine Way at the southern end, I came across a patch, approximately 30m × 30m, of *Carex vaginata* (Sheathed Sedge), a species only recently discovered in England by Rod Corner in 2002 in the northern Pennines (Corner, 2004). This was the first record for v.c. 65 away from Mickle Fell in the Pennines where it was found by Dr. Corner, Jeremy Roberts and myself on the northern and southern slopes of the fell in 2005 (Corner *et al.*, 2006).

The western edge of Great Shunner Fell has some good calcareous flushes and here the best and most amazing find of the day was a flush with about 200 flowering heads of *Alopecurus borealis* (Alpine Foxtail), a new record for v.c. 65 (see Colour Section, Plate 1). This extends the British range of this species and the Sheathed Sedge by 26km (16 miles) southwards, which more than doubles their previously known ranges in the northern Pennines. Tolmachev *et al.* (1995) state that the Alpine Foxtail's range extends south to 56° N in Arctic Labrador. The latitude of all the Pennines sites is less than 56° N, but the Great Shunner Fell site is now the most southerly in the world, at latitude 54°22′ N.

Still on the western side I visited the *Saxifraga hirculus* flushes. The southernmost one was in a reasonable condition, with quite a few basal shoots in evidence and a good number of flowers. The northern flush is much smaller and was very overgrown with large cushions of moss and *Saxifraga hypnoides* (Mossy Saxifrage) up to knee height. There were no basal shoots visible and only nine flowering stems. I think this flush is probably in its final stages of existence due to lack of grazing, build up of litter and shading out by the Mossy Saxifrage.

Some research done by Michael Rawes and David Welch (Welch & Rawes, 1964) in the 1950s and 1960s on Moor House National Nature Reserve in the northern Pennines on the effects of excluding sheep grazing from high level grasslands, mentions a small 2m × 2m exclosure being erected on part of a *Saxifraga hirculus* flush up Moss Burn. For the first three to four years the plant seemed to do very well, but three years after that it had disappeared completely. A larger exclosure known as Johnny's Flush in the same area had a very good *Saxifraga hirculus* flush running through it. Here too the species has disappeared (pers. comm.: Dr M.E. Bradshaw), and the exclosure is now very overgrown; species like *Geum rivale* (Water Avens) and *Filipendula ulmaria* (Meadowsweet) doing very well in its place.

Saxifraga hirculus flushes do need reasonable levels of grazing and trampling to open up the sward and reduce competition, to maintain and keep them in good condition. The flushes have withstood quite high grazing levels in the past and it is noticeable how sheep tend to congregate on them; indeed Dr Corner and I have noted that when you see a high-level flush in the Pennines with a good number of sheep on it, the Saxifrage is often present.

I think the flushes on Great Shunner Fell need some grazing to ensure the survival of *Saxifraga hirculus*, especially as it is a protected species, being listed in Annexes II and IV of the EC Habitats Directive and Appendix I of the Berne Convention. In the U.K. it is protected under Schedule 4 of the Conservation (Natural Habitats, etc.) Regulations 1994 and Schedule 8 of the Wildlife and Countryside Act 1981.

There are other high level flushes on some of the surrounding fells which would possibly

repay closer inspection. I think it highly likely that some may have one or more of the aforementioned species present.

Acknowledgements

I would like to thank David Welch for the copy of his and Michael Rawes' paper on effects of excluding sheep grazing in the northern Pennines. It was proving very hard to get hold of. I would also like to thank Dr M.E. Bradshaw for information confirming my memories of the exclosure known as 'Johnny's Flush' on Moor House National Nature Reserve in the northern Pennines and Rod Corner for information on the latitude of Alpine Foxtail.

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Gall detected in *Juniperus communis* at High Force, Middleton-in-Teesdale

FALGUNEE SARKER, *Darlington & Teesdale Naturalists' Field Club, 1 The Mill Race, Croft-On-Tees, Darlington, DL2 2TN*

This gall (see Colour Section, Plate 1) was seen in *Juniperus communis* (Juniper) at High Force, Middleton-in-Teesdale (v.c. 65), looking like a green bud. The outer structure of the 'bud' is made up of three Juniper needles fused together, the tip of which is curved outwards. Inside this elongated structure there were three smaller needles, again fused together. Each needle had a deep central groove. In the centre, tightly attached to the leaf groove, one orange in colour, jelly like and elongated, segmented larva was seen. This bud-like gall is made by *Oligotrophus juniperinus*, a Cecidomyiid fly (Diptera). The gall starts at the apex so that the cellular activity can be altered to create a home for the larva.

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English names of plants revisited

EDWARD PRATT, *7 Bay Close, Swanage, Dorset, BH19 1RE*

I take the points made by Peter Horn (*BSBI News* **106**: 15) about the problems that calling *Melittis melissophyllum* Bee-balm would cause. So I suggest Foxglove-balm, because of its superficial resemblance to foxgloves.

Whilst on the subject of English names, I have needed two for species which lack them for my forthcoming book, *The Wild Flowers of The Isle of Purbeck.* I have chosen the following: Savoy Hawkweed for *Hieracium sabaudum*; and Hairy-stemmed Hawkweed for *Hieracium trichocaulon.* These are based on translations of the specific name in both cases. However if any reader knows of another English name already in use for either of these, there should be time to amend my text if they kindly write to me straight away, please. I have also given location-based names to two hybrids which only occur in Britain in Purbeck: Godlingston Sundew for *Drosera ×belezeana*, and Stoborough Pondweed for *Potamogeton ×sudermanicus*. David Pearman, who discovered the former and has researched the latter, has kindly given his agreement.

Is *Isolepis cernua* near extinct in the east of Britain – or is it being missed?

BOB LEANEY, *122 Norwich Road, Wroxham, Norfolk, NR12 8SA*

In the September 2006 edition of *BSBI News*, Simon Harrap reported some colonies of *Isolepis cernua* (Slender Club-rush) from East Norfolk (v.c. 27) that did not correspond to the 'standard descriptions' in Stace (1997) and Rose (1989), having 3 rather than 1 – 2 stamens and a main bract that "at least occasionally" was considerably longer than the spikelet. This finding was of particular importance because Norfolk is the only eastern station left for this species.

As it happens, in 2006 I had found a 'new' colony of *I. cernua* in East Norfolk showing the latter character, and in fact showing the very long bract in the great majority of flowering spikes. On many occasions the bract was 2 – 3 times the length of the spikelet, exactly as in Simon's photo. (no. 4). After reading his article I had another look in 2007 and found that the colony also showed the 3-stamen character.

Despite the misleading spotting character of the long bract, the plants were otherwise typical for *I. cernua*, with strikingly pale, greenish-white, single spikelets and ridgeless nuts covered with minute papillae visible at 20x magnification (see illustrations).

I. cernua had not been previously recorded from Swanton Abbott Low Common, a county wildlife site, whereas *I. setacea* (Bristle Club-rush) is on record from the site. In view of the misleading main bract character in the Norfolk population, one wonders if *I. cernua* has been missed elsewhere as well.

After consulting with the vice-county recorders, I have managed to unearth a total of 12 past records for *I. cernua* in Norfolk, and it is of interest that only three of these are within a mile of the sea, most being well inland. The three standard descriptions (Clapham *et al.*, 1962; Rose, 1989; Stace, 1997) all describe this species as occurring near the sea or not far inland, so this is another reason that it may have been overlooked in Norfolk. The two *Isolepis* species do grow together, and it would be very worthwhile to look out for the rarer species in the 49 mainly inland sites where *I. setacea* has been recorded, and where it may have been overlooked, as at Swanton Abbott.

A comparison of the two *Atlas* maps also suggests that *I. cernua* may have been under-recorded in Norfolk for *I. setacea*. Hectad records for *I. setacea* in its western stronghold have roughly doubled, no doubt mainly because of better recording, and this is also the case in Norfolk. Records for *I. cernua* have increased much the same in the west, but have not increased significantly in Norfolk. There does not appear to be any great difference in habitat requirements to suggest that *I. cernua* should have suffered more losses than *I. setacea* in our area. So, once again, it seems likely that some of the 'extra' records for *I. setacea* could in fact be *I. cernua*.

Nevertheless, considering only known sites, the picture for *I. cernua* in Norfolk appears pretty bleak, with only five sites known in the last ten years. The species could be at risk of regional extinction, the nearest extant colonies outside Norfolk being in Hampshire.

With the discovery of this new colony, a Norfolk Flora Group survey has now been carried out, and the Norfolk Wildlife Trust is making renewed efforts to arrange scrub clearance and cutting or grazing. This should 'resurrect' the *I. cernua* colony (down to one plant this year, but no doubt in the seed bank), and also save the small colonies of other local rarities, such as *Hypericum elodes* (Marsh St John's-wort), *Blechnum spicant* (Hard Fern), *Carex echinata* (Star Sedge), *Eleogiton fluitans* (Floating Club-rush) and *Potamogeton polygonifolius* (Bog Pondweed). A search of other *I. setacea* sites over the next few years could turn up more *I. cernua*, so that similar conservation work can be arranged.

Acknowledgements

I would like to thank the two vice-county recorders, Bob Ellis (v.c. 27) and Gillian Beckett (v.c. 28), for help with this article.

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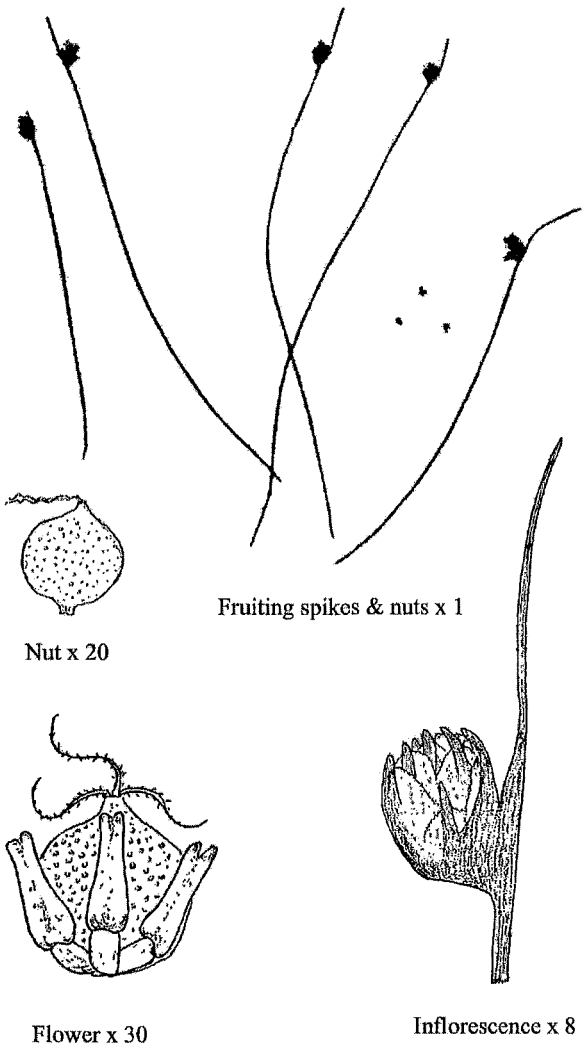

Isolepis cernua (Slender Club-rush), Swanton Abbott Low Common, Norfolk, 20/7/2006 & 28/6/2007

Poa palustris by the River Tweed

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

History

Poa palustris (Swamp Meadow-grass) was first found by the Tweed in August 1913 by Miss Ida Hayward below Galashiels. It was subsequently found to be plentiful on the banks of the Gala Water and by the Tweed between Galashiels and Melrose NT53, v.cc. 79, 80.

A few subsequent records were made in v.c. 80, but these were from ruderal habitats away from the river, the last in 1963 by Mary McCallum Webster at Galafoot NT53, in association with wool aliens. There were no further records by the Tweed until 2006 when Dr Roderick Corner found it at the edge of a pool at Monksford Bank NT53, v.c. 80 (*Watsonia* 26: 507).

In 2007, ignorant of the recent record, I found *Poa palustris* at Lees Haugh above Coldstream NT83 and subsequently below Dryburgh NT53 and above Birgham NT73, all in v.c. 81. Further records were made by Luke Gaskell and Roderick Corner below Kittyfield NT53 (2 colonies) and at Kelso NT73, v.c. 80. All these records are by the Tweed.

Habitat

Poa palustris occupies a distinctive habitat by the Tweed. This is an open community around pools and runnels back from the main watercourse, which is kept free from tall dominants such as *Phalaris arundinacea* (Reed Canary-grass) and *Impatiens glandulifera* (Indian Balsam) by the periodic scouring of floodwater. Its most frequent associates in 12 sample plots were: *Rorippa sylvestris* (Creeping Yellow-cress): 10 plots; *Phalaris arundinacea* (but only as isolated depauperate plants): 7; *Cirsium arvense* (Creeping Thistle): 4; *Agrostis stolonifera* (Creeping Bent): 3; and *Rumex obtusifolius* (Broad-leaved Dock): 3. Willows such as *Salix purpurea* (Purple Willow) and *S. viminalis* (Osier) may grow close at hand. Typically the *Poa palustris* is found in a series of modest tufts in a mat of either *Rorippa sylvestris* or *Agrostis stolonifera*, or on hummocks of ground that are elevated by a few centimetres from the surrounding vegetation. The colonies are all somewhat linear, in areas up to about 100m × 20m. The individual plants are 30-130cm tall and flower from July to September.

This habitat is a highly localised by the Tweed where so much of the margin is well defined, without pools or backwaters, or with these being colonised by tall dominants. *Poa palustris* has not been found at all in the lower Tweed where *Glyceria maxima* (Reed Sweet-grass) has recently come to dominate such pools and backwaters. The Tweed experienced record floods in October 2005 and it is possible that this event scoured out channels that have vegetated gradually since then, allowing *Poa palustris* to re-colonise from a seed bank. If so, the presence of this grass may prove to be only temporary in at least some of its localities.

Discussion

Poa palustris has sometimes been considered a British native, as it is very widely distributed in northern Europe, Asia and America around the fringes of the boreal zone (Hulton & Fries, 1986), and it is something of an anomaly if it is not native in Britain. However it was not recorded in Britain until 1800 and then only in cultivation, being first found in the wild in 1879 by the Thames at Kew and in Scotland in 1889 by the Tay below Perth v.c. 89, an area in which it still grows (*pers. comm.* Martin Robinson). Most of the British records have been in ruderal habitats and it has been considered a neophyte in recent publications. Stewart *et al.* (1994) contains an excellent account of *Poa palustris* by John Edmondson.

While the history of *Poa palustris* by the Tweed illustrates how elusive the plant can be, it does not offer much support for native status. The known distribution falls neatly into the section of the Tweed most colonised by neophytes, some originating as wool aliens

brought in with the wool trade to Galashiels. Nevertheless *Poa palustris* is now demonstrated to have been present by the Tweed as well as the Tay for a century or more and search should be made in other places where it was recorded in the past, notably in the Hebrides along the western coast of South Uist. There remains the outside chance of evidence emerging of native status in some at least of its Scottish localities.

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Crassula tillaea – its spread and spread in East Ross-shire

BRIAN & BARBARA BALLINGER, *5 Shaftesbury Park, Dundee, DD2 1LB*

Crassula tillaea (Mossy Stonecrop) is a small annual plant growing mainly on gravel tracks, car parks and open ground, formerly regarded as being scarce in the British Isles. Most records are from southern England, especially Dorset and East Anglia. Croft, in the *New Atlas* (Preston *et al.*, 2002), noted an apparent expansion in range and Pearman (*in litt.*) has reported continued colonization of sites in Cornwall, where it first appeared in 1988.

In Scotland records are relatively recent and infrequent. It was growing as a weed in the Edinburgh Royal Botanic Garden in 1978 (Smith, Dixon and Cochrane, 2002), and there are a few records from Moray and East Inverness-shire from 1968 onwards (Webster, 1978; Preston *et al.*,2002).

We first discovered *Crassula tillaea* in Easter Ross (v.c. 106) in 2001, whilst doing a survey of railway station vegetation. It grew in the gravel at Dingwall station (where it persists) and in the car park at Invergordon station, where it could not be refound in 2007, perhaps because of increased tidiness of station premises. We also noted it further north in East Sutherland at Kinbrace station. As it was unexpected and small, identification was initially a problem, but our tentative naming was confirmed by Ray Stephenson.

In subsequent years we have found it in eight further sites, now away from railway stations, mainly in rural locations (see map). These have been in relatively fine gravel on tracks and car parks, scattered over the east of the vice-county and in one disused gravel quarry. All the sites are in different hectads (see map).

The reason for this plant's widespread appearance in this area is unclear. It is very small and insignificant (see Colour Section, Plate 4), although the red colour of the plant later in the season is striking. The recent spread may be associated with the railway, with transport by vehicle tyres or gravel introduction. It is also possible that climate change may be a factor in its spread and improved chance of survival in the north.

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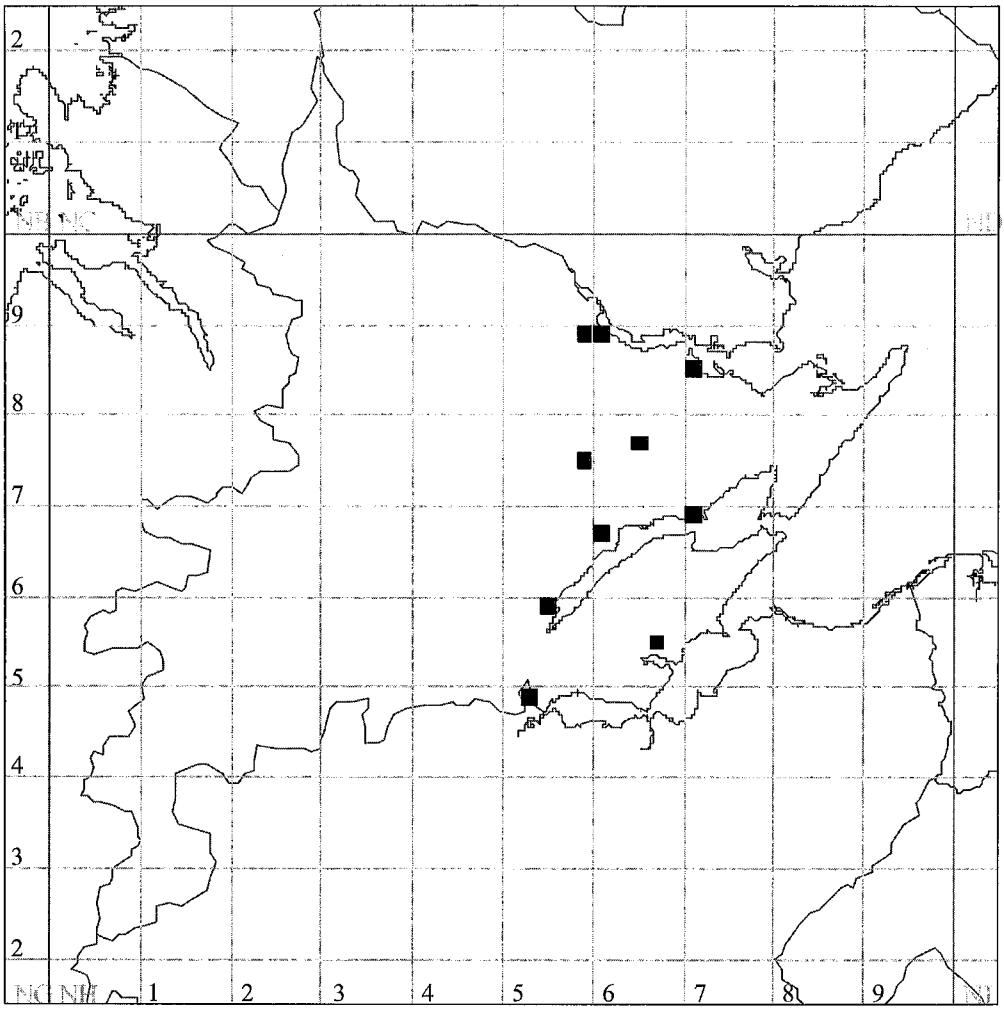

Map. *Crassula tillaea* in Easter Ross (v.c. 106)

Vernation in *Platanus*

M.J.P. SCANNELL, *43 Raglan Road, Dublin 4, Eire*

In the section on vernation in the 3rd (1933) edn of J. Small's *A textbook of Botany for medical, pharmaceutical and other students* (J. & A. Churchill, London) there is the following reference to the winter buds of trees,

> The London Plane (*Platanus acerifolia* [*P.* ×*hispanica*]) has its lateral buds protected by the bases of leaf-stalks. ... The young leaves are covered with short brownish hairs which become stiff and rigid before the bud opens, and these hairs are thrown off in such large numbers, when the buds open, that they cause an annual epidemic of catarrh (by irritation of the mucus membrane) in the districts of London where this hybrid plane tree is largely grown in the streets.

Corrigendum

In *BSBI News* **106**: 40, due to slack proof reading by the writer [and the editor!] the word venation on lines 9 and 12 should read VERNATION.

Surrey's 'missing' herbaria

ANN SANKEY, *3 Glenrose, Old London Road, Mickleham, Dorking, Surrey, RH5 6BY*

Early in 2007, our President, Richard Gornall, asked me if I could trace some of the herbaria in Surrey for which there was no up to date information. This investigation has proved to be an interesting and fruitful one, with at least two important small collections being brought to light.

One of the first things I did was to ask a friend to circulate my request for information to all the curators of museums in Surrey. This was limited to administrative Surrey, so there may be other small collections lurking in the London area of v.c. 17. From this initial request, I learnt that herbaria are kept at Camberley and Haslemere but not at Godalming. **Herb. GOD** refers to the Charterhouse Herbarium – see below. In addition, a small collection was discovered at Dorking.

One of the 'missing' herbaria probably did not exist. Dr C.T. Prime, author of the New Naturalist monograph *Lords and Ladies* was a master at the Whitgift School in Croydon. By all accounts, he was an inspirational teacher but he did not encourage his pupils do go out collecting plants. He did, however make some voucher specimens of important species and these are now at the South London Botanical Institute. It was Prime who oversaw the transfer of the Croydon Herbarium to this institute, which now holds about 150,000 sheets. These are well-curated but not catalogued. Many are of species local to Surrey and a portion of J.E. Lousley's herbarium is housed here.

Also not lost is the John Evelyn Society's herbarium. The John Evelyn Society in due course became the Wimbledon Society. The collection consists of about 700 specimens of vascular plants, collected in the Wimbledon area between 1900 and 1939, and 160 packets of bryophytes collected locally in 1985. There is now an electronic list of the vascular plants. Sadly though, any material that belonged to the Guildford Natural History Society has now been lost without trace. I have also been unable to find out anything about the British [Empire] Naturalists' Association, based at Kingston, nor whether they have an herbarium collection.

One consequence of my county-wide appeal was that a wooden box full of herbarium sheets was located at Dorking. The collection of well over 100 plants is annotated with details of common name, genus, species, class, sub-class and natural order. Location and date are also recorded. The dates are in the late 1880s and most of the flowers etc. derive from the Brampton area of Northampton; but there are also examples from Dorking chalk pits, Ranmore and Westcott. They were made by Theodore Payne, an apprentice nurseryman. He later emigrated to the USA where he became a very successful nurseryman. Dorking Museum does not have the facilities to look after this collection, so it has been transferred to Northampton.

The collection at Camberley, in the Surrey Heath Museum, is fairly small but could be interesting. The herbarium pages come from two collecting periods. The majority of them were collected *c.*1936 and bear labels printed with the heading 'Oxford University Department of Botany, Ecological Herbarium'. They have been collected from Wiltshire and Berkshire. The later ones are part of a local project carried out *c.*1967 on the varieties of conifers in the grounds of Tekels Park in Camberley, which involved taking specimens of the leaves and also the cones. This work is believed to have been done by members of Camberley Natural History Society under the direction of Miss Hilda Rendle; a former Curator of what was then Camberley Museum. In both cases the specimens have been grouped into families and simply held in manilla folders. It is not known how the Oxford sheets came to be at Camberley as background information was not recorded in those days and the Museum was closed for a number of years in the 1980s, during which period the staff was disbanded. However, there is a typed list dating from the early 1980s which simply appears to list the specimens.

To my knowledge, the collections have not been catalogued.

The Haslemere Educational Museum is an independent organisation, founded in 1888. It has a fairly large botanical collection comprising around 65,000 specimens in total. Most of these, about 62%, are pressed herbarium specimens of flowering and non-flowering plants. The majority of the herbarium specimens are from the British Isles. The Joshua Lamb (1856-1943) collection of British wild flowers was made in the late 1800s. The more unusual Lightfoot Collection is stored in 16 volumes and contains over 750 English vascular plants. They were collected between the 1850s and 1880s, with the majority from the 1870s. Each plant specimen has a poem accompanying it. The G.J. Lyon Collection includes all known species of mosses in Great Britain up to 1849. The pages are bound together in one volume and are beautifully preserved. It includes many rare species and a few specimens from Germany and North America. These named collections provide a brief insight into the scope of the botany collection and reflect a concentration of effort from the 1800s to the mid-twentieth century.

The herbarium at Haslemere is well-maintained and curated. Around 75% of the collection has been catalogued and there is an ongoing documentation project to get as many backlog items catalogued as possible. A brief look in their database for the Surrey species that are Red Listed as Critically Endangered or Endangered showed that there are new sites for quite a number of these species and that there are records for these species elsewhere in the British Isles. As an example, there are two records of *Arabis glabra* (Tower Mustard) from Bramshott, Hampshire, collected by W.M.E. Fowler on 16/5/1896 (see photo, p. 15) and by E. Larby on 1/7/1925. This collection is a valuable resource and the Curator welcomes enquiries about it.

The other important herbarium that seemed to have gone missing was that from Charterhouse School near Godalming. There used to be a museum at the school but this was closed down a few years ago. It seemed that though the insect collection was transferred to Haslemere, none of my contacts knew what had happened to the herbarium. Had it been lost? By coincidence, at the same time as I was making my enquiries, Andrew Doran, the relatively new Curator of the University and Jepson Herbaria at the University of California, Berkeley was taking possession, on permanent loan, of this herbarium! He is an old Carthusian and had been enquiring about the collection for some years, fearing as we were, that it might have eventually been thrown out, particularly since one of the last curators of the Museum had left the school. It was found in storage in London and, although it was packed very badly, it has held up quite well with minimal pest damage.

This small herbarium of around 8,000 specimens, in bound volumes and folders, dates back to the late eighteenth century and includes specimens from all over the British Isles, as well as collections from Europe, the Middle East, South Africa and east coast/mid-west United States. The collections are particularly significant since they document the flora of Greater London during a time of great expansion and many vouchers represent species no longer found in London and surrounding counties (see photo, p. 15). The collection also contains seven fascicles of the *Flora of the Neighborhood of Godalming* or the 'Surrey Folios' by John Drew Salmon (1802-59), the vouchers of which served as the basis for James Brewer's *Flora of Surrey* (1863), one of the first county floras which established the format that is now familiar in county floras. These folios were auctioned after Salmon's death.

Other highlights from the collections include poet-botanist William Gardiner's *Illustrations of British Botany*. This bound collection includes an immaculate presentation of algae, lichens, bryophytes and vascular plants. Further investigation has revealed the presence of around eight volumes (previously recorded as two) of the Revd. Tullie Cornthwaite (1807-78) from the exclusive Forest School in Walthamstow. Cornthwaite's collections reveal fascinating

Photo © Haslemere Educational Museum 2007

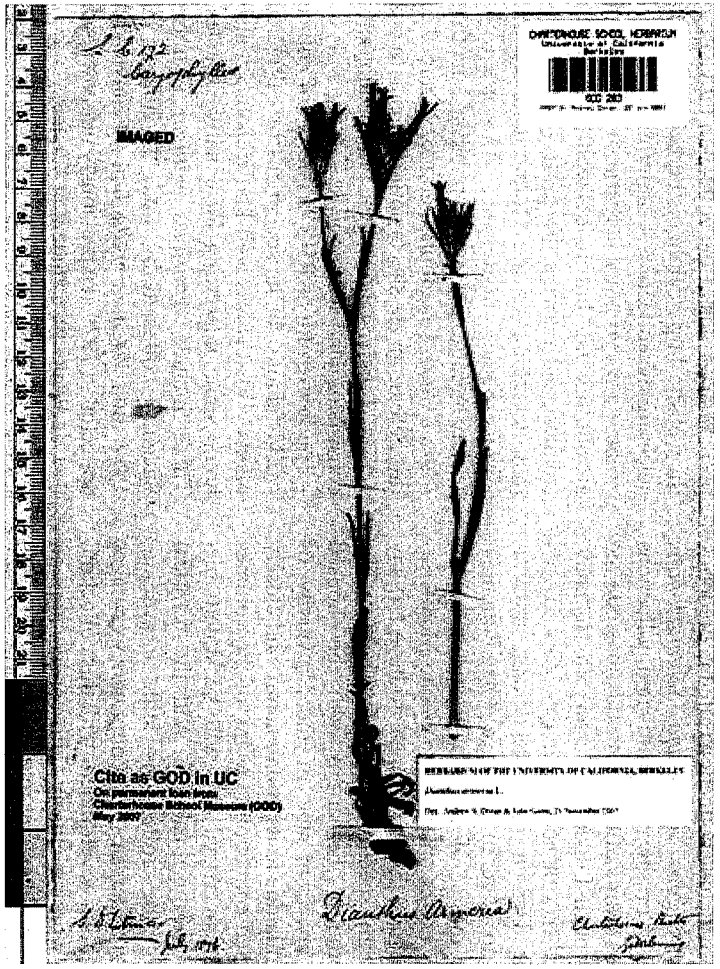

Photo © University of California 2007

connections with leading botanists of the day and even include collections cited in Frederick Pursch's *Flora Americana Septentrionalis* (1814). Cornthwaite's cultivated collections include records of early introductions into the UK through Loddiges Nursery in Hackney, with other vouchers from Isaac Swainson's Botanic Garden in Twickenham, unfortunately no longer in existance. Oleg Polunin, a former master of the school and author of various books on the flora of the Mediterranean region, does not appear to have left any herbarium specimens at the school. The Charterhouse herbarium will be housed separately from that of the University of California due to its bound nature and closely correlated collections. Many of the volumes are also oversized and will be stored in a custom-designed cabinet. With the historical side of the collections still unravelling, Andrew anticipates launching new web pages highlighting development with this collection, and is working closely with conservators on campus to document and curate the volumes and specimens. Anyone interested in finding out more about the Charterhouse Herbarium should contact Andrew at:

andrewdoran@berkeley.edu or look at preliminary scans of the collection by visiting the website http://calphotos.berkeley.edu/ and selecting the collection 'Charterhouse'.

There are two other herbaria in Surrey that are not 'missing' but are less well-known. The smallest and perhaps the most vulnerable is that belonging to the Holmesdale Natural History Society in Reigate. This is an old society and it was they who published the first *Flora of Surrey* mentioned above. Included in this herbarium are sheets dating to back to this period. I understand that the only cataloguing consists of hand-written lists.

The herbarium at RHS Wisley is of course world-famous for its specimens of cultivated plants. What is less well-known is that it also holds some interesting local native species. These include *Arnoseris minima* (Lamb's Succory) collected by C.C. Titchmarsh in 1912 and *Mentha pulegium* (Pennyroyal) collected in 1979 at a previously unknown site by Candidate 49, a student at Wisley.

There is certainly a wealth of information in these small collections in or from Surrey.

Asplenium septentrionale in Kent – native or alien?

