

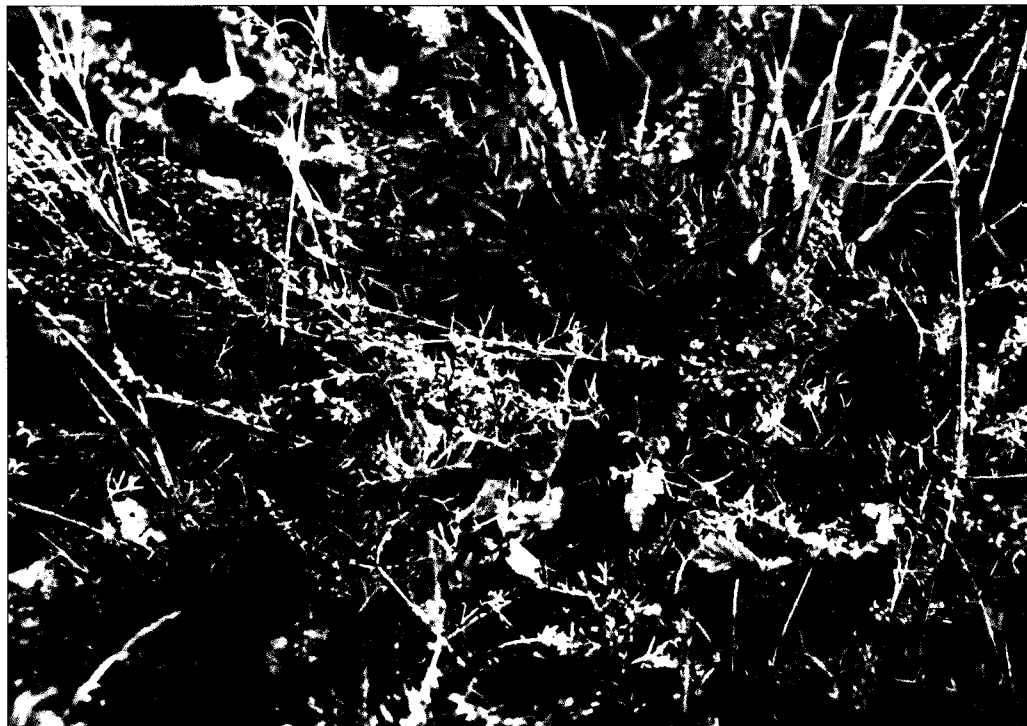
# BSBI News

January 2007

No. 104



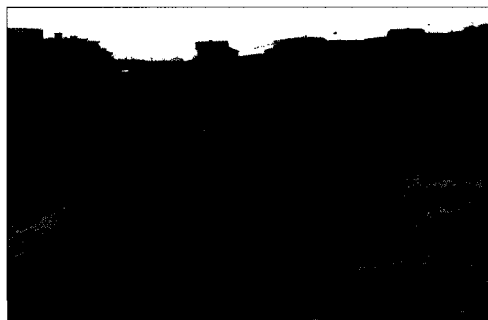
Edited by Leander Wolstenholme & Gwynn Ellis



Close up of *Artemisia campestris* ssp. *maritima* at Crymlyn Burrows (1990)  
All *Artemisia* photos © J.D. Twibell (see page 21)



Prostrate form of *Artemisia campestris* ssp. *maritima* on dunes at Crymlyn Burrows, South Wales (1990)



*A. campestris* ssp. *maritima* on dunes at Biscarrosse Plage, SW France (1989)



*Papaver hybridum* with ripe capsule inset, Wiltshire. Photos © J. Presland (see page 16)

# CONTENTS

<b>EDITORIAL</b> .....	2	<i>Bassia scoparia</i> & <i>Echinochloa crus-galli</i> now in Northamptonshire.....	<i>B. Laney</i> 37
<b>DIARY</b> .....	2	<i>Echinochloa crus-galli</i> on roadsides in Somerset (v.cc. 5 & 6).....	<i>S.J. Leach</i> 38
<b>NOTES</b>		A Wizard's Weeds? – the poisonous baggage of Soya Bean hull.....	<i>M. Braithwaite</i> 39
A Response to 'Reporting on Local Change'.....	<i>M. Braithwaite</i> 3	Boringdon Park – Alien Invasion.....	<i>D. Fenwick</i> 39
<i>Minuartia recurva</i> found in Co. Waterford .....	<i>P.R. Green</i> 4	Discovery of <i>Pteris multifida</i> Poir. in Bath .....	<i>H.J. Crouch &amp; F. Rumsey</i> 42
<i>Minuartia hybrida</i> on Salisbury Plain .....	<i>S. Pilkington</i> 4	<i>Senecio inaequidens</i> , variation in leaf types .....	<i>M. Wilcox</i> 44
Subspecies of <i>Ranunculus ficaria</i> .....	<i>A. Showler</i> 5	<i>Dittrichia graveolens</i> – a new roadside colonist in S. Hants (v.c. 11).....	<i>M. Rand &amp; S.J. Leach</i> 45
Is proliferation proliferating?.....	<i>A. Hannah</i> 5	Another new crop plant in Britain, <i>Solanum sisymbriifolium</i> Lam.....	<i>M. Sanford</i> 47
Leaf Phenology: Which plants are wintergreen?.....	<i>J. Poland</i> 6	<b>REQUESTS &amp; OFFERS</b>	
<i>Senecio viscosus</i> .....	<i>M. Wilcox</i> 6	Aquatic Plants.....	<i>M. Wilcox</i> 50
Vein Words: venation for verification .....	<i>J. Poland</i> 7	Mistletoe plants in Ireland.....	<i>E.C. Nelson</i> 50
Looking for hybrids with <i>Rumex pulcher</i> in Co. Wexford.....	<i>P.R. Green</i> 10	Plant Amnesty.....	<i>J. Poland</i> 50
Keeping records.....	<i>J. Combes</i> 11	Hosts of semi-parasites.....	<i>E. Pratt</i> 51
Herbarium of E. Robson 1763-1813 .....	<i>M. Lyall</i> 11	Gofynne Seed List 2007.....	<i>A. Shaw</i> 51
Uses for grasses.....	<i>E. Rich</i> 13	Seeds from Ware 2006-2007.....	<i>G. Hanson</i> 51
What to do with plant records – ideas from Wiltshire.....	<i>J. Presland</i> 14	<b>FIELD MEETING REPORTS – 2006</b>	
Colour-blind Botanists.....	<i>T. Paine</i> 18	Magdalen Hill Down (v.c. 12).....	<i>J. Poland</i> 52
A six metre <i>Phragmites</i> aerial stem.....	<i>J. Oliver</i> 18	Langton Matravers (v.c. 9).....	<i>E. Pratt</i> 52
The Vascular Plant Red Data List for Great Britain: Year 1 Amendments.....	<i>S.J. Leach</i> 19	Southernscales (v.c. 64).....	<i>P. Ashton</i> 53
On the status of <i>Artemisia campestris</i> ssp. <i>maritima</i> as a native.....	<i>J.D. Twibell</i> 21	Jersey (v.c. 113).....	<i>A. Marshall, et al.</i> 54
<i>Galeopsis bifida</i> and <i>G. tetrahit</i> : some interesting observations.....	<i>M. Smith</i> 24	Gairloch (v.c. 105).....	<i>J. McIntosh &amp; J. Fenton</i> 57
Further thoughts on the flora of the Isles of Scilly.....	<i>R. Parslow</i> 24	Mynydd Cilan (v.c. 49).....	<i>W. McCarthy</i> 58
Known and unexpected microscopy findings in <i>Callitriche</i> .....	<i>J. Oliver</i> 25	Maltby Low & Far Commons (v.c. 63) .....	<i>D. Dupree &amp; D. Brookman</i> 59
<i>Sagina maritima</i> on roadside verges .....	<i>A.C. Leslie</i> 25	Birkdale Dunes (v.c. 59).....	<i>D. Earl &amp; P. Smith</i> 60
2-5 whorl radially symmetrical polystachions and other variants in <i>Equisetum</i> <i>palustre</i> populations.....	<i>J. Oliver</i> 26	Kirkcudbrightshire (v.c. 73) .....	<i>C. O'Reilly &amp; B. Wilson</i> 61
Orange-trunked trees in Savernake Forest.....	<i>J. Oliver</i> 28	Bryn Euryn (v.c. 50).....	<i>J.A. Green</i> 62
Botany in Literature – 43 H.G. Wells' Strange Orchid – Triffidian parallels – A wife-eating plant .....	<i>M.E. Souchier</i> 29	S. Harris (v.c. 110).....	<i>P. Smith &amp; R. Pankhurst</i> 63
Botany in Literature – 44 an episcopal contribution to instantly forgettable botanical verse .....	<i>E.C. Nelson</i> 31	Salen, Mull (v.c. 103).....	<i>L. Farrell</i> 64
Botanical Crossword No. 7.....	<i>Cruciada</i> 34	Cleeve Common (v.c. 33).....	<i>C. &amp; M. Kitchen</i> 66
<b>ALIENS</b>		Borrowdale (v.c. 70).....	<i>P. Owen</i> 67
<i>Juglans nigra</i> in Norfolk.....	<i>A. Bull</i> 35	Llyn Gwngu (v.c. 46).....	<i>A. Chater</i> 68
<i>Glyceria canadensis</i> in Dumbarton.....	<i>J. Mitchell</i> 36	Lossie Forest (v.c. 95).....	<i>J. Muscott</i> 68
Abyssinian Mustard, a naturalised crop? .....	<i>M. Braithwaite</i> 36	Solution to crossword, pages 34-35.....	69
		<b>BOOK NOTES</b> .....	<i>D. Pearman</i> 70
		Book Reviews Editor wanted.....	<i>M. Sanford</i> 70
		Wild Flower Key 2 <sup>nd</sup> Edition: corrigenda and addenda, Jan. 2007.....	<i>C. O'Reilly</i> 71
		Good homes needed for BSBI journals .....	<i>P.A. Lockwood</i> 72
		Request for BSBI Journals.....	<i>M. Murphy</i> 73
		<b>OBITUARY NOTES</b> .....	<i>M. Briggs</i> 73
		<b>ARCHIVIST NOTES</b> .....	<i>M. Briggs</i> 73
		<b>RECORDERS AND RECORDING</b>	
		Panel of Referees and Specialists .....	<i>M.C. Sheahan</i> 74
		Panel of Vice-county recorders.....	<i>D. Pearman</i> 74
		Scottish Vice-county recorder vacancies .....	<i>J. McIntosh</i> 74