JOHN EDGINGTON, *19 Mecklenburgh Square, London, WC1N 2AD*

It is satisfying to re-find a plant previously assumed lost, especially when this leads to more general considerations of distribution and status. The story began when Fred Rumsey, who is compiling a checklist of ferns recorded growing on walls in Britain, kindly showed me his preliminary version. It included *Asplenium septentrionale* (Forked Spleenwort), found, I assumed, on some northern stone dyke. 'No', said Fred, there are records from Surrey and Kent. Indeed there are. In C.E. Salmon's posthumous *Flora of Surrey* (1931) we read 'Flint wall nr. Box Hill, 1911, 1916, 1917, *C.E.S.*', and a similar record from Dorking, with a cautious, not to say sceptical, comment by the flora's editor, W.H. Pearsall: 'Under a less weighty signature than that of C.E.S. one would hesitate to accept them'. In 2001 I searched a (the?) flint wall along Headley Lane, Box Hill, finding *Ceterach officinarum* (Rustyback) and a rather distinctive variety of *A. ruta-muraria* (Wall-rue) that could perhaps have been mistaken for *A. septentrionale* – but no sign of the latter. The Kent record from Eric Philp's *Atlas of the Kent flora* (1982) is more convincing: 'A fine clump found by Mrs L.B. Burt on a bridge in the Romney Marsh TR/02D. There is no suggestion this has been planted or has escaped from cultivation'. Mrs Burt was active around 1970 and in Preston *et al.* (2002) her record appears with a date-class 1970-1986. The tetrad is more than 300km from any other British site.

Having nothing better to do on a bright day in October 2007, I drove down to Romney

Marsh and started to look at bridges – of which there are many, the marsh being criss-crossed by drainage ditches. Against all reasonable expectations, on my second bridge I found not one, but six plants, growing on a south-facing brick parapet otherwise almost devoid of life apart from a crustose lichen, probably *Tephromela atra* – (see Colour Section, Plate 2). The plants are small, no frond being longer than 35 mm, but, like most *Asplenium* species, highly fertile. The edaphic preferences of *T. atra* and *A. septentrionale* are similar (exposed siliceous substrates) and presumably the bricks of this wall meet both their needs, as does the open southerly outlook with total absence of shade. A bridge is shown here on Old Series OS maps of *c.*1819. The present structure appears to be late Victorian.

Eric Philp has written to say that, after initially confirming Breda Burt's record of one plant, and later finding as many as three on the same wall, he could not locate them during one hot summer, nor subsequently, an absence confirmed by Pat Acock who searched thoroughly in the 1980s. *A. septentrionale* is very slow-growing and can escape notice for years. Its re-discovery after more than 20 years may be due, like the persistence of Rustyback on walls that are scraped clean in fits of civic tidiness, to the tenacity of rhizomes that remain viable despite removal or die-back of the rest of the plant, though the increased number of plants suggests that a considerable spore bank has built up.

How did it get to Romney Marsh? In a study of three colonies of *A. septentrionale* on isolated erratic boulders in Switzerland, likewise far from the nearest site, Holderegger and Schneller (1994) demonstrated that the colonies were genetically distinct and so represented separate founder events. Despite their small size (one has nine plants, another 15) the colonies have survived for 150 years, specimens having been added to the Zurich herbarium at least every ten years. Holderegger and Schneller concluded that these isolated colonies satisfy three requirements for establishment of permanent populations by airborne spores: a capacity for self-fertilisation from a single spore; great species longevity; and an undisturbed open site with minimal competition. I see no reason to doubt that airborne spores were likewise responsible for the Romney Marsh colony. The nearest sites, between 100 and 200km away, are in France (Departments of Calvados and Nord) and Belgium, and if, as is supposed, winds can carry the much heavier seeds of Orchidaceae across the Channel (*Serapias parviflora* perhaps being one example), fern spores need only a gentle zephyr. This is also Eric Philp's view.

If so, and assuming the French/Belgian sites are themselves native, then *A. septentrionale* is native here too ('arrived ... without intervention by man ... from an area in which it is native'). The editors of *New atlas of the British & Irish flora* (Preston *et al.*, 2002) disagree. The Romney Marsh record has a red dot, an alien. Is this because the fern is, unusually for this species, growing on a wall? Holderegger and Schneller mention a Swiss record of 1922, also on a wall by a railway. Would a rock-face have been an acceptable native site? Although most *Asplenium* species occur predominately on walls, where the showier species are still occasionally planted, all records for every other species of *Asplenium* are admitted as native (including that of their relation *Ceterach officinarum* on a wall at Loftus, v.c. 62, whose spores Christopher Lowe (2005) believes, for unspecified reasons, were imported with mortar - if so, it is alien here). Simon Leach (2003) has touched on this contentious point in another context.

There is a parallel with another cryptogam record, that of *Equisetum variegatum* (Variegated Horsetail) at Cothill (now Dry Sandford) Pit, v.c. 22. The pit was worked as a quarry until the 1950s, when it was abandoned as calcareous springs appeared on the floor. *E. variegatum* was found there in 1959, 120km from the next nearest site, and is still present in quantity. Man provided the substrate, nature did the rest, and the *New atlas* recognises this with a blue dot. It is hard to see the difference between the two cases.

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Gardens and the open countryside

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

Over the years I have become a keener and more ambitious gardener, but as befits a botanist I have always been interested in what came up, and have left many arrivals that I later regretted! I have kept rough notes of the rise or fall of species that interested me, and have often wondered if others have likewise, especially given the current interest in anticipating escapes into the wild from garden stock.

For 22 years I gardened in Dorset, on chalk, at 550ft, about a third of an acre, SW facing and very exposed. We were surrounded by fields on all sides. The NE boundary was a very old hedge by the old road to the downs above, with many shrubby species. There were other newish hedges, but I completed the circumference. Most of the garden weeds were persistent over the whole period, but weeding was a chore rather than an ordeal! *Aegopodium podagraria* (Ground Elder) and *Elytrigia repens* (Couch) were always there in smallish patches, as was an area of *Holcus mollis* (Creeping Soft-grass), a patch of *Circaea* (Enchanter's Nightshade), lots of *Taraxacum* (Dandelion) (seeding from the neighbouring hay-fields), and masses of *Cardamine flexuosa* (Wavy Bittercress), *Veronica filiformis* (Slender Speedwell) and *V. hederifolia* (Ivy-leaved Speedwell) – I never cracked those. The most common introduced weed was *Euphorbia serrulata* (Tintern Spurge), which had penetrated every corner by the time I left, and the elegant *Stipa arundinacea* (now *Anemanthele lessoniana*). But the only introduction I regretted was a narrow flowered *Vinca*, which wrecked an area of hedge, and could not be exterminated. Bluebells gently increased, spreading from the oldest hedge.

However, there were two major invasives that I never beat, and were far more widespread by the time that I left. The worst was *Hedera helix* (Ivy). There were odd patches in the older hedges in 1982, two at least were large and produced good crops of berries each autumn. By 2003 it was dominant in all the hedges, old and new, was growing into the lawns, and all this despite constant action, uprooting, pruning, and mowing. The other, more surprising thug was *Allium ursinum* (Ramsons). This was only along the oldest hedge, with perhaps 30 mature plants in 1982. Despite poisoning (pointless) and endless hand weeding of the bulblets, as well as trying to cut the flowers before seeding, it spread along the hedge, out into the grass at one end, and into the adjoining border at the other – hundreds and hundreds of young plants each year.

In 2003 we moved to Cornwall, into a much larger garden, on very acid soils, about an acre all told, at 150ft, SE facing and almost sheltered. The main garden has *Cardamine flexuosa*, plenty of *Epilobiums* (willowherbs), *Geum urbanum* (Wood Avens), four species of *Oxalis*, *Silene dioica* (Red Campion) and *Veronica hederifolia* as the main weeds. I can cope, just

with those, but am making no impression. Much worse are *Allium triquetrum* (Three-cornered Leek) (cannot be poisoned, and has to be hand weeded), *Crocosmia* (Montbretia) (ditto), and two plants I unwisely introduced – *Briza maxima* (Greater Quaking-grass) and *Echium pininana* (Giant Viper's-bugloss) – which seed with dramatic vigour. I brought *Euphorbia serrulata* and the *Anemanthele* from Dorset, and they have both seeded prolifically, despite the completely different soil. The worst weed, both in the open and in the densest shade, though it comes up easily, is *Sedum stoloniferum* (Lesser Caucasian Stonecrop), which was here when I arrived, but I cannot make any progress with exterminating. I think it is that species rather than *S. spurium* (Caucasian Stonecrop).

The wooded area, which slopes down to a streamlet, was a market garden at least till 1960, when it was planted with alien trees and alien bluebells. This is carpeted with *Hedera helix* subsp. *hibernica* (Western Ivy) – huge long strands, rooting at the nodes, and climbing every tree. This was interspersed with many brambles (including at least two Cornish endemics or near endemics – moral dilemma here!!) and self-sown ferns (*Athyrium filix-femina* (Lady Fern), *Dryopteris affinis* (Golden-scaled Male Fern), *D. dilatata* (Broad Buckler-fern), *D. filix-mas* (Male Fern) and *Phyllitis scolopendrium* (Hart's-tongue Fern)). Where I have cleared the ivy then *Geum urbanum*, and *Silene dioica* dominate, with much *Sedum stoloniferum*. There was a small area of the variegated *Lamiastrum galeobdolon* ssp. *argentatum* (Garden Yellow Archangel) which, despite Round-up and hand-weeding, I cannot eradicate!

Having set this down, several questions arise:

What accounts of other gardens exist? There is Salisbury's *Living Garden*, which I have always meant to read, but is now hidden behind other books and I cannot lay my hands on it. There are recent papers by Ken Thompson and colleagues at Sheffield (most recently in the February 2007 issue of the excellent *British Wildlife* magazine, with a very full and useful list of references).

Can one find any common ground in the reports for the 1987-89 Monitoring Scheme and with Local Change? Certainly, in the latter, the section on 'Built-up areas and gardens'(BH17) gives some pointers, as does that on 'Boundary and linear features' (BH3).

Is the position in the garden simply due to absence from competition, with high fertility and high disturbance, coupled with much control (or attempted control) and thus limited opportunities for perennials to climax?

Are there any lessons for potential alien pests into the wider countryside? Despite the search of the anti-alien lobby for the next invasive pest, I (whilst sharing their aspirations) remain very sceptical that one could even hazard any guess. To take my own experiences, *Allium triquetrum* and *Crocosmia* are out in the open countryside and totally ineradicable; *Lamiastum* has many sites and is similarly ineradicable; *Briza maxima* is everywhere but only a local pest and of course there is Ivy, on which I have become the archetypal bore (though like all bores, utterly convinced I am right), which in warm Cornwall utterly dominates every wood, hedge and many gardens. That leaves only the little *Sedum stoloniferum*, which I certainly cannot get rid of, and *Anemanthele lessoniana*, which I am beginning to see elsewhere.

Was it ever thus? One hears of problems with Couch, Ground Elder, Enchanter's Nightshade and the rest with all of one's friends, and there must be some extra dimension arising from constant disturbance and open ground in a garden, rather than persistence and succession to more closed habitats in the wider countryside.

Identification of Water-crowfoot populations

RICHARD LANSDOWN, *Ardeola Environmental Services, 45 The Bridle, Stroud, Gloucestershire, GL5 4SQ*

Water-crowfoots (*Ranunculus* subgenus *Batrachium*) have long been considered difficult to identify and there has been much speculation about the degree to which hybridisation occurs in the wild. In conjunction with a six-year study of the aquatic plants of the River Itchen in Hampshire, the opportunity arose to investigate the identity of the water-crowfoot populations in the river in some detail. In 2005, with the help of Fred Rumsey and Tim Pankhurst, and with funding from the Environment Agency, I undertook a study to use morphological and genetic methods to explain the identity of the populations in the River Itchen. A survey of rivers in the catchment of the River Eden in Westmorland for Natural England (as English Nature) provided an opportunity to include material from a separate catchment for comparative purposes. The results are presented in an unpublished report to the Environment Agency (Lansdown 2007) **(but see below for offer)**.

Based purely on morphological characters, populations in the River Itchen appeared all to belong to the same taxon, which is probably *Ranunculus penicillatus* (Stream Water-crowfoot) subsp. *pseudofluitans*, and the majority appeared to set no developed carpels. Populations in the catchment of the River Eden appeared to belong to a number of taxa, including *R. fluitans* (River Water-crowfoot), *R. penicillatus* ssp. *penicillatus* and *R. penicillatus* ssp. *pseudofluitans*. Biometric and genetic analysis lead to the conclusion that whilst *R. penicillatus* ssp. *pseudofluitans* may be the most appropriate name available for Batrachian *Ranunculus* populations in the River Itchen, they in fact probably represent a complex of stable clones derived through intra-specific hybridisation between polyploids which now usually reproduce and disperse by vegetative means. The same analysis suggests that all material sampled from the catchment of the River Eden involved inter-specific hybrids.

As part of the project, I reviewed available information on all the taxa which have been reported from the UK and Europe. It is clear that different taxonomies are employed in different countries and that the taxonomy most widely employed in the UK does not recognise any recent taxonomic revisions. The available information also suggests that if the features of the parents are directly inherited by hybrid offspring:

1) A hybrid between *R. peltatus* (Pond Water-crowfoot) and *R. trichophyllus* (Thread-leaved Water-crowfoot) that lacked laminar leaves, would be indistinguishable from *R. aquatilis* (Common Water-crowfoot).
2) A hybrid between *R. fluitans* and *R. trichophyllus* or *R. aquatilis* that lacked laminar leaves, would be indistinguishable from *R. penicillatus* subsp. *pseudofluitans* var. *pseudofluitans*.
3) A hybrid between *R. fluitans* and *R. trichophyllus* or *R. aquatilis* with laminar leaves, would be indistinguishable from *R. penicillatus* subsp. *penicillatus*.
4) The only character separating *R. peltatus* from *R. penicillatus* subspecies *pseudofluitans* var. *vertumnus* appears to be the number of terminal segments on the capillary leaves. I can see no reason why this should be considered any more important than the relative lengths of capillary leaves to their corresponding internodes, although the latter is the character separating *R. penicillatus* subspecies *pseudofluitans* var. *vertumnus* from var. *pseudofluitans*; and which means that var. *vertumnus* is aligned to *R. penicillatus*, rather than *R. peltatus*.

All of this means that it is difficult to have confidence in any identification of water-crowfoots that is not supported by genetic analysis. Even with such analysis it will be impossible to be certain of the parentage of hybrid material until we can collect a baseline

of genetic information on un-hybridised populations.

Following completing of the report I have paid particular attention to populations of water-crowfoots that I have encountered. In particular, I have tried either to name populations to species or subspecies or recognise hybrids. In most cases, whilst it has been possible to assign a name to a population based on the guidance currently available, every population has shown some features that would normally belong to another taxon. My conclusion has been that either all populations involve some degree of hybridisation, or that identification guidance is inadequate or inaccurate.

I have recently agreed to act as referee for the subgenus for the BSBI and this has obliged me to consider seriously the most useful way to record water-crowfoots. I have concluded that the best way forward is:

To ensure that vouchers of all material determined are retained in an internationally recognised herbarium.

To ensure that (as far as is possible) the determination should recognise the different taxonomies followed in different countries.

To explain the reasons for assigning the material to a particular name and any differences between the material and the accepted views of the taxon to which it has been assigned.

My overall aim is to establish a collection that includes material representing variation that occurs in the subgenus in Britain and Ireland, to ensure that the reason for assigning material to a taxon is clear to future researchers and that any reports based on such material can be interpreted by researchers throughout Europe.

With the help of Fred Rumsey and Mark Spencer, I have proposed adopting the following approach to refereeing material:

1. All material must involve dried specimens suitable for lodging in a nationally recognised herbarium (either the **BM** or another named herbarium). If people wish to retain examples, then these must be duplicates. I have decided that only dried material should be accepted, as plants will grow in plastic bags, distorting identification features and some reproductive characters fall off, often rendering material useless for future investigation. However, fresh material in particularly good condition may be accepted by prior arrangement with Fred Rumsey.
2. Submissions should involve a sufficient number of specimens to represent variation within populations - this will make it more likely that a useful determination can be achieved.
3. Each determination will be accompanied by a standard label, detailing:

   The name to which I would assign the population.

   Relevant synonymy.

   A written explanation of the reasons for assigning the material to a particular name.

   A written description of any characters shown by the material that do not conform with accepted views of the taxon to which I have assigned it.

   A copy of this label will be attached to the sheet and a duplicate sent to the person submitting material for determination. Details of the protocol will be included as usual in the members' handbook.

Reference

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The BSBI feels that it would be of interest to our members, and of assistance to Richard in respect of any final work, if this report on current work was made available to a wider audience. With the agreement of the Environment Agency a limited number of copies are available from him for £15 each to include postage. This does not purport to be a definitive statement, but does reflect advances in thinking since the publications from Chris Cook and Sarah Webster of over 20 years ago.

D.A. Pearman

Lotus angustissimus & L. subbiflorus in Sussex

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While recording for the new 'Flora of Sussex' several species thought extinct in the county have been re-found, but few have been as unexpected as the discoveries during summer 2007 of *Lotus angustissimus* (Slender Bird's-foot-trefoil) for the first time in over 70 years and of *Lotus subbiflorus* (Hairy Bird's-foot-trefoil) for the first time ever in Sussex.

In East Sussex *L. angustissimus* was first found in 1798 among rocks near Hastings (also the first British record), and it was subsequently recorded at one or two other coastal sites in the Hastings area. It was last reported in 1932 but, in his *Flora of Sussex*, Wolley-Dod (1937) considered that 'in the absence of a specimen it is safer to regard it as extinct at Hastings'. He also dismissed the only two records from West Sussex: at Pagham ('requires confirmation') and Worthing ('probably a casual...very doubtful').

In June 2007 several plants of *L. angustissimus* were found by FA in a patch of about 1m x 0.5m in a sandy field near Fittleworth in West Sussex (see Colour Section, Plate 2), and a second patch was found when FA and AGK revisited the same field a few weeks later. The field has been much visited by botanists over the years because it adjoins a small area of sandy grassland with a rich flora, which includes *Filago vulgaris* (Common Cudweed), *F. minima* (Small Cudweed), *F. lutescens* (Red-tipped Cudweed), and many other species of interest. The field itself has at various times been used for keeping pigs and cultivated for maize and other cereals. However, it has been fallow and apparently unmanaged for several years, and has itself acquired a rich flora, including the three *Filago* species and *Apera spica-venti* (Loose Silky-bent), as well as *Amsinckia micrantha* (Common Fiddleneck) *Ornithopus perpusillus* (Bird's-foot), *Trifolium arvense* (Hare's-foot Clover), *T. campestre* (Hop Trefoil), *Scleranthus annuus* (Annual Knawel), *Spergula arvensis* (Corn Spurrey) and *Spergularia rubra* (Sand Spurrey). The species most closely associated with the *Lotus* plants were *Conyza canadensis* (Canadian Fleabane), *Filago vulgaris*, *Holcus lanatus* (Yorkshire-fog), *Lolium perenne* (Rye-grass) and *Tripleurospermum inodorum* (Scentless Mayweed).

A few weeks later FA found a further colony of *L. angustissimus* on the margin of a sandy field about 400m from the first. In the past this field too has been used for pigs and various crops, but has been uncultivated for several years. Unlike the first field, it has been sown with Rye-grass and clover, but wide and sparsely vegetated margins support a flora similar to that of the first site, although less rich and lacking most of the rarities.

On 2nd September the Sussex Botanical Recording Society had arranged a field meeting to record a farm west of Rogate, very close to the Sussex/Hampshire border. The farm is 'pick-your-own' and has a reputation for its asparagus crop. The soil is very sandy, and recording in the morning in the 'pick-your-own' fields produced a range of interesting species, including *Amaranthus hybridus* (Green Amaranth), *Erodium moschatum* (Musk Stork's-bill), *Festuca brevipila* (Hard Fescue) and *Geranium pusillum* (Small-flowered Crane's-bill). In the afternoon we moved on to record the margins of the asparagus fields, and soon came across a small patch of a very hairy *Lotus* species with rather golden yellow flowers. After some discussion, we realised that it must be *Lotus subbiflorus* (see Colour Section, Plate 2) and, as we continued around the field edge, more plants were found. While identifying the *Lotus subbiflorus* we noticed that the feature in the key in Stace (1997) describing the number of seeds in a pod did not apply. Stace states that the number of seeds in a pod should be no more than 12.

While this was true in a few cases, we found that most pods had 14 seeds and a few had up to 16 seeds.

As we walked further along the field edge, a plant with paler yellow flowers was noticed among the *L. subbiflorus*. On careful examination this proved to be *L. angustissimus* (see Colour Section, Plate 2) In the end we found that the colony of *L. subbiflorus* extended in patches for 100m along the field edges and contained well over 100 plants. Among these we found two large plants of *L. angustissimus*. All were growing in the edge of a rough grassy strip a few metres wide around the edge of the field, with such species as *Amaranthus hybridus, Artemisia vulgaris* (Mugwort), *Chenopodium album* (Fat-hen), *Cirsium arvense* (Creeping Thistle), *Dactylis glomerata* (Cock's-foot), *Festuca brevipila*, *Polygonum aviculare* (Knotweed), *Senecio vulgaris* (Groundsel), *Stellaria graminea* (Lesser Stitchwort) and *Tripleurospermum inodorum*. Searches of adjacent fields with asparagus crops failed to reveal any more colonies of either *Lotus* species, but this field had a further surprise in store. During a subsequent visit three plants of *Scorpiurus muricatus* (Caterpillar-plant), another new species for West Sussex, were found growing in the sandy edge of the field.

An obvious question is why these species have not been discovered in these areas of Sussex before. In the case of the *L. subbiflorus* site the number of plants present makes it unlikely that they would have been overlooked, but, as far as we can tell, this particular area has not been well recorded in the recent past. The plants may therefore represent a native population which has been present but un-noticed for many years. However, the presence of the Mediterranean species *Scorpiurus muricatus* and of large numbers of *Amaranthus hybridus* in the same field raises the possibility that the *Lotus* species could be introductions here. The owners of the farm told us that, before planting the asparagus, they apply a mixture of chicken manure and composted garden waste from Hampshire, so it is conceivable that the *Lotus subbiflorus* originated from Hampshire.

The situation regarding the Fittleworth *L. angustissimus* is rather different. This site has been visited by many botanists but the plants here were in very small isolated patches, despite the fact that there are large areas of apparently suitable habitat all around. It is also possible that the plants only germinate occasionally and that conditions this year were especially favourable. We will certainly re-visit both sites in the next few years in order to see what happens to the populations of both species. We would be very interested to hear from BSBI members whether this has been an especially good year for either species elsewhere in the country where they are well known.

Acknowledgements

We would like to thank Dawn Nelson for arranging and leading the field meeting which led to the discovery of *Lotus subbiflorus* and obtaining the information on the treatment of the fields, Kathryn Knapp for noticing the *Scorpiurus muricatus* and Mike Shaw for his photograph of *Lotus subbiflorus*. We also thank the landowners of both sites.

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Viviparous *Trifolium repens*

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Jonathan Crewe (*BSBI News* **106**: 48) referred to the Dorset Flora Group visit to Down Farm, near Sixpenny Handley, on 28th July. One result of two months of exceptional rainfall was the discovery there, by Janet O'Connor, of a viviparous specimen of *Trifolium repens* (White Clover) (see Colour Section, Plate 1).

Nipping ID in the bud

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There are several identification guides to winter twigs of deciduous trees and shrubs (e.g. Makins, 1936; May & Panter, 2000) which place much emphasis on bud characters. However, buds are useful aids to identification at all times of year. Even during late spring when buds are bursting into 'leaf', a few dormant or moribund buds can usually be found - one of the few instances when dead twigs may be more helpful than living ones!

A bud contains the embryonic shoot (twig) and a predetermined number of leaves and/or flower buds (often collectively referred to as a *unit*). It does not contain just a single leaf or flower, as the term seems to imply. Of course, exceptions exist and many species have separate flower (fruit) buds which can be recognised by their larger size or different shape, such as *Rhododendron* (rhododendrons), *Ulmus* (elms) and *Myrica gale* (Bog Myrtle). The term 'leaf bud' really refers to its position; *i.e.* normally occurring in the leaf axils (a lateral bud) or at the tip of the stems (a terminal bud). Consequently, their distribution on the twig is identical to that of the leaves – alternate, opposite, or whorled.

The various bud types found in woody plants are listed below. Please note that they are not mutually exclusive and a single species may posses a combination.

Terminal *vs.* pseudoterminal buds

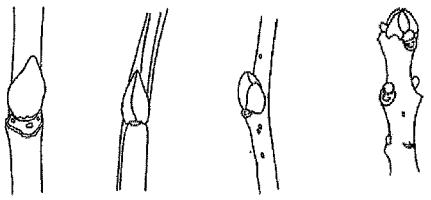
A few woody species have a true terminal bud at the twig apex, giving rise to a monopodial (straight) shoot. *Aesculus hippocastanum* (Horse-chestnut) always has a single large terminal bud. In contrast, *A. carnea* (Red Horse-chestnut) often has paired buds giving rise to a sympodial (forked) shoot. The relative rarity of true terminal buds makes it easy to list the commonly encountered deciduous genera in which they are found (although, as demonstrated by the *Aesculus* example, they may not be uniform throughout the genus):

Aesculus, *Fagus*, *Fraxinus*, *Populus*, *Sorbus*.

Bud scales: number and arrangement

The fragile embryonic growth of young shoots requires protection against the elements and a variety of processes have evolved to achieve this. The buds of most trees (and many shrubs) of temperate climes (*i.e.* those with contrasting seasons) are adequately protected by a covering of scales. Such buds generally have five or more visible scales but below are a few examples of the lower denominations:

1-bud scale – all *Salix* (willows)①
2-bud scales – *Vaccinium myrtillus* (Bilberry)②, *Hippophae rhamnoides* (Sea-buckthorn)
3-bud scales – *Tilia* (limes)③
4-bud scales – *Fraxinus excelsior* (Ash)④



① ② ③ ④

Bud scales themselves also display useful characters. A reliable way of separating *Ostrya carpinifolia* (Hop-hornbeam)⑤ from the remarkably similar *Carpinus betulus* (Hornbeam)⑥ is by examination of the bud scales. They are striate (*i.e.* with fine longitudinal lines) in *Ostrya* but smooth in *Carpinus*. Similarly, *Abies nordmanniana* (Caucasian Fir) is the only *Abies* with ridged scales. Unsurprisingly, as bud scales are really only modified (reduced) leaves, bud scales are opposite in opposite-leaved species.

⑤ ⑥

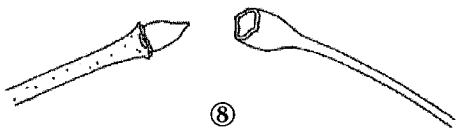
Naked buds

Buds that lack scales are described as naked. *Pterocarya fraxinifolia* (Caucasian Wing-nut) ⑦ *Viburnum lantana* (Way-faring-tree) and *Frangula alnus* (Alder Buckthorn) are three species whose scaleless buds are protected by a dense covering of hairs. In contrast, *Hebe* (hedge veronicas) have the tough outer leaves protecting the inner ones, giving rise to the distinct sinus present in those species that have a distinct petiole in this complex group. Surprisingly (for the family Rosaceae), *Cotoneaster* spp. do not form bud scales. Furthermore, no herbaceous plant forms true bud scales.

⑦

Hidden (infrapetiolar) buds

Rhus (sumachs), *Philadelphus* (mock-oranges) and *Platanus* (planes) ⑧ have their buds protected within the swollen base of the leaf petioles and thus are only visible after leaf fall. *Rhus* have naked hairy buds but the buds of *Philadelphus* and *Platanus* are protected by scales and young stipules respectively.



⑧

Resinous buds

Presence of a resin (often sticky) is another form of protection and is often particularly useful in the identification of similar conifers. For example, *Abies grandis* (Giant Fir) has resinous buds, unlike those of *Abies alba* (European Silver-fir); similarly, *Pinus nigra* (Black/Corsican Pine) has resinous buds (with adpressed scales) which contrast with the non-resinous buds (and reflexed scales) of *P. pinaster* (Maritime Pine).

Indumentum (hairs) on buds

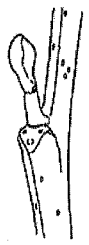
Although hairs have already been mentioned as being used in defence of naked buds, the presence of hairs on bud scales themselves can be helpful in differentiating otherwise very similar species. Indeed, the best method of separating *Sorbus domestica* (Service-tree) and *S. aucuparia* (Rowan) when the fruits are absent is that the bud scales are densely woolly-hairy in *S. domestica* but glabrous, apart from marginal hairs (cilia), in *S. aucuparia*.

Clustered buds

In most woody plants buds are usually positioned singly and well-spaced along the twig. However, they may be grouped together (clustered) as in *Quercus* (oaks), many *Prunus* (cherries) and *Ribes rubrum* (Red Currant).

Stalked buds

Stalked buds are characteristic of only a few genera such as *Alnus* (Alders) ⑨. Several *Alnus* species have remarkably dissimilar leaves (reminiscent of other families) but the stalked buds are diagnostic of almost the genus. Those botanising around towns and parks may be familiar with *Parrotia persica* (Persian Ironwood). This species also has stalked buds, as do other members of the witch hazel (Hamamelidaceae) family.



⑨

Superimposed or superposed (serial) buds

Most species have one bud in each leaf axil but, in some species, two or three (rarely more) buds occur. One such example is *Pterocarya fraxinifolia* ⑩ which has superimposed buds, *i.e.* a pair of buds, with one above the other. Typically, only the upper bud of the pair develops into a shoot. This character is also shared in many species of the closely related *Juglans* (Walnuts). Similar arrangements of buds may be found in *Ulex* (Gorse), *Laurus nobilis* (Bay), *Aristolochia clematis* (Birthwort), *Paulownia tomentosa* (Foxglove-tree) and *Colutea arborescens* (Bladder-senna).

⑩

Collateral (parallel) buds

These are extra buds produced either side (laterally) of a main bud. Two frequently encountered examples are *Prunus spinosa* (Blackthorn) and *Acer saccharinum* (Silver Maple).

Colour of buds

The overall background colour of a bud, although sometimes subjective, can also be helpful. For example the sooty-black buds of *Fraxinus excelsior* (Ash) contrast with the mocha-brown buds of the widely planted *F. angustifolia* (Narrow-leaved Ash) (and other rare planted species). An unarmed (spineless) shrub with white buds should be immediately recognised as *Ribes alpinum* (Mountain Currant)!

Persistent bud scales

As the bud develops, the scales may enlarge before dropping off, leaving scars; by counting these scars we can determine the age of twigs. However in some families, especially Caprifoliaceae (e.g. *Symphoricarpos*, *Lonicera*, etc.), the bud scales persist on the twig and provide a useful indication of the family.

Adventitious buds

Botanists should also be aware of the possible development of leaf, root and epicormic buds. These are termed adventitious buds since they develop unexpectedly (and usually unpredictably) at a place other than the conventional stem node, such as on woody trunks in *Tilia* ×*europaea* (Lime), on leaves in *Tolmiea menziesii* (Pick-a-back-plant), on roots as in *Linaria vulgaris* (Common Toadflax), or on woody trunks in *Tilia* ×*europaea*.

Those requiring further reading material should consult the splendid accounts found in Lubbock, 1908. For stunning colour illustrations see Schulz, 1999, which also contains keys – in German – to the many taxa discussed.

Many thanks to Rosalind Bucknall for providing some splendid line illustrations. Thanks also to Niki Simpson for her stunning digital images (see Colour Section, Plate 3, and see also Simpson 2007, and visit www.nikisimpson.co.uk for more examples of her pioneering work on this exciting, innovative form of artwork). Thanks also to Eric Clement for helpful comments and suggestions.

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Margaret Baecker: still 'going strong' at 105!

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Born in 1902 in the Meidling district of Vienna and twice (2002 & 2007) a recipient of the Queen's congratulatory telegram, Margaret Baecker is the acknowledged expert on the plants of the botanically-rich Arnside/Silver-dale area. She has lived there since 1970 and was Botanical Recorder for the Arnside and District Natural History Society from 1972-1987 keeping a watchful eye on such local rarities as *Veronica spicata, Viola rupestris* and *Carex ericetorum*. For the past three years she has been the Society's President.

As a young girl she often accompanied her father on walks in the surrounding Viennese countryside and during that period developed what was to become a life-long interest in nature. Margaret was educated at the Rahlgasse Gymnasium (high school) in Vienna and gained a doctorate in chemistry

at the University there. After graduating, she worked in the local Department of Health where she met her future husband, Rudolph, who was a medical man. They settled down in Vienna and started a family but in 1938, after Hitler entered Austria, they suffered persecution since her husband was Jewish. Now in danger of their lives they decided to flee the country and were grateful to find sanctuary in England where they obtained employment as a domestic couple working for a Liverpool shipping family. However, at the outbreak of the Second World War in 1939, all male aliens were removed, firstly to the Isle of Man and then to Australia, with the promise that their families would be able to follow. Unfortunately, the latter proved to be too dangerous and Margaret, who for safety reasons had also left the district, went first to live on a farm near Oswestry and later at several other places near Wrexham. It was whilst there that she was approached by Professor Thoday of the Department of Botany at the University of Bangor who was trying to replace his steward who had been called up for military service. Very pleased to take up this appointment, Margaret and her small son moved to Bangor where she was in charge of the Department's equipment and at the same time became highly practised in the skills and science of botany.

Meanwhile, her husband's status as a genuine refugee from Nazi aggression had been confirmed and he was able to return from Australia (via the Panama Canal and an Atlantic convoy to Liverpool). He first worked at Wigan Infirmary as a resident anaesthetist but, when offered an assistantship by a local GP in nearby Hindley, he accepted and this also provided the opportunity for the family to be re-united.

In their leisure time, Margaret and her husband often visited the Arnside and Silverdale area on the Lancashire/Cumbria border and were attracted by the pleasant countryside. Eventually they bought property there, to which they moved on her husband's retirement, but unfortunately he died after enjoying only two years of leisure. Now left a widow, Margaret joined the local Natural History Society and, having been shown many of the local specialities by other Society members, especially Lois Marland, began to compile her own detailed records of the local flora. Shortly after this, she was recruited to help with the *Flora of Cumbria* project and regularly contributed records over a 25 year period. The latter led to additional activity and she would happily walk the length and breadth of the area searching out interesting plants. In 1977 she joined the BSBI submitting further local records to the v.c. Recorder.

Margaret also often botanised abroad, and it was only a very few years ago that her planned trip to Provence had to be cancelled because of a fractured hip. However, recovery was swift and she was soon out again in the local woods. Nowadays, apart from her botany, she still takes a very active interest in her garden and delights in showing people round. It contains some unusual local specialities, most of them having seeded naturally into it but some, she fears, might have come in inadvertently attached to her boots after visiting them in the wild; the interesting, uninvited, but not unwelcome, *Hieracium scotostictum* is one of these.

Nowadays, perhaps a little less active and lacking transport, with the help of others she still makes forays to check on local rarities and only last May searched the rich calcareous grassland at nearby Silverdale suspecting the presence of an orchid hybrid. She has made many new local records of her own, especially ferns and members of the difficult genus *Cotoneaster* and has been particularly assiduous in seeking out species of the latter which she found escaped or planted in the copses around Arnside. She has also studied *Sorbus* species, especially, the locally-rare Wild Service tree, *Sorbus torminalis* and following survey work on the endemic, *Sorbus lancastriensis*, she published a joint paper on the subject (Rich & Baecker, *Watsonia* 16: 83-85 (1986)). Her

other rarities include the only Cumbrian record for *Rosa micrantha* and the second extant record for *Limonium britannicum*. She still keeps meticulous details of all her records and most generously makes them available to others. Her enthusiasm for conservation also extends to waste recycling and for this she has featured recently in the local press and received council recognition.

Active and with a sharp sense of humour and a remarkable recall for details of plants she found long ago, she will gladly help anyone who shows a genuine interest. To chat to her and hear her reminisce in her pleasant bungalow with its natural garden and beautiful view over the Howgill Fells, and partake of a glass of her apple juice speciality, is a most instructive and enjoyable way to round off a field trip to the area.

Increase in *Artemisia campestris* ssp. *maritima* at Crosby sand dunes, Merseyside

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Smith & Wilcox (2006) describe the discovery of *Artemisia campestris* ssp. *maritima* (Dune Wormwood) at Crosby sand dunes in April 2004. Since then, the single plant has been regularly monitored. A visit to the site with the Liverpool Wildflower Group on 6th September 2007 resulted in three new patches of Dune Wormwood being found just to the east of the original clump. Two days later, all the patches were measured, grid references being taken using a hand-held GPS (see table).

The three new patches (nos. 2 - 4) lie in a line extending east of the original plant over a total distance of about 49m. The plants are much smaller than their putative parent (no. 1), ranging from 1.4 to 3.3m^2 in area, compared with 5.7m^2 for the latter. While the 2004 plant is semi-erect with stems up to 72cm high, the new plants are more prostrate, reaching maximum heights of 30-36cm, and therefore hard to see among the surrounding fixed-dune vegetation. The fact that they were in flower at the time of the visit made them more visible. Their basal stem diameters (0.6-0.8cm) are much smaller than that of the original plant (2.5cm) (Table 1), indicating that they are probably younger. They may have arisen from seed blown downwind from the parent plant, which has flowered well since its discovery and has grown in size from 200 × 170cm in 2005 (Smith & Wilcox 2006) to 300 × 240cm currently.

The plants are situated in a rather open sward, dominated by *Festuca* spp. (fescues), with occasional *Leymus arenarius* (Lyme-grass) and herbs such as *Trifolium* spp. (clovers), *Lotus corniculatus* (Bird's-foot-trefoil) and *Medicago lupulina* (Black Medick). Although within 5m of a well-used footpath, the site is fenced and suffers little direct public pressure. However, part of the area was burned in a small grass-fire during the spring 2007 drought. Fortunately, this just missed the plants.

Data from the Dune Wormwood patches at Crosby sand dunes on 8th September 2007

Patch no.	Dimensions (cm)	Area (m^2)	Max. height (cm)	Basal stem diameter (cm)	Grid reference (SJ)
1	240 × 300	5.7	72	2.5	31103 98157
2	170 × 170	2.3	30	0.8	31131 98169
3	210 × 200	3.3	36	0.6	31134 98172
4	140 × 125	1.4	30	0.7	31153 98180

The Crosby *A. c. maritima* was described as new to Britain by Smith & Wilcox (2006). However, Twibell (2007) reports that the plant has been known for many years on dunes at Crymlyn Burrows in South Wales, where it occurs as a lax, prostrate form that is difficult to find among grass. This accords with the habit of the three young plants at Crosby. Both Twibell (2007) and Clement (2006) argue that this sub-species could be native in Britain, having been overlooked or recorded as 'alien'. The latter author suggests the English name 'Sand-dune Wormwood'. In the event, 'Dune Wormwood' seems to have been adopted by the BSBI, the Crosby site being mapped under this name in the BSBI Vascular Plant Atlas Update Project.

Acknowledgements

I am grateful to Pat Lockwood for finding two of the new plants.

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Botany in Literature – 46

Ruskin and the colour of flowers - naïve botany - the renaissance of plant morphology

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John Ruskin (b. 1819 London - d. 1900 Brantwood), writer and poet, whom I introduced in *BSBI News* 100: 29-30, wrote, some would say self-indulgently, on every single topic - natural history, botany, geology, mythology, and public affairs - as well as on matters with which he was more directly concerned. However, he took a great deal of trouble to learn about subjects such as geology, ornithology and botany, and while there is an emotional appeal in his writing, which in this age of molecular systematics and electronic technology would appear to be outmoded, nevertheless, amidst his elaborate descriptions of nature, many of his passages demonstrate accurate perceptions and a marvellous sense of analogy under the impulse of what Wordsworth called 'a passion and an appetite' (Clarke in Ruskin, 1982). The following passage, which is a further selection from Ruskin's *The Elements of Drawing* (Letter III, §175 in Ruskin, 1982, p. 180), demonstrate his passion for the supremacy of colour in botanical illustration:

> Nature is just as economical of *her* fine colours as I have told you to be of yours. You would think, by the way she paints, that her colours cost her something enormous; she will only give you a single pure touch, just where the petal turns into light; but down in the bell all is subdued, and under the petal all is subdued, even in the showiest flower. What you thought was bright blue is, when you look close, only dusty grey, or green, or purple, or every colour in the world at once, only a single gleam or streak of pure colour in the centre of it.'[1, 2, 3, 4]

Notes

1. In an extract from his *The Stones of Venice* (Vol. III, ch. II, §10) (in Ruskin, 1982, p. 142) Ruskin states 'The whole function of the artist in the world is to be a seeing and feeling creature' so much so that in his *Praeterita* (II, §200) (in Ruskin, 1982, p. 71) he declares 'Flowers, like everything else that is lovely in the visible world, are only to be seen rightly with the eyes which God who made them gave us; and neither with microscopes or spectacles.'

   Anti-scientific (and sometimes impractical) though this may be in stance, one must allow for what Stuessey *et al.* (2003, p. 2) call 'naïve' morphology, the seemingly naïve botany of the artist, for it is often this

very simple initial approach which can serve to draw one into more detailed study.

2. While there is what may be termed the morphology of the artist, such as that espoused by Ruskin, there is also what Weber (in Stuessey *et al.*, 2003) calls the 'morphology of systematists' as opposed to the 'morphology of morphologists'. In the German literature, the morphology of systematists is equivalent to 'phytography' or 'descriptive morphology'. An exponent of this is Weberling (1992), his work being extremely readable, and although thoroughly scientific in every respect, is, like the work of Ruskin, written, as Clarke, describing Ruskin's method, puts it, 'in long and well-contrived sentences, rather than in a series of monosyllables and grunts'. This combination of artistic sensibility and scientific precision form the foundation of the *crie de cœur* for the renaissance in conventional plant morphology.
3. Leon Battista Alberti (b. 1404 - d. 1472), the Florentine architect and author of *Della Pittura* [*On Painting*], had this to say about colour and Nature: 'Through the mixing of colours infinite other colours are born, but there are only four true colours – as there are four elements – from which more and more other kinds of colours may thus be created. Red is the colour of fire, blue of the air, green of the water, and of the earth grey and ash. Other colours, such as jasper and porphyry are mixtures of these. Therefore there are four genera [*gienere**] of colours, and these make their species [*spetie**] according to the addition of dark or light, black or white. They are thus almost innumerable. We see green fronds lose their greenness little by little until they finally become pale. Similarly, it is not unusual to see a whitish vapour in the air around the horizon which fades out little [as one looks towards the zenith]. We see some roses which are quite purple, others are like the cheeks of young girls, others ivory. In the same way the earth [en colour], according to white and black, makes its own species of colours.' (Alberti, 1966, pp. 49-50). * used here in the biological sense, as is 'all types and every sort of colour' (ibid., p. 84), i.e. as *genera et spetie.*
4. The artist Giorgio Vasari (b. 1511 – d. 1574), also Italian, and famous for his *The Lives of the Artists*, was, in discussing the painter Masaccio (b. 1401 – d. 1428), a further prodrome of Ruskin: 'And as far as good style in painting is concerned, we are primarily indebted to Masaccio who, in desiring to acquire fame, realized that painting is nothing other than the art of imitating all the living things of Nature with their simple colours and design just as Nature produced them, so that anyone who fully follows Nature should be considered a splendid artisan.' (Vasari, 1991, p. 101).

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ALIENS

Lappula squarrosa in Surrey (v.c. 17)

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Like they say about buses, you wait for ages, and then three turn up together. So it has been for *Lappula squarrosa* (Bur Forget-me-not) in Surrey. The first record was in 1911, then four more until 1948, and then no more. Until now.

In August 2007, my partner and I were walking alongside the river Mole at Leatherhead in Surrey (TQ162562), when she spotted an 'unusual'-looking erect forget-me-not growing in a disturbed patch of dry ground. It only had just two (withered) flowers left on it and neither of us could decide why it did not look quite right. We were unable to identify it, despite the unusual fact that the spines that covered the fruits were tipped with three hooks. Three days later in Beddington Park, Wallington (TQ295655), I found another specimen of the same species, but in better condition. As this plant was growing on a heap of soil that was being used for ground repairs, the plant was obviously going to be destroyed very soon. By finding it again so soon I believed that it must be quite a common plant so I had no concerns about taking it home to replant and study further.

Now we were able to decide that these just might be *Lappula squarrosa*. We had no idea of its status in the county, and as we are both botanical novices, I contacted the BSBI referee for beginners, Clare O'Reilly for advice. She supplied me with more details about the species and advised me that if I still believed its identity, then I should send a pressed piece to the Alien Specialist, Eric Clement. By this time, the first specimen had withered, and the second plant had died down, so we returned to Leatherhead to try to collect another piece to send off. No luck; all trace of the plant had vanished. However, three metres away was another plant in full flower. We were delighted, and were able to obtain a small piece to press. Eric swiftly confirmed our identification, and so we had found three plants in two locations after not having been recorded in Surrey for 59 years. Incidentally, some of the seeds that had formed on the second plant have been accepted by the Millennium Seed Bank for their collection.

Our thanks to Clare O'Reilly, and Surrey's Recorder, Ann Sankey for their help, and to Eric Clement for his assistance and help in compiling this piece.

Melampodium montanum in South Hants (v.c. 11)

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On 5th July Eric Clement and I visited the shops. We went to the village post office in Alverstoke, which is next door to a ladies' hairdresser (Harpers & Co.) sporting a splendid untrimmed weed. After we had assured the shop owner that we were not up to no good and that we were not crawling around on the ground outside because her shop was falling down, and we were not eyeing up her customers, we were able to examine and photograph the single plant of *Melampodium montanum*, as described by Eric in *BSBI News* **94**: 30, growing at the foot of the wall under the shop window. As he says, it is a yellow composite with opposite, elliptical, unlobed, denticulate leaves which is sold for hanging baskets. The plant has occurred in pavement cracks near the shop for a couple of years now (see photos inside back cover), but in the absence of hanging baskets its provenance is now unclear. It seems that the recent series of hot summers has enabled the plant to produce fertile seed, which has survived the winter in frost-free Gosport. If so, the cool wetness of summer 2007 will be a bit of a shock to the system! Eric cites a variety of names that have been

incorrectly applied to the plant by the horticultural trade. Coincidentally, I happened to be in my local Homebase the day after and saw trays of it for sale as *Sanvitalia*, one of the names he lists. I have never seen this genus, but the RHS dictionary of gardening states that it has '...phyllaries in 2 - 3 series, imbricate, dry or partly herbaceous'. As described in the same publication and shown in the photograph, *Melampodium* has five wholly herbaceous phyllaries in one series (see phot inside back cover).

I am grateful to Eric for demonstrating the plant and for suggesting improvements to this article, and to the shop lady for not calling the police.

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Silene catholica (L.) Aiton f. still in v.c. 37

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In June 2002 Bill Thompson (WAT) was recording for the Worcestershire flora project in the Bewdley area. He came across a scrap of vegetative material that he thought unusual. It was growing in sandstone which was shaded. He took a small piece and showed it to Christopher Westall (CBW), who was equally puzzled. CBW propagated the scrap with no difficulty. It grew into a tall (to 1m.) *Silene* sp. with sticky stems and pedicels and with white flowers, superficially like *Silene nutans* (Nottingham Catchfly) or *Silene italica* (Italian Catchfly), but quite clearly it was not either of these, as Stace (1997) made clear.

The following year CBW went to the site and found the still vegetative scraps, but, more importantly, further down the bank in a sunny position was a good stand of the plant in full flower and with last year's fruits interspersed. Photographs were taken.

Eric Clement (EJC) had been most helpful with some of Worcestershire's puzzle plants, so photographs (rather poor ones as it turned out) and pressed material from propagated stock were sent to him. He too was puzzled and placed the problem to one side.

In 2005, as WAT was writing up species accounts for the 'Flora of Worcestershire' he came across a reference to *Silene catholica* in v.c. 37 in the *Proceedings of the Birmingham Natural History Society* for 1966 and, armed with a name, he looked it up in Clement & Foster (1994), where he found an entry which cited a specimen in BM. CBW sent a pressed specimen to Roy Vickery at the Natural History Museum, asking if indeed the plants were the same species. The reply was that they were, unless a *Silene* specialist said otherwise. Contact was made with EJC, who was delighted at the result, looked again at the material and agreed that it was *Silene catholica*. As happens occasionally, there was a fault in the key in *Flora Europaea* vol. 1 (2nd ed.) that had hindered identification previously.

CBW made contact with the owner of the site who replied that the plant was well known within the family but that they were unaware of its rarity. The Rev. John Adams, who published the first record of the plant at its Worcestershire site in 1929, was a friend of the family, but the provenance of the plant was and is a mystery.

CBW was given permission to publish this second record for Worcestershire so long as the exact position of the site was not revealed. The only other known British records for *Silene catholica* are from Suffolk in the 19th century, and the help of Martin Sanford and Roy Vickery in tracing these back through Hind's 'Flora' of 1889 to an original publication in *The Phytologist* for 1857 is gratefully acknowledged.

EJC tells us that this a rare plant indeed, even in its native Italy. Better photographs

were taken in 2006 *in cult.* (see photos inside front cover). May I suggest 'Worcestershire Catchfly' for the vernacular?

Acknowledgements
Largely in the text, but Eric Clement and Bill Thompson were particularly encouraging.

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Cordyline australis in Middlesex (v.c. 21) and Surrey (v.c. 17)

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On the 21st May 2003 John Swindells led a London Natural History Society meeting at the south end of the Isle of Dogs (v.c. 21). Growing in cracks at the edge of a pavement near the river were a number of grass-like seedlings about 45cm tall that no-one recognised, and round the corner in a gravelly patch in the grounds of Christ's Church were a few more, habitats similar to that mentioned by Paul Green in *BSBI News* **105**. The leaves were fairly tough, 5-7mm wide, with a paler midrib, distichous and imbricate at the base, i.e.: in two rows on opposite sides of the growth axis and overlapping. There was no ligule. Puzzlement persisted, so one seedling found its way into the vertical vasculum of GH to be grown on. After a few days of thought and visits to garden centres *Cordyline australis* (Cabbage-palm) seemed the most likely candidate, but the distichous habit of this seedling just did not look the same as the spiral one of the plants for sale, so a return visit was made to the Isle of Dogs to see if a parent was nearby – pity we did not think to do it on the first visit, really. Sure enough, not only was there a large *Cordyline* in a nearby garden, but new growth from next to a lopped branch looked distinctly distichous, just like a large version of the seedling. In the course of time, in a pot in the garden, the seedling abandoned its confusing growth habit and became a typical plant with spiral leaves. Surely this contortionist behaviour is being overlooked elsewhere. EJC confirms that this change of phyllotaxis is a normal event in this species (recently transferred to the family *Laxmanniaceae*) and he is unaware of its occurrence in any other genus. Does anyone know better? For those who like to know what happened next, the plant still grows in its pot in front of John's house in East London.

On the 6th May 2005 another *Cordyline* seedling was found, growing on the embankment on the south side of the Thames between Putney and Hammersmith Bridges (v.c. 17). There were no identification problems this time. It was still there a month or so later but life can be tough for immigrants and by September it had gone. Both these records contribute additional vice-counties to the lists in the *Vice-county census catalogue* (Stace *et al.*, 2003). The two episodes demonstrate that *Cordyline australis* can produce fertile seed in London and it's not unlikely that one will some day germinate and grow up out of harm's way in a quiet corner of our capital. The Isle of Dogs site has not been checked since 2003, so that day may have already arrived!

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Bupleurum – look-alikes, but convincingly different Apiaceae

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Of the total British species of *Bupleurum* (hare's-ears) – five plus two casuals according to 'CTW' – only a couple are thought to be truly native. *Bupleurum baldense* (Small Hare's-ear) clings on along the south coast, although you need outstandingly good eyesight at the Sussex location.

Bupleurum baldense Beachy Head, Sussex, July 1988

Bupleurum baldense Turra
Beachy Head, Sussex
July, 1983

It is much more upstanding in the Channel Islands, I believe, but a trip there on the Islander planes from Southampton does not attract me. *Bupleurum tenuissimum* (Slender Hare's-ear), in contrast, is said to extend to northern England, and is quite prolific elsewhere, usually in maritime circumstances. *Bupleurum falcatum* (Sickle-leaved Hare's-ear), which has a huge range from Normandy to Japan as a perennial, was known from the end of a London Underground line in Essex, but has disappeared. Was it ever native?

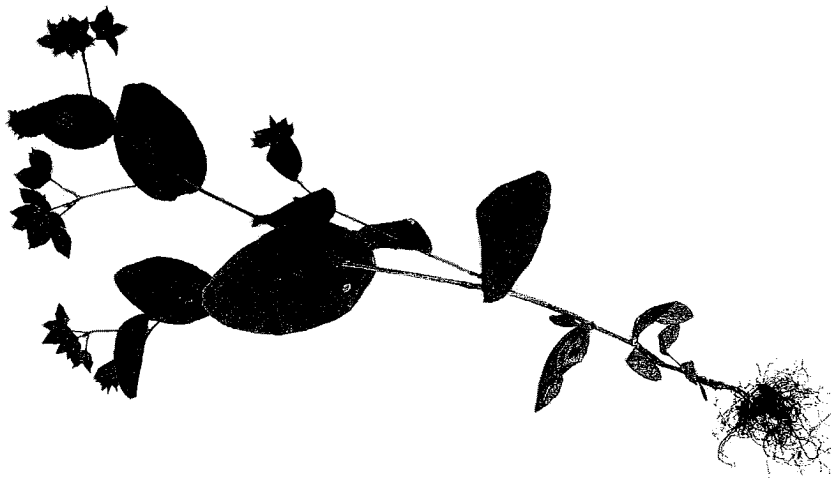
My notes record the raising of about 20 species at home over the years. All *Bupleurum* species have simple leaves and yellow flowers; and the majority of species are annuals, native to somewhat warmer climates. However, there are quite a few perennials, ranging from herbaceous mountain residents to downright shrubs, which readers may well have encountered in Spain etc., or, at less expense, as an introduction in Worcestershire: *Bupleurum fruticosum* (Shrubby Hare's-ear), occasionally in gardens.

Of the approximately 18 annuals presently raised here, there is a little spontaneous germination outside, but more on the limestone rockery and quite a lot in the greenhouse. Most become recognisable, and some become more attractive than 'simple leaf, small umbel, yellow petalet' might suggest. *Bupleurum erubescens* in particular pleases me, and I am glad to see quite numerous seedlings of that species in the greenhouse by mid-October. I came upon a small colony several years ago in a quite obscure Turkish location, hence my succession of plants.

The arrangement in most Floras commences with those annuals like *Bupleurum rotundifolium* (Thorow-wax) that have broad, more or less clasping leaves. Several species are little-known in the UK, but *Bupleurum subovatum* (False Thorow-wax) (also known as *B. lancifolium*) became more familiar when a few seeds could occasionally be found in the packeted bird seed 'Swoop', which I usually picked over for cultivation purposes. Next come a startling array of narrow-leaved annuals, which I hesitate to make hay of here;

and then the herbaceous perennials, leading on to the shrubs.

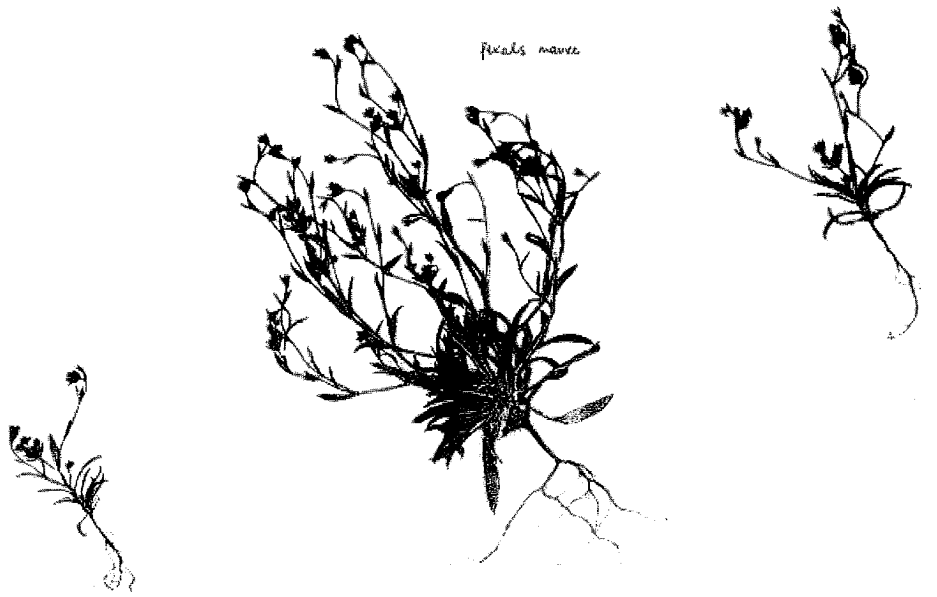
Although the genus is so limited in Britain as native, our species give a way in to the large groups abroad. Most narrow-leaved species are distinct and remain recognisable when cultivated together. There are 39 species in Europe, 43 in the former Soviet Union area, and 46 in Turkey. There is still some work left to do, although specimens of numerous species can be seen here at Twyford, or at the BSBI exhibition, and a fair amount of information has accumulated. Seeds are sown in the autumn, producing full-grown specimens by late spring. What a contrast with *Ferula*, which I should have sown shortly after the Falklands War! Innocence prevails. Listed here are a few examples of species and where they have come from:



Bupleurum subovatum Casual in greenhouse, Gosport, Hants. 7 1991

Bupleurum subovatum Link
Casual in greenhouse.
Gosport. Hants. 7·1991

Species	Source	Notes
B. rotundifolium	In gift 'Interflora' bunch to Mary Southam	Widespread
B. subovatum	Filling station flower border, Malaga	Spain
B. baldense	Grown in Bucks from Beachy Head seed	UK native
B. baldense	Non-dwarf form, from Dubrovnik 'Jugoslavia'	Upright: 30cm
B. tenuissimum	Grown in Bucks from Hampshire coast seed	UK native
B. gracile	Akrotiri, under a bush	Crete. 7 – 45cm
B. semicompositum	Cabo de Gata	Spain. 7cm, but branched
B. commutatum	Collected by A.L.Grenfell	NE Greece
B. trichopodum	Mount Parnassos Greece	Slender rays
B. heldreichii	Grown at Twyford, from Korkuteli seed	Turkey. Ally of *B. rotundifolium*
B. croceum	Grown at Twyford, from Gelendost seed	Turkey. Ally of *B. rotundifolium*
B. lophocarpum	Grown at Twyford, from Gaziantep seed	Turkey. Edge of cultivation
B. schistosum	Grown at Twyford, from Yusufeli seed	Turkey. More or less different!
B. flavum	From Satculer, roadside colony	Turkey. Slender, linear
B. subuniflorum	Grown at Twyford, from Termessos	Turkey. Curious shape.



Bupleurum semicompositum Rough coastal pasture, Mallia, Crete 5.5.82

Bupleurum semicompositum L
Rough coastal pasture,
Mallia, Crete 5.5.82

An unusual collection of aliens growing by a park bench at Dún Laoghaire, Co. Dublin

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I was walking along the coast at Dún Laoghaire, Co. Dublin with some friends at the end of August 2007, when, approaching a park bench, I could see two *Lycopersicon esculentum* (Tomato) plants next to it. I was thinking the plants had grown from seeds discarded from a sandwich. On nearing the bench I could see an *Allium cepa* (Onion) growing from a joint in the wall, and a *Beta vulgaris* ssp. *vulgaris* (Beetroot) added to my suspicion that they had all been discarded from a sandwich, but it seemed unlikely that somebody would go to the trouble of putting a piece of beetroot and onion in a joint of a wall. Anyway, as a friend pointed out later to me a Beetroot would not grow from fragments, especially if it had been pickled. It is the first time I have seen a Beetroot growing wild. There was also a single *Daucus carota* ssp. *sativus* (Carrot) growing by the wall. At the other end of the bench was a clump of *Setaria viridis* (Green Bristle-grass) and behind the bench a clump of *Alopecurus myosuroides* (Black-grass). It seemed strange that they only grew by the bench, which was by a wall. It would suggest that the seed had been blown by the wind and lodged in the wall and at the base of it. This may seem an unusual collection of plants to have grown from seed scattered for birds, which seems the likely source, but I have seen vegetables come up from seed thrown out from an aviary at Tramore in Co. Waterford. I took photos of them all, apart from the Black-grass, which was growing behind the bench, as I didn't have the heart to ask the gentleman on the bench reading his book if he would care to move. He had given me enough funny looks as it was and my friends had left me pretending they were nothing to do with me.

Senecio inaequidens in Aberdeen

R.A. EADES, *38 Ings Lane, North Ferriby, East Yorkshire, HU14 3EL*

On the 4th September 2007, whilst walking down Market Street in Aberdeen from the railway station to the port, I noticed from the corner of my eye a ragwort growing behind a chain link fence on an area of railway land. Something did not seem quite right about the plant, so I stopped to examine it more closely. Even the most perfunctory glance revealed it was a species of ragwort which I had never seen before. Its leaves were thin, sessile, linear, some toothed, and totally different from those of *Senecio squalidus* (Oxford Ragwort). The stem was branched, with numerous small yellow flowers and composite seed heads. Growing close by was *Senecio vulgaris* (Groundsel). Looking behind the fence, there was a yellow patch of flowers growing amongst old disused railway tracks. I obtained permission from a construction manager and took a closer look. From memory, the plant clearly fitted the description of *S. inaequidens* (Narrow-leaved Ragwort) given in recent *BSBI News* (Groome, 2006), and I provisionally identified it as this species. There were at least 200 plants growing on the railway line, together with *Buddleja davidii* (Butterfly-bush) and *Verbascum thapsus* (Great Mullein). Trawling the internet that evening, several websites described the invasive nature of this species and provided photographs to confirm identification.

On 11th October 2007 I returned to the site briefly, finding numerous specimens of *S. inaequidens*, many still in flower, others in fruit. Visual inspection through the chain link fence on 16th November revealed plants in flower and fruit, but building work continuing.

This sighting seems to indicate a rapid northerly spread throughout Britain from 'its current stronghold in east London' (Groome, 2006). The location at Aberdeen is very suitable for this latest species of ragwort to spread rapidly throughout Scotland. The site is next to the east coast main line railway, alongside one of the busiest roads in Scotland, and 200 metres away from the loading ramp for ferries to Shetland and Orkney. However, building work on site may reduce its available habitat. Further spread of this invasive species seems very possible.

Reference

GROOME, Q. 2006 The invasion of *Senecio inaequidens* (Narrow-leaved Ragwort). *BSBI News* **102**: 48 (and photo inside front cover).

An update on *Dittrichia graveolens* (L.) Greuter

MARTIN RAND, *21 Pine Road, Chandlers Ford, Eastleigh, Hants., SO53 1LH*

Following on from the article in *BSBI News* 103, I can report that *Dittrichia graveolens* (Stinking Fleabane) has continued to thrive in most of its known sites in Hampshire this year but has apparently shown no signs of spreading. Nor have I received reports from other parts of the country. We reported then that the nearest documented occurrence we were aware of on the continent was in southern Germany. However the new *Atlas de la Flore d'Auvergne* (Antonetti *et al.*, 2006) states that it is '...in rapid expansion in Auvergne along valleys and communications routes ... chippings on roadside verges, quarries, spoil heaps, waste ground, gravelly river margins. [Apart from three sites in the previous Auvergne flora] its presence is very recent, for instance in Haute-Loire where it appeared in the Puy-en-Velay basin around 1999 (seeds present in the material used to stabilise roadside embankments?); in these [new] areas, it appears to be expanding rapidly along roads in the last few years.' It is mapped in 70 5×5km squares.

Reference

ANTONETTI, P.; BRUGEL, E.; KESSLER, R.F. *et al.* 2006. *Atlas de la Flore d'Auvergne.* Conservatoire Botanique National du Massif Central.