## NOTES FROM THE OFFICERS

From the Hon. General Secretary... <i>D Pearman</i>	75
Executive summary – ‘Director’ post.....	76
From the Scottish Officer .....	<i>J. McIntosh</i> 77
Coordinator’s Corner.....	<i>A. Lockton</i> 78

## STOP PRESS

More on the rise and fall of <i>Veronica</i> <i>filiformis</i> .....	<i>R.M. Henson</i> 79
Deadline for <i>BSBI News</i> 105.....	79
ADMINISTRATION & IMPORTANT ADDRESSES.....	80

## Editorial

LEANDER WOLSTENHOLME & GWYNN ELLIS

### Receiving Editor *BSBI News*

I am delighted to report that Trevor James, v.c. Recorder for Herts. has agreed to take over as Receiving Editor of *BSBI News* when Leander relinquishes the post after the April issue. Trevor will be retiring from his job in September and that is when he will be able to take over completely. We are still discussing the gap between April and September and hope to be able to give details of what action to take during the *interregnum* in the next issue.

In the meantime for the next (April) issue please continue to send your contributions to Leander who will process what he can and send them on to me.

**Congratulations to** Marjorie Netta Blamey awarded an MBE in the New Years honours list. Although not a member, she will be well known to many as the illustrator of many books on the wild flowers of Britain & Europe.

**Apologies to** Eric Chicken for stupidly forgetting to include his drawing of *Senecio inaequidens* leaf lobing in the last issue. This can be found on page 44.

**Faith Anstey** has sent a fascinating clipping from a copy of a sales brochure from *The Times*: ‘A botanical wonder of nature found on the ocean bed, the “Neptune” plant is a wonder of nature. Unable to be classified in any botanical category, [Faith’s emphasis] it retains its luminous green hue for years without watering. A natural repellent, it emits fragrant secretions which drive insects away, especially flies.’

Faith wonders if any member can decipher what is meant by a plant which is ‘unable to be classified in any botanical category’, or perhaps someone has purchased the novelty and can enlighten us?

**BSBI Conference Report No. 25**, *Current Taxonomic Research on the British & European Flora* was finally published in November 2006. All members who placed a pre-publication order should have received their copy by now. If you haven’t, please contact me.

**New edition of the Sedge Handbook** - see page 75 for an update on progress

**Where are they now?** – The following fully paid up members have moved without letting us know their new addresses. Any help in tracing them would be much appreciated. My thanks to those who responded to the list in the last *News*, as a result some members have been traced and removed from the list but several remain and a few more have been added

62285 – Mr P Cannon, 1 Coombe Rise, Shenfield, Essex. CM15 8JJ  
18766 – Mr D E Green FLS, 297 Bloomfield Road, Bath, Somerset, BA2 2PB  
63117 – Mrs R F L Hamilton, The Old House, Hitcham, Ipswich, Suffolk, IP7 7NN  
88144 – Miss L Hutchby, 8 Bullington End Road, Castlethorpe, Milton Keynes, Bucks, MK19 7ER  
93512 – Mr R Kennedy, 11 Edmund Street, Walsden, Todmorden, OL14 7ST  
98344 – Ms M R W Morris, Dysertmore, Via Mullinavat, Co. Kilkenny, Ireland  
99626 – Mr & Mrs Penfield, 2 Croftside, York, YO26 5LT  
35032 – Mr J A Wild, 05130 Sigoyer, France

## 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.

### Permanent Working Committees

24 Jan Records Committee, London  
7 Feb Meetings Committee, London  
8 Feb Publications Committee, London  
14 Feb Training & Education

17 Feb Committee for Wales, Aberystwyth  
28 Feb Executive Committee, London  
3 Mar Scottish Committee  
14 Mar Council Meeting, London  
14-16 Sept Recorders’ Conference, Shrewsbury



## A Response to ‘Reporting on Local Change’, John Presland, *BSBI News* 103: 16-18

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

I respond to John Presland’s article as the one of the authors of *Change in the British Flora 1987-2004* who had primary responsibility for the mathematical treatment of the data that generated the two indices of change, *Relative Change* and *Change Factor*, that he takes exception to.

First I would thank him for his words of praise: it is encouraging indeed to read that he ‘recommend(s) the report as a fascinating account of an important project’.

However I find it ironic that he criticises the failure to make use of the raw data in a report which gives the raw data for each and every species referred to and a simple statistic *Relative Change* derived using the simplest of mathematics, when the authors could so easily just have presented the maps and the statistics carried out on the more complicated *Change Factor* and have omitted *Relative Change*, the extensive tables and the detail of the mathematics.

I categorically repudiate his suggestion that the authors were disappointed with the level of recording in *Local Change*. We make numerous references to the fact that we consider the survey to have met its key objectives, starting in the Executive Summary on page iii, and on page 331 we acknowledge the outstanding coverage achieved.

John Presland presents an alternative method of adjusting the data. I have tried it. It does not yield a useable statistic. However it does yield a statistic for the difference in recording intensity between the two surveys: the *BSBI Monitoring Scheme* and *BSBI Local Change*. If applied appropriately, this statistic can indeed be used to generate an index which measures change. Ironically it is then closely comparable to *Relative Change*, an index that he decries. The only difference is that his index makes the same adjustment for the over-recording of *Local Change* relative to the *Monitoring Scheme* for all species (about 8% in this case) whereas *Relative Change* makes an adjustment that varies in proportion to how widespread a species is. The adjustment is shown in the charts on

page 359 of the report: here it can be seen that the regression line that defines the adjustment is almost but not quite horizontal. John Presland’s basis assumes it is horizontal.

Much of his article is criticism of the basis of calculating the *Change Factor*. Indeed he accuses the authors of using ‘non-existent data’, an accusation that I categorically repudiate. However it is true that the *Change Factor* calculations make assumptions that are not valid for all species. The authors were very conscious of that and have gone out of their way to point out the limitations in the discussion in Appendix 3 on page 365 and they identify species where the calculated *Change Factor* is unreliable, see for example the comments on pages 143 and 147 regarding heathland species such as *Calluna vulgaris* (Heather). Indeed this is one of the reasons why two indices have been presented: *Relative Change* is the more reliable index and is calculated in just the sort of way that John Presland advocates, but it is unfortunately unsuitable as a basis for the statistics on change for groups of species that are central to our report. That is why the *Change Factor* was needed.

One of the advantages of the *Change Factor* over the fundamentally similar *Change Index* used in the *New Atlas* is that the assumptions made are clearer and can be more easily reviewed on a species by species basis.

John Presland seems unwilling to accept that statistical methods can be used to test whether the survey data and the indices of change derived from it are robust enough for valid conclusions to be drawn. Our work draws valid conclusions in many instances but there are others where we are unable to draw conclusions as the underlying data is insufficiently robust. This is normal in such work.

I am grateful to John Presland for engaging with us in the issues of data analysis in *Change in the British Flora 1987-2004* but believe his concerns to be misconceived.

## ***Minuartia recurva* found in Co. Waterford**

PAUL R. GREEN, 46 Bewley Street, New Ross, Co. Wexford, Ireland; paulnewross@eircom.net

I first found thirty-one plants of the *Minuartia* on the 28<sup>th</sup> May 2001 on the cliffs of Kilclooney when I named it as *M. verna* (Spring Sandwort). On the 14<sup>th</sup> August 2006 I visited the Caha Mountains with Alastair Stevenson to see the *Minuartia recurva* (Recurved Sandwort) where it was first found on the 27 July 1964 growing at an altitude of c.500m, the only known Irish station. Here it grows on the rocks on the mountain ridge straddling the border of Co's. Cork and Kerry. The first thing I said to Alastair as I saw the plant was that it looked just like the plants in the Comeragh Mountains in Co. Waterford. On the 22<sup>nd</sup> August I visited the Co. Waterford site with John Wallace. I thought I would be able to walk straight to it; my memory was not quite as good as I had expected. John set his GPS to the six figure (S328.094) map reference I had given in 2001. I would have walked in the opposite direction otherwise. Trying to walk where the GPS wanted us to go was not easy because the rocks and the height of the rock face (100m or more) made it tough going. As the rock type changed and looked just like it did in the Caha Mountains, there was the Recurved Sandwort. Here it grows on a vertical rock face, while in the Caha Mountains it grows on a gently sloping rock face which is easy to walk over. All the plants we could reach had completely gone over, but there was one clump flowering just out of reach. I tried reaching the flowering stems to have a look, at the same time lost my balance and nearly disappeared over the ledge. John, being on the ball, caught hold of me, enabling me to be here to write this report. In the end John gave me a leg up and I was able to collect a flowering shoot (see Back Cover).