Crocus vernus × *C. tommasinianus* in Bradford

B.A. 'JESSE' TREGALE, *24 Ashbourne Drive, Bradford, BD2 4AQ*
MICHAEL WILCOX, *32 Shawbridge Street, Clitheroe, BB7 1LZ*

On 2nd March 2007 I noticed a couple of small patches of crocuses on a small area of grassy waste ground off Prospect Road, Bradford (SE170341 v.c. 63). These were probably originally planted, possibly by the occupants of the houses opposite claiming this small area as garden, but appeared now to be naturalised and spreading. The jizz of the plants pointed to *Crocus tommasinianus* (Early Crocus), being small with thin petals and with a long thin delicate lower tube, which often causes the flowers to fall over, but the petal colour was a darker purple, which spread into the throat. This is apparently always white in *C. tommasinianus*. The flowers were more cup-shaped and also they were late flowering for *C. tommasinianus* which tends to flower about a month earlier. They in fact looked intermediate between *C. vernus* (Spring Crocus) and *C. tommasinianus*.

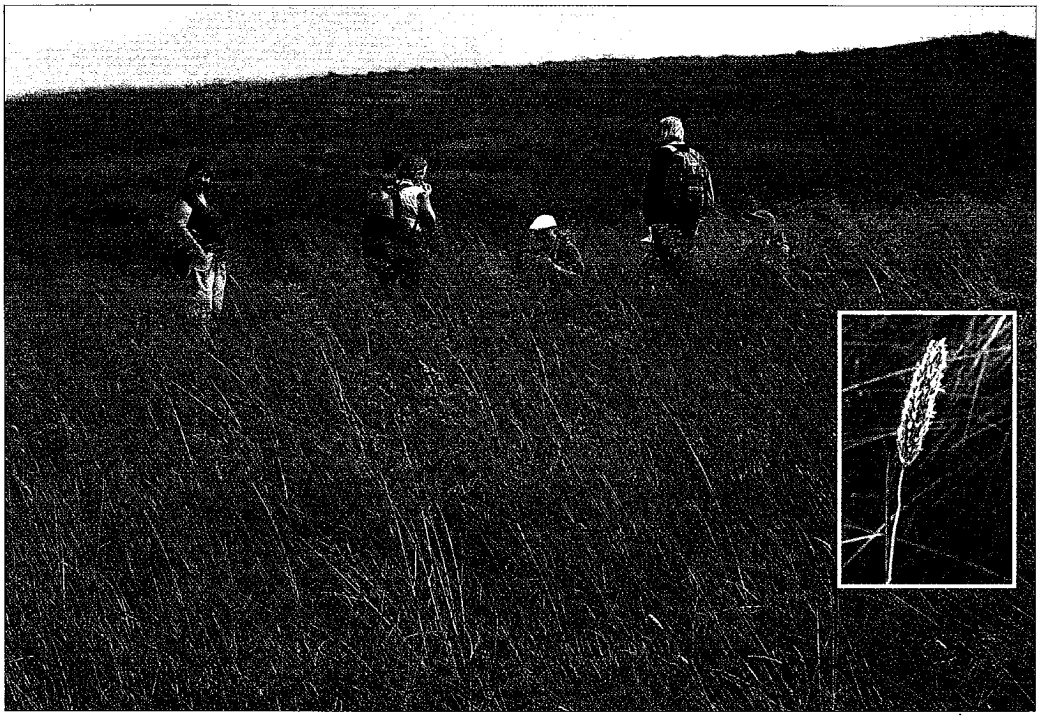
The next day I took Michael Wilcox to the site, and he agreed they were possibly hybrids. We also found another putative hybrid on a verge of a nearby road, Spinkwell Close (SE167340 v.c. 63) and then went on to Saltaire, to the riverbank, where we found another patch of these crocuses at (SE134383) (v.c. 64). Also at Saltaire were plants of *C. vernus* and a couple of *C. tommasinianus* well past their best. Michael collected some specimens of the putative hybrids from Prospect Road and Saltaire riverbank as well as the *C. tommasinianus* and *C. vernus* from Saltaire.

The week after, we decided to look for other sites and found several more of the putative hybrid on the riverbank at Beckfoot Lane, Bingley (SE109381 v.c. 63) and the disused railway at Thackley (SE168384 v.c. 63). On all these five sites the putative hybrid crocuses looked identical – apparently all the same clone and I also noticed this clone planted in a couple of gardens. Finally we decided to go to Fairbank Wood in Baildon, (SE146382 v.c. 64) to check out the *Crocus tommasinianus* f. *alba* I had found there in 2003. Here we found a small, all white '*alba*' crocus and a small white crocus with a few purple stripes.

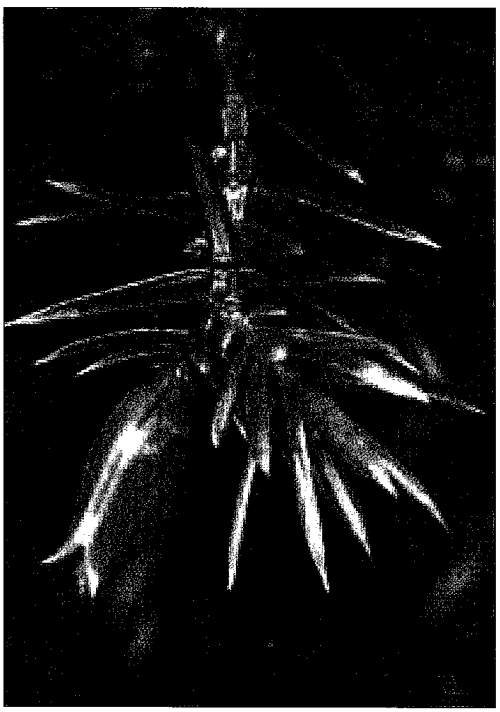
Michael checked the anthers and pollen of all the crocuses we had collected: the *C. vernus* and *C. tommasinianus* collected from Saltaire and also specimens of *C. tommasinianus* collected on the 4th February 2007 from the wood by Primrose Lane, Gilstead. All had normal full anthers with round fertile-looking pollen grains, with some variation in size; the *C. tommasinianus* generally has smaller pollen grains but there is more variation in sizes in *C. vernus*. All the dark purple putative hybrids from Prospect Road, the Saltaire specimens, the white '*alba*' and white with purple stripes crocuses from Fairbank Wood, all had mostly empty anthers with little or no pollen, and the pollen found was very shrivelled and misshapen. We have concluded from the morphological differences between the putative hybrids, *C. vernus* and *C. tommasinianus* and Michael's anther and pollen analysis that our putative hybrids are *Crocus vernus* × *C. tommasinianus*. See photos on back cover.

Crocus vernus × *C. tommasinianus* is very likely common as a garden escape, with at least six sites in Bradford, all except one being the dark purple clone. This clone is very likely being sold as *C. tommasinianus* (or a cultivar of either parent) and coming direct from gardens as throw outs. The white with purple stripes and white *C. vernus* × *C. tommasinianus* f. *alba* from Fairbank Wood might have arisen in-situ from thrown-out *C. vernus* and *C. tommasinianus*.

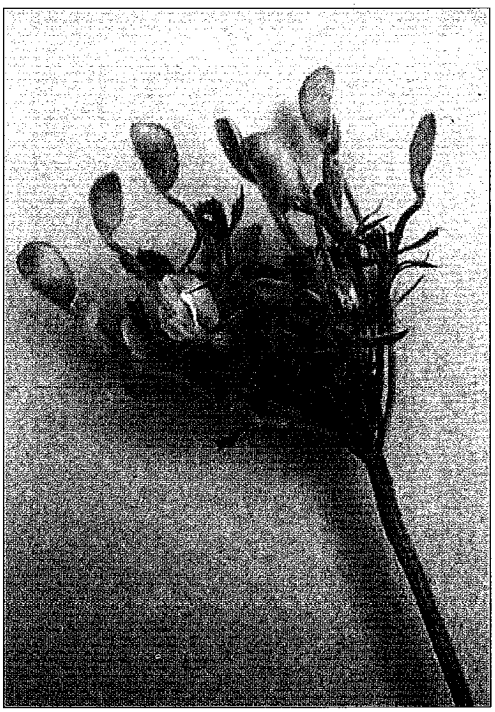
The purple clone of *C. vernus* × *C. tommasinianus* is easy to identify, being smaller and more delicate than *C. vernus*, with a narrower lower tube to the flower and liable to fall over, similar to *C. tommasinianus*. It differs from *C. tommasinianus* in flowering later, the beginning of March onwards; darker purple flowers with the purple extending into the tube; and more cup-shaped. Other colour variants of this



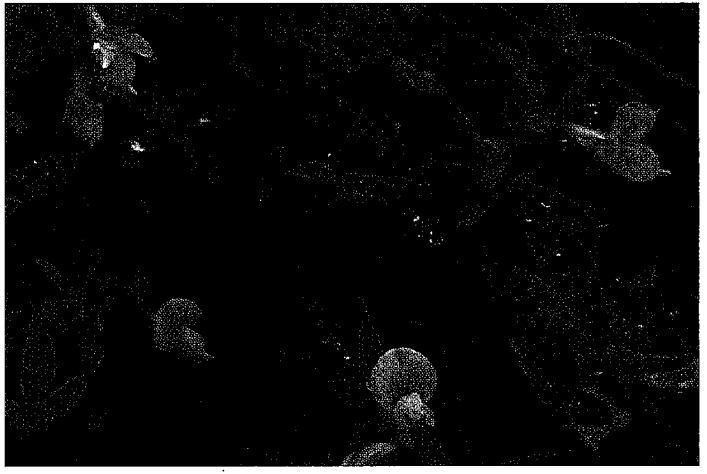
BSBI party at Great Shunner Fell (v.c. 65) showing *Alopecurus borealis* heads in foregound and inset.
Photo Linda Robinson © 2007 (see p. 6)



Juniper Gall, Middleton-in-Teesdale (v.c. 65).
Photo Falgunee Sarker © 2007 (see p. 7)

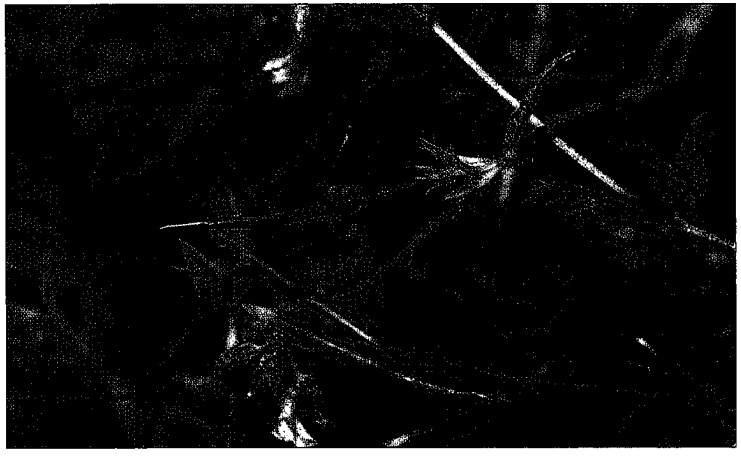


Viviparous *Trifolium repens* Dorset (v.c. 9).
Photo Edward Pratt © 2007 (see p. 23)



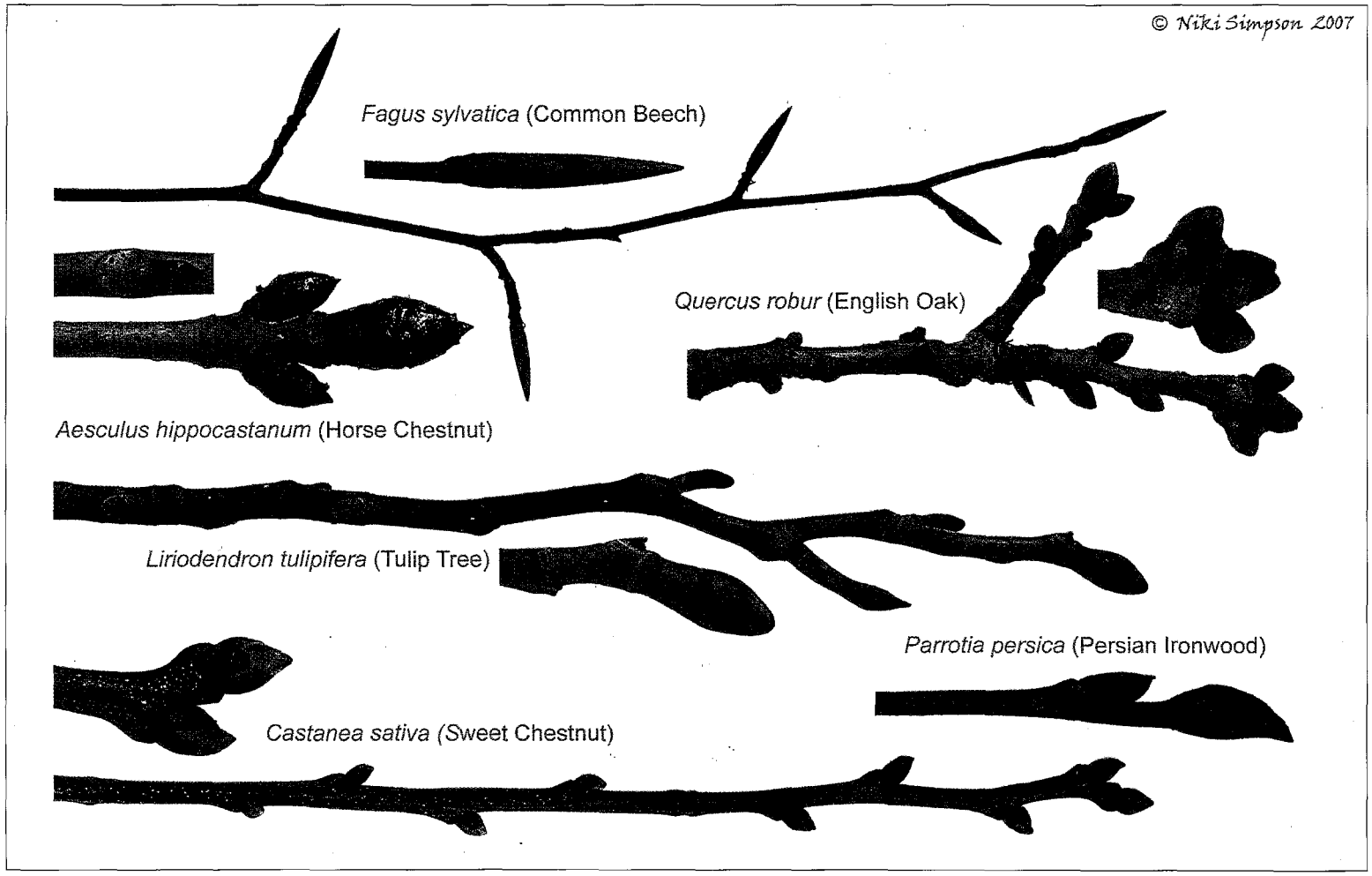
Lotus angustissimus at Fittleworth (v.c. 13).
Photo Alan Knapp © 2007 (see p. 22)

Lotus subbiflorus at Rogate (v.c. 13). Photo Mike Shaw © 2007 (see p. 22)

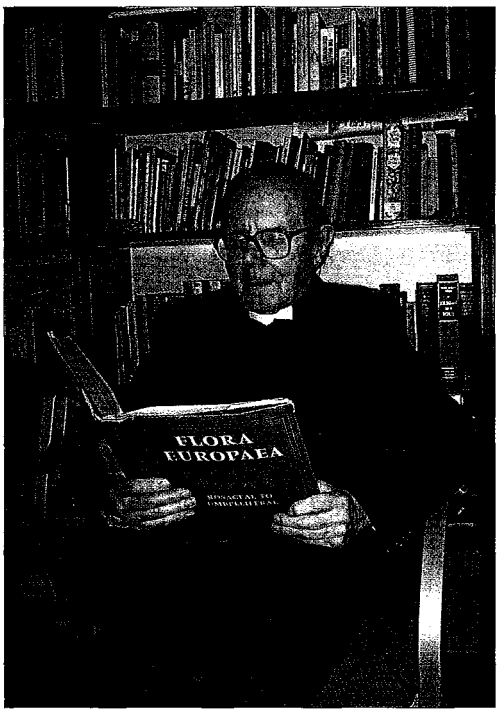


Lotus angustissimus near Rogate (v.c. 13).
Photo Alan Knapp © 2007 (see p. 23)

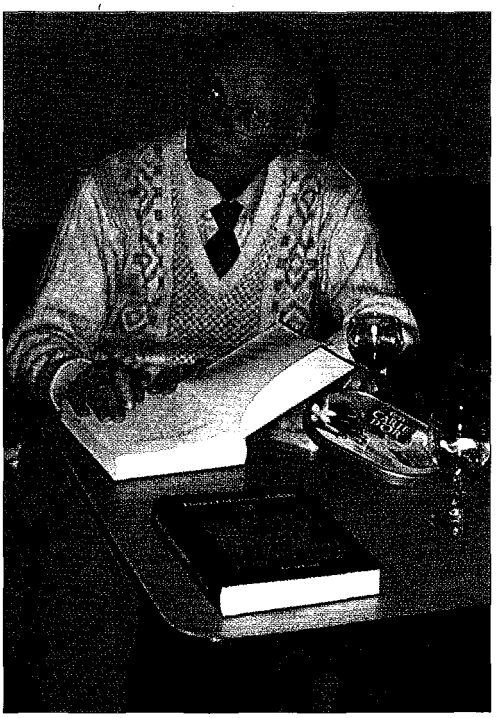
Asplenium septentrionale, Romney Marsh (v.c. 15).
Photo John Edgington © 2007 (see p. 16)



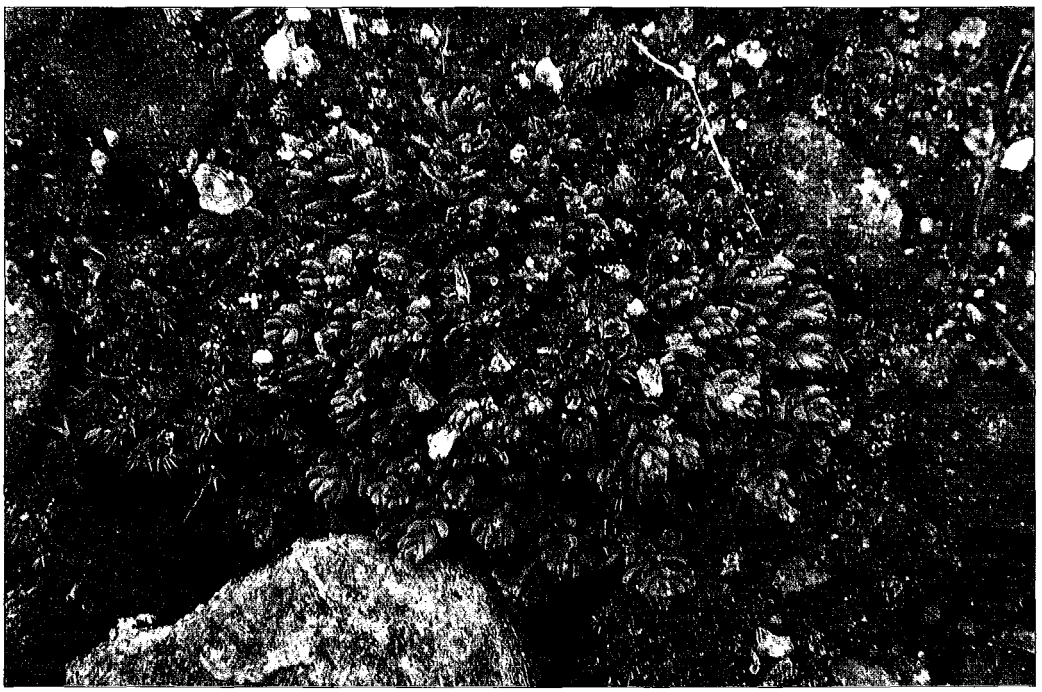
Winter twigs and buds. Photo Niki Simpson © 2007 (see p. 24)



Tony Primavesi 'relaxing' in his library
(see p. 2)



Trevor Evans at the launch of his *Flora of Monmouthshire*. Photo Mark Kitchen © 2007
(see p. 68)



Crassula tillaea, Edderton (v.c. 106). Photo Brian & Barbara Ballinger © 2007 (see p. 11)

hybrid are more difficult to distinguish and might require the pollen to be checked.

Michael also found this hybrid growing with *C. vernus* at Hesketh Road, Southport (v.c. 59).

More about *Limonium hyblaeum* in Dorset and Sussex

ERIC J. CLEMENT, *554 Anglesey Road, Alverstoke, Gosport, Hants., PO12 2EQ*

Limonium hyblaeum Brullo (Rottingdean Sea-lavender) is established in quantity in S. England (E. Sussex, Dorset), yet it is a highly-localised endemic of the rocky coast of southern Sicily (between Scoglitti and Capo Passero) and the off-shore island of Favignana. It was not separated out as a species from its close allies until 1980, when Salvatore Brullo provided a type description (in Latin) in *Botaniska Notiser* **133(3)**: 282-283. He cites the earliest synonym as *Statice bellidifolia* Guss., *Fl. Sic. Prodr.* **1**: 38 (1827), non Gouan (1765), provides a photograph of the holotype (in **NAP**) and gives a short English précis well-worthy of quotation here:

'Plant 6-25 cm, pulvinate. Leaves glaucescent, rugose, spathulate or oblong-spathulate, 8-30(-45) × 4-16mm, 1-veined or obscurely 3-veined, rounded at apex. Non-flowering branches absent. Spikes 2-3(-4)-flowered, 4-6 per cm. Inner bract 4-4.5 mm. Calyx 5-5.5 mm.'

Another description, this time by Prof. Paolo Colombo (Palermo) in a paper on the morpho-anatomical characters of *Limonium* in Sicily, gives in tabular format a listing of about 50 characters, including 4n = 36 (*c.f.* below) – see *Flora Mediterranea* **12**: 389-412 (2002). He does not repeat the word 'rugose'.

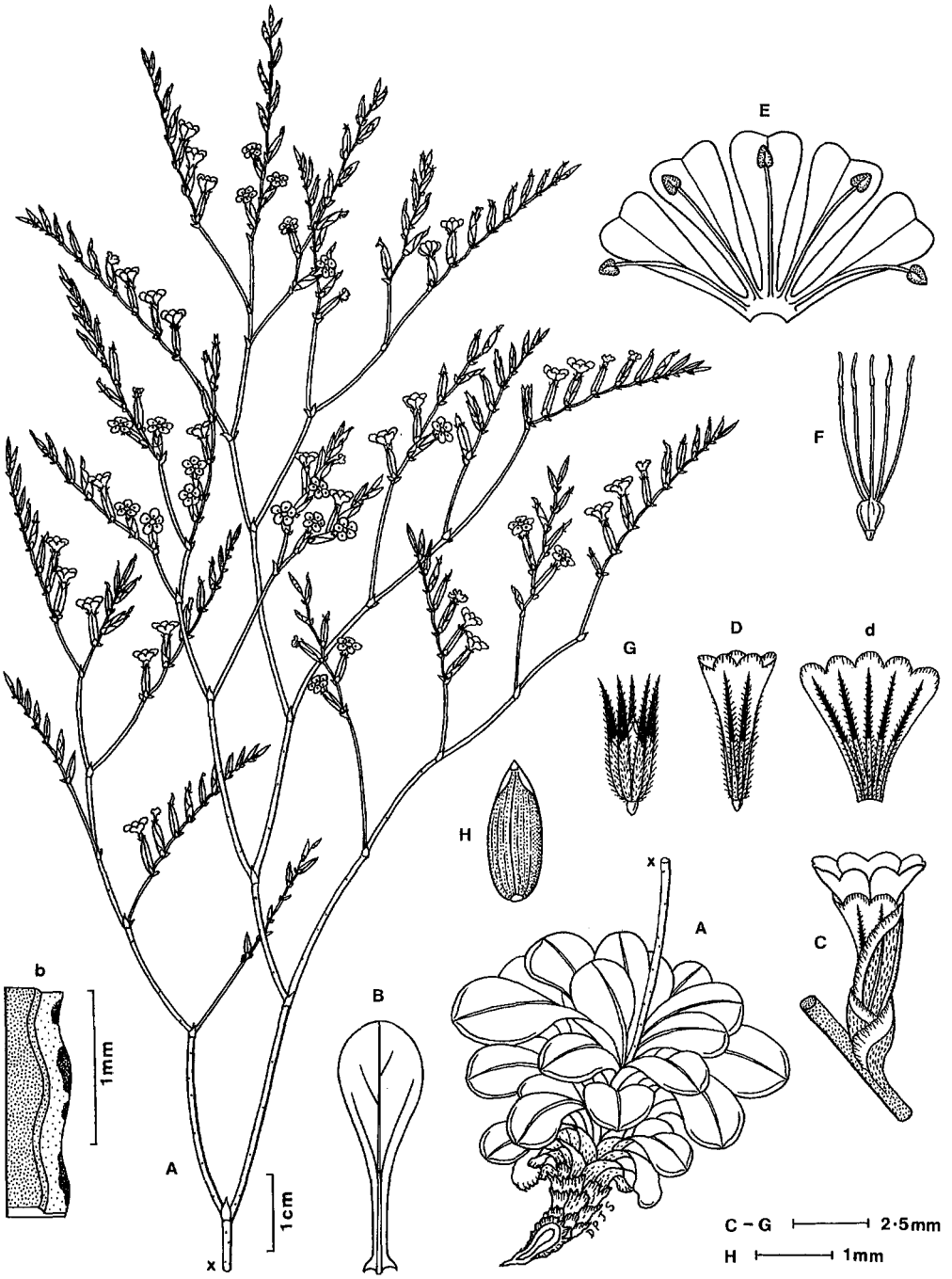
The description, key and line-drawing in Stace's *New Flora*, ed. 2 (1997): 200 & 197 does not agree well – e.g. 'Leaves ... conspicuously pinnately veined,' a character also given in *Watsonia* **13**: 181-184 (1981), wherein M.J. Ingrouille (MJI) named it as *L. companyonis*, but MJI did add (on p. 183) that 'Final confirmation ... must await ...'. Unluckily, a fine drawing of this species was not published by M. Erben until later in the same year, showing a very different, distinctly mucronate leaf apex – see *Mitt. Bot. Staats. München* **17**: 502. Also, on pp. 500-501, there is a very detailed description, plus a chromosome count of 2n = 27 (*c.f.* 2n = 35 from Rottingdean, E. Sussex). Erben remarks (p. 504) that the British plant was clearly an error with regard to both morphology and chromosome number (my thanks to Ian Thirwell for translation from the German). Soon afterwards, the Sussex plant was renamed by Erben as *L. hyblaeum*.

In *Watsonia* (*l.c.*) we find a good illustration of the habit and part of an inflorescence branch: there are no dissections of the flower and other minutiae. To fill this gap, Delf Smith (DPJS) has once again provided us with a stunning drawing prepared from a fresh piece (of the Dorset plant this time) kindly provided by Ted Pratt (see next page). A good account by David Pearman of this site appears in *BSBI News* **92**:45 (2003) – there are now 1000's of plants on the cliffs of calcareous lias, clearly spreading from just a single garden origin. A most remarkable colonisation. I can confirm with my inexpert eye, that the Dorset and Sussex plants appear to belong to the same species. It was, at one time, apparently being widely sold in Britain (as *Limonium* sp.?) – see *Watsonia* **14(2)**: 228 (1982). But, it is no new-comer, as Mary Briggs, in the *Sussex Plant Atlas Supplement* (1990, p. 13) remarks that the White Horse Hotel have grown it since about 1950.

Our plate by DPJS shows:

A Habit of plant
B Leaf
b Details of leaf margin
C Flower
D Calyx at flowering time
d Calyx opened out flat
E Corolla opened out flat
F Gynoecium
G Calyx in fruit
H Seed

Members lucky enough to be able to read the CD that came with the BSBI *New Atlas* (2002) learn that the first 'wild' record for Britain was 1979 – but earlier records must exist in



Limonium hyblaeum from Dorset. Del . D.P.J. Smith © 2003
See previous page for key to letters

(private) herbaria. My own herbarium has one labelled: Cooden Beach, Bexhill, 9 Oct. 1971. *Coll.* K.E. Bull, with comment (added 13/2/81) 'Also at Seaford, E. Sussex. In both spots an obvious garden escape.'

Returning to the matter of I.D., Tony Spiers (*pers. comm.*) has looked closely at the Sussex plants; he describes the leaves as: with a central vein with two lateral veins all arising within the petiole; also there are very faint pinnate veins visible only when held up to a strong light. In addition, the plant has 'distinctive tight, concave rosettes' of leaves – and he comments that the drawing in Stace (*l.c.*) does not show the typical leaf shape. Stace's key factor of 'leaves dying off before autumn' is also very hard to appreciate. John Poland's draft *Vegetative Key* proposes a far better character: the leaves of *L. hyblaeum* are totally without stomata on the upperside of the blade (Colombo, *l.c.*, p. 403, agrees!), whereas those of the accompanying *L. procerum* are clearly amphistomatic (under a ×20 hand lens).

There is one more complication: Tony Spiers has found a third *Limonium* species on the cliffs at Peacehaven (E. Sussex), first noticed in August 2002. It is a much smaller plant that appears to be close to *L. minutum* (L.) Fourr., a species featuring in the *RHS Plant Finder 2007-2008*. It still awaits a professional determination.

REQUESTS & OFFERS

Encouraging an awareness of plants

DR MARGARET E. BRADSHAW, *'Lady's Mantle', Hill Top, Eggleston, Barnard Castle, Durham, DL12 0AU*

The Victorian heyday of the naturalists lived on through the 20th century, boosted for botanists by the production of 'C.T.W'. and the Atlases of the British Flora. Is it not ironic now, at a time when people are being urged to get out into the countryside, that the knowledge of plants and vegetation and the number of field botanists is at its lowest ebb?

I have a simple message for members of the BSBI: 'now is payback time'. You, who have had and do get enjoyment from our very varied flora and almost certainly will have been encouraged by more knowledgeable members. It is your turn to encourage others, or the Society will die of old age.

All of us who know some plants, be they just the local ones or more widespread, should accept the responsibility of encouraging others to enjoy and value our flora. Through the 'natural food chain' almost all living organisms, including us, are dependent on plants.

Here are some suggestions:

Go with groups such as 'Walk for your heart' and other activity groups, and talk about the trees and flowers along the route.

Do the same for events organised by e.g. your County Council, AONB, Natural England, local walking or ramblers groups and The Ramblers' Association, local groups such as Towns Womens' Guilds, Womens' Institutes, church groups, Young Farmers' Clubs, Scouts and Guides etc.

The local natural history group (if there is one) and Wildlife Trust may welcome the assistance of a botanist.

Talk to your friends and family about plants and take them on a Wild-flower Walk.

You could join an event as a participant and talk, and create interest in the plants as you walk.

If you are more knowledgeable you could offer to lead an event or you could start your own local group, as I did with the Upper Teesdale Botany Group. I booked a room, put an advert. in the local paper and posted some small posters. I hoped to get 30 people, and 52 arrived!

'Know your Quadrat' and the 'Training Days' run by BSBI and bodies such as the YNU will help but more can be done by individuals on their home ground.

But...what is a quadrat?

Botanist needed - do you specialise in Himalayan plants?

EDWARD PRATT, *7 Bay Close, Swanage, Dorset, BH19 1RE*

A group of five botanical artists (at the last count) are trekking for 12 days in the Annapurna region of Nepal between 21st March – 5th April 2008. They are so keen to have a botanist accompany them that they will subsidise the billet. All the botanist needs to find is the international air flight to Kathmandu, overnight accommodation if required at the beginning and end of the trip in Kathmandu, tips, and pocket money. Starting at Pokhara, accommodation will be tea houses with simple basic facilities. A support team of porters and guides carry kit. For more information, full itinerary, price inclusions and exclusions, kit list etc, contact Sally Pinhey on 01305 813307 or email Sally Pinhey (sallypinhey@tiscali.co.uk).

Collecting seeds for the Millennium Seed Bank project: a request for help

STEVE ALTON, *UK Coordinator, Seed Conservation Department, Royal Botanic Gardens, Kew, Wakehurst Place, Ardingly, Haywards Heath, West Sussex RH17 6TN*; 01444 894119; s.alton@rbgkew.org.uk.

KEVIN WALKER, *BSBI Head of Research & Development, 97 Dragon Parade, Harrogate, North Yorkshire HG1 5DG*; 01423 544902: kevinwalker@bsbi.org.uk.

Kew's Millennium Seed Bank, located at Wakehurst Place in Sussex, has been in existence since 1974 and holds the largest and most diverse collection of wild-origin seeds in the world. Nearly 37,000 samples of seed from over 20,000 species are stored at low temperatures and can be kept alive under these conditions for decades or even centuries to come (www.rbgkew.org.uk/seedbank/msb.html).

Currently, the focus of collecting work is on the arid and semi-arid regions of the world, with 122 partner organisations in 53 countries collaborating to achieve a target of 10% of the world's flora conserved by the end of 2009. However, the project commenced with a major effort to collect and conserve the UK's own native flora in 1997. Since then, and with the assistance of both BSBI and Wildlife Trust members, more than 90% of our native plants are now represented in the Seed Bank, including the majority of our threatened species.

Some species will never be collected, either because to do so would compromise their survival in the wild (e.g. we do not hold seed of either *Cypripedium calceolus* or *Epipogium aphyllum*), or because their seeds do not survive the banking process, or in a few cases because they have given up on sexual reproduction altogether (e.g. *Gagea bohemica*). Despite this, work continues to track down populations of those remaining species that could potentially be banked. In addition, we have received funding from Natural England to improve our coverage of some conservation priority species which are represented from a narrow geographical range or by only a very small sample of seeds.

To help us work towards a fuller and more genetically diverse coverage of the UK flora, we are hoping to call upon the knowledge of BSBI members to help us track down suitable populations of our remaining target species (these taxa are listed below). What we would require is for interested members to provide details of good-sized populations, with an indication of when would be the best time for us to visit to collect seed. (Ideally populations could be checked towards the end of the season to ensure that seeds are present). Alternatively, members could identify a suitable population or populations of a species that they are familiar with and then visit them once or twice towards the end of the flowering season in order to make a small seed collection (using guidelines and licenses provided by the project). More generally, we would also

welcome information on the extent to which the listed taxa set seed in different parts of the British Isles, or indeed any other observations that might assist with our sampling. Members interested in providing assistance, or who would like to receive the list of taxa for which further geographical sampling is required, should contact Steve Alton at the address given above.

Taxa not currently represented in the Millennium Seed Bank (recent names are given in parentheses where they differ from Stace, C.A. 1997. *New Flora of the British Isles*, second edition. Cambridge University Press, Cambridge):

Alchemilla glomerulans
Alchemilla micans
Alchemilla wichurae
Alopecurus borealis
Atriplex longipes
Callitriche hermaphroditica
Callitriche platycarpa
Campanula rapunculus
Carex chordorrhiza
Carex montana
Carex recta
Carex salina
Ceratophyllum demersum
Ceratophyllum submersum
Chenopodium murale
Cochlearia officinalis ssp. *scotica*
Crassula aquatica
Cyperus longus
Dactylorhiza majalis ssp. *occidentalis* var. *ebudensis* (*D. ebudensis*)
Dactylorhiza majalis ssp. *occidentalis* var. *kerryensis* (*D. occidentalis*)
Dactylorhiza traunsteineri (*D. traunsteinerioides*)
Elytrigia atherica
Euphrasia arctica (both subspecies)
Euphrasia confusa
Euphrasia pseudokerneri
Euphrasia rotundifolia
Euphrasia scottica
Festuca lemanii
Fumaria vaillantii
Gagea lutea
Glechoma hederacea
Juncus capitatus
Limonium britannicum
Limonium dodartiforme
Limonium loganicum
Limonium paradoxum
Limonium parvum
Limonium procerum
Limonium transwallianum
Listera cordata
Littorella uniflora
Maianthemum bifolium
Myosotis stolonifera
Najas flexilis
Orthilia secunda
Persicaria vivipara
Phyllodoce caerulea
Poa alpina
Poa flexuosa
Potamogeton pusillus
Potamogeton trichoides
Pulmonaria obscura
Ranunculus fluitans
Ranunculus reptans
Rosa obtusifolia
Salicornia fragilis
Salicornia nitens
Salix aurita
Salix herbacea
Senecio eboracensis
Serapias parviflora
Sorbus domestica
*Sorbus pseudomeinichii**
Sparganium natans
Vaccinium microcarpum
Valerianella eriocarpa

* Newly described and therefore not included in Stace (1997). See Robertson, A. & Sydes, C. 2006. *Watsonia* **26**: 9-14.

Sorbus ×vagensis

DAVID PRICE, *43 Wonastow Road, Monmouth, NP25 5DG*

The August 2007 issue of *Watsonia* contained a paper by Tim Rich and myself on introgression in *Sorbus aria* (Whitebeam). In it, we mentioned the surprisingly restricted distribution (Wye Valley), Avon Gorge and Mendips) of *Sorbus ×vagensis* (the hybrid between *S. aria* and *S. torminalis*, known as the Wye Valley Whitebeam), given the overlap in distribution of the parent species. We listed the characters distinguishing the hybrid and its parents, and included a map showing the tetrads in which both parents have been recorded.

Since that paper went to press, I have established, simply by searching the internet, that *S. ×vagensis* also occurs at the Blean, near Canterbury (v.c. 15) and Yoells Copse, Horndean (v.c. 11). These occurrences are well-known to local botanists and presumably to a wider 'net-surfing public, but had not seemingly come formally to the attention of the Vice-county Recorders.

This poses two interesting questions. The first is the logistics of communicating field records to Recorders; and the second (my more immediate concern) is whether *Sorbus ×vagensis* is known, or occurs elsewhere. I would be grateful to hear from anyone who has found the hybrid, and encourage those who haven't to look for it.

References

PRICE, D.T. & RICH, T.C.G. 2007. One-way introgressive hybridisation between *Sorbus aria* and *S. torminalis* (Rosaceae) in southern Britain. *Watsonia* **26**: 419-432.

THE BLEAN Website: http://www.theblean.co.uk/canterburysancientwoodlands.htm

VIGAY, J. Website: http://wildlife.vigay.com/yoellscopse/species.html

Surrey Botanical Society

The Surrey Botanical Society (SBS) is a thriving group of just under 100 members who are united in their appreciation of Surrey's astonishingly beautiful, interesting and diverse flora. We would like to invite members of the BSBI who live in or near Surrey, or who would like to improve their knowledge of the Surrey flora, to join our convivial group.

We hold regular field meetings throughout the County during the growing season and these are both highly enjoyable and very informative. In addition, there are local recording groups which meet frequently on a more informal basis. These too are very convivial and with a strong training element. We have an expanding programme of social activities outside the growing season and there are, of course, many ways in which you could help us record for our Rare Plant Register and our new Flora.

If you would like to join us or would like to know more about us and our activities, visit our website (www.surreyflora.org.uk) or contact our County Recorder, Ann Sankey, (pasankey@waitrose.com); our Chairman, Paul Bartlett (tpaul@freeuk.com) or our Secretary, Tony Anderson, (anderson@tony46.fsnet.co.uk)

We look forward to hearing from you.

NOTICES

Climate Change and Systematics

1-3 September 2008
Trinity College Dublin, Dublin, Ireland

A conference on the interaction between Climate Change and Systematics will be held 1-3 September 2008, in Trinity College Dublin, Dublin, Ireland.

A flier giving some brief further details is available from http://www.systass.org/ The conference will deal with this topic under three headings as follows:

1. Climate Change and Speciation/ extinction
2. Climate Change and Biogeography
3. Climate Change: documenting and conserving biodiversity.

To obtain detailed further information and register for the conference and if you wish to offer a paper or poster then please see http://www.tcd.ie/Botany/Conference.php'

William Turner of Morpeth, Northumberland (1508-1568)

BRIAN HARLE, *26 Low Stobhill, Morpeth, Northumberland, NE61 2SQ*

I write to remind members that this year, 2008, is the 500th anniversary of the birth at Morpeth of William Turner, sometimes referred to as the 'Father of English botany'. The actual year of his birth has never been validated but is generally accepted as being around 1508.

'Up here' in Morpeth, a programme of lectures, open days, and lifelong learning classes is being arranged to celebrate the anniversary, based at The William Turner Garden, Carlisle Park, Morpeth. These events are being linked with other locations in the area: provisionally Alnwick Gardens, Wallington Hall, Dilston and a number of nurseries, gardening and flower clubs. For further details and updates of the programme see the website: www.castlemorpeth.gov.uk/williamturner .

I believe a programme of events is also being planned at Wells, Somerset, where he was Dean for periods of his life. See the website: www.olddeanerygarden.org.uk .

For members who seek a good general account of the life of William Turner, there is a BSBI conference report, no. 20, by George T.L. Chapman, read 13th September 1986, which was printed in the *Scottish Naturalist*, 1986: 11-27. A more detailed account of his life is the book: *William Turner: Tudor naturalist, physician and divine*, written by Whitney R.D. Jones, and published by Routledge, 1988.

Vegetative ID Quiz

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Thanks to everyone who took part in my quiz at the Annual Exhibition Meeting in London last November. Congratulations to **Mark Spencer** for an impressive 14 out of 15 correct identifications of what was an exceedingly difficult test. Other respectable high scores came from **Marc Carlton**, **Mark Kitchen**, **Brian Laney** and **Ted Pratt** (names arranged alphabetically). Susan Erskine and Margot Godfrey also deserve a mention, narrowly missing out from the top five entries.

The specimens were: (1) *Fagus sylvatica* (Beech), (2) *Salix elaeagnos* (Olive Willow), (3) *Suaeda vera* (Shrubby Sea-blite), (4) *Linum usitatissimum* (Flax), (5) *Griselinia littoralis* (New Zealand Broadleaf),

(6) *Crithmum maritimum* (Rock Samphire), (7) *Matthiola incana* (Hoary Stock), (8) *Festuca longifolia* (Blue Fescue), (9) *Asarum europaeum* (Asarabacca), (10) *Prunus avium* (Wild Cherry), (11) *Chamaemelum nobile* (Chamomile), (12) *Phlomis fruticosa* (Jerusalem Sage), (13) *Inula crithmoides* (Golden-samphire), (14) *Lamium maculatum* (Spotted Dead-nettle), (15) *Lychnis viscaria* (Sticky Catchfly). The extra mystery twig (with the white buds) was *Ribes alpinum* (Mountain Currant). Only one person managed to name the genus correctly (well done Brian!).

If anyone is interested to know what vegetative characters were diagnostic of the species, then please write or drop me an email. Thanks to Arthur Chater and Eric Clement for helping with the acquisition of specimens.

Gofynne seed list 2008

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

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

Arabis scabra
Armeria maritima ssp. *elongata*
Carex depauperata
Cytisus scoparius ssp. *maritimus*
Damasonium alisma
Juncus capitatus
Juncus pygmaeus
Limosella aquatica
Luronium natans
Melittis melissophyllum
Myosurus minimus
Potentilla rupestris
Ranunculus ophioglossifolius
Ranunculus parviflorus
Rorippa islandica
Rumex rupestris
Saxifraga cernua (bulbils)
Sonchus palustris
Sorbus leyana
Sorbus minima
Trifolium strictum

FIELD MEETING REPORTS : 2006 - 2007

Reports of field meetings are collated by Dr Alan Showler, and copy for these should be sent to him direct, not to the editor of *BSBI News*. His address is: 12 Wedgwood Drive, Hughenden Valley, High Wycombe, Bucks., HP14 4PA (tel.: 01494 562082). Copy for day meetings should generally be up to 500 words, and for weekend meetings, up to 1000 words.

2006

Keltneyburn, Mid-Perthshire (v.c. 88), 18th June

JIM MCINTOSH & ALISTAIR GODFREY

The group met at Weem Hotel, by Aberfeldy, where we enjoyed a cup of coffee whilst Jim McIntosh gave an introduction to the day. At nearby Keltneyburn, we were met by David Darling, the local SWT reserve representative. He had kindly offered to take small groups of us to see the site's rich orchid flora, and we were delighted to see 6 species fully in flower, including the Red Data Book *Pseudorchis albida* (Small White-orchid). Nearby there were several *Platanthera chlorantha* (Greater Butterfly-orchid) in bud, not yet flowering due to the late season.

In addition to the orchids, the group was introduced by Jim McIntosh and Alistair Godfrey (the local Vice-county Recorders) to the diverse flora of the Balchroich meadow, with the old curling pond, and part of the adjoining woodland above the gorge. One of the highlights of the meadow was the lovely aromatic *Meum athamanticum* (Spignel). However, the main objective of the day, to help relative

beginners with identification and the use of keys, was rather hampered by damp weather.

We lunched under the shelter of trees, before driving a few miles to the north, where there is a small area of limestone pavement on the flank of Schiehallion. This is a very rare habitat in Scotland. Before visiting the pavement, we looked at a flushed, boggy area by the road, whose rich flora included *Eriophorum latifolium* (Broad-leaved Cottongrass), *Saxifraga aizoides* (Yellow Saxifrage) and *Tofieldia pusilla* (Scottish Asphodel).

The limestone pavement itself proved very interesting, the grykes providing an ideal habitat for many of the same woodland species we had found at Keltneyburn, but with the addition of a number of other notable species, such as *Asplenium viride* (Green Spleenwort), *Convallaria majalis* (Lily-of-the-valley) – a rare native in Scotland, and *Thalictrum minus* (Lesser Meadow-rue). The surrounding species-rich grassland was dominated by *Helianthemum nummularium* (Common Rock-rose).

A very interesting day was rounded off nicely by an enjoyable evening meal at the Weem Hotel for those that did not have to rush away. Many thanks to Alistair Godfrey for co-leading, to Dot Dahl for assisitng with organisation, and to Weem Hotel for catering and car parking.

Birks O'Aberfeldy, Mid-Perthshire (v.c. 88), 2nd July

JIM MCINTOSH & IAN GREEN

Seventeen members attended this field meeting. The emphasis was on learning, and much time was spent looking at keys and discussing the identification of plants amidst the wonderfully scenic but rather damp gorge woodland. It is a relatively undisturbed remnant of ancient woodland, and so the flora was rich and fascinating.

Notable finds included *Clinopodium vulgare* (Wild Basil), *Lathraea squamaria* (Toothwort), *Stellaria nemorum* (Wood Stitchwort) and *Veronica montana* (Wood Speedwell), all of which are pretty local in the vice-county. Woodland grasses were also well-represented, with *Melica uniflora* (Wood Melick) and *Milium effusum* (Wood Millet) just coming into flower. A particular pre-lunch highlight was the famous *Melampyrum sylvatium* (Small Cow-wheat) – a population growing very conveniently beside *M. pratense* (Common Cow-wheat) for comparison purposes!

A lunch stop was made at the highest point of the circular walk around Moness Burn, at the edge of a lovely field with patches of *Trollius europaeus* (Globeflower). The return trip to the car park, down the western side of the gorge, was rather less interesting, except for a good population of *Bromopsis benekenii* (Lesser Hairy-brome) growing not far from the edge of the path, beneath a beech tree.

For those who could spare the time, we finished off a very pleasant day in the Aberfeldy Watermill café and bookshop. Many thanks to Ian Green for co-leading and to Dot Dahl for assisting with organisation. Also special thanks to Dot for her rendition of Robert Burns' song *Birks O'Aberfeldy* at the very spot where the great bard was reputed to have been inspired to write it!

2007

Rothamsted, Hertfordshire (v.c. 20), AGM visit, 12th May

IAN DENHOLM & TREVOR JAMES

As part of the AGM visit to Rothamsted, members were guided round two of the classic areas on this experimental site by members of Rothamsted staff: Broadbalk experimental cultivated strips; and Park Grass experimental grassland plots. Broadbalk is probably the only remaining place where *Galium tricornutum* (Corn Cleavers) remains in one of its historic localities in the country, although it was too early in the year to see much of it. However, these experimental plots, or at least those that have not had more than limited top-dressing over the last 150 years, also hold a splendid array of otherwise very scarce arable weeds, notably *Ranunculus arvensis* (Corn Buttercup), which was in fine form when we visited, starring the young arable with golden flowers. Just becoming evident were also large numbers of flowering *Scandix pecten-veneris* (Shepherd's-needle); while we were able to identify a few plants of *Papaver argemone* (Prickly Poppy) and *Legousia hybrida* (Venus' Looking-glass). Park Grass is an old piece of "meadow" on fairly uniform, mildly acidic soils derived from Clay-

with-Flints and peri-glacial deposits. It has been subdivided into experimental plots for a long time, each of which has had a different mix of recorded chemical and physical treatments over this period. The results are highly illuminating botanically, and a potent reminder to field botanists that plant communities cannot always be predicted from soil types. At Park Grass we have species-poor acidic grassland dominated by *Anthoxanthum odoratum* (Sweet Vernal-grass) cheek-by-jowl with relatively species-rich grassland including *Briza media* (Quaking-grass) and *Leucanthemum vulgare* (Ox-eye Daisy), on effectively the same soil type. The site is also well-known for its long-standing colony of *Fritillaria meleagris* (Fritillary), although these were past flowering. In rough grassland by the track to Broadbalk, there was also a fine and long-standing naturalised colony of *Geranium phaeum* (Dusky Crane's-bill) that caught people's attention. On the day, we all just about made it round the two locations in different groups before the heavens opened. However, we then enjoyed very decorous tea and refreshments in the grand surrounds of Rothamsted Manor, courtesy of Rothamsted's catering staff. Thanks must go to the various members of Rothamsted's staff for helping with the field visits.

Hertford Heath & Broxbourne Woods, Herts. (v.c. 20), 13th May

TREVOR JAMES

The day was divided into two: the morning looking at part of Hertford Heath, about 3 miles south-east of Hertford, along with an adjoining ancient woodland, Balls Wood; and the afternoon at Broxbourne Wood NNR, further south. Only a relatively small group of BSBI members eventually turned out, not helped by the terrible weather forecast. However, members of the Hertfordshire Flora Group and the local branch of the British Naturalists' Association also joined us.

Historically, Hertfordshire had thousands of acres of heath, but this is now rare in the county. Hertford Heath is typical of Hertfordshire's 'heathland' in that it was only ever partly heather, the rest being dominated by mixed grasses and scrub of various kinds. Large areas have long since turned to woodland, but heathy clearings retain remnant flora, including plants found in very few sites in the county. We had a good look, for example, at plants of *Salix repens* (Creeping Willow), here in its last county locality; and also at *Carex binervis* (Green-ribbed Sedge), also scarce, of which we found five clumps. The grass *Festuca filiformis* (Fine-leaved Sheep's-fescue) was identifiable under light oak scrub, and the sedges *Carex ovalis* (Oval Sedge), *C. muricata* (Prickly Sedge), *C. nigra* (Common Sedge) (but local with us) and *C. pilulifera* (Pill Sedge) were also pointed out. Young plants of *Melampyrum pratense* (Common Cow-wheat) were frequent. Balls Wood is oak-hornbeam on moderately acidic to slightly calcareous clay, formerly coppice-with-standards, but about half replanted in the 1960s. Despite the increasing wet, we explored several rides and some of the coppice, especially trying to find *Paris quadrifolia* (Herb Paris), known here for over 150 years, without success. The ride flora did provide us with *Carex pallescens* (Pale Sedge); good patches of *Lysimachia nemorum* (Yellow Pimpernel), compared with its cousin *L. nummularia* (Creeping Jenny) nearby; and three species of *Hypericum*: *H. hirsutum* (Hairy St John's-wort), *H. pulchrum* (Slender St John's-wort) and *H. tetrapterum* (Square-stalked St John's-wort). Some young clumps of *Dryopteris affinis* (Golden-scaled Male-fern) could not be assigned to subspecies. Most extraordinary of all was the discovery of several clumps of *Briza maxima* (Greater Quaking-grass) growing on bare ground by a pond that had been opened up recently, well away from roads etc. Where this came from is a mystery, but it will be interesting to see if it persists. We also examined some depauperate plants of a species of *Calamagrostis* that some felt might be *C. canescens* (Purple Small-reed), but later examination proved to be *C. epigejos* (Wood Small-reed). As the former used to occur here, in its only county locality, it would have been nice to re-find it!

Most of the party braved the increasingly hostile weather to travel to Broxbourne Wood after lunch, and we explored some of the clearings and rides. It was formerly wood-pasture, coniferised in the 1960s, but then 'suffered' from a fire during the drought of 1976. Regeneration of the scrub and open rough grassland was very good, and the wood became a nature reserve, important for insects and birds, as well as flora. Much *Pedicularis sylvatica* (Lousewort) (a strongly declining species in Herts.) was found, along with more *Melampyrum pratense*, *Carex pallescens* etc. Tormentil plants were evidently of two types, the commoner *Potentilla erecta* (Upright Tormentil), and also plants of what looked, on leaf form and stipule shape to be *P. anglica* (Trailing Tormentil), needing confirmation.

A pond by the central track held *Ceratophyllum demersum* (Rigid Hornwort), but was also being colonised by *Crassula helmsii* (New Zealand Pigmyweed). Eventually we gave up and went our separate ways, although hopefully those that came will have recognised the potential of part of Hertfordshire's ancient woodland complex.

St Cyrus, Kincardineshire (v.c. 91), 20th May

IAN GREEN & JIM MCINTOSH

The emphasis on this field meeting was on learning and fun! Among the 25 participants there were four vice-county recorders – Lynne Farrell, Barbara Hogarth, Richard Pankhurst and Jim McIntosh (Ian Green, despite being advertised as a leader, unfortunately had to cancel, due to illness). The party was split into small groups, roughly by ability, and the Recorders were pressed into service, each leading a sub-group. The idea was that leaders would not simply announce plant names, but that they would help group members work it out for themselves. They used identification books and their collective knowledge, with the Recorders on hand to guide and confirm.

The rate of progress through the site was slow, due to the proliferation of wild flowers and identification queries. By lunchtime, the fastest group had only gone about half a mile. The fact that a number of species were either still to flower, or were just coming into flower made the challenge even greater. In the still-to-flower category we saw *Astragalus glycyphyllos* (Wild Liquorice), *Origanum vulgare* (Wild Marjoram), and *Vicia sylvatica* (Wood Vetch); and in the second category we recorded *Campanula glomerata* (Clustered Bellflower) and *Geranium sanguineum* (Bloody Crane's-bill).

Impressively in *flore pleno* over wide areas were *Primula veris* (Cowslip), *Hyacinthoides non-scripta* (Bluebell), *Silene dioica* (Red Campion) and *Saxifraga granulata* (Meadow Saxifrage). There were also several localised patches of *Astragalus danicus* (Purple Milk-vetch). Other notables included *Vicia lathyroides* (Spring Vetch) and *Brassica oleracea* (Wild Cabbage).

After lunch, the most local Recorder, Barbara Hogarth, from neighbouring Angus (v.c 90), who knew the site well, was commissioned to demonstrate *Silene nutans* (Nottingham Catchfly). Disappointingly, despite a fair bit of searching in places where it had been seen previously, none was found. There was a good deal of discussion about why that might be, and it was suggested that it could be from nutrient enrichment from the farmland immediately above the cliffs. Certainly, among many of the 'nicer' species in the cliffs and grassland below them were many competitor species, such as brambles, nettles and coarse grasses, which may be thriving due to enrichment.

On the return walk to the visitor centre, we got fantastic views over the beach and a sun-drenched shimmering blue sea down to the east coast of Scotland. We would like to thank everyone for participating so enthusiastically, and especially the Recorders for helping. Thanks are also due to Alison Couch, the SNH warden of the St Cyrus National Nature Reserve, for providing such a warm welcome, and Dot Dahl for taking bookings and helping with the organisation.

PS. Having left the field meeting, several participants took the opportunity to visit Boddin, just a few miles across the v.c. boundary in Angus, where magnificent stands of *Silene nutans* were seen by the roadside and along sea cliffs, in full flower!

West Donegal (v.c. H35), 10th –14th June

JOHN FAULKNER

The aim of this meeting, besides enjoying ourselves and recording along one of the most beautiful coastlines of Ireland, was to develop a feel for what level of detail would be practical for BSBI recorders in the Irish orchid survey planned for the next few years.

The meeting was based at Corcreggan Mill, a hostel 3km west of Dunfanaghy, which provides a range of accommodation including self-catering facilities, enabling us to prepare evening meals for ourselves and, in theory, spend the evenings poring over specimens or engaging in erudite botanical discussions. As it happened, we rarely returned early enough for anyone to have much energy left by the time dinner was over. Nonetheless, the accommodation proved ideal for us, and we must record our indebtedness to Angelique and her staff for their tolerance, good humour, helpfulness, and efficiency, and also for the herbs that we pilfered from her organic garden.

A core group of eight BSBI members was the mainstay of the party from Tuesday to Friday, with an influx of 12 additional members and others on

the Saturday. Several more had indicated a "hope" to attend at some stage during the week, but had to back out for a variety of reasons. If any of them (perish the thought!) had concocted last minute excuses because they suspected it was going to be a case of 'Wet Donegal', we hope they were drenched at home. Given a little more fortitude they could have joined us in perfect botanising conditions: moderate temperatures, gentle winds, and rain confined to the nights.

Our first day was spent on and around Tramore Dunes. In the *Pinus nigra* (Corsican Pine) plantation at the north-east end was a sight none of us had ever seen before, at least not to such an extreme degree: *Listera ovata* (Twayblade) thoroughly dominating the ground flora, indeed in places almost the only herbaceous species present. In places, the inflorescences had been grazed off, but elsewhere they comprised a miniature forest within a forest. Also within the plantation was a small group of *Epipactis helleborine* (Broad-leaved Helleborine), as yet not quite in flower. Outside on the machair, we encountered the first few examples of what were to become our chief debating points of the week: *Gymnadenia* (Fragrant Orchid), and *Dactylorhiza* (Marsh- and Spotted-orchids). As lunch beckoned, the debate was deferred. Later, moving to the south-west end of the dunes, and having cleared access with the locals or so we thought, we scoured a grassy slope where there was little of special interest apart from *Thalictrum minus* (Lesser Meadow-rue) at the bottom, *Ligusticum scoticum* (Scots Lovage) on the crags, and *Cirsium dissectum* (Meadow Thistle) on the upper heathy slopes. We then made for a flat damp area behind the main dunes. Here we were approached by a superficially angry, but soon placated and amicable landowner, who it seemed had more of a bone to pick with other locals than with visiting botanists. In the knowledge that our presence now had his blessing, we settled down to being baffled by the past-their-prime *Dactylorhiza incarnata* (Early Marsh-orchid), concluding tentatively that the majority were ssp. *incarnata* with some ssp. *coccinea*.

Wednesday took us to the Ards Forest Park, on a peninsula projecting into Sheephaven, with an intricate mixture of dune, machair grassland, scrub, bracken and woodland habitats. In the latter, we admired two fine stands of *Orobanche hederae* (Ivy Broomrape), with its bold inflorescences varying from barely in bud to senescent. This is an occasional species with a mainly western distribution, here at one of its most northerly stations. On the machair, we found scattered plants of *Orobanche alba* (Thyme Broomrape), a more strictly coastal plant. Unlike the previous day, the *Gymnadenia conopsea* was in flower, enabling us to examine the floral characters that separate the three subspecies. The keys we used did not help much, despite careful measurement under a binocular microscope, but it appeared most likely the population was ssp. *conopsea*, despite having lateral tepals that were much wider than in the book descriptions. Spikes of *Anacamptis pyramidalis* (Pyramidal Orchid) were conspicuous as ever, though it took some time to get our eye in for *Dactylorhiza viridis* (Frog Orchid), which was represented by a range of colour forms from creamy-yellow through green to heavily red-tinted. While we saw no obvious hybrids involving this species, the two other members of the genus present, *D. fuchsii* (Common Spotted-orchid) and *D. purpurella* (Northern Marsh-orchid) were clearly hybridising.

For a change of scene on Thursday, we ventured inland, starting at Kildarragh Hill, where some heathy grassland with flushes provided us with a distinctly different flora, including the hybrid sedge *Carex* ×*fulva* and a population, small in number but large and handsome in size, of *Platanthera chlorantha* (Greater Butterfly- orchid). We had hoped, in vain, to locate also some *Gymnadenia*, as in this habitat it would have good chance of being one of the other subspecies. From there we progressed to an area of bog south of Gortahork, in the centre of which the delicate yellow flowers of *Utricularia minor* (Lesser Bladderwort) graced the pools and the liverwort *Pleurozia purpurea* added colour to the hummocks that separated them. Around the margins there was evidence of failed attempts to extract peat by extrusion machines, in the form of remains of the 'sausages' of peat dug up from below now deliquescing gently into the bog – and supporting good numbers of *Pinguicula lusitanica* (Pale Butterwort) in the process.

Returning to the theme of machair and orchids on Friday, we began with a morning on the dunes at Glenree, south-west of Carrigart. In this area, both on the edge of the dunes and along the roadsides, were naturalised patches of *Geranium pratense* (Meadow Crane's-bill) in flower. On a damp area of sand with little competition, we found prostrate fruiting plants of *Equisetum variegetum* (Variegated Horsetail) for the only time in the week. The orchids, however, were a greater attraction for most of us. The *Gymnadenia* were not yet fully open, but the Dactylorchids clearly included specimens of *viridis*, *fuchsii*, *purpurella* and *incarnata*, and maybe some hybrids. These were,

however, nothing but a taster of what was to come at our next stop, west of Carrigart, where the sheer numbers and diversity of the orchids was a feast for the eyes, as well as a tax on the intellect. *Epipactis palustris* (Marsh Helleborine) was here in big numbers, along with all the other dune species we had seen earlier. The *Gymnadenia* were flowering and closely resembled the *G. conopsea* of Ards, just across the estuary. *Dactylorhiza purpurella* and *D. fuchsii* were both here, some of the latter being almost pure white. A few plants of *D. incarnata* were recognisable as ssp. *coccinea*, but opinion was divided as to which subspecies (singular or plural) we should ascribe the remaining plants. It might have helped had they been in full flower rather than almost over with the colours fading.

From Carrigart, we moved on through a shower towards Melmore Head on the Rosguill peninsular, finally parking in a rather slithery caravan site. Here we tried out one of Richard Pankhurst's recording cards on waterproof paper, anticipating that the rain would return. In fact it soon dried up, but the waterproof properties prevented it from soaking up the moisture from the wet vegetation. Being a North of Scotland rather than an Irish card, the list of "other species" we recorded on the rear of the card told us as much about the difference in the flora of this northern extremity of Ireland and the northern half of Scotland as about the rarity of our finds. It included three dune plants, *Eryngium maritimum* (Sea Holly), *Anacamptis pyramidalis*, and *Euphorbia portlandica* (Portland Spurge) – and also *Baldellia ranunculoides* (Lesser Water-plantain), and *Cirsium dissectum*. As the 1km square had dunes, beach, sea cliffs, wet heath, and a lochan, it was the most diverse that we recorded and produced the longest list of species.