We got out *An Irish Flora* (Webb, D.A., Parnell, J. & Doogue, D., 1996) and tried keying out our plant. The book said: leaves mostly

curved downwards; sepals with 5-7 veins. Our specimen had no veins on the sepals and the older leaves curved up a little. Not much help as the book said: leaves mostly straight; sepals with 3 veins for *M. verna*.

As my specimen started to dry out over the next few days the veins slowly appeared, 3 at first and a day or so later 5. A visit to the herbarium at the National Botanic Gardens, Glasnevin, Dublin on the 29<sup>th</sup> August solved the identity of the Co. Waterford plant. I could compare the specimens I deposited there in 2001. It was clear they matched the specimens from the Caha Mountains. Specimens of *M. verna* clearly showed 3 veins. It is a shame that floras do not point out the fact that to use the key you need dried material. The Co. Waterford plant would likely have been named correctly in 2001 otherwise.

We counted 37 plants scattered over the rock face (S3286.0944) at c.490m altitude. Here, as in the Caha Mountains, the rock surface has a black lichen growing on it. The two sites are c.155km apart.

When botanists visit the Comeragh Mountains they always seem to visit the coums with their loughs and rock faces, especially Coumshingaun (*Com Seangán* 'Pissmire Hollow') which is a short distance to the north of Kilclooney. This may be the reason why the Recurved Sandwort has been over-looked for so long there as it grows on an exposed rock face rather than in one of the coums.

### **References:**

WEBB, D.A., PARNELL, J. & DOOGUE, D. 1996. *An Irish flora*. Seventh edition. Dundalgan Press (W. Tempest), Dundalk.

## ***Minuartia hybrida* on the Defence Training Estate (Salisbury Plain)**

SHARON PILKINGTON, 5 Gainsborough Rise, Trowbridge, Wiltshire BA14 9HX

*Minuartia hybrida* (Fine-leaved Sandwort) is a diminutive annual of dry, open, calcareous ground. It is nationally scarce, having been recorded in 79 hectads between 1987-99 (Preston, Pearman & Dines 2002), and is listed on the new red list as Endangered (Cheffings & Farrell 2005). In Wiltshire it tends to flower in May and June, then sets seed, leaving only shrivelled brown remains by July.

The Defence Training Estate on Salisbury Plain may represent one of the largest (and currently most stable) populations anywhere in the British Isles. Here, it thrives on the regular ground disturbance caused by tracked vehicle movements (see inside Back Cover), and it is a member of a distinctive trackside ruderal community. Other species in this community include *Clinopodium acinos* (Basil Thyme),

*Anagallis arvensis* ssp. *arvensis* (Scarlet Pimpernel) and *Arenaria serpyllifolia* (Thyme-leaved Sandwort) with which it can be confused by inexperienced observers.

Until recently, its presence on the plain had been sporadically recorded at best. However, visits by the author and others to different parts of the military estate in 2006 have revealed the plant to be widespread along most of the heavily used arterial roads and many of the moderately-used dirt tracks that criss-cross the chalk grassland. A conservative estimate of macro-population size is of at least many tens of thousands of plants, possibly more. Given the habitat that *Minuartia hybrida* is associated with, it is likely that the tanks and other military vehicles are the main agents of seed dispersal, carrying it on mud to new locations. The main population centres appear to be in the eastern (Bulford) and western (Imber) ranges where tank movements are most frequent.

Interestingly, one of the characters given by some floras including Stace (1997) and Rose (2006) does not hold true for at least some of the plants examined by the author on Salisbury Plain this year. The petals are at most only marginally shorter than the sepals, not significantly, as they are supposed to be (see inside Back Cover).

#### References:

- CHEFFINGS, C.M., & FARRELL, L. 2005. *The Vascular Plant Red Data List for Great Britain*. JNCC, Peterborough.
- PRESTON, C.D., PEARMAN D.A. & DINES T.D. 2002. *New Atlas of the British & Irish Flora*. Oxford University Press, Oxford.
- ROSE, F. 2006. *The Wild Flower Key*. Penguin Books Ltd, London.
- STACE, C.A. 1997. *New Flora of the British Isles*. Cambridge University Press, Cambridge.

## Subspecies of *Ranunculus ficaria*

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

When recording, there is always something that gets away. Have you noticed? It may be a) *not noticed*, like the 200 year-old Oak, because you looked down, not up; b) *assumed to be on the list already*, like that Dandelion; or c) *needs looking at later* like those Corn-salads (*Valerianella*) not yet in flower, or a plant with two subspecies. So you make a mental note to return later, to see the plant in flower and give it a good examination. What happens with me (not you, of course!) is that I forget where it was or return to find it has gone (caten or cut down). Or I forget completely.

However this year I listed the things that needed checking, so that I could look for them specially. One of the species was *Ranunculus ficaria* (Lesser Celandine) to check for the two sub-species, *ficaria* and *bulbilifer*. All my 25 tetrad cards in the hectad had it marked up, some for one, some for the other and some just

non-committal. So I started looking after the flowers had died back, because bulbils, which are characteristic of ssp. *bulbilifer*, only develop at this stage. But, get it wrong, and all the yellow leaves have disappeared and you have another year to wait.

There was no trouble finding *bulbilifer* and a favourite place seemed to be a churchyard, where there would be masses of just this sub-species. But *ficaria* seemed to be rather more difficult and I had to look much harder for this one, so much so that I began to doubt some of my old records – had I looked too early? I don't know the answer to that yet, but had the impression that if you look hard enough you will find a bulbil or two in a supposed *ficaria* population, even if not many. So what sub-species is this? Or have I got it wrong? Comments from those interested or those that know would be welcome.

## Is proliferation proliferating?

ANGUS HANNAH, Glenmore, Rothesay, Isle of Bute, PA20 0QU

Checking recently for *Juncus* × *surrejanus* (*J. acutiflorus* × *J. articulatus*, a hybrid rush), which is very common on Bute, I came across a vigorously proliferating specimen. This reminded me that I had seen a number of proliferating heads of *Cynosurus cristatus* (Crested Dog's-tail) this autumn (from a distance

suggesting *Festuca vivipara* (Viviparous Fescue)), and I wonder if others have noticed the same phenomenon. Have I just overlooked these in previous years, or has this season's weather been particularly conducive to this behaviour?

## Leaf Phenology: Which plants are wintergreen?

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

I am extremely interested in knowing when plants are visible in a living state (i.e. excluding dead stems and a few shrivelled seed heads!). I have amassed phenological observations for over 2,200 species, however I have an additional list of 400 species for which I have no, or contradictory, observations.

Somewhat surprisingly, I cannot see any real correlation between life-form (hemicryptophyte, geophyte, etc.), life-cycle (i.e. annual/perennial) and leaf phenology even within a genus. This is perhaps partly because the resting stage is not necessarily during the winter months. In many bulbous plants (geophytes), e.g. *Muscari armeniacum* (Garden Grape-hyacinth), the leaves emerge during the autumn but persist only until May. Obviously autumn germinating annuals are visible as a rosette during the winter (and are usually dead by summer). In contrast, summer annuals are never wintergreen.

As a general rule, strongly rhizomatous plants are not wintergreen (the rhizome acts as a winter store of food) – try finding *Cirsium arvense* (Creeping Thistle) or a Michaelmas-daisy when this lands on your doormat! By default, true biennials have to be wintergreen since a well-developed first year basal rosette must persist until the second year for the plant to flower.

However for many perennials and annuals, it is impossible to predict what they will do. For instance, *Plantago major* (Greater Plantain) is not wintergreen but *P. lanceolata* (Ribwort Plantain) and *P. media* (Hoary Plantain) are wintergreen. Many perennials also appear to have their resting stage during the summer period (they aestivate). *Anthriscus sylvestris* (Cow Parsley) leaves are visible from September to July, but *Myrrhis odorata* (Sweet Cicely) leaves only between April and October. I hope to write a more substantial article on the subject one day.

English Nature's (now Natural England) Grassland Specialist, Richard Jefferson, wrote about the importance (and lack of data) of plant phenology when undertaking botanical assessments of grasslands outside the 'optimum period' (see *BSBI News* 102: 16-17). However this deficit of knowledge is not confined to grasslands, despite the UK having probably one of the most well-known floras in the world!

If anyone can contribute any observations on the appearance and seasonal changes of plants, both native and alien, I would be most grateful (I can easily email my wanted list). For example, I suspect that *Cirsium acaule* (Dwarf Thistle) is wintergreen but who ever has a picnic on chalk grassland in January?!

## *Senecio viscosus*

MICHAEL WILCOX, 32 Shawbridge Street, Clitheroe, BB7 1LZ; michaelpw22@hotmail.com

In a similar vein to other articles in *BSBI News*, it was noted that *Senecio viscosus* (Sticky Groundsel) had a character which was different to that published. This plant is said to have glabrous achenes (seeds), which in Sell & Murrell (2006) and Stace (1997) are key characters. It was noted that plants had some hairs in the grooves of the achenes. It was thought at first this could be due to introgression similar to that in *S. vulgaris* var. *hibernicus*. Therefore a project was initiated to compare British material with that of European material and many people were contacted to obtain achenes.