For the final day, we went west to the area around Bunbeg, visiting dunes at Carrick and Dunmore followed by an unsuccessful search for *Mertensia maritima* (Oysterplant) at a site where it been recorded some years ago on a boulder beach at the Bloody Foreland. A distinguishing feature of the day was the number of 'obscurities' we identified, i.e. small unglamorous plants that are often overlooked but not necessarily rare. The archetype of this genre is probably *Anagallis minima* (Chaffweed), which we found in a sheugh in the company of another paid-up member, *Radiola linoides* (Allseed) at Altawinny Bay. Others to put in an appearance were *Eleocharis quinqueflora* (Few-flowered Spike-rush) at Carrick and *Isolepis cernua* (Slender Club-rush) at Dunmore. At the glamorous end of the spectrum, the *Dactylorhiza fuchsii* (Common Spotted-orchid) at Dunmore were vigorous, with rich pink flowers which Tom Curtis described as tending towards var. *hebridensis*. Also at Dunmore, we found a single spike of a muddy pinkish orchid that foxed most of us at first until Tom identified it as *Dactylorhiza fuchsii* x *D. viridis*.

Although the meeting officially ended on Saturday 14th, several participants stayed on to the following day, which began with a visit to another part of the Carrigart site, with the additional benefit of the orchid expertise of Brendan Sayers and Tom Curtis. A substantial number of very vigorous *Dactylorhiza fuchsii* x *D. purpurella* hybrids were identified along the western margin of the site, with varying combinations of parental characters. Our debate about the *D. incarnata* subspecies was hampered by the flowers being even further advanced, but that didn't prevent divergent opinions emerging about the value of the reflexed lateral labellum lobes as a diagnostic character. The *Gymnadenia* spikes were now fully out, leading to a further debate about the validity and practicality of the recent trend towards classifying the three taxa present in Ireland as separate species.

To round off the weekend, three members went on to Lough Salt for a relatively relaxed session of recording in the hills, without any contentious orchids to impede progress. The nearest we came to excitement was seeing a lizard disappearing into a clump of heather.

I would particularly like to thank Ralph Sheppard for leading the outings on the first three days, and pointing us in the direction of some excellent sites to visit subsequently. All members of the resident group played a valuable part in making the meeting a social as well as botanical success. Richard Pankhurst gave freely of his expert, and sometimes much needed, identification advice. Margaret Marshall and Anne Pankhurst did sterling work with the recording cards. Megan Morris kept us in good humour with antics involving her 'camper' and its three canine occupants, and Ann Annett brought us back to earth when we strayed into the botanical stratosphere. And if anyone was at risk of being left out or left behind, Mary Willis ensured that it didn't happen. We have not had such long meetings in Ireland in recent years, but if this one was trend setter, then there will be some good ones in future.

Dunnyduff Wood, Banff (v.c. 94), 16th June

IAN GREEN & JIM MCINTOSH

This was another Scottish field meeting whose emphasis was on learning and fun! Despite the rather cold, damp and drizzly weather I think we managed that! However, the meeting did not get off to a good start for some. Two cars broke down *en route* and we were reduced to just thirteen participants, including 3 Vice-county Recorders – Ian Green, Richard Pankhurst and Jim McIntosh. The party was split into small groups, roughly by ability, and the recorders each led three or four members. The plan was that group members would work out the identification of plants for themselves, using their collective knowledge, together with the help of identification books. Of course, the recorders were on hand to encourage, guide and confirm. Importantly, practice and tuition were given on using keys.

One of the day's highlights conveniently occurred right beside the car park – *Paris quadrifolia* (Herb Paris). This is thought to be one of its more northerly outposts. It is a spring flowerer and it was beginning to become overgrown with taller plants, but its distinctive and rather lovely four leaves and single central flower were still just visible. In the morning we botanised in remarkably diverse plantation woodland. Highlights included *Trientalis europaea* (Chickweed Wintergreen) and *Pyrola minor* (Common Wintergreen) (no relation), both impressively in flower.

By lunchtime we had reached a lovely gorge broadleaf woodland with waterfalls, where we spent much of the rest of the day. Our first stop after lunch was to see *Neottia nidus-avis* (Bird's-nest Orchid), which had previously been spotted by Ian on a reconnoitring trip. After extensive searching we were able to increase his population count to just four flowering spikes. It is quite rare in the area and generated much excitement. The final highlight of the day was *Goodyera repens* (Creeping Lady's-tresses), seen on the return route to the cars.

We met up for coffee and cakes in a café in the nearby town of Keith – a welcome opportunity to dry out and warm up, and to chat! Jim McIntosh finished off with a short talk, with tips on how participants could continue to improve their plant identification skills. We would like to thank everyone for participating so enthusiastically, and especially to the Recorders for helping lead the day. Thanks are also due to Dot Dahl for taking the bookings.

Glynhir, Llandybie, Carmarthenshire (v.c. 44), 23rd - 30th June

BSBI Recording week

KATH PRYCE

Saturday 23rd June

The week began as usual with the arrival of participants at Glynhir in time for lunch, at which the salad ingredients, including home grown coriander flowers, caused some discussion. Later in the week the inclusion of coriander in sandwiches was appreciated or tolerated by most people except Graeme Kay who could not stand being downwind of others eating it, let alone contemplate eating it himself!

Following lunch the eleven so-far assembled travelled the short distance to Castell Du Farm (SN61K), an SSSI on the north-facing slopes of Mynydd Betws, with the intention of refinding *Carex montana* (Soft-leaved Sedge), not seen at the site since 1992. The farmer and his wife greeted us with apologies for their dishevelled state as they were in the middle of sheep-shearing. Arthur Chater and John Poland found several plants of the target species where it had last been recorded in dry, unimproved acid NVC U4c grassland, but comprising only of leaves and a single scrappy flower: the plants really did look quite distinctive until turning away and then trying to relocate them! Chris Cheffings and Guy Moss were successful in finding another small group of plants a short distance away. About ten plants were seen in all, contrasting with the five recorded when the site had last been visited in 1992. Castell Du also includes wet *Molinia* and *Juncus* dominated areas where *Carum verticillatum* (Whorled Caraway) is present, and old acid hedgebanks where, among other species, *Melampyrum pratense* ssp. *pratense* var. *hyans* (Cow-wheat) is quite frequent (see front cover).

Before the evening meal we were joined by Heather Colls who had taken advantage of attending the Plantlife Cae Blaen Dyffryn butterfly orchid survey near Lampeter led by Trevor Dines earlier in the day. After dinner the usual discussions and study took place in the studio upstairs, in the

absence of Chris and Graeme who had needed to find time to rehearse their duet prior to Sunday evening's performance.

Sunday 24th June

After breakfast the whole party went to the RAF Pembrey Sands firing range at Tywyn Burrows, (SN30S) where we were pleasantly surprised to have, not just no rain, but long sunny spells, despite a very bad forecast and very dark clouds hanging around us for most of the day. We drove to the end of the track across the range, which is the closest we could take the cars to Tywyn Point. Exploration of this area of wide vegetation zones at the interface of the dunes and saltmarsh yielded expected species, including *Carex distans* (Distant Sedge), *C. extensa* (Long-bracted Sedge), *Sisyrinchium bermudiana* (Blue-eyed Grass) and *Vulpia fasciculata* (Dune Fescue), but also a new tetrad record for *Chenopodium rubrum* (Red Goosefoot) and frequent *Sagina maritima* (Sea Pearlwort), previously overlooked by the v.c. recorder and last noted at Tywyn Burrows before 1990. A measure of the high esteem in which the RAF holds members of the BSBI was demonstrated by the fly-past of the Red Arrows early in the afternoon! I did some beach-combing and carried home a substantial black plastic lid for use as a birdbath in the garden! (It has been a success). As it was divided into segments, Arthur suggested that each should be labelled appropriately with passerines, corvids etc! Andy Jones found a porpoise skull to add to his collection of artefacts. After leaving Tywyn Burrows the party stopped briefly at Burry Port Harbour dunes (SN40K) to be shown *Silene conica* (Sand Catch-fly). Other species found included *Anacamptis pyramidalis* (Pyramidal Orchid), a single plant of *Malva neglecta* (Dwarf Mallow), *Trifolium scabrum* (Rough Clover) and a small patch of *T. ornithopodioides* (Bird's-foot Clover) which was the fifth v.c. record and new for the hectad.

We were joined for the evening by James and Mary Iliff, and after dinner the whole group retired to the sitting room to hear Chris (double bass) and Graeme's (bassoon) performance of the piece composed especially for them by James, subsequently christened the *Glynhir Bagatelle*. It received both its premier and second performances and they also played a piece by Telemann. Mary then played two piano pieces also composed by James. It was a special and unique occasion and we felt very privileged. Graeme had brought along two ceramic pots which he presented to James and Mary and Richard presented Chris and Graeme with bottles of bubbly!

Monday 25th June

The morning visit to Parc Hendre factory-development site in Capel Hendre (SN51V & SN61A) was accompanied by heavy rain with cold wind, and the plants of *Vicia lutea* (Yellow-vetch) reported there a few days earlier by Barry Stewart (first v.c. record) were not found despite extensive searching. However there were many hybrid orchids, *Lathyrus nissolia* (Grass Vetchling) and an abnormally robust clump of *Carex nigra* (Common Sedge). The group returned to Glynhir to eat their packed lunches and change into dry clothes ready for the afternoon visit to Hafod Wennol SSSI (SN60U), located in a part of Carmarthenshire recently annexed by Neath Port Talbot County Borough! The farmer is refreshingly enthusiastic. There were several fields of NVC MG5, dry(!), neutral grassland which each had a few plants of *Platanthera chlorantha* (Greater Butterfly-orchid) in full flower, together with other orchids. *Carum* was frequent and *Rhinanthus minor* (Yellow Rattle) often abundant. Despite the driving rain the group watched a Red Kite for some minutes as it returned, soaked, to its nest. Chris Cheffings later encountered a Barn Owl. A single plant of *Serratula tinctoria* (Saw-wort) was found and two bedraggled dragonfly species were seen: Keeled Skimmer (*Orthetrum caerulescens*) and Golden-ringed Dragonfly (*Cordulegaster boltonii*) attached to grass stems, torpid in the cold. Despite the weather (two t-shirts, wool jumper, fleece, waterproof jacket – and I was still cold – in June!) it had proved to be a rewarding day. After the evening dinner the weather had improved and several people walked down to the Glynhir Waterfall. Margo Godfrey and Jean Green had arrived during the day and were sorry to have missed the previous evening's music.

Tuesday 26th June

No rain today, even some sun! During the morning the group visited Cruglas Farm located at the foot of the Garn Goch hill fort, near Bethlehem, Llandeilo (SN62W & SN62X). A very rich mire with several NVC communities, including M10 flushes, forms part of the holding and is notified as an SSSI. Highlights include *Pinguicula vulgaris* (Common Butterwort), *Drosera rotundifolia* (Round-leaved Sundew), *Rhynchospora alba* (White Beak-sedge), *Hypericum elodes* (Bog St.John's-wort), *Cirsium dissectum* (Meadow Thistle), and many more. Management is carried out largely by seriously classy Welsh Mountain ponies. We were able to eat lunch at the edge of the bog before walking to the top of the hill fort. Then the group drove to a nearby farm, Llwynmendy Uchaf (SN62S), from where access to shingle-shoals by the River Tywi

was possible by crossing a few fields. The fields are very improved and Andy Jones was heard discussing the sloppiness of cow manure in relation to their diet! A single plant of *Myosoton aquaticum* (Water Chickweed) was found by Rita Greenaway, the first record of the species on the Tywi catchment, with *Veronica scutellata* (Marsh Speedwell), *Mimulus guttatus* (Musk) and frequent *Salix ×sericans* (Broad-leaved Osier) nearby.

Dinner was curry, followed by chocolate pudding (a special request by Graeme – perhaps to compensate for the ever-present taste of coriander?). Afterwards Richard had arranged a bat-recording evening, led by Rob Colley with Rob Thomas and Steve Lucas. Those interested were provided with bat detectors and instruction before an hour or two was spent around the Glynhir grounds. However only Pipistrelles were detected (both Common and Soprano) despite the richness of the habitats promising better.

Wednesday 27th June

Today participants split into smaller groups to visit a variety of habitats. Richard and I visited Amroth (SN10T & SN10Y) with Arthur Chater and John Poland, collecting George Hutchinson from Carmarthen railway station on the way. We were also joined by Jacqueline Hartley for the morning. *Asplenium marinum* (Sea Spleenwort) was locally frequent under frost-free fissures in the Coal Measures sea-cliffs and a few small plants of *Osmunda regalis* (Royal Fern) were also seen on ledges. Eleven clumps of *Carex punctata* (Dotted Sedge) were located in a prominent position at the foot of a shaley part of the cliff where the footpath leaves the beach, growing in a more characteristic habitat for the species than the dune-slack populations where it is found elsewhere in Carmarthenshire. It must surely have been mis-identified as *C. distans* by botanists at this relatively well-botanised site in the past. After monitoring the *Spergularia rupicola* (Rock Sea-spurrey) a few hundred metres further along the coast, the party returned to ascend the footpath which took us through Telpyn farmyard, well adorned with 'keep-out' signs, warning of a clay pigeon shooting range and four noisy Alsatians (Richard told everyone they were 'nice dogs' but as he is more of a cat person than a dog lover I was somewhat dubious about his real thoughts!). I was worried more by the clay pigeon shooting than the dogs and I am ashamed to say that not even the finding of a large population of *Scleranthus annuus* (Annual Knawel) could overcome this fear (obviously I'll never be a real botanist!). *Coronopus squamatus* (Swine-cress) was also present and *Rubia peregrina* (Wild Madder) was frequent in the roadside hedges on the return to Amroth.

Other groups were deployed to visit tetrads where *Carum verticillatum* had not been previously recorded, targeting possible unimproved pastures shown on the aerial photographs and Phase 1 maps. Two groups were successful: Graeme, Jean, Martyn Stead and Rita found it in SN41G west of Pontantwn and also recorded *Bromus ×pseudothominei* (Lesser Soft-brome), the second v.c. record. The other group to find *Carum* comprised Andy, Priscilla Tolfree & Heather Colls where, at Pen-y-garn south of Ammanford (SN60E), they also found *Juncus ×kern-reichgeltii* (a hybrid rush), a new record for the hectad. Chris and Guy left for home today after recording with Margot north of Nantgeredig (SN42X) where they discovered several relatively common species new to the tetrad. We were joined for dinner by John Killick who had arrived late in the afternoon, this being his 25th attendance at the annual Carmarthenshire Recording Meeting, the only person from outside the county to have come every year.

Thursday 28th June

At breakfast, Arthur was explaining his daily back exercises to us – it involves hanging by his hands from something high and allowing the body to relax. (He had been using a beam in one of the outbuildings so I suppose it was wise to explain why he disappeared there early each morning!).

Again participants split into smaller groups to visit different sites. Margo and Jean chose to go to an urban site and spent a rewarding day in the vicinity of Parc Howard, Llanelli (SN50A) where they found *Anagallis tenella* (Bog Pimpernel) growing in a wet hollow in regularly mown park grassland. Elsewhere they recorded both *Geranium pyrenaicum* (Hedgerow Crane's-bill) and *Euphorbia lathyris* (Caper Spurge), new to this well-recorded hectad.

Arthur, John Poland, Richard and I visited the Tywi with its shingle shoals, oxbow ponds and marshes at Dryslwyn Uchaf (SN51U, SN52K & SN52Q). We found a second plant of *Myosoton aquaticum* by the river and, despite searching, it appeared to be the only one. Other species included beds of *Carex vesicaria* (Bladder Sedge), occasional *Veronica catenata* (Pink Water-speedwell) and *Bidens tripartita* (Trifid Bur-marigold), and a single plant of *Carex spicata* (Spiked Sedge). But the highlight was the Otter which slowly worked its way upstream on the opposite river bank: when it appeared the 'real' botanists were studying a stunted *Lycopersicon esculentum* (Tomato) plant growing on the river shingle, but after a few minutes my mind

wandered and I looked up to see the animal on the opposite side of the river searching and snuffling for any morsel it could find, completely oblivious of us! We watched it, transfixed for some minutes, before it disappeared out of sight.

James and Mary Iliff joined us again for dinner this evening and before sorting out the day's botanical problems, we adjourned to the sitting room in the mansion, where James played a moving Scarlatti piece on the piano for us.

Friday 29th June

Margot and Jean returned to Llanelli to continue their recording from yesterday, accompanied for the morning by Martyn Stead, botanising for as long as possible before his departure for home. Andy Jones also departed during the morning. John Killick, Priscilla and Heather visited two tetrads north of Llanwrda where they found *Carum* new to SN73B and *Carex muricata* ssp. *lamprocarpa* (Small-fruited Prickly-sedge) new to SN73H.

The remainder of the group (Arthur, John Poland, Graeme, Rita, Richard and me) visited Gilfach Ddofn and Allt Clyn-gwyn in the Eastern Cleddau valley on the Pembrokeshire border, following up a report to Arthur, of *Gentianella campestris* (Field Gentian) which had reputedly been found by a study-group from the University of the Third Age. We were joined there by Steve and Ann Coker and by George Hutchinson, whom we had collected from Whitland station on the way. The farm owners were very helpful and the weather was fine apart from a short shower during the morning. Needless to say, we failed to find any gentians, so it will remain a mystery, at least for the time being (the person who reported it picked a specimen and then threw it away after identifying it at home, not realising its significance!). However, the visit did enable us to see *Hymenophyllum tunbrigense* (Tunbridge Filmy-fern) (see photo inside back cover) which Richard and I first saw at a nearby disused mine site earlier in the year when approaching from the other direction. But the most significant find of the day was the large populations of *Dryopteris aemula* (Hay-scented Buckler-fern) growing from the shady, humid banks of the steep track down into the valley. Both ferns were new records for the SN12 hectad.

Saturday 30th June

Everyone packed up and started for home after breakfast, the end of a rewarding and varied week. Perhaps the name should be expanded to 'The Glynhir Festival of Botany, Food, Music and Art'! It had been a mixed week weatherwise, somewhat wet at times and unseasonally cold – the journey home was in pouring rain!

Durness, West Sutherland (v.c. 108), 6th – 8th July

PAT & IAN EVANS

Parts of West Sutherland are, perhaps like other holiday areas, frequently visited, but very patchily recorded. This meeting was designed to allow people to see some of the north coast specialities, but also to make a start on recording some tetrads around Durness. It proved popular, with 18 participants in all. The weather was fine on the first day, poor to appalling on the second and improving on the third.

Our first port of call on 6th was limestone grassland at the far end of the Balnakeil Golf-course, to familiarise ourselves with *Primula scotica* (Scottish Primrose), in its second flush of flowering, noting also, in the rough, numerous spikes of *Listera ovata* (Common Twayblade). We then walked across Balnakeil Beach to pay our respects to the well-known populations of *Carex maritima* (Curved Sedge), in adjacent dune slacks at the southern end of the peninsula known as An Fharaid. The rest of the day was spent exploring the peninsula (tetrad NC37V), adding to a master list made by a small group during a previous BSBI visit, recording for the *Atlas*, on 30th June 1997. This exercise was surprisingly productive, yielding some 24 extra species and 'new'sites for others known to be present. *Primula scotica* was found in quantity in well-grazed cliff grassland, keen eyes located several stands of *Coeloglossum viride* (Frog Orchid) associated with the delicate heads of *Carex capillaris* (Hair Sedge), and cushions of *Silene acaulis* (Moss Campion) were found on an outcrop near Faraid Head. New to the hectad (NC37) were *Urtica urens* (Small Nettle), an arable weed now quite uncommon in the north-west, and, in a lochan, *Utricularia minor* (Lesser Bladderwort), the only readily recognisable member of the genus. Three stands of *Carex diandra* (Lesser Tussock-sedge) were found on the margins of the same lochan. The species was seen in 1997, but those present did not realise the significance of the record, and the precise locality was not noted. It does not, therefore, feature in the *Atlas*. Despite several searches, it has taken ten years to relocate it!

The main aim on 7th was to search a dune area north-west of Keoldale (tetrad NC36T) for an old record of *Carex maritima* and then to investigate

the shores of Loch Borralie. We started off well along the cliff tops, with a fair selection of calcicoles, but after a damp lunch, cold lashing rain drove us off. We did however find a good stand of *Juncus balticus* (Baltic Rush) at a 'new' site. One hardy pair, who undertook a circumnavigation of the loch, were rewarded for their efforts by finding a washed-up pondweed which proved, on inspection, to be a close fit for the hybrid *P.* ×*cognatus* (*P. praelongus* × *P. perfoliatus*), at what is now its only known site in the British Isles. A disappointing day was redeemed by an evening meal together at the Bistro at Balnakeil, followed by a very useful identification session at the Loch Croispol Bookshop next door.

On 8th, we tackled two well-known sites to the east of Durness. First stop was the impressive Geodha Smoo, at the landward end of which the Allt Smoo drops through the roof of a huge sea-cave (tetrad NC46D). The group split into two parties, tackling in friendly rivalry the west and east sides of the Geodha. Although there was inevitable overlap, the combined tally of 135 taxa was a good total from a small corner of the tetrad. There were huge stands of *Phyllitis scolopendrium* (Hart's-tongue) in the cave and cliffs around its mouth; further out *Asplenium marinum* (Sea Spleenwort) was evidence of the influence of the sea.

After lunch, we moved east to Traigh Allt Chailgeag, a sandy beach backed by dune grassland and well-vegetated cliffs (tetrad NC46M). There we again split into two parties, one concentrating on the part nearest to the road and the other further afield. The first party were able to scale an isolated stack bearing many flowering spikes of *Epipactis atrorubens* (Dark-red Helleborine) and a few of *Dactylorhiza fuchsii* (Common Spotted-orchid). Both were growing in blown sand over Lewisian gneiss. The latter species is far from common in West Sutherland. The adjacent sea cliffs are clothed with almost vertical woodland containing *Corylus avellana* (Hazel) and *Populus tremula* (Aspen), with a good range of tall herbs, a rare occurrence in this exposed and well-grazed landscape. A few plants of *Dryopteris expansa* (Northern Buckler-fern), found by three members of the group just inland of the beach later in the day, constitute a new record for the hectad (NC46). The second party made their way over a headland to a second beach, a little further to the north, where they were rewarded with hanging mats of *Dryas octopetala* (Mountain Avens) and many more spikes of *Dactylorhiza fuchsii* and *Epipactis atrorubens*, all, again, on blown sand over Lewisian gneiss. They also found one plant of *Leymus arenarius* (Lyme-grass), new to the hectad, on a rocky slope, a not infrequent habitat in West Sutherland.

Altogether, 187 taxa were recorded, a very good total from, again, a small corner of the tetrad. It was good to have in the party a specialist in *Chara* (Stonewort). The records made by Effy Everiss will be a valuable addition to our knowledge of the v.c. 108 botany. Special thanks are due to Jackie Muscott and Ro Scott who fielded records from all and sundry throughout the meeting, under often less than ideal conditions.

East Norfolk & East Suffolk (v.cc. 25, 27) grass identification days, 14th (& 21st) July

A. COPPING

This meeting attracted more members than expected and was repeated on 21st July for those originally placed on a waiting list. Consequently 17 participants on 14th and 7 a week later assembled on Wortham Ling, an area of sandy heathland beside the infant River Waveney, and a mile west of Diss, now managed by the Suffolk Wildlife Trust. The main purpose of the meeting was to study *Agrostis*, and all five species were seen by the meeting's end. However, the proceedings opened with an explanation of grass inflorescence structure, using previously collected *Avena fatua* (Wild-oat) as illustration. Close to the cars *Agrostis capillaris* (Common Bent) and *A. vinealis* (Brown Bent) were conveniently growing side by side. They were fully examined and contrasted, special attention being paid to their rhizomes. The half-mile walk across the heath to an arable field provided much of interest, including *Apera interrupta* (Dense Silky-bent), *Trifolium suffocatum* (Suffocated Clover) and *Hypochaeris glabra* (Smooth Cat's-ear), all thought to be new to the Ling, as well as the dead remains of *Aira praecox* (Early Hair-grass) and *A. caryophyllea* (Silver Hair-grass). Lingering *Vulpia ciliata* ssp. *ambigua* (Bearded Fescue) was just identifiable on 14th, while *Anisantha sterilis* (Barren Brome) and *A. diandra* (Great Brome), regenerating from earlier roadside mowing and growing together, conveniently displayed their distinguishing features.

The margin of the field referred to earlier produced a quartet of arable weed grasses: *Agrostis gigantea* (Black Bent), with its stout rhizomes; *Avena fatua*; *Alopecurus myosuroides* (Black-grass); and *Elytrigia repens* ssp. *repens* (Common Couch). The group then followed a long semi-circular route across the heath, stopping to examine *Phleum bertolonii* (Smaller Cat's-tail) on the roadside, *Nardus stricta* (Mat-grass) (rare in East Suffolk), *Molinia caerulea* ssp. *caerulea* (Purple Moor-grass) and *Calamagrostis epigejos* (Wood Small-reed), the last flowering sparingly and much weakened by shade. *Holcus lanatus* (Yorkshire-fog) and *H. mollis* (Creeping Soft-grass) were conveniently growing side-by-side for easy comparison. It was also heartening to see several patches of *Campanula rotundifolia* (Harebell), a species in apparent decline in East Anglia.

Wortham Ling has two areas of basic soils, and after lunch one of these was visited, where *Thymus pulegioides* (Large Thyme) and *Cirsium acaule* (Dwarf Thistle) were admired, and *Briza media* (Quaking-grass) and *Helictotrichon pratense* (Meadow Oat-grass) added to the grass list. A brief stop to admire *Scleranthus annuus* s.l. (Annual Knawel) and the dead remains of *Trifolium glomeratum* (Clustered Clover) in previously known sites concluded our visit to the Ling.

The afternoon venue was Boyland Common in East Norfolk, about 3 miles north of Wortham. There the soils are heavier, with significant clay content. Formerly the area was cut for hay and/or grazed, but in recent years has been neglected and is now dominated by coarse grasses, of which *Deschampsia cespitosa* (Tufted Hair-grass) is the most prominent. However, the small area we visited was atypical and featured damp depressions containing *Agrostis canina* (Velvet Bent) and *A. stolonifera* (Creeping Bent), with *A. capillaris* abundant and widespread nearby. Evidence of earlier occupation of the site by travellers was provided by the unexpected discovery of flowering *Phalaris canariensis* (Canary-grass). A special and successful effort was made to locate *Genista tinctoria* ssp. *tinctoria* (Dyer's Greenweed), formerly quite common on south Norfolk roadsides, but now much reduced by regular verge cutting. On 21st July only, the group paused by an arable field to see *Scandix pecten-veneris* (Shepherd's-needle) and was rewarded by the unexpected discovery of *Bromus commutatus* (Meadow Brome) and *Panicum miliaceum* (Common Millet).

The meeting concluded with the leader's distribution of previously gathered *Phleum pratense* (Timothy), *Bromopsis ramosa* (Hairy-brome) on 21st July only; *Agrostis castellana* (Highland Bent) from Diss, and *A. scabra* (Rough Bent) originally collected from Glasgow, but now cultivated in his garden. Altogether 45 grass species were discussed over the two days.

Finally the Society wishes to thank Mr Moray Rash of Beech Tree Farm, Wortham, for allowing us to remove grasses from his field of broad beans, and Mrs M. Brown of Old Boyland Hall for permission to park cars on her land.

Gordon area & River Tweed, Berwickshire (v.c. 81), 14th – 15th July

MICHAEL BRAITHWAITE

A party of seven met at Gordon Community Woodland on the 14th, where it was briefed on an experimental method of rare and scarce plant recording developed by the leader, using the large population of *Genista anglica* (Petty Whin) for training. We then drove to Gordon Moss SSSI, where we split into three groups to monitor selected scarce species in different parts of the Moss. The leader had recorded *Equisetum x litorale* (Shore Horsetail) and *Molinia caerulea* ssp. *arundinacea* (Purple Moor-grass) here in 1988, the latter determined by P.J.O. Trist. Both records are now considered unsafe, the former probably relating to a form of *Equisetum palustre* (Marsh Horsetail) and the latter to an atypical plant of *M. c.* ssp. *caerulea*. However, *Salix phylicifolia* (Tea-leaved Willow) was re-found, and orchids monitored were *Coralorhiza trifida* (Coralroot Orchid), *Listera ovata* (Twayblade) and *Platanthera bifolia* (Lesser Butterfly-orchid). We drove to Corsbie and struggled to the last remnants of Corsbie Bog. Here *Vaccinium oxycoccos* (Cranberry) could not be re-found and was considered probably extinct, but two lizards were seen. Moving on to Everett Moss, *Catabrosa aquatica* (Water Whorl-grass) was seen at the muddy margins, and *Cicuta virosa* (Cowbane) in plenty in the fen area.

On the 15th we met at Kelloe and studied water crowfoots on the Blackadder Water. *Ranunculus ×kelchoensis* and the plant ascribed to *R. circinatus* × *R. fluitans* were seen. Moving to the Tweed, four plants of *Bromus secalinus* (Rye Brome) were spotted by Luke Gaskell in wheat at Ladykirk, the first record for this species from v.c. 81 since 1834. The river was in spate and even with waders it was only possible to examine flotsam at

the river's edge. Four pondweed taxa were fished out, including *Potamogeton ×salicifolius*, with its parents *P. lucens* (Shining Pondweed) and *P. perfoliatus* (Perfoliate Pondweed), and these were floated in an enamel dish for examination. A good colony of *Centaurium erythraea* (Common Centaury), a locally scarce species, was discovered. It had been a relaxing day in the sunshine, with many sand martins and oystercatchers for company.

Mid-Perthshire (v.c. 88) 27th – 30th July

ALISTAIR GODFREY & JIM MCINTOSH

This excursion was a contribution to the Atlas Update Project to ensure that every hectad within the vice-county will be visited between the years 2000 to 2009. Sixteen BSBI members took part and contributed 32 recording days over the length of the excursion. Recording was carried out at tetrad level, visiting at least two in every hectad.

Meall Tairneachan (NN85), not to be confused with the similarly named Meall nan Tarmachan in the Lawers range, was our first objective. We left the car park at the limekiln near Kinardochy, where there is a quarry, and at its edge we saw *Gentianella amarella* ssp. *septentrionalis* (Autumn Gentian) that was about to flower. From there we left the limestone behind and followed a burn that cuts its way through mica schist. The higher humidity beside the burn had helped to preserve a woodland flora despite the scant tree cover. More deeply cut sections of rock revealed *Rubus saxatilis* (Stone Bramble), *Arabis hirsuta* (Hairy Rock-cress) and *Carex vaginata* (Sheathed Sedge). Away from the burn we found *Carex capillaris* (Hair Sedge) and *Juncus triglumis* (Three-flowered Rush) at 600m, sheltered below a crag, and beside burnt heather we found *Lycopodium annotinum* (Interrupted Clubmoss). On Meall Tairneachan we saw *Saxifraga hypnoides* (Mossy Saxifrage) as well as *S. aizoides* (Yellow Saxifrage), *S. oppositifolia* (Purple Saxifrage) and *S. stellaris* (Starry Saxifrage) that had been seen earlier. We descended a wet slope down to the barytes mine road that would take us back to the car park where we started. Barytes is mined and ground down to provide an additive to drilling fluids that helps to contain oil, gas and water encountered at high pressure during drilling for oil and gas. Martin Robinson's keen eye spotted *Equisetum variegatum* (Variegated Horsetail) in the flush and *E. pratense* (Shady Horsetail) was also seen there.

The following day we followed the Invervar Burn from Glen Lyon (NN64) and explored the crags in the corrie between Carn Gorm and An Sgorr. This was the most challenging of our four days of excursions, but our exertions were thoroughly rewarded. Willows were well represented, with many signs of natural regeneration on the crags, and our sightings included *Salix arbuscula* (Mountain Willow), *Salix reticulata* (Net-leaved Willow) and *Salix ×punctata* the hybrid between *S. myrsinifolia* and *S. myrsinites*. Other delights included *Potentilla crantzii* (Alpine Cinquefoil), *Dryas octopetala* (Mountain Avens), *Sibbaldia procumbens* (Sibbaldia), *Saxifraga nivalis* (Alpine Saxifrage) and *Carex atrata* (Black Alpine-sedge). *Helianthemum nummularium* (Common Rock-rose) graced the final descent, and no sooner was it seen than GPS receivers clicked into action measuring its altitude at 794m, which was immediately followed by the announcement from Jim McIntosh that this was an altitudinal record.

Records from Lochs Finnart and Monaghan (NN55), which lie to the south of Loch Rannoch, were sparse in the vice-county records, which was surprising, despite the visits that had been made by recorders, and the arrangements for this excursion were to determine if some plants or areas had been missed. On our visit we found two sedges characteristic of different habitats; *Carex lasiocarpa* (Slender Sedge), a swamp species with almost thread-like leaves and bracts that can be mistaken for some forms of *Carex nigra* (Common Sedge), but not when in flower as *C. lasiocarpa* has hairy utricles, although it is a shy-flowering plant. *Carex pauciflora* (Few-flowered Sedge) could not be more distinct. It is short and grows in sphagnum bogs; its spreading fruit and leaves are straw coloured and stand out at quite a distance. An aquatic growing in the shallow pools on the bog was *Utricularia minor* (Lesser Bladderwort). This is the only member of the genus that flowers regularly in our area; its pale yellow, slight flowers are characteristic. We had split into two groups to cover both shores of the lochs, but one group had covered half of one shore when the other had hardly got off the starting blocks! Problems, something interesting perhaps? Martin Robinson's ever keen eye had picked up the tiniest member of our orchid family *Hammarbya paludosa* (Bog Orchid); in all 16 flowering spikes and 22 non-flowering spikes were counted, and that must have been the best catch of the day!

In the evening we dined in a restaurant in the village of Weem near Aberfeldy where we were staying. We celebrated Lynne Farrell's birthday, who had not long retired from SNH. Some of us stayed in what had been the quarters of General George Wade during the building of the military road from Crieff to Dalnacardoch in the 1730s.

Our final day was spent at Dun Coillich (NN75), to the south west of our first excursion. In the morning we explored a limestone cliff at the base of Schehallion that was full of interest and colour, almost as if it were a garden in the middle of the moor. *Helianthemum nummularium* was flowering plentifully. Other plants of interest were *Galium boreale* (Northern Bedstraw), *Antennaria dioica* (Mountain Everlasting), *Helictotrichon pratense* (Meadow Oat-grass), *Listera cordata* (Lesser Twayblade), *Pimpinella saxifraga* (Burnet-saxifrage), *Parnassia palustris* (Grass-of-Parnassus), *Juncus alpinoarticulatus* (Alpine Rush) and *Carex ×fulva*, the hybrid between *C. hostiana* × *C. viridula*. The end of the limestone was punctuated by two adders that were sunning themselves. One slipped into the undergrowth at the approach of the party, but the other remained for all to admire. We ascended the northern slopes of Dun Coillich where the soils are generally acid, but with pockets of slightly calcareous conditions. Our finds included *Polygala vulgaris* (Common Milkwort), much less common than *Polygala serpyllifolia* (Heath Milkwort) in our area, and *Rumex longifolius* (Northern Dock). The slopes had been planted up as part of a community woodland initiative, and they were planted in the excavated soil that had been lifted from the ground by machine. The excavations left behind were just the right size to consume an entire botanist, which made the afternoon's excursions a little challenging to say the least.

We extend our thanks to all who helped on the excursions and for the considerable number of records and records of interest that were made.

Isle of Man (v.c. 71), 4th – 5th August

LINDA MOORE

This was the first BSBI meeting on the Isle of Man for many years, so it was disappointing that the planned route, which included lots of open farmland and moorland, had to be altered without notice. This was due to the announcement, first thing on the Saturday morning, of emergency foot-and-mouth disease restrictions to countryside access. Fortunately, the Isle of Man has a great range of habitats within easy reach, and we were able to explore alternative places of interest.

Ten of us met at Dhoon Glen (SC460865), which has broadleaved woodland on either side of a steep, rocky gorge, leading down to the sea. The gorge features a very high and spectacular waterfall (the Ineen Vooar – 'Big Girl'!) and several smaller falls, providing lots of opportunities for damp- and shade-loving species. Ferns are particularly abundant, and we were pleased to find several more plants of *Dryopteris aemula* (Hay-scented Buckler-fern) than have previously been recorded here. In addition to luxuriant banks of commoner ferns, we encountered several patches of *Asplenium marinum* (Sea Spleenwort) growing on the cliffs and rock outcrops on the beach. These craggy outcrops have become separated from the adjacent cliff, and are very exposed to the island's notoriously strong maritime gales. This is evident from the tiny, stunted *Quercus petraea* (Sessile Oak) 'trees' which, despite substantial trunks of up to 30cm diameter, are only a metre tall at most.

Having lunched at Dhoon Glen, we abandoned the planned trip to Snaefell summit (a sheep-grazed site, hence off-limits), and proceeded instead to the northernmost tip of the island, Point of Ayre (NX468048). This consists of a wide expanse of shingle beach and low, de-calcified dunes. Nobody managed to find the elusive *Mertensia maritima* (Oyster-plant) this year, but plenty of other shingle species were in evidence, including *Glaucium flavum* (Yellow Horned-poppy), *Atriplex glabriuscula* (Babington's Orache), *Atriplex prostrata* (Spear-leaved Orache), *Cakile maritima* (Sea Rocket), *Polygonum oxyspermum* (Ray's Knotgrass) and *Eryngium maritimum* (Sea Holly). The adjacent bare ground also had substantial patches of *Erodium maritimum* (Sea Stork's-bill) and *E. lebelii* (Sticky Stork's-bill).

The low-growing Ayres dune-heath vegetation was distinctive as ever, with localised mats of *Rosa spinosissima* (Burnet Rose) growing at around 5cm tall, and lots to offer the lower plants enthusiasts, notably *Usnea articulata* (Sausage Lichen) – usually a saxicolous species – growing on bare, sandy ground, and extensive *Cladonia* cover. On the most lichen-rich areas we encountered *Erica cinerea* (Bell Heather) growing through a grey carpet of *Cladonia portentosa*, *C. arbuscula*, *C. fimbriata*, *C. floerkeana*, *C. uncialis* and *Hypogymnia physodes*, amongst other lichens. On the way home, an attempt to find *Senecio doria* (Golden

Ragwort) at its former station nearby proved unsuccessful. Unfortunately, the wall by which it has been recorded for several years running appears to have been re-built and given a generous coat of white paint.

On Sunday, we headed south to Fort Island (SC295674). This is a tiny outcrop of Langness, itself a spit of rocky coastland extending from the south-east coast. As with the sites visited on the Saturday, it is part of a designated Area of Special Scientific Interest. Several plants which are Protected Species on the Isle of Man were re-found, including *Blysmus rufus* (Saltmarsh Flat-sedge), *Oenanthe lachenalii* (Parsley Water-dropwort) and a single plant of *Limonium vulgare* (Common Sea-lavender). There was also a nice surprise: the beds of *Juncus gerardii* (Saltmarsh Rush) turned out to contain a localised patch of *J. compressus* (Round-fruited Rush) – the latter being a species not previously recorded on the island.

The weather worsened around Sunday lunchtime, hence I am extremely grateful to Fenella Butler, who gave us the chance to escape the downpour and eat in warmth and comfort in her lovely cottage next to our final port of call: Scarlett Point (SC256662). Here the shallow, brackish pools had abundant *Potamogeton pectinatus* (Fennel Pondweed) and *Chara* species (stoneworts), with fringes of *Eleocharis quinqueflora* (Few-flowered Spike-rush), *E. palustris* (Common Spike-rush), *E. uniglumis* (Slender Spike-rush) and occasional *Isolepis cernua* (Slender Club-rush). The adjacent grassland had a rich assortment of plants, including *Astragalus danicus* (Purple Milk-vetch), at one of its rare western stations, and another welcome discovery: a thriving patch of *Trifolium fragiferum* (Strawberry Clover), a species not seen on the island for several years, and never before at this location.

The meeting was rained off for good before the second day was over, but fortunately those members who stayed on the island a little longer into the week were able to continue their botanising under better conditions. I would like to thank all those who helped to make this weekend a success despite the less than ideal circumstances.

Arisaig, Westerness (v.c. 97), 25th – 26th August

IAN STRACHAN

Arisaig is a popular place to visit for its sandy beaches and scenic views of the Small Isles and Skye, but sunbathing was not on the agenda for 9 botanists who met there over the August Bank Holiday weekend. Coming from diverse parts of Scotland, we had four main aims – to look for notable species, to compile tetrad lists, to learn from each other, and above all to enjoy ourselves – and I think we were successful in all four.

Saturday was spent in hectad NM68, one of the richest in the vice-county. Our first objective was Loch nan Eala, in particular to find one of the specialities of Westerness, *Carex buxbaumii* (Club Sedge). We soon found the distinctive fruiting heads of this species and estimated the size of the main colony, which seemed similar to previous records. The surrounding fen had a good selection of wetland plants though *Dryopteris carthusiana* (Narrow Buckler-fern) eluded us. We followed the track south through birch woodland, noting *Dryopteris aemula* (Hay-scented Buckler-fern) and *Bromopsis ramosa* (Hairy-brome) along the way.

We arrived in sunshine at picturesque Loch Dubh to find a dancing swarm of red-legged St Mark's flies (*Bibio* sp.). A base-rich flush gave us one of the joys of late summer, *Parnassia palustris* (Grass of Parnassus), along with *Scutellaria minor* (Lesser Skullcap), *Pinguicula lusitanica* (Pale Butterwort) and some impressive specimens of the spider *Araneus quadratus*! Loch Dubh is a Site of Special Scientific Interest because of its population of *C. buxbaumii* and some of the group stumbled down to the loch edge through tussocks of *Molinia caerulea* (Purple Moor-grass) to assess this sedge's status for Scottish Natural Heritage. The number of flowering heads found was similar to that in 2000, but much lower than counts from the 1990s, perhaps related to the absence of grazing, following enclosure of a large area of the estate to encourage natural regeneration of woodland. Whether the plant itself is declining in abundance is difficult to say.

We headed west to the coast, and a new tetrad. At Camas an t-Salainn we found saltmarsh with large beds of *Bolboschoenus maritimus* (Sea Clubrush) and, more unusually, *Schoenoplectus tabernaemontani* (Grey Clubrush). Lowland members of the group were surprised at my excitement on finding a fringe of *Epilobium hirsutum* (Great Willowherb) at one of its few localities in the vice-county. We followed the coast back to Arisaig and were pleased to find a new site for *Juncus maritimus* (Sea Rush). But the prize find to end the day was at the car park – *Coronopus didymus* (Lesser Swine-cress), an alien, but a first for Westerness. The evening was spent in the pub with

specimens and field guides competing for space with fish and chips, to the amusement of the locals.

Sunday followed a similar weather pattern to Saturday, with early dampness turning to sunshine. We started at Camusdarach, the beach made famous by the film 'Local Hero'. We noted *Sparganium erectum* (Branched Bur-reed) and *Hypericum tetrapterum* (Square-stalked St John's-wort) in the stream, then made for the dunes, where *Thalictrum minus* (Lesser Meadow-rue) and *Teesdalia nudicaulis* (Shepherd's Cress) were amongst our finds. In a remnant slack behind the dunes we identified *Persicaria hydropiper* (Water-pepper), but less welcome was a small patch of *Crassula helmsii* (New Zealand Pygmyweed), another first (and last?) for v.c. 97. Ironically I had just written in *British Wildlife* that *C. helmsii* had not yet reached Westerness!

Half the party continued to explore the coast in the afternoon, with notable records for *Catabrosa aquatica* (Whorl-grass) and *Polygonum oxyspermum raii* (Ray's Knotgrass), whilst I led the remainder up to a chain of three delightful lochs north of Loch Morar - Loch a Bhada Dharaich, Lochan a Mheadhoin and Loch an Nostarie. Westerness is not renowned for its aquatic plants, but I knew that these lochs were better than average, with the nationally rare *Najas flexilis* (Slender Naiad) of especial interest. In an attempt to focus on plants I left my insect net behind, though dragonflies such as the enigmatic Highland Darter *Sympetrum nigricans* kept distracting us! Keen to try out recently acquired skills from Nick Stewart's excellent aquatics course at Kindrogan, but without a grapnel, due to the presence of *N. flexilis*, we had to settle for a washed-up fragment of *Potamogeton berchtoldii* (Small Pondweed) in Loch a Bhada Dharaich, and *Utricularia ochroleuca* (Pale Bladderwort) growing in the shallows; but fine displays of *Nymphaea alba* (White Water-lily) in all three lochs made up for any disappointment. A return visit after autumn winds is required!

One of the group took a detour to find a very nice soakway through a patch of bog with much fruiting *Sparganium natans* (Small Bur-reed), *Utricularia minor* (Lesser Bladderwort) and *Chara virgata* (Delicate Stonewort). Some healthy stands of *Osmunda regalis* (Royal Fern) on the margin of Loch an Nostarie gave us one of many new hectad records, to end a productive and enjoyable weekend.

Watersmeet, Lynton, North Devon (v.c. 4), 29th – 30th September

TIM RICH & DAVID CANN

The aim of this joint meeting between the BSBI and the Devonshire Association for the Advancement of Science was to map the distribution of the four endemic *Sorbus* (whitebeams) in the superb Watersmeet woodlands owned by the National Trust.

Watersmeet is best known for both the *Sorbus subcuneata* (Slender Whitebeam) and the strongly lobed form of Devon whitebeam which became known as *Sorbus* 'No Parking', after a notice nailed to a tree in the 1930s (the notice has been replaced by one on the wall saying 'Staff parking only'). Isoenzyme studies by M.E. Proctor, M.C.F. Proctor and A. Groenhof in the 1980s (*New Phytologist* 112: 569-575) showed that the No Parking Whitebeam is distinct from the true *Sorbus devoniensis* (Devon Whitebeam) and is endemic to Watersmeet and the adjacent Sillery Sands. Devon Whitebeam does not occur at Watersmeet, although this is where most botanists think that they have seen it! Watersmeet also holds a small population of *Sorbus porrigentiformis* (Grey-leaved Whitebeam) and the type locality for *Sorbus vexans* (Bloody Whitebeam). Some population data for all four species was available from the surveys carried out in 1981-1985 by M.E. Proctor, which reported at least 32 Bloody Whitebeams, one Grey-leaved Whitebeam, 18 Slender Whitebeams, 13 No Parking Whitebeams and 106 undetermined trees of these latter two species.

The first shock of the week was the sheer scale of the woodlands, much bigger than Tim had remembered! The second shock was the heavy rain all Saturday morning, which began shortly after the leaders had explained how the survey was to be carried out and demonstrated how to identify the species – more like 'Watersdeep' than Watersmeet. Fortunately Sunday was much more pleasant.

The same survey methods were used as for our 2004 *Sorbus bristoliensis* (Bristol Whitebeam) survey (*Watsonia*, in press). The botanists split into groups of 2-3 and headed for the woods. It was often not easy to see the trees for the wood, but leaves on the ground were often a good way to find them amongst the oaks. For each tree, the location was noted, using hand-held GPS units, the height was estimated by eye, the girth measured at 1.3m, the growth form noted as coppice or maiden, and fruit was noted if present. The GPS units proved surprisingly accurate, despite the dense woodland

canopy and heavy cloud. The average difference between seven units at the start of the day was under 4m in either direction (maximum difference 15m E-W and 16m N-S), and the average reported accuracy was +/- 12m.

During the course of the weekend and the following weeks, 478 whitebeams were recorded, of which there were 17 Bloody Whitebeams, 3 Grey-leaved Whitebeams, 270 Slender Whitebeams (82% of the world population), 108 No Parking Whitebeams (99% of the world population) and 69 undetermined trees of the latter two. *Sorbus aucuparia* (Rowan) is widespread in the woods and was not mapped. The three-fold increase in numbers is probably largely due to more intensive survey.

Some trees recorded by M.E. Proctor, which were mapped more accurately, could not be re-found and are presumed to have gone. It was surprising how clustered the populations of both Slender Whitebeam and No Parking Whitebeam were to the central Watersmeet area, where the coppice overlies Lynton Slates. Very few trees occurred outside this central area on Hangman Grits to the north, or to the south, where the woodlands change to elm-ash-oak or beech plantations on superficial deposits. Often areas only had one whitebeam species or another, though sometimes they grew intermixed. There was a surprising amount of regeneration, given the amount of deer present, with many saplings in the understorey having lost most of their leaves. One Slender Whitebeam was even spotted behind the excellent tea rooms by Paul Gainey whilst taking refreshments!

Additional botanical interest was provided by the large populations of *Euphorbia hyberna* (Irish Spurge) lining the paths, *Sedum forsterianum* (Rock Stonecrop) and one clump of *Polypodium cambricum* (Southern Polypody) on acid slates, found by Mark Jannick.

We are grateful to the 23 botanists who helped during the weekend, and who seemed to enjoy it despite the hard labour. Mind you, in the sunshine, it is a lovely place to be. The results will be written up in due course.

Correction to meeting report in *BSBI News*, 106: 50-52

Browndown and Gilkicker, South Hants (v.c. 11) 2nd June 2007

MARTIN RAND, *21 Pine Road, Chandlers Ford, Eastleigh, Hants., SO53 1LH*

Through a quirk of Microsoft WORD's revision markup, some corrections in the trip report I submitted for the Browndown meeting became misinterpreted as additions. Most were trivial, but as the occurrence of *Erica tetralix* at this site has been a matter of some contention locally, I would be grateful for the chance to say that we did **not** see this species during the meeting.

REPORT OF THE ANNUAL EXHIBITION MEETING 2007

ALAN SHOWLER, *12 Wedgwood Drive, Hughenden Valley, High Wycombe, Bucks., HP14 4PA*

Some 150 members and guests attended this meeting at Baden-Powell House, adjoining the Natural History Museum, ostensibly to view the 37 exhibits; but so much time is taken up with talking that one wonders – are exhibits actually needed?

I fear that this report will be shorter than usual. This is due in part to my late arrival, owing to the abysmal service on London Underground, and also to having abstracts for only three exhibits (plus two more added in proof). It is really not possible to report on each without the provision of something to say what is on show, unless the title on the programme says all that the exhibitor wishes to put on record.

Posters were displayed by: **The Institute for Analytical Plant Illustration**: 'Native climbing plants' (always hoping for new members) and **Fred Rumsey**: 'New ferns to the British Isles, native and alien' (which included an account of the recently discovered *Lycopodium lagopus* in Scotland)

Another poster, displayed by **Fred Rumsey & Helena Crouch** on 'The genus *Pteris* in the British Isles' was presented with the intention

of soliciting records of these ferns from members of the BSBI for a forthcoming paper to be submitted to *Watsonia*. A key was provided to separate the five species of *Pteris* found naturalised in the British Isles. *Pteris cretica* is apparently the most commonly naturalised species, although many records may actually be in error for *P. nipponica* and *P. multifida*. Photographs showed typical *P. cretica* and a cultivar, 'Wimsettii', both naturalised in basements in Bath. *Pteris nipponica,* which is usually variegated, has been found recently in 4 London sites and in Cambridge. Photographs demonstrated the distinctive frond shape of adult and juvenile plants in Borough and Mayfair respectively. *Pteris multifida* has now been recorded from 6 vice counties. Photographs showed plants in basements in Bath and Cambridge and down a well in Beauworth (v.c. 11). *Pteris tremula* is a large fern with more divided fronds than other species, but has had a more transient existence, being killed by harsh winters. A photograph showed a handsome plant at a former site in Westminster. *Pteris vittata* is also of borderline hardiness. It has persisted on the walls of a heated greenhouse in Oxford Botanic Gardens since 1924 and a photograph of the single extant plant was displayed.

Ailsa Burns extolled the delights-to-be of the BSBI Spring Meeting at Slapton on 13th - 15th June 2008, and much more sadly reported on the death of Bridget Ozanne, v.c. Recorder for Guernsey, showing a report on her busy life from the local press. She was also involved with the now annual Photographic Competition which this year had the theme 'My plant of the Year'. The winner was judged to be Kath Pryce for her superb photo of *Hymenophyllum tunbrigense* which is here reproduced on the inside of the back cover.

Ruth Berry, with 'Art in Nature', showed as usual more of her splendid photos and also combined with **Michael Foley** to show plants in Spitsbergen.

Michael Foley also showed '*Polemonium boreale* and *Saxifraga platysepala* - two interesting high arctic plants'. His abstract reads: "In the high arctic the growing season is very short and insect pollinators scarce. In order to survive, many species have found it necessary to evolve less orthodox methods of reproduction. In such a harsh environment, plants are of small stature, usually just a few centimetres tall. However, some possess relatively large, brightly-coloured flowers in order to attract pollinators, whereas others propagate vegetatively in less orthodox ways. *Polemonium boreale* (Polar Jacob's-ladder) and *Saxifraga platysepala* (Spider-plant), two species occurring to nearly 80° N in Spitsbergen (Svalbard), were selected as examples. Photographs and preserved material of each were shown, the large, attractive, bright blue flowers of the former species, and the long tentacle-like runners of the latter exemplifying two such methods. A brief outline was also given of their world-wide distribution and ecological requirements".

Books on show included **Trevor Evans'** new and excellent *Flora of Monmouthshire* and the at-last-complete Sedge Handbook by **Jermy, Simpson, Foley & Porter**, produced by **Gwynn Ellis**, who, incidentally, also produced 'Gwynn's nearly useful list' – an Excel spreadsheet of over 10,000 taxa reported from the British Isles with scientific and vernacular names, v.c. distribution, details of status in various publications, altogether over thirty fields covering such diverse attributes as conservation designations, habitats, dates of first records, altitude records, etc., etc. Copies are available free of charge if you send him a blank CD with return postage. Back to the books, **Rose Murphy** and **Ian Bennallick** showed a draft of a 'Mini-handbook of fumitories of Britain and Ireland', which will no doubt include Rose Murphy's '*Fumaria agraria* in Britain', carefully described and drawn. **Clive Lovatt**, with 'Bristol botanists', presaged a further publication in the future in 'Towards a new history of Bristol botany', detailing the work of ten of these people. **John Poland** hopefully should be in print soon, but contented himself with a 'Vegetative key to the British flora: identification quiz', which your reviewer had no time to attempt (but would have liked to). It was no

doubt fiendish, but this means you will need to buy his book to solve your difficulties.

Jane Croft showed lists both of Field Meetings now gone and those to come in 2008. Another season of enjoyment will result from her hard work; while the 'BSBI postcards' from **Margot Godfrey** may well bring back memories of past meetings and outings. **Ian Bennallick** had three exhibits: 'Identifying Important Plant Areas in Cornwall'; 'Recording in Cornwall in 2006-2007'; and 'Identifying declining flowering plants and ferns in Cornwall'. **Margaret Bradshaw** had a similar theme in 'Upper Teesdale: where have all the flowers gone?', noting general decreases, notably in *Alchemilla*. Her plea was that 'now is payback time – so get out there and encourage others to enjoy and value our flora'. Not all is doom and gloom, however. **Simon Leach**, with tables, figures and photographs, reported on 'Shore Dock at Soar Mill Cove, S. Devon', where it has made a sudden appearance, and in large numbers. **Geoffrey Kitchener** and **Alan Leslie** gave details of 'Tournefort's Willowherb: a Mediterranean taxon in Britain'. This is *Epilobium tetragonum* ssp. *tournefortii*, a fine large-flowered plant newly discovered on the Royston by-pass. **Alan Leslie** also showed 'New Cambridgeshire hybrids'. There were more hybrids from **Alison Lean**, most notably *Crataegus laevigata* × *Mespilus germanica* = ×*Crataegaemespilus grandiflora* (Haw-medlar). Another unusual plant was from **Jacqueline Maynard** and **Peter Benoit**: '*Cardamine pratensis, flore pleno* in v.c. 48'; while a normal plant was shown by **Helen Proctor** in 'The distribution of White Helleborine in Friston Forest', with photographs and discussion. It was shown that there was a preference for level ground, low in nitrogen and other nutrients, near hilltops and with a closed tree canopy. **Jean Coombes** discussed 'Trees and woodland'.

Roger Veall gave us 'News from Sark, 2006-7', giving specimens and/or photographs of a range of species with first records outside gardens; 'Lords-and-ladies', where "results of recent work on the plants in Sark by Rob Watereman and Carolyn Helyar were shown, with the preliminary conclusion that the hybrid with Italian Lords-and-ladies occurs, but that there is no confirmed record of the latter"; and also photographs of several roses that had escaped from gardens, requesting comments on their names.

George Hutchinson provided a check-list of the 180 *Cotoneaster* taxa at **NMW**, an increase of 58 since the last list, produced in 2002. Twenty six taxa have been recorded from the wild in Wales with representative specimens at **NMW**. Jeanette Fryer was acknowledged for updating nomenclature, Gordon Hanson for donating *Cotoneaster* specimens (confirmed J. Fryer), and others for sending in material for identification.

Sean Karley with 'Help!' proved useful, as always, in identification of unknowns, but will anyone offer to help him? After 27 years, he would like someone else to take over – offers to him please. An alternative to the above might perhaps be hinted at by **Richard Gornall** as self-help, in 'Have you seen your local herbarium?' **Mark Spencer** showed 'Recent finds in London', and **Jacqueline Brown** again exhibited work on 'Disentangling bindweeds – a molecular and morphological study of British *Calystegia*' (funded by the BSBI).

As usual, **Mervyn Southam** was exhibiting Apiaceae (what else?), this year with a splendid display of *Bupleurum*, which has 39 species in Europe, the largest genus in the family. **Tim Rich** showed photos and had information on 'Watersmeet Whitebeams', and more information on these can be obtained from the appropriate field meeting report in this issue of *BSBI News*. To taper off, as it were: Tim also had a 'Very small exhibit' – ten ordinary plants of very small size, ranging from *Aira caryophyllea* (Silver Hair-grass) to *Euphorbia exigua* (Dwarf Spurge), which we were invited to identify, if we could find them! Most people did, with the aid of a hand-lens (find them, that is), but one disappeared before the end. Or perhaps I just couldn't see it?

BOOK NOTES

Book reviews for *Watsonia*: comments on the duties of reviewers

ARTHUR CHATER, *Windover, Penyrangor, Aberystwyth, SY23 1BJ*
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Traditionally *Watsonia* has been the place for serious scholarly reviews of newly published books. Short listings announcing the receipt of books are published as 'book notes' in *BSBI News*, along with a descriptive paragraph where the book was judged not to be of sufficient interest to warrant a full review.

Book reviews are often the most eagerly read items in learned journals and other scientific and natural history periodicals. They can be very influential, and are popular because they are often the only items to express in an unfettered way the personality of the writer. Traditionally they are only lightly copy-edited, only gross errors of fact being corrected, and in refereed journals they may be the only items to escape the guarantee of scientific validity provided by the referee system. Usually all is well with them, but sometimes a review is so inadequate or unjust that there seems legitimate concern whether the process is working properly. Once a reviews editor has chosen a reviewer and commissioned the review, it can be impossible to remedy matters if the resulting review proves to be unworthy. It is almost unheard of for a review to be rejected outright by the editor, as (unlike a scientific paper) it represents a considered opinion rather than a testable piece of research. We therefore feel that some 'hints for hard-pressed reviewers' may be in order. Copies of this article will be sent to those who agree to review a book in future.

The main duty of a book reviewer should be to the potential readers of the book. The latter should get an idea from the review whether it is worth their reading or buying the book. At the same time, the reviewer must be fair, but not over-indulgent to the author, praising or chiding where appropriate. The reviewer should, where relevant, compare the book with any competitors, but should bear in mind that complex works like identification Floras may require years of use by many people before their merits can be properly assessed.

Choosing the right reviewer is a vital aspect of the process. Obviously it should be someone who knows the subject, or who is open-minded enough to be willing to learn from the book. If the potential reviewer has written on the same subject, or is known to have different views from the book's author or is in any other sense a rival, he should be chosen only if he can be relied on to give an objective and fair assessment. This seems obvious, but reviews can and do go wrong in this way.

Listing of trivial errors such as misprints usually only serves to show that the reviewer has read the book, but this can be better done simply by stating that they occur. Serious and misleading errors should of course be noted, especially if it is the sort of book likely to go into a second edition. It is very appropriate, and helpful, to point out where the publisher has let down the author, for example by pricing the book too high, or by poor reproduction of plates, or to praise the publisher for the pricing and quality of production to encourage others. A surprising number of reviews fail to mention quite basic points: is the book readable; does it contain new or useful information; is it better or worse than its competitors; who is it aimed at; should the target reader buy it; is it good value?

For field guides, the reviewer should say whether it is in fact usable in the field; how comprehensive is its coverage of species (a crucial and often overlooked matter); does it work? If the book is in a standard category, e.g. a county Flora, a field guide or a monograph, how does it compare with others

in the same area and in the same category; does it set new standards, is it an exemplary work? It should be possible, and it is very helpful, to indicate such things without being invidious. It is especially useful where appropriate to hold up a book, or a particular feature of it, as a good example for future authors of similar works to follow.

Book reviews serve a variety of purposes for those involved. For the publisher, a favourable review is a useful marketing tool; for the author, it can provide valuable feedback on their efforts and as stated above it is often the part of the journal to which many readers turn before tackling the main content. But in order to justify inclusion in the journal, the book review must cover areas relevant to the scope of the journal and of the Society, which means that some books which the author or publisher wishes to see reviewed do not in fact warrant such a treatment.

Publishers of new books may appreciate some guidelines about which books are suitable for a full review. First among our subject areas worthy of coverage are, naturally, national Floras and field guides, British and Irish county Floras, atlases and monographs, including the Society's own Handbooks. Equally suitable for inclusion are works on the history of botany in our area, and biographies of major botanical figures. European field guides may be covered if their content is relevant to a significant part of the British and Irish floras, as are books covering major holiday regions aimed at visitors rather than resident botanists. Also deserving of treatment are significant reports on conservation of the wild flora, county Red Lists and the like, and we naturally welcome books in other categories that will be of particular interest to our members.

Books submitted to us but not sent out for review are treated as unsolicited gifts to the Society, and may be passed on for sale or donated to institutions that host aspects of the Society's operations. Copies of the published reviews, usually as PDF files, are sent to the publisher and/or author. The reviews editor is always open to suggestions from BSBI members about books they feel worthy of review, though if a title is requested from a publisher, the journal is then under an obligation to review it.

Further reading

CHATER, A. 1990. Financing the publication of local Floras. *BSBI News* **55**: 13-15.

PEARMAN, D. 2002. The ideal Flora. *BSBI News* **91**: 60-64.

PEARMAN, D. 2003. Economics of Flora publishing. *BSBI News* **93**: 70-72.

Conserving the flora of limestone dry stone walls: an advisory booklet

JOHN PRESLAND, *175c Ashley Lane, Winsley, Bradford-on-Avon, Wiltshire BA15 2HR*

This colourful 12-page booklet (Published by the Wiltshire Natural History Publications Trust, 2007) is a guide to conserving the community of plants, lichens and fungi which grow on limestone dry stone walls. Many volunteers are engaged throughout the country in the valuable work of building and repairing these walls. So far, however, there has been little guidance on how to do this in a way which promotes the development and survival of this "flora". It is based on a study of the flora of dry stone walls in the parish of Winsley in West Wiltshire (see next issue) and at the southern end of the Cotswolds, and on a range of literature on such walls elsewhere in the Cotswolds, in the Mendips and on dry stone walls in general. Beginning with an introduction which explains the derivation, rationale and scope of the contents, it goes on to describe the nature and variety of dry stone wall structures and the importance of this habitat for wildlife. An extensive section then provides help in identifying key species, with short, informative descriptions and colour photo illustrations. This enables a description of the flora of a particular wall to be described, to help make decisions on its priority for conservation. The booklet concludes by providing point-by-point guidance on conservation measures. These should be helpful for

conservation of dry stone walls throughout the country, even when they are not built of limestone, though the precise composition of the flora will differ between areas and will be very different for walls made from acid rocks. The booklet should be helpful to all involved in the building and repair of dry stone walls, to those planning and organising their conservation, and to botanists with an interest in the flora of this particular habitat.