Fortunately, one of those contacted for European material (Prof. J.W. Kadereit) had already done work on this species and mentioned a paper, which had been published, (Emig & Kadereit 1993). The paper was obtained through the library services and has to some extent saved quite a bit of work and short-

ened this article. In the above paper it shows that *S. viscosus* is a derivative of the progenitor *S. nebrodensis*. The latter species is a rare plant found in only four mountain ranges in Spain (Emig & Kadereit 1993). The paper describes the achenes of *S. nebrodensis* as having a dense indumentum of short white hairs. For *S. viscosus* it just says that they are less hairy, (with no mention of them being glabrous).

This is a clear indication that the achenes of *S. viscosus* have some hairs in the grooves of the achenes, but having looked at quite a number of achenes they are very rarely glabrous. However, when compared to other *Senecio* species it is clear that they are never as hairy as any species in the key. In the key the closest species, *Senecio sylvaticus* (Heath Groundsel), has densely hairy achenes and so can easily be separated (if not on jiz alone). *S. viscosus* is of course a distinctive plant and unlikely to be

confused with any other except the hybrid with *S. squalidus* (*S. ×subnebrodensis*), which is more or less sterile and the ligules vary in size between the two parents. It is clear that *S. viscosus* has hairs on the achenes but perhaps not enough to change the current keys.

*Senecio viscosus* is classed as a neophyte being recorded first in Britain in 1660 (Preston *et al.* 2002, p. 657). And generally thought of as non-native with the possibility of some dwarf coastal forms being native. Unless evidence could be provided that *S. viscosus* arrived before 1500 then all material that has spread to Britain makes it a non-native neophyte in the British flora.

### Acknowledgements

Thanks to Prof. J.W. Kadereit for pointing out the work done on this taxon, and to all BSBI members who sent in achenes.

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## Vein Words: venation for verification

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The veining pattern, or venation, of leaves is often invaluable in vegetative identification. Although not always easy to describe, vein patterns are usually exceptionally constant within a species. Of course, veins are not confined to leaves – petals too often have distinct patterns (although as I have mentioned in a previous article, petals are actually modified leaves!). Good examples can be seen in the petals of some *Geranium* species and many Brassicaceae, including *Eruca vesicaria* (Garden Rocket) and *Raphanus raphanistrum* (Radish).

I apologise for the somewhat technical language employed in this article but the ‘running’ (Gk. *dromus*) of the veins gives rise to the scientific terms much used in paleobotany and tropical floras. The commonly quoted main types of venation are **pinnate**, **parallel**, **palmate** and **dichotomous**. The distinctions aren’t always clear and the subdivisions often provide the most useful clues. Consequently it is best explained in pictures, not words! As such, only a few of the most typical kinds of venation are illustrated below.

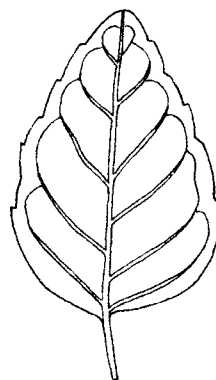
### Pinnate-veined

Pinnate simply means ‘feather-like’. Back to basics I’m afraid, but the central vein (midrib), is described as the primary (1°) vein and the lateral veins branching from it are known as the secondary (2°) veins. Depending on the species, the sequence can continue further into higher order veins such as the tertiary (3°), quaternary (4°) and so forth. Pinnate veins characterise the leaves of dicots, although there are well known exceptions such as the monocot *Arum maculatum* (Lords-and-Ladies). In some species, only

the midrib is clearly visible (e.g. *Cerastium* and *Myosotis*). The commonly encountered five categories of pinnate venation are:

#### 1. **Brochidodromous** or **anastomosing** (2° veins forming closed loops)

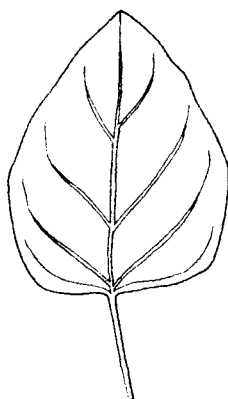
The majority of pinnate-veined plants have anastomosing veins. *Clinopodium vulgare* (Wild Basil) is one such example.



*Clinopodium vulgare*

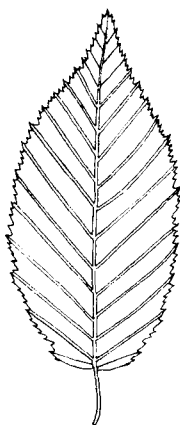
#### 2. **Eucamptodromous** (2° veins fading towards the leaf margin)

The veins of *Origanum vulgare* (Marjoram) are eucamptodromous (i.e. they become indistinct towards the leaf margin and do not anastomose), and thus can be readily separated from the commonly confused *Clinopodium vulgare* (Wild Basil) by just a cursory glance at the leaf. In the family Onagraceae, many genera, including *Epilobium* (willowherbs) and *Ludwigia* (Hampshire-purslanes), are generally eucamptodromous.



*Origanum vulgare*

3. **Craspedodromous** (2° veins terminating at the leaf margin, usually in a tooth)  
For example, in *Carpinus betulus* (Hornbeam) and *Castanea sativa* (Sweet Chestnut) – compare with the anastomosing veins of *Prunus* and *Salix*.

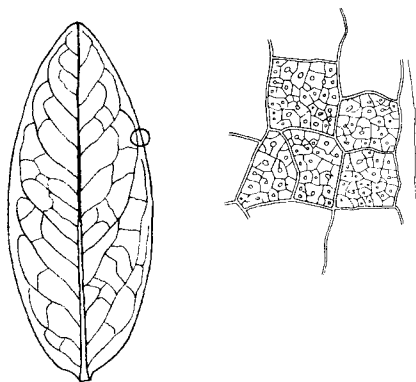


*Carpinus betulus*

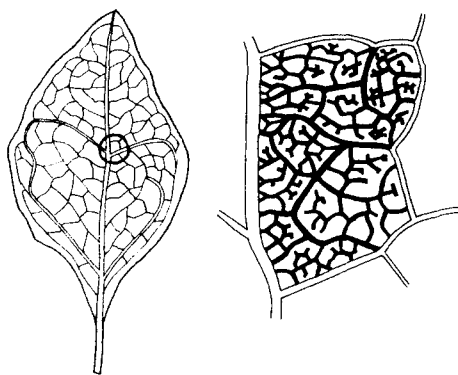
4. **Reticulate** (net-veined)

Tertiary and higher-order veins may join each other forming a net-like pattern (e.g. as in the leaves of the North American *Aster* species (Michaelmas-daisies)). The similarly reticulate veins of *Solidago* (goldenrods) actually have a tiny central glandular swelling visible under a good lens. Comparable glands are found in the reticulate veins of *Hypericum calycinum* (Rose-of-Sharon) as the leaves are not truly translucent gland-dotted unlike, for example, *Hypericum perforatum* (Perforate St. John's-wort). One striking form of reticulate venation is known as Kranz venation (derived from the German meaning 'wreath'

structure and not connected with the German botanist Kranz or the Austrian botanist Crantz). This is where extra chloroplasts thicken the vein margins (the visible manifestation of the C<sub>4</sub> photosynthetic pathway mentioned in innumerable botany textbooks) resulting in opaque reticulations. *Atriplex halimus*, *A. laciniata* and *Bassia scoparia* (Chenopodiaceae) are three examples but a similar pattern can be found in the closely allied *Amaranthus* (Amaranthaceae). Indeed, recent DNA research suggests that these two families should be united.



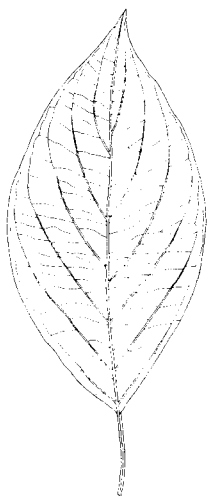
Reticulate leaf of *Hypericum calycinum*, close-up of glandular swelling (inset)



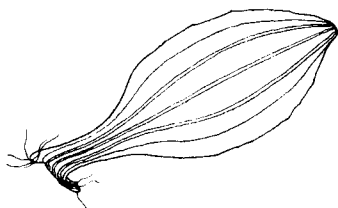
Reticulate leaf of *Atriplex halimus*, close-up of Kranz venation (inset)

5. **Percurrent** or **scalariform** (ladder-like)

In some species, the tertiary (or higher-order) veins do not form a reticulate pattern but link the secondary veins in a series of parallel veinlets, somewhat resembling a ladder. A classic example is clearly seen in *Cornus sericea* (Red-osier Dogwood).

*Cornus sericea***Parallel-veined**

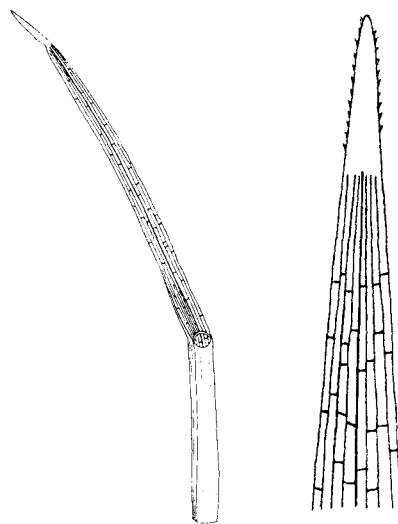
Parallel-veined (or parallelodromous) leaves have the major ( $1^{\circ}$ ) veins arranged approximately parallel to each other and, strictly speaking, converging at the apex. Most monots are parallel veined, as are some dicots such as *Plantago* (plantains) and *Saponaria officinalis* (Soapwort). 'Bowed-veined' is perhaps more descriptive. Additionally, some dicots may be 3-ply veined where two very strong secondary veins arise from near the base of the midrib mimicking parallel venation in the proximal half of the leaf (e.g. *Solidago* and *Helianthus*).

Parallel-veined leaf of *Plantago media*3-ply veined leaf of *Helianthus*  $\times$  *laetiflorus*

Furthermore, two frequent modifications include:

**1. Cross-veining**

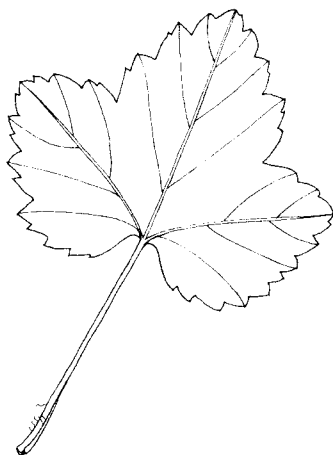
Generally confined to monocots and those species with parallel veins, cross-veins are particularly useful in identification of some grasses, sedges and rushes. Cross-veins are not true veins since they consist of support tissue and do not carry food and water (they should be more precisely defined as cross-partitions since vascular tissue is absent).

*Carex viridula* ssp. *oedocarpa* and close-up of leaf near apex (right)**2. Tessellated veins**

Generally restricted to bamboos, and analogous to reticulate-veining in the dicots. Illustrations can be found in the nine plates (pp. 376-384) of bamboos in Clement *et al. Illustrations of Alien Plants of the British Isles* (2005).

**Palmate-veined** (actinodromous)

Where three or more equally strong ( $1^{\circ}$ ) veins diverge radially from the same point at the base of the leaf blade and terminate at the leaf margin usually in a tooth or lobe apex (like the fingers of an outstretched hand). True palmate leaves are actually quite scarce in the British flora (e.g. *Acer*, *Geranium*, *Alchemilla*, etc.). Many broadly ovate or orbicular cordate leaves, such as *Alliaria petiolata* (Garlic Mustard) and *Petasites fragrans* (Winter Heliotrope), are not strictly palmate since the veins repeatedly anastomose instead of radiating out to the leaf margin.

*Ribes sanguineum***Dichotomous-veined (forked)**

In some species (almost confined to ferns) the veins repeatedly fork into two from the base of the blade. Consequently they do not have an obvious midrib. *Adiantum capillus-veneris* (Maidenhair Fern) and *Ophioglossum vulgatum* (Adder's-tongue) can be distinguished as ferns by this character (the veins of the widely planted *Ginkgo biloba* (Ginkgo) form a similar pattern). Additionally, the veins of many ferns are also described as free i.e. the vein abruptly terminates (usually in a hydathode) inland of the leaf margin (e.g. *Polypodium*). No dicot or monocot in Britain has dichotomous veins; the two aberrant ranalean herbs *Kingdonia* and *Circaea* are not yet on our alien plant list! Maybe the primitive *Ceratophyllum* (hornworts) belongs here, if one argues that the connecting lamina (leaf blade) never did evolve!

Incidentally, many existing tree and shrub keys ask you to make the distinction between deciduous and evergreen leaves. Although the best method is to look for older leaves on 2<sup>nd</sup> year twigs, this is not always easy (especially mid-summer when they may have already fallen).

Pinnae of *Polypodium vulgare*

Evergreen leaves, in addition to a thickened cartilaginous margin, do not have raised secondary veins on the lower surface (and few species are reticulate veined). In contrast, deciduous trees and large shrubs have the secondary veins raised below (and are usually reticulate-veined, and lack an obvious cartilaginous margin). Please note that this, sadly, won't help you with *Cotoneaster* since I suspect that the leaves are not truly evergreen (i.e. don't last more than one year).

For those wishing to learn more about venation there are additional terms in the *Manual of Leaf Architecture* (download at <http://www.peabody.yale.edu/collections/pb/MLAintro.pdf>), however these are of limited use in plant identification and they use several seemingly inseparable terms. Nonetheless, there must be other published literature elsewhere – paleobotanists can often identify a species from a fossilised leaf fragment!

Thanks to Eric Clement for comments, and to Rosalind Bucknall for her excellent illustrations clarifying the obscurities that my descriptions may have introduced.

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## Looking for hybrids with *Rumex pulcher* in Co. Wexford

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The *New Atlas* (Preston *et al.* 1997) shows that *Rumex pulcher* (Fiddle Dock) has been recorded from thirteen 10km squares in Ireland, two of these being in Co. Wexford. On 6<sup>th</sup> July 2006 I visited the Ballyhack (S70.10) site, which consists of a dry grassy rocky knoll, churchyard and two adjoining sloping fields, one on either side of the road. I only looked for the hybrids in

the two fields. *R. pulcher* was growing with four other species: *R. conglomeratus* (Clustered Dock); *R. crispus* ssp. *crispus* (Curled Dock); *R. obtusifolius* (Broad-leaved Dock) and *R. sanguineus* (Wood Dock).

*R. pulcher* was a thick carpet on the higher slopes of the fields, with a few plants scattered lower down the slopes. *R. conglomeratus* was



thinly scattered about the fields with a concentration of plants at the bottom of the slopes. *R. crispus* was scattered over the fields. *R. obtusifolius* formed large stands by the field gates and along the bottom of the slopes and with other plants dotted about the fields. *R. sanguineus* was present as three plants together in the upper field.

Hybrids with *R. pulcher* and the other four species were found. In order of finding them: *R. ×ogulinensis* the commonest of the hybrids, probably because *R. obtusifolius* was the most frequent dock in the two fields; a few plants of *R. ×muretii* were found in both fields always close to *R. conglomeratus*; *R. ×mixtus* was one plant growing between both parents;

*R. ×pseudopulcher* was only found in the upper field well away from any *R. crispus*.

Also occurring in both fields were hybrids between *R. crispus* and *R. obtusifolius* (*R. ×pratensis*) and in the upper field *R. conglomeratus* and *R. obtusifolius* (*R. ×abortivus*).

In under an hour and a half four new hybrids for the county were found and two possibly new for Ireland as the BSBI web site only shows records for: *R. ×mixtus* and *R. ×muretii*, both from Co. Cork.

#### Reference:

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

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## Keeping records

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Botanists have a long tradition of recording the first plants of spring – celandines, violets, primroses or whatever. Gilbert White of Selborne was one such person as was also his friend ROBERT MARSHAM of Norfolk. Marsham kept a set of records which he started in 1736 and which were continued by seven generations of his family until 1947.

I followed this tradition as an eleven-year-old child, despite living in London at that time. When I grew up, however, I was embarrassed by these juvenile diaries and I threw them away and started all over again. I have now been recording the leafing dates of 4 tree species in Surrey for the past 60 years, of which the last 40 years have been records from Ashtead which lies 3km south of Epsom. The 4 tree species are:

Horse-chestnut (*Aesculus hippocastanum*)  
Common Lime (*Tilia ×europaea*)

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Oak (*Quercus robur*)

Ash (*Fraxinus excelsior*)

It never occurred to me my data would be of interest to anyone else until I read a newspaper article in 1995. This stated that Dr Tim Sparks, a Government Scientist, was collecting such records for possible indications of climate change and I sent him my data.

In a recent Woodland Trust article (July 2006) Dr Sparks said my oak-leafing dates had been used in two Government **publications and he added** the following – ‘Jean’s data is probably unique in phenological recording and as far as we know is the longest record by a single person anywhere in the world’.

This illustrates perhaps the surprising value of keeping simple records and might encourage other BSBI Members to emulate.

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## Herbarium of Edward Robson 1763-1813 at Sunderland Museum

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Edward Robson (1763-1813) is credited with writing the first Flora of the Durham area in 1794, followed by a supplement in 1798 (Horsman 2005). His herbarium at Sunderland museum includes early records of Teesdale rarities, plants from the lake district and near Manchester, plants from James Sowerby, John and James Dalton, several plants from Norfolk, plants grown by his friend William Curtis in various London gardens and many others making a total of over 1,100 specimens on nearly 900 sheets. He described *Ribes spicatum* Robson which he called the Spiked Currant

(Robson 1794) (Stace 1997 calls it the Downy Currant). The type specimen is in this collection.

In March this year I was asked to curate and prepare a computer catalogue of this collection. It was catalogued using the museum software MODES so that it was compatible with the rest of Tyne and Wear’s collections.

Care was taken to distinguish between the data present on the label and that I interpreted either by using square brackets for comments or typing the actual label exactly as it was into a notes field. This was important as many of the specimens were labelled with abbreviations or

partial information such as 'D' or 'Nr. D', I suggest in this case Robson meant Darlington. I also tried to add some biographical details of any botanists named, relying heavily on Desmond 1977. Those specimens which did not have field collection data can be sorted out of the catalogue by searching for the text 'no data'. The collection was arranged according to Dandy 1958 to be consistent with the rest of the herbarium. However it is stored in acid free folders within custom made boxes in a separate sequence, so the 'current' name is always the Dandy one even when more up to date names are available such as in the ferns (Jermy and Camus 1991). Simple name was only changed from 'plant' when a common name was written on the sheet and someone with an interest in what the common names were in the 1790s can search for these. MODES is a hierarchical database so for example vice county and habitat come under 'place' within 'field collection', indexes and lists can be made or specific texts such as the plant name can be searched for, but it is not compatible with flat field data bases such as those from Microsoft.

Robson was a Quaker and linen draper from Darlington, his uncle Stephen Robson (1741-1779) was also a botanist and may have started Edward Robson's interest. Some of the sheets clearly came from his uncle. Of the two it is Edward Robson who is the most influential and he in turn encouraged his own nephew James Backhouse to become a botanist. It is obvious that Edward Robson corresponded with and exchanged specimens with many of the botanists of the day in London, Yorkshire, the Lake District, Liverpool and Cambridge botanic gardens and elsewhere. I can only speculate about the role of Quakers and Quaker education in botany at the time but it seems many of Robson's correspondents were also Quakers.

Many of the specimens have no data but more than half do and most of the collection is correctly named (sometimes with comments from other botanists of the day) even for difficult groups such as Potamogetons and Mints. Strangely there are no Compositae in the collection as it now stands.

Following Charles Nelson's article in the last issue of *BSBI News* (Nelson 2006) about John Dalton, I checked in the collection for specimens collected by him and by John Gough. There are nine possibly from John Dalton mostly labeled 'Isle of Walney' or 'Westm.' or un-localised. Typically those which have a date are from 1795 which is after John Dalton moved to Manchester. The date could indicate when he sent them to

Robson. Alternatively they could be from his brother Jonathon since they are only labelled 'J. Dalton'. There are two probably collected by John Gough, *Euphorbia paralias* L. 'from Walney, fr. J. Gough 9/98' and *Spiraea salicifolia* L. 'Hawkshead by J.G. IX.98'. There are several other plants from v.cc. 69 and 70 several of which have no collector given or are garden specimens from Thomas Hutton's garden in Keswick.

On the question of who discovered the Teesdale rarities such as *Gentiana verna* L. (Nelson 2006) there are three specimens of the latter in this collection. One, undated, is from 'Nr. Middleton fr. J. Harriman' (specimen number 2006.1251.1). The other two are 'Nr. Middleton fr. W. Oliver 12.1799 & 1798' (2006.1301.1) and 'Teesdale with Dr. Oliver & J. Binks 1798' (2006.1301.2). Robson quite often wrote on the date that he received the specimen rather than the date it was collected (see the *Scilla* mentioned later). These are both one year later than Binks was credited in Sowerby & Smith with finding the plant. However, Horsman (2001) in his PhD thesis suggests that William Oliver was the true discoverer of most of the rarities, with Binks working for him, Harriman acting as a link between Oliver who was geographically isolated and Robson who was instrumental in sending the specimens on to authors such as Sir James Smith.

Legg (1998) says that Edward Robson contributed descriptions to *English Botany* (Sowerby and Smith 1790–1814 in 36 volumes) and Sir James Smith (1759–1828) considered him 'a very assiduous and accurate botanist'. Some of the specimens appear to be those figured in this book, under *Pyrola rosea*, Smith writes that it was sent by 'James Backhouse Esq. of Darlington in Hyndon Gill, near Cockfield, Durham', the sheet (number 2006.1572) states 'Pyrola media, Hendon Gill nr Cockfield Jas B.' Similarly under *Scilla autumnalis*, Smith states that it was 'obligingly communicated from St. Vincent's Rocks near the hot-well, Bristol by Dr. John Ford 1792'. Robson's sheet (2006.1451.1) states '*Scilla autumnalis* Gathered on St. Vincents rocks near Bristol by Dr. Ford- From J. Sowerby, London – III.1793'. So we have the connection with Sowerby, the correct plant and collection details and the date given as the one when Robson received it from Sowerby (*Scilla autumnalis* does not flower in March and the specimen is flowering), this makes me fairly sure that this specimen is the one figured in the book. I have been unable to locate a full copy of Sowerby and

Smith in the North East but expect there to be many more such connections.

I find old herbarium sheets can sometimes provide clues to botanical problems. In the *Flora and Vegetation of County Durham* (Graham 1988) p. 176 it is written that *Melampyrum sylvaticum* L. is recorded from woods about Barnard Castle Robson 1780, 1794, but that mistakes seem to have been made with this species being recorded in error for the Larger Cow-wheat (*M. pratense*) over the last 20 years in County Durham. On the sheet (2006.1305) which I think is *M. pratense*, Robson has written *Melampyrum sylvaticum* and then 'M. pratense With, auth [new line] This species is more common in the N. of E. than the pratense [crossed out and sylvaticum written in pencil]'. This indicates to me that Robson had as much trouble distinguishing the two as later botanists do, not perhaps so much a problem of the last 20 years as Graham states, but the last 200!

It is in the fungi that Robson's diligence becomes most apparent. Along with his friends James Bolton of Halifax (who wrote *An History of Fungusses growing about Halifax* (1788 - 1791)) and Thomas Flintoff of Knayton, Yorkshire (fl. 1780s) they attempted to describe in detail poorly understood organisms. Many of the specimens have letters on them from each of these men describing what they have seen. Thomas Flintoff in particular does a lot of microscopic examination and writes about a slime mould of which 'the fibres when recent were possessed of a strong spontaneous motion'.

One of the fungi has been nominated as supporting material for the type of *Daldinia concentrica* Bolton (the holotype is an illustration in the Fungusses) (Rogers *et al.* 1999). I like the comment by Bolton on another one disagreeing with the name and saying it is no more like this fungus 'than a mouse tis like a fine horse'. All but 10 folders were carefully examined in 1997 by Alan Legg who felt that the collection was significant and deserved further study (Legg,

1997), the ones he missed are for the most part without data and were those left in the original folders when some partial re-curation of the collection was carried out in 1991.

If members would like more detail of the collection which I think deserves to be more widely known then please contact me or the Tyne and Wear Museum Service.

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## Uses for grasses

ELIZABETH RICH, *Jesmond Dene, Five Ashes, Mayfield, East Sussex, TN20 6JG*

In conversation, recently, with a very elderly man, he revealed the following:

In his youth; which was spent in Walthamstow, he had a bicycle. The tyres had no inner tube so could not be pumped up. He resolved this situation by stuffing the tyres with grass. I

enquired if he used any particular grass and he replied 'just any grass growing by the wayside'. He explained the grass turned juicy after a while.

I wouldn't recommend it today but presumably it worked for him!

## What to do with plant records – ideas from Wiltshire

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### Plant records

Throughout the British Isles, professional and amateur botanists are reporting locally on the plants they find. Usually, the finds are recorded in some kind of database of county records. These records may have come from planned surveys of an area or group of plants, or they may just record what cropped up when a botanist has been on the prowl. While any information about the whereabouts of plants locally is of value in itself, there may not always be an overall plan for making use of the body of records assembled in these ways. Should these data just be allowed to sit there until somebody finds a use for them, or should there be some regular and systematic way of making use of them?

An obvious step is to report back to the body of recorders in some way, but this poses questions as to what the data are for. Because the data concerned accumulate in a catch-all way rather than as part of an overall plan, they could not be a main source of information for rewriting or updating a county flora, providing information to help management of sites, devising development plans, protecting plants and plant communities against development projects, or building up an overall picture of the nation's biodiversity heritage. On the other hand, they could contribute more significantly to helping cultural activity and influencing and informing the general public. For what purposes should the feedback be designed, and how is the design to be achieved? Below is described an approach to these problems by one county-wide association – *Wiltshire Botanical Society* (referred to henceforward as WBS).

### Recording plants in Wiltshire

The history of botanical recording in Wiltshire has been summarised elsewhere (Presland *et al.* 2002). The latest Wiltshire flora is *The Wiltshire Flora* (Gillam, Green & Hutchison 1993). It covered the two botanical vice-counties into which Wiltshire is divided – v.c. 7 in the North and v.c. 8 in the South (including the small parts of them which are outside Wiltshire's administrative boundaries), with the Kennet and Avon Canal as the boundary between the two. It was written on the basis of the *Wiltshire Flora Mapping Project*, begun in 1983. The project was run by a steering group in which the main influence came from the two vice-county recorders. Plants were recorded for their occurrence in each tetrad (group of 4

kilometre squares of the National Grid), with progressively more precise locations for less common species. The records were entered into a database held at the *Wiltshire Biological Records Centre (WBRC)* and distribution maps were made from it. The Flora was prepared from these data.

Though the Flora was completed, members of the newly formed *Wiltshire Botanical Society* continued to record plants, and a database of these records was set up and maintained. Indeed, that was one of the purposes for which it was formed. Eventually, the Flora Mapping records at the Biological Records Centre and the WBS database became interchangeable, enabling both to be nearer to comprehensive.

### Publishing records

From early on, the most interesting of these records were published – at first in the Society's newsletter and, from 1995 onwards, in its scientific journal *Wiltshire Botany*. At first, this was done on a subjective basis, but a systematic scheme was gradually developed. Too many records were submitted to allow all to be published, so there needed to be methods of selection. This brought us back to the question of what the records were for.

First thoughts were that the records were likely to be of most use in adding to our information on less common plants. Added to this, was a feeling that simply re-recording plants in the same place, though a valuable activity, was less important than noting that a taxon had spread to new territory. With these thoughts in mind, criteria were established for publication of a record. They are framed in terms of the *taxon* (plural *taxa*), a general concept encompassing the *genus* (plural *genera*), *species*, *subspecies* and *variety*. They were:

- The taxon was recorded in 3% or less of the 1km squares in v.c. 7 and v.c. 8 combined in the *Wiltshire Flora Mapping Project* and as noted in the 1993 *Flora*;
- The taxon had not previously been recorded during the Flora Mapping and onwards for the tetrad in which the record was made.

To facilitate selection, a list was eventually drawn up of what were termed *eligible taxa*, which were taxa to which the 3% criterion applied at the time of publication of the 1993 *Flora*. Taxa which had not been included in the Flora at all but recorded since were added. Then, each year, any further 'new taxa' were

added, so that the list was continually being enlarged. Tetrads newly noted for each taxon since the *Flora* were enumerated in the list, and then, each year, the new ones were inserted. Subsequent records in those tetrads could then be omitted at publication.

At first, the tetrads which had already been recorded for a taxon at the time of the *Flora* were determined from distribution maps in the *Flora* for some species, and by searching the original Flora Mapping database for taxa for which such maps were not provided. Following the receipt of the 2003 records, the list of eligible species was modified to include a list of all the tetrads noted in the *Wiltshire Flora Mapping Project* for each unmapped taxon. There is now for the first time in published form (Wiltshire Botanical Society 2006 combined with the 1993 *Flora*), a hopefully complete record of all the tetrads for which a record has been made for each taxon from 1983 to 2003 inclusive. This should enable easier and more accurate selection in the future.

#### **Publishing an overall account**

At this point, also, work began on a presentation and analysis of the records of eligible taxa since recording for the 1993 Wiltshire *Flora* ceased around the end of 1991 and up to the end of 2003. The work was published in the Society's journal (Wiltshire Botanical Society 2006). Since then, further analyses have been carried out and it is planned to publish these in future issues (Wiltshire Botanical Society 2007; 2008). Articles on bramble species, willows and poplars, ferns and their allies, arable weeds, woodland indicators and taxa absent from the 1993 *Flora* but present in the earlier *Flora* of Grose (1957) and refund since 1991, are all in readiness, and there may be others to come.

The 2006 publication begins with an explanatory introduction, followed by the list of eligible taxa (called the *Record List*) and their tetrads as described above. There is then a series of articles in which the data are analysed so see what can be learned from them. The publication has the following objectives:

- To provide easy access to all available information on the tetrads in which each eligible taxon was recorded in the *Wiltshire Flora Mapping Project* – a new contribution to the literature.
- To list all the tetrads additional to those in the 1993 *Flora* in which each eligible taxon has been entered into *Wiltshire Botanical Society* records since the *Flora* (up to and including 2003).

- To enable comparisons to be made between the original Flora Mapping data and subsequent records.
- To provide a sort of 'flora' for all the eligible taxa covering all records over the period from the early 80s to 2003.

#### **Understanding the Record List and analyses**

In the *Record List*, the taxa are in alphabetical order by their scientific names. The data are presented as tetrad labels, each tetrad being identified by its southwest component 1km square. The form of the *Record List* and the meanings of the entries are shown in the illustrative sample (p. 17).

To use the list for a particular taxon, it is first necessary to look at either the distribution map in the 1993 *Flora* or the list of tetrads in square brackets. These show the tetrads in which the taxon was recorded during the Flora Mapping. Then look at the unbracketed tetrads to see which tetrads have been added since the Flora Mapping. The tetrad records also allow identification of 1<sup>st</sup> 10km square records, and the v.c. items tells us the vice-counties in which the tetrad has been recorded since the Flora Mapping began, so that 1<sup>st</sup> recent county and vice-county records (i.e. since the Flora Mapping began) can be identified. The nifg and nifs items indicate that earlier records can be found in the publications quoted, so that they can be compared with records during and after the Flora Mapping. This enables identification of records which are the first in the county or vice-county for all time.

#### **Analyses of the data**

The usefulness of the analyses here is limited by the facts that the information on which it is based represents only recorded additions to the distribution of each taxon covered at the time of the analysis; and that it is based on individual interests and targeted surveys, rather than on a systematic study of the flora as a whole. However, some information is worth summarising because it is valuable in itself. Other data can be checked against, and interpreted in the light of, other sources of information. Finally, even where no conclusions can be reached, analyses can raise and clarify matters in need of further thought or investigation. Below are examples of analyses of the data for particular taxa.

#### ***Papaver hybridum* (Rough Poppy)**

The data for this taxon probably signify a genuine change in distribution. It is one of the many annual agricultural weeds that used to flourish in land that was cultivated, because

cultivation produced soil where they could grow with little competition from vigorous perennials and because the seeds were often inadvertently harvested with the crop and consequently sown with it. With the advent of herbicides and seed cleaning techniques, they became less common. Rough Poppy survived in scattered locations, mainly in South and East England. The rise of conservation has given it new opportunities. Strips at field edges are sometime left unsprayed to allow growth of weeds. Rough Poppy is well-equipped to take advantage of such opportunities. It is normally self-pollinated, so a single plant is all that is needed for a new generation. The seeds remain viable in the soil for at least 80 years, so it is very likely that some will be there ready to germinate when conditions become right. There is evidence that it is becoming more common in at least some localities. A study in neighbouring Oxfordshire found that it occurred in two out of 156 fields in 1962, but was in 12 of the original 104 fields that remained in 1997 (Stevenson *et al.* 1999). This reflects a national trend, in that the plant was identified as nationally scarce on the basis of the 1962 *Atlas of the British flora*, but no longer has that status (Preston, Pearman & Dines 2002). It could be worthwhile to look for it in other arable situations.

In Wiltshire, Rough Poppy was recorded in 60 1km squares in the Flora Mapping, which is roughly 2% of all such squares in the County, but they were virtually all in the south-west quarter. In this area, it was sometimes locally common. A 1999 survey concluded that it was 'possibly increasing' in Wiltshire, mainly on the basis of new sites (Banks 2002). There were an encouraging 14 new tetrads added to the Flora Mapping count of 43 during the subsequent period up to 2003 – 33% of that original number. The new tetrads are, with one exception, in new 10km squares adjacent to the area in which it mainly occurred during the Flora Mapping. There is no reason to suppose that these squares were neglected earlier. Other agricultural weeds were recorded in them, so there was recording activity, so it is unlikely that the plant was there but overlooked. It is distinctive in appearance, easily distinguishable from other poppies by a fruit about as long as broad covered in bristly hairs and a smallish, distinctively crimson flower (see inside Front Cover). The fruits of other species are either not bristly or much longer than wide. The safest conclusion is that the plant has spread from neighbouring areas into new sites, which is a good sign for its future.

### ***Cochlearia danica* (Danish Scurvy-grass)**

This taxon was unknown in Wiltshire at the time of the 1993 *Flora* but has been recorded since. It is typically a plant of sandy and rocky seashores and walls and banks near the sea. This does not appear to be because it requires salt, but rather because it is a low and slender annual which does not compete well with more vigorous plants, and its salt tolerance allows it to thrive in locations where such competitors can't. This explains why it is also found inland on railway ballast, roadsides, and in cracks in buildings. On roadsides, it is likely that competitors are discouraged by salt spread on road surfaces to prevent icing. It may also relate to regular mowing of grass in these situations, which reduces shading by more vigorous plants. It has also been suggested that *C. danica* is resistant to herbicides sometimes used on roadsides, such as Glyphosphate, and can also set seed, grow and fruit between applications (Greenwood 2001). It crops up increasingly on roadsides and central reservations of busy dual carriageways – within the cities of Birmingham and Nottingham, for instance. Here it can occur in large numbers, with either white or lilac flowers or both. It particularly favours central reservations, which may be because the salt concentration is higher there than at the sides. An alternative suggestion (Roper 1994) is that the centre is a less favourable environment for small animals that eat the plant. (see Colour Section, Plate 2).

It is on busy main roads that the species first made its entry into Wiltshire in 1989, when two patches were found on the central reservation of a stretch of the M4 motorway. In 1990 and 1991 it was found on the A303 near Bulford, Mere and Chicklade. In 1991, it appeared in a different kind of habitat – the base of a wall in Salisbury. In 1993 it had invaded other dual carriageways – the central reservation of the A429 at Kington Langley, north of Chippenham, and the Swindon-Chippenham stretch of the M4. In 1994 it was observed on the A420 at South Marston, north-east of Swindon. In 1999 it was abundant beside the A338 south of Bodenhams, south of Salisbury, and on the A419 at Stratton St Margaret, where there were thousands of plants the following year, especially on the central reservation. It was also seen in ones and twos in other habitats in 1999 and 2001. Up to 2003, Danish Scurvygrass was recorded in 15 tetrads, and its spread seems certain to continue. We know the best situations in which to detect it.

***Agrostemma githago* (Corncockle)**

This taxon is of interest because it is a nationally rare species. It is a distinctive plant with its narrow hairy leaves, purple corolla up to 2 inches across and pointed sepals projecting well beyond them. It has been with us at least since Roman times. For most of that period it has been a common and serious agricultural weed, particularly in cornfields, since its poisonous seeds make wheat flour unwholesome. Its seeds were harvested and sown with the crop. When farmers learned to remove weed seeds from crop seed in the 19<sup>th</sup> century, however, the large size of its seeds made it an easy target. Further, the seeds were relatively short-lived, with, allegedly, few of them remaining dormant in the soil for more than a few years. By the outbreak of the Second World War, therefore, it was rare. It is now grown in gardens, from which it periodically escapes, and it is also sown by conservation-minded farmers.

In Wiltshire, Corncockle had a brief resurgence after the war, when Grose, in his 1957 Wiltshire Flora, reported it as common or frequent in various widespread parts of the county after old pastures were ploughed, with over 60 localities in the preceding ten years, which throws doubt on the claim that seed viability is short-lived. In the 1950s and 1960s it disappeared again, perhaps because of increased use of herbicides. In the Flora Mapping for the 1993 Flora, only 5 localities were found, 4 of them in v.c. 7, attributed to bird seed or garden escape. V.c.8 had some brief excitement when many plants appeared at a Westbury recreation ground after grubbing out of a hedge, but it was afterwards reported that the local council had sown wild flower seed there. Since the Flora, there have been only 3 new tetrads, including one where a farmer has been planting wild flower seed. As a genuinely wild flower it is regarded as effectively extinct (Marren 1999). However, the only two other post-Flora-Mapping records are intriguing – one on a large building site at Trowbridge in 1995, where its occurrence as an arable weed in the past is not impossible, and the other in a Bradford-on-Avon garden, where many plants appeared in 2000 that had not been intentionally planted. It will be interesting to see where else it turns up.

**Final words**

Each county has its own recording history and practices and its own areas of botanical interest, which will affect the ways in which records are collected, maintained and used. It may be, however, that experience in Wiltshire could, in some cases, help the thinking.

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**Illustrative sample from the Record List**

- Abies cephalonica* \* nif SU 0638, vc8
- Abutilon theophrasti* \* nrif [ST 8068, SU 3880], vc7
- Acer macrophyllum* \* nif ST 9418, vc8
- Acer platanoides* \* p226, vc78
- Aceras anthropomorphia* slo p362 [SU 0418] ST 9052, vc8
- Aconitum napellus* ssp. *napellus* p136 [ST 8058, 8076, 8256, 8276, 8452, 8472, 9234, 9648, 9662, SU 0288, 0626, 1446, 2050, 2466] SU 0478, 9434, vc78
- Acorus calamus* \* slo p307 [ST 97, 9860] ST 8042, vc78
- Adiantum capillus-veneris* slo p124 [SU 0858], vc78
- Adonis annua* \* p139 SU 1422, 1434, vc78
- Aesculus carnea* \* nrif [SU 1670, 1680] SU 2662, vc78
- Ageratum houstonianum* \* nrif [ST 9250], vc8
- Agrimonia procera* slo p195 [ST 8868, 9054, 9426, 9426, SU 1222, 1266, 1454, 1456, 1458, 1462, 1464, 1652, 1844, 1846, 1848, 1852, 1856, 2026, 2030, 2044, 2046, 2060,

2068, 2226, 2228, 2286, 2420, 2422, 2428, 2458, 2466, 2622, 2664, 2664, 2818] SU 1022, 1222, 2066, 2238, 2264, 2266, 2420, 2470, 2618, 2862, vc78

*Agrostemma githago* \* slo p156 [ST 8650] ST 8260, 8656, SU 1284, vc78

*Allium triquetrum* \* nifs SU 2428, vc8

*Ambrosia artemisiifolia*\* nifg ST 8650, SU 0638, 1430, 2872, vc78

By way of explanation

- \* – the taxon is not native to Wiltshire, though it may be native to Britain;
- **A page number on its own** – there is a distribution map in the 1993 *Flora* on the page given;
- **slo followed by a page number** – the *Flora* mentions some specific localities on that page, but without identifying the tetrads;
- **nrif followed by a page number** – the *Flora* refers to the taxon, but mentions no specific localities;

- **nif** – the taxon is not in the *Flora*;
- **nifg** – the taxon is not in the 1993 *Flora*, but included in Grose's 1957 *Flora*;
- **nifs** – the taxon is not in the 1993 *Flora*, nor in Grose's 1957 *Flora*, but included in Stearn's 1975 supplement.
- [ ] – there is no distribution map in the *Flora*, but the taxon was recorded in the tetrads in the brackets during the Wiltshire Flora Mapping Project (WFMP) for the 1993 *Flora*;
- **Tetrad references not in brackets** – these are new tetrads in which the taxon has been recorded since the Flora Mapping and up to 2003 inclusive;
- **vc followed by 7, 8 or 78** – these are the vice-counties in which there is a record for a taxon either before or after the 1993 *Flora* or both.

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## Colour-blind Botanists

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I was intrigued by Charles Nelson's article in *BSBI News* **103** on John Dalton, whose 250<sup>th</sup> anniversary has just passed (6 Sept). Dalton concluded that his colour-blindness – he saw pink as blue and scarlet as green – was due to the blueness of the vitreous humour in his eye. This was disproved when one of his eyes – on his instruction – was dissected after his death. In 1995 Hunt et al. reported that they had extracted DNA from the same, preserved, eye, which proved that Dalton was a 'deuteranope' i.e. the normal M-gene on his X-chromosome (his mother being the 'carrier') was replaced by the L-gene. This type of colour-blindness – of which there are several – occurs in 1% of men (and 0.4% of women) in the UK. Rates vary in different parts of the world.

It would be interesting to follow up Charles Nelson's guestimate of up to 170 colour-blind BSBI members. Assuming a majority read *BSBI News*, a simple count could be arrived at if readers test themselves using the standard Ishihara plates, accessible at [www.kcl.ac.uk/teares/gktvc/vc/lt/colourblindness/cblind.htm](http://www.kcl.ac.uk/teares/gktvc/vc/lt/colourblindness/cblind.htm), and let me know what 'type' they are – [timpaine@blueyonder.co.uk](mailto:timpaine@blueyonder.co.uk). I shall report back.

Members may also like to see how their digital flower photos appear to colour-blind botanists by accessing:

[www.etre.com/tools/colourblindsimulator](http://www.etre.com/tools/colourblindsimulator)

### Reference

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## A six metre *Phragmites* aerial stem

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Reed swamps are being encouraged by the Wiltshire Wildlife Trust and the Cotswold Water Park Society in the gravel pits around Ashton Keynes. Three of us were struggling through dense stands of *Phragmites australis* (Common Reed) when we came across and were partly entangled by two plants, one 4½ and the other 6m long. These were half-way

between vertical stems and stolons, non-flowering but semi-horizontal at waist to shoulder height. The nodes were about 20-30cm apart, some with short aerial roots, or shoots, or both. The internodes were less rigid than the surrounding vertical culms, and these stems snaked at mid-heights along through the verticals. Are aerial stolons known for this species?



## The Vascular Plant Red Data List for Great Britain: Year 1 Amendments

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Publication of the new *Red List* (Cheffings & Farrell 2005) represented a major landmark for the conservation of wild plants in Britain. As BSBI members will be aware, the Red-listing process used to work on the logic that 'rarity' and 'threat' were inseparably linked, and that if a plant wasn't rare it probably wasn't threatened. Only rare species were included in Red Data Books, although various criteria – including rate of decline, number of localities and their remoteness – were then used to ascertain 'degree of threat' in accordance with the internationally recognised (IUCN) threat categories current at the time. The 3<sup>rd</sup> edition of the Red Data Book (Wigginton 1999) assessed such species against revamped IUCN threat criteria (IUCN 1994) and, for the first time, also included several Nationally Scarce taxa known to have been in sharp decline (e.g. *Dianthus armeria* (Deptford Pink)). But the new *Red List* – thanks very largely to the work of BSBI members in gathering the millions of records for the two Atlases in 1962 and 2002 – was able to go one step further, assessing the shifting fortunes of **all** our wild plants, not just the rarities, against the very latest IUCN criteria (IUCN 2001, 2003).

Intuitively, of course, we already knew that many Nationally Scarce – and even some quite common – species had been declining markedly in recent decades. For example, even before publication of the maps in *Scarce Plants* (Stewart *et al.* 1994) and the *New Atlas* (Preston *et al.* 2002), we were aware of large-scale losses of *Anacamptis* (*Orchis*) *morio* (Green-winged Orchid), a direct consequence of the widespread destruction of unimproved neutral meadows and pastures, especially in the English lowlands; but now we were able to **quantify** these losses – in terms of range contraction and a 'thinning' of its national distribution at 10km square scale – and assess them against the most recent IUCN threat criteria. As a result, *A. morio* was listed in the 2005 *Red List* as 'Near Threatened'.

The new list was, in effect, a bald statement of what had been happening to our native (and archaeophyte) flora over the last 40-odd years. In all, 1756 taxa were assessed, as follows: 1261 (71.8%) 'Least Concern' (i.e. not threatened); 98 (5.6%) 'Near Threatened'; 39 (2.2%) 'Data Deficient' (species believed to be threatened,

but where there was insufficient information to assign an IUCN threat category); 220 (12.5%) 'Vulnerable'; 90 (5.1%) 'Endangered'; 35 (2.0%) 'Critically Endangered'; 4 (0.2%) 'Extinct in the Wild'; and 9 (0.5%) 'Extinct'. (For definitions of the various categories, see Cheffings & Farrell (2005).)

The *Red List* attracted an enormous amount of publicity. All the broadsheets, and many of the tabloids, gave it extensive coverage – a welcome diversion from the previous week's General Election, perhaps? – and members of the vascular plants 'Species Status Assessment Group' found themselves rushing between national television and local radio, doing interviews with journalists and news presenters keen to tease out the significance of the report's findings. The main 'storyline' was clear enough, and analogies with declining bird populations abounded. In the public's imagination, skylarks and grey partridges had now been joined by the likes of Shepherd's-needle (*Scandix pecten-veneris*) and Corn Buttercup (*Ranunculus arvensis*): two more 'Critically Endangered' farmland species losing ground across great swathes of the British countryside – but plants this time, not birds.

Things don't stand still for long, however, and the list was published in the certain knowledge that it would very soon require amending in light of 'new information'. Just as the countryside changes, so too does our knowledge and understanding of the plants that live there. We are particularly concerned to ensure that detailed single-species studies – like the one on *Gentianella germanica* (Chiltern Gentian