The booklet is available from either of:

- Dry Stone Walling Association of Great Britain (DSWA), Westmorland County Showground, Lane Farm, Crooklands, Milnethorpe, Cumbria LA7 7NH. Tel: 015395 67953. Website: www.dswa.org.uk. Email: information@dswa.org.uk.
- Summerfield Books, 3 Phoenix park, Skelton, Penrith, Cumbria CA11 9SD. Tel: 017684 84909. Website: www.summerfieldbooks.com. Email: info@summerfieldbooks.com.

The wild flowers of the Isle of Purbeck

EDWARD PRATT, *7 Bay Close, Swanage, Dorset, BH19 1RE*

I am grateful for the opportunity to explain the thinking and purpose behind *The wild flowers of the Isle of Purbeck, Brownsea and Sandbanks* which will be published in April, because it is not a flora in the usual sense. It arose from concern about the lack of up-and-coming botanists. Its chief purpose is to encourage more people into the joys of flower-hunting, and not to be put off by the number of flower species, nor by the preference of scientific names over English names.

The 'New Atlas' showed that Purbeck is the richest area in the British Isles in terms of numbers of native and anciently introduced species of higher plants. So what better place to see them and to learn to identify them? The book gives precise directions to the localities of less common flowers. Those who use it will not have to search a tetrad for a species, or even the 10,000 square metres of a six-figure map reference. Many localities are given to the nearest ten metres - for example 'S. side of road at Ailwood Farm' or '20m. N. of A351 by path 4'. Use is made of parish public path and bridleway numbers, which are shown on the sketch maps in the book, so as to avoid longer descriptions like 'path from Furzebrook road to near Cotness', which would add considerably to the length and price of the book.

The localities given are nearly all places where plants can be seen without permission having to be sought - by public rights of way, or on land which is either open access under the Countryside and Rights Of Way Act 2000, or which is regarded as open access by the owner - like The National Trust or the Dorset Wildlife Trust. These open areas are shaded on the sketch maps. Just a few private locations are given imprecisely, in cases where the species can be seen on an annual organised walk. Also no locations are given for seven species of orchid which are confined to one or two localities, because there has been some digging of rare orchids in recent years. So the book is not a complete record of the distribution of species in the area. The recent *Flora of Dorset* gives most such distributions.

Many readers will not be used to using map references, so eight-figure ones are only used in a few cases when there is a lack of physical reference points, chiefly on heaths. Scientific names appear with English ones in the Plant List, but only English names are used in the Introduction.

There is, however, much in the book which will be of interest to those who are not beginners, for example points of distinction which work for distinguishing similar species, some descriptions of hybrids, and good numbers of locations for specialities of the area. There is also a brief epilogue, which draws on references to flowers in the Bible.

Similar books could be written for some other parts of the country. It remains to be seen whether this will be the first of a new

genre of guides. Many people come to holiday in Purbeck and Sandbanks for their beaches, or to walk the Coast Path, but some other parts of the area are almost deserted, even in the height of the holiday season. They await discovery.

There will be a pre-publication offer for the book on the website at: www.bramblebybooks.co.uk from 5th February.

References:

BOWEN, H.J.M. 2000. *The flora of Dorset.* Pisces Publications, Newbury.

PRESTON, C.D., PEARMAN, D.A., & DINES, T.D. (eds.) 2002. *New atlas of the British and Irish flora.* Oxford University Press, Oxford.

Launch of the *Flora of Monmouthshire*

ELSA WOOD, *The Nurtons, Tintern, Chepstow, Gwent, NP16 7NX*

On 5th December between 70 and 80 people gathered for the launch of the '*Flora of Monmouthshire*' by Trevor Evans; several were BSBI members. This was an eagerly awaited volume and several of us there had been involved with the project since its inception. There were representatives from the organisations that had sponsored the book: The Chepstow Society, Monmouthshire Meadows Group, SEWBReC (The South East Wales Biological Records Centre), Wild Flower Society and Monmouthshire County Council. There was also representation from other organisations.

The fact that the majority of the people that had been invited, attended, was a measure of the affection and high regard with which Trevor is held.

The formal proceedings began with welcome and introductions from Dr Stephanie Tyler. Tim Rich then gave an amusing introduction to Trevor, effortlessly bouncing off Trevor's own sense of humour!

He then read out messages from those unable to attend; most notably a tribute from Joan Ruddock MP (plus her order for the book!). There were many congratulations from BSBI recorders, from Trevor Dines and Ray Woods from 'Plantlife' and several others.

Amongst the accolades:

'One of the best and most readable floras to be produced for a long time....'

'A wonderful book to dip into...'

'Beautifully illustrated...'

'A valuable field reference work as well as an excellent atlas flora..'

'A great achievement to produce not only the flora but also the "Rare Plant Register for Monmouthshire" in the same year'

Trevor then reminisced about some of the notable botanical finds in the county and about some of the recorders both those living and those now pushing up *Bellis perennis*. He also thanked people involved in the production of the flora.

Dr George Peterken (president of the Gwent Wildlife Trust) gave another tribute and bestowed upon him the honour of Vice-presidency of the Trust for his services to nature conservation in the County.

The relaxed venue of Llandogo Millennium Hall allowed for attendees to meet each other, chat to old friends and enjoy a glass of wine and a bite whilst Trevor signed books (see Colour Section, Plate 4).

I think it was a memorable evening for the v.c. 35 recorder to treasure in the days to come.

So well done, Trevor – we now look forward to the 'Supplement to the *Flora of Monmouthshire*' which I'm sure he has already started!

OBITUARY NOTES

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

* An obituary will be published in *Watsonia.*

With regret we report the death of **Prof. Jack Hawkes***, renowned for his work on the popato in S. America. Dr Sandy Knapp, Dept. of Botany, The Natural History Museum writes:

'Potatoes (*Solanum* spp. related to *S. tuberosum* L., the cultivated potato) are among the world's most important crops and the study of their taxonomy was fundamentally changed by Jack Hawkes' work. Even though current taxonomic opinion is changing some of his species concepts, his influence on the way in which potato taxonomy is done has been profound. His extensive field work (vividly evoked in his diaries, published in 2004), examining the plants in their native habitats, coupled with the establishment of germplasm collections, was pioneering, and is still emulated today.

Hawkes, J.G. 2004. *Hunting the wild potato in the South American Andes: memories of the British Empire potato collecting expedition to South America 1938-1939.* H. Stolk, Boskoop (privately published)'.

Jack joined BSBI in 1953 and in 1966 he organised a Conference for the Society at his University of Birmingham on: *The reproductive biology – taxonomy of vascular plants* and edited the Report. This was the first of a number of Conferences on different aspects of taxonomy organised by the Society in the 1960s & '70s.

In 1971 *A Computer-mapped Flora* A study of the County Flora of Warwickshire was published with joint authorship of D.A. Cadbury, J.G. Hawkes & R.C. Redett. This pioneering County Flora was the first to be computer mapped; the Preface states that the Flora 'brings a completely new look to County Flora work' and explains that computer techniques constructed the maps. So familiar to us now, but at that time new, and Jack Hawkes wrote a number of papers on computer mapping.

Prof. Douglas Henderson, FRSE : Regius Keeper, RBG Edinburgh 1970-1987 & Queen's Botanist, a member since 1955, died on November 10th 2007, and we are grateful to Alan Bennell for the following note.

It was with much sadness that I learnt that Douglas Henderson passed away on Saturday 10th November, 2007.

Since retiring from the Garden in 1987, Douglas had been based back in his home territory of Wester Ross, latterly in the same nursing home as his devoted wife Margaret in Aultbea. He had suffered a stroke the previous weekend and been in the care of the Raigmore Hospital in Inverness. His daughters Barbara and Jennifer, together with Margaret had been able to visit him. Regrettably his son Neil, resident in Australia, was unable to get back.

Douglas was a true natural historian, who had trained as a plant pathologist but sustained a lifelong interest in all groups of plants alongside his particular fascination for fungi. He served for 44 years as BSBI vice-county Recorder for his beloved Wester Ross and had continued to play an active part in field work in the area until recently. Among his diverse mycological and higher plant publications, he co-authored the standard reference work for Uredinales : *The British Rust Fungi.*

He was promoted to the role of Regius Keeper (the 12th to hold the title) in the RBGE's tercentenary year, shortly after the Garden had transferred out of the care of the Ministry of Public Buildings and Works into the Scottish Office, still as a full Civil Service body within the Department of Agriculture and Fisheries for Scotland. Douglas's reign saw the Garden through its final 16 years as a full government institute, through to its current incarnation as an NDPB, with the appointment of the first Board of Trustees (in 1986).

Over that period he negotiated major expansions of the Herbarium and Library; he personally led the installation of the first electron microscope in support of his ultrastructural researches on rust fungi - and pollen grains (including a fine paper on *Meconopsis*); he presided over the start of the Flora of Bhutan project; over the installation of the Peat and Rock houses; the organisation of the development of the café at Benmore; the first opening of Inverleith House as an exhibition venue; the growth of schools education; the initial computerisation of plant records. Arguably his robustly obstinate

style of leadership enabled the RBGE to begin to exploit the major innovations of the 1970s and 1980s, whilst ensuring that the core taxonomic work on plants and fungi prospered, and while the political vicissitudes that were eroding the scientific base of many other traditional research organisations were firmly parried.

Beyond RBGE, Douglas was very active in the operations of the Royal Society of Edinburgh, the British Mycological Society, The Botanical Society of Edinburgh (now BSS), and networked keenly with selected fellow Directors, especially via the 1970s club. In retirement, he not only remained botanically active, but sustained a deep interest in the Garden and its work, including serving as a member of the Sibbald Trust.

He will be fondly remembered and widely missed.

We are grateful to Trevor James for the following note on **Prof. Sir John Burnett.**

A brief notice of the death on 22nd July 2007 of Sir John Burnett (former Vice-Chancellor of Edinburgh University and founding Chairman of the National Biodiversity Network Trust) was given in the last issue of *BSBI News*, but it had not been possible to produce a fuller appreciation of his contribution in time for publication. The following has been compiled from material provided by others in the production of fuller obituaries published elsewhere. Members of the BSBI may have known of Sir John mostly as a referee for the genus *Veronica*, particularly for the water speedwells. He had also briefly been a Recorder for Oxfordshire (v.c. 23) before his academic career took him elsewhere. His main taxonomic and research interests lay with mycology and vegetation studies, and for the latter he is well-remembered as having steered the project to describe the *Vegetation of Scotland* (1964), still a seminal work in understanding the natural vegetation of Britain. But members may not have appreciated quite how influential he had been in so many other areas that have impinged on the work of the BSBI. He had played a vital role after his formal retirement as Edinburgh's Vice-Chancellor, as first Deputy and then Acting Chairman of the former Nature Conservancy Council from 1987-1989, when the Government was in the process of breaking the organisation up. His interventions resulted in the setting up of the Joint Nature Conservation Committee, and hence maintaining a country-wide oversight of conservation in the UK. Not content with that, he had also been a strong advocate for, and supporter of the role of "amateurs" in the business of biological recording, and as a part of this was instrumental in setting up the Coordinating Commission for Biological Recording, which was the result of pressure from voluntary organisations and people in museums etc. to get this activity more securely funded. The outcome of this work resulted eventually in the foundation of the National Biodiversity Network, and his taking up the role of first Chairman of the NBN Trust from 2000-2005. His work in this was absolutely crucial in ensuring that the fledgling NBN Trust succeeded as an independent body, and that the interests of organisations like the BSBI were fully taken into account in the establishment of the Network. He also apparently had even earlier influences in setting up national parks in former Yugoslavia, because his exploits in the Royal Naval Volunteer Reserve during the second world war included a chance meeting with the then General Tito in a cave, when Tito was introduced to the value of the Balkan flora through John showing him a copy of W.B. Turrill's famous book *The vegetation of the Balkan Peninsular*! Sir John may have been somewhat peripheral to the day-to-day operations of the BSBI, but his far-sighted vision and drive have meant that the Society indirectly owes him a great debt of gratitude.

Elizabeth Norman, a member since 1965, was mainly resident in London. Many BSBI members who are also in the Wild Flower Society will have known Elizabeth as the recent Editor of the *Wild Flower Magazine*. With a keen interest and experience in field identification, Elizabeth was a good supporter of field meetings, and at the time of the recording for the *Sussex Plant Atlas* (P.C. Hall, 1980) Elizabeth and her family had a home at Southease in East Sussex. From there she contributed many Sussex records, and since, supplied information particularly from her detailed studies in the Ouse Valley.

It is also with much regret that we report the following deaths since the last issue: **Mr R.A. Boyd** of New South Wales, Australia, a member since 1950; **Mr D.G. Evemy** of London, a member since 1980; **Prof. R.E. Hughes** of Bangor, a member since 1951, **Mr G.G. Lilley** of King's Lynn, a member since 1989 and **Mr J. Ounsted*** of Fordingbridge, a member since 1947, John was particularly involved with Junior Activities, Meetings, and leading meetings overseas for Junior Members.

RECORDERS AND RECORDING

Panel of Referees and Specialists

MARY CLARE SHEAHAN, *61 Westmoreland Road, Barnes, London SW13 9RZ*; mc_sheahan@hotmail.com

There have been more changes than usual this year, and there are several changes of address, so please look carefully at the revised list in *BSBI Year Book 2008* before sending in specimens. We would particularly like to thank those who are retiring: Ann Conolly (alien *Fallopia* and *Persicaria*), Chris Cook (*Sparganium*) and Jeffrey Wood (Orchidaceae general).

Some existing referees are taking on additional taxa, and we are also glad to welcome several new referees this year: John Bailey (alien *Persicaria* and *Fallopia*), Luke Bristow (*Aphanes*), Yannis Christofides (plants of Cyprus), Aaron Davis (*Galanthus*), Geoffrey Kitchener (*Epilobium* and *Rumex*), Brian Mathew (*Crocus*), Tony O'Mahony (*Apium* and *Geranium robertianum* agg.),John Parker (*Hypochaeris*), Ken Trewren (*Dryopteris filix-mas* agg.), and Kevin Walker (*Carduus* and *Cirsium*).

Panel of Vice-county recorders

DAVID PEARMAN, *Algiers, Feock, Truro, Cornwall, TR3 6RA*; Tel: 01872 863388

New Recorders

V.c. 36 (Herefs). Mr P. Garner, Lea Cottage, 233 West Malvern Rd, West Malvern, Worcs, WR14 4BE to be sole recorder. Mrs S. Thomson, recorder since 1976, retires.

V.c. 43 (Rads). Miss E.R. Dean, Enmore House, Croft Lane, Kingsland, Leominster, Herefordshire, HR6 9PP & Mrs S.M. Spencer (*all correspondence to Miss Dean*). Dr D.R. Humphreys, recorder since 1988, retires.

V.c. 65 (N.W. Yorks.). Mrs D.J. Millward, recorder since 1995, retires.

V.c. 87 (W. Perth). Mrs Liz Lavery, Burach, Carnbo, Kinross, KY13 0NX & Mr Paul Stanley (*all correspondence to Mrs Lavery*). Mr N.W. Taylor, recorder since 1994, had already retired.

V.c. 96 (Easterness). Ms Sarah Smyth, Reelig House, Kirkhill, Inverness IV5 7PP, Mr A.M. Ross & Mr J. Waddell (*all correspondence to Ms Smyth*). Mrs M. Barron, recorder since 1979, retires.

V.c. 99 (Dumbarton). Dr John Holland, 3 Monemore, Killin, Perthshire, FK21 8XD. Miss A. Rutherford, recorder since 1987, retires.

V.c. H35 (W. Donegal). Mr R. Sheppard becomes sole Recorder following the appointment of Mr D. McNeill to v.c. H39.

V.c. H39 (Co. Antrim). Mr D. McNeill, 13, Greystown Park, Belfast, BT9 6UN. Mr N. McKee, joint recorder since 2003, retires.

I would like to thank all those retiring for their sterling efforts over so many years.

Changes of Contact

V.c. 88 (Mid-Perth). Mr A.C. Godfrey, 18, Isla Road, Luncarty, Perthshire, PH1 3HN, to be the main contact, **not** Mr J.W. McIntosh.

Changes of Address.

V.c. H2 (N. Kerry). Dr M.B. Wyse Jackson to 40 Ballyroan Crescent, Rathfarnham, Dublin 16, Ireland

NOTES FROM THE OFFICERS

From the Head of Research and Development – *KEVIN WALKER*

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Over the last decade improvements in how we coordinate and capture botanical data has enabled us to bring together unprecedented quantities of data, which is allowing us to view the distributions of our rarest species at ever smaller scales. This is a milestone in British natural history and will enable the BSBI to play a central role in reporting on the state of the British flora over the decades ahead. At the same time, increasing demand for high quality data from conservation organisations and government is requiring us to consider how to best utilise, or add value to, these magnificent datasets. Two recent developments which are likely to have a major bearing on future recording are the revised Biodiversity Action Plan (BAP) list published in June 2007 and the increasing acknowledgement by Government of the need to monitor widespread 'indicator' species as well as those that are rare. These developments also raise important questions about what we record when faced with a 'rare' plant population. All three developments are interlinked and here I outline some of the ideas and thoughts on how the BSBI's Plant Unit hopes to tackle them over the next few years.

Threatened Plants

The new BAP list published in 2007 includes 212 taxa (an increase of over 150 species). It differed fundamentally from the original list in that the selection was based on threat rather than rarity *per se*, and, as a consequence, it includes many 'widespread' taxa not covered in depth by earlier works (e.g. Red Data, Nationally Scarce). The *New Atlas* and to a lesser extent *Local Change* showed that many of these species, notable examples including *Astragalus danicus*, *Gentianella germanica*, *Scleranthus annuus* and *Stellaria palustris*, have declined dramatically over recent decades. Many are county rarities that feature prominently in County Rare Plant Registers and local floras. The reason for the decline of many other 'widespread' BAP species are not entirely understood either because the species are difficult to record or because of confusion over their taxonomy. A good example in northern England is *Crepis mollis* which appears to have disappeared from many of its old haunts in the Yorkshire Dales, the North Pennines and southern Scotland. We also need much more information to understand the extent and reasons for the loss of woodland plants such as *Monotropa hypopitys* and *Ophrys insectifera* in southern England and Wales. Existing BSBI data will be vital for the effective conservation of these species as will more up to date information on their current distributions and abundance. In 2008 we are therefore proposing to initiate a *Threatened Plants* project (building on the Threatened Plants Database) in order to collate existing data and carry out targeted survey and monitoring work on a sample of these species. The overall aims will be to fill in the gaps in our knowledge of the distributions these species as well as gain a greater understanding of their ecological and management requirements. **We hope to run a pilot survey of a handful of species starting in early summer 2008.**

Building on the results of Local Change

Local Change provided a unique assessment of the scale and nature of floristic changes at the national scale between 1987 and 2004. As a surveillance project it compliments both Countryside Survey (CS) – which focuses on common species in small fixed plots in relatively ubiquitous habitats, and Plantlife's Common Plants Survey (CPS) – that focuses on 64 common species in small fixed plots wherever they occur. However, by recording change at a larger scale (i.e. within tetrads) *Local Change* provided valuable statistics for a much broader selection of species including relatively widespread but locally restricted (mid-frequency range) species that are not recorded at all in CS or CPS. In most cases

these are 'indicators' of good semi-natural habitats that have declined dramatically in recent decades. However, a number of limitations in the approach were evident. These included poor re-find rates for many species linked to the lack of precision as to where the species had been recorded in the past, little information on the causes of change as habitat details were not recorded and the fact that species tended to be lost at tetrad scale from the margins of their range, where they were scarce, leaving us quite unsure how the same species were faring in the core parts of their range. One way to overcome these short-comings and to provide a more rigorous assessment of change would be to undertake a more detailed survey of a sample of populations of a selection of 'indicator' species during the next *Local Change*. For each species (carefully selected from those recorded in 2003-04) we would aim to monitor a sample number of populations 'nested' within the LC tetrads. These would then provide a permanent baseline from which future changes could be observed. Over the next few months we will be considering this and other methods as possible approaches to a national surveillance project for widespread 'indicator' species. More work needs to be done, then, before launching such a project to the membership, but if anybody is interested in trialling ideas, please contact me

What to record?

The decision over what to record when we discover the population of a rare plant is often arbitrary and largely left to personal preferences. At the very least most recorders provide a site name combined with a 6-figure grid reference, and increasingly to 8-figures with the advent of cheap handheld GPS's. A good proportion of botanists are good at recording habitat details (although very few do this systematically with standard types such as Broad Habitats or NVC) and estimate population size (although this is often of little use without an indication of the extent of the population). The more ecological minded might also put down slope, aspect and altitude and occasionally other physiognomic notes such as soil type, wetness, etc. Management is rarely recorded despite the fact that this information (i.e. sheep in the field) can provide vital information on the history of a site. More recently the advent of 'rare species' and 'condition monitoring' forms has led to notes on whether a population is flowering, fruiting or regenerating – a vital but often missing piece of information when assessing whether conditions on the site are suitable. In the past a multitude of approaches have been used to gather such information for rare species and over the coming year we will be considering how best to standardise these approaches for future projects such as CRPRs, Local Change and the next atlas. We will also be considering how best to organise the recording of rare species within a vice-county (i.e. systematically by 10-km, or site for a suite of species?)as well as novel approaches such as 'null records', site abundance maps down to 100 m or even 10 m and electronic storage of sketch maps which often include lots of useful additional that never make it onto recording sheets.

Coordinator's Corner

ALEX LOCKTON, *66 North Street, Shrewsbury, Shropshire, SY1 2JL*; coordinator@bsbi.org.uk

The end of the decade is looming

...and we're running short of time to make field records in the current date class. A few years ago we introduced a recording timescale based on decades, rather than the haphazard date periods used in the past. From now on, all botanical records need to be restricted to within a standard calendar decade, and we encourage counties to organise their fieldwork on this basis. For example, you should try to get a full species list for all 10km squares at least once in each decade – which is quite a practical period for botanical purposes, because there will be some detectable changes, and yet it means that the average recorder only has to cover two or three hectads each year.

This winter we are sending out checklists for county recorders to look over. These list every

species that has been recorded in each county since 2000, and compares that list with the ones from earlier date classes. For the Maps Scheme we will 'close' the current date class at the end of 2009, and allow people a year or so after that to get their records to us. Then we will embark on a cleaning up exercise to eradicate errors.

Members who are not county recorders might like to have a look at the Maps Scheme (www.bsbimaps.org.uk/atlas) to check that enough recording is happening in their county. Choose a common plant such as *Plantago lanceolata* and see if it has been recorded in the square where you live. If not, then perhaps you could download a recording card and do your own survey.

Condition Assessment

One of the most topical subjects at the moment is the concept of favourable condition. The statutory nature conservation agencies are committed to getting 95% of SSSIs into a favourable state by 2010, and other organisations such as the National Trust and Wildlife Trusts have set their own condition assessments with similar objectives.

Last year I started teaching a course on site assessment for the University of Birmingham, and I found it quite a challenge to find techniques to teach or references to give to the students. Ecologists have been searching for quantitative methods for decades, but there are very few that have been shown to work. Almost every university course for the last century or so has taught students how to set up a baseline monitoring programme, but hardly anyone has ever repeated such an exercise, and on the few occasions that this has been attempted the methodology has generally be found wanting.

Now it is crunch time for the conservation sector. People are asking for evidence, not just an opinion, that a site is in favourable or unfavourable condition. This is surely a good thing, and long overdue. Unfortunately, there is still no method of assessment that has been proven to work.

The approach I've been using is to start with the important habitat types, for which the Biodiversity Action Plan is not a bad source. Conservation has to be primarily about habitats, not species protection *per se*, but it is impossible to directly monitor a habitat in a meaningful way, because there is nothing to count. So the next step is to work out which species are indicative of good quality habitat (the axiophytes) and count those. None of this is news to readers of *News*, of course, but I thought it might be interesting to report on how well it can work.

We went to one marshy grassland SSSI that is generally considered to be drying out. But when we counted the number of wetland species present, we found that it had gone up. Just by a few species, but definitely an increase; and not just this year – the wetland species have been increasing steadily. The evidence, therefore, showed that the site was indeed in favourable condition, at least for its major habitat.

Another site we went to was not a nature reserve at all, but an ancient monument. Rather surprisingly, it turned out to have more good habitat indicator species than the SSSI. In fact, it turned out to be a much more valuable site for many reasons. It was not in such good condition, although it still did fairly well because our survey was more thorough than previous ones. There is a clear conflict of interest between its archaeological and ecological importance, although this is probably not irreconcilable.

These are the sorts of things we are likely to find out when we start assessing nature conservation empirically, and it is quite exciting. Which sites are actually the best? Which are improving and which are deteriorating? If one site is, technically, better than another but is an example of a commoner habitat type, which is the more important? Where is it better to spend your money – on the sites in good condition, on the ones in unfavourable condition, or on the ones that have the most potential for gain? It is unlikely that we will be able to come up with a simple formula that can always be applied, but empirical evidence can give new insights and provide methods of working. Most importantly, you can set yourself an objective and later on find out whether you have achieved it or not. Developments like this could definitely change nature conservation for the better.

Good home needed for BSBI journals

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I have nearly a full run of *Watsonia*, up to 2002, and other bits, which need a good home.

Please contact me (details above) if you could use any of them

Watsonia
Vol II (1951-2) Parts I-IV
Vol 4 (1957-61) 6 parts complete
Vol 5 (1961-63) Parts 1-4, 6
Vol 6 (1964-68) 6 parts complete
Vol 7 (1969) Parts 1-3
Vol 8 (1970) – Vol 23 (2001) complete
Vol 24 (2002) Parts 1-2

Indexes to *Watsonia* 8, 11, 13, 15-22

BSBI Abstracts 12 (1982) – 29 (2001)

BSBI News Nearly complete: No 19 (1978) – No 91 (2002)

DIARY

N.B. These dates are often supplementary to those in the 2007 Calendar in *BSBI Year Book 2007* and include provisional dates of the BSBI's Permanent Working Committees.

30 Jan	Records Committee, London
7 Feb	Publications Committee, London
16 Feb	Committee for Wales, Aberystwyth
27 Feb	Executive Committee, London
1 Mar	Scottish Committee, Edinburgh
20 Mar	Council Meeting, London
16 Jul	Executive Committee, London

CONTRIBUTIONS INTENDED FOR

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should reach the Receiving Editor before

March 1st

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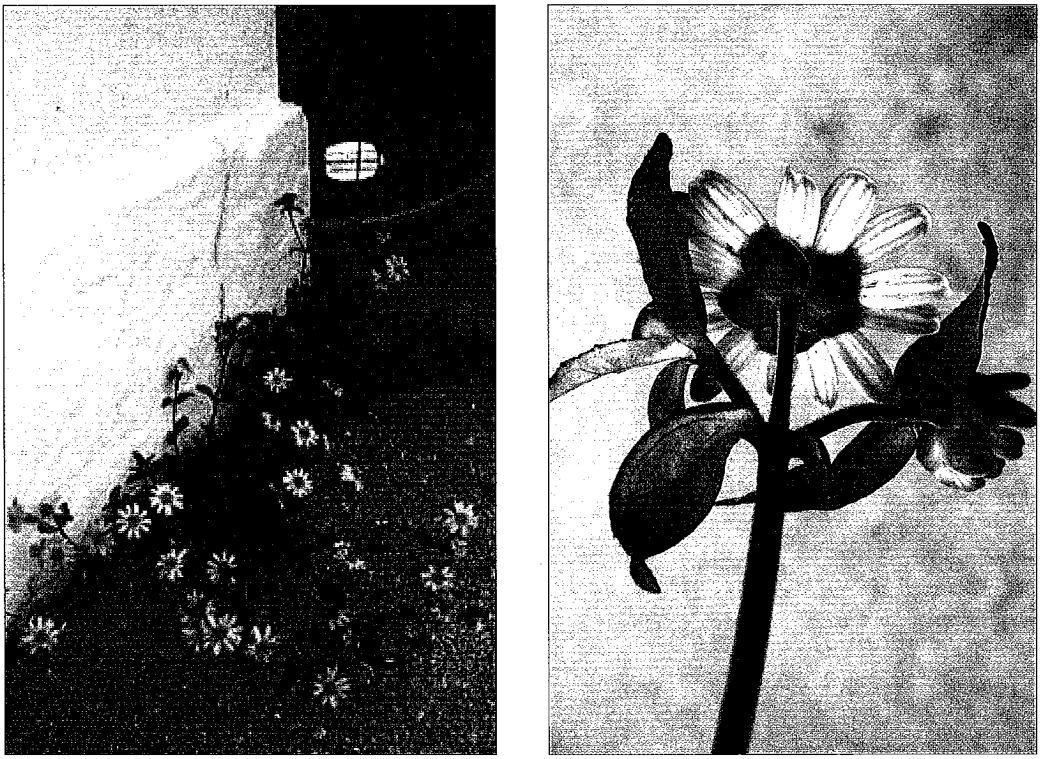
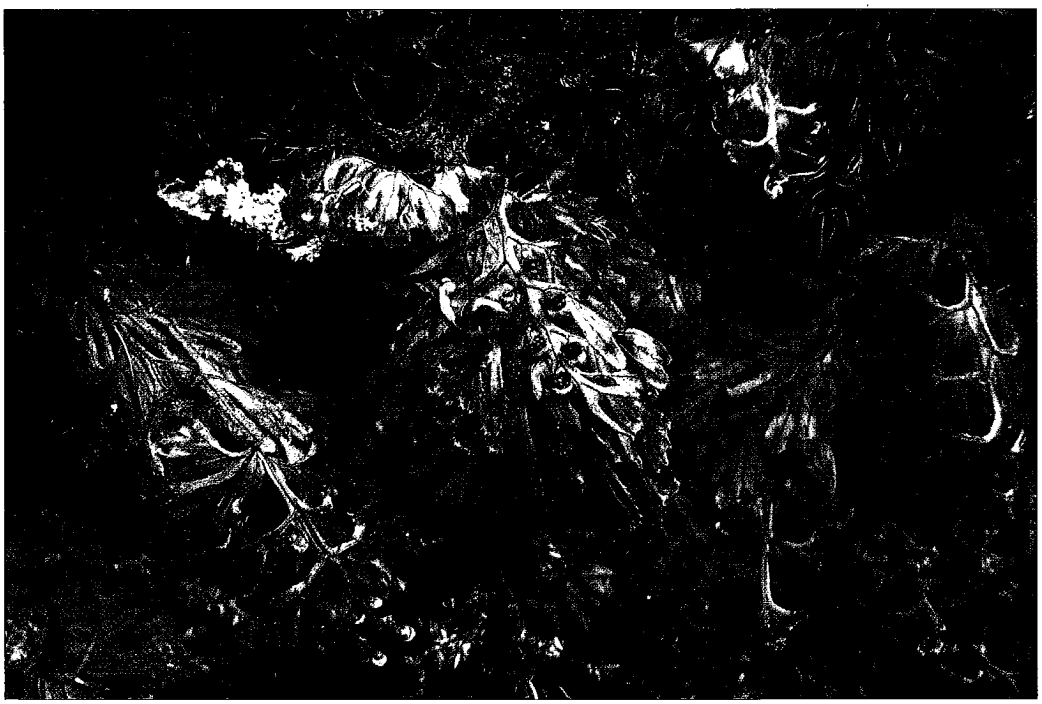


Melampodium montanum at Alverstoke (v.c. 11). Both photos Mike Houndsome © 2007 (see p. 31)



Hymenophyllum tunbrigense by River Eastern Cleddau, Allt Clyn-gwyn (v.c. 44).
Photo Kath Price © 2007. Winner of the 2007 BSBI Photographic Competition (see pp. 55 & 63)

C. tommasinianus × *C. vernus*

Crocus tommasinianus

C. tommasinianus × *C. vernus*

All Bradford (v.c. 63). Photos Jesse Tregale © 2007 (see p. 38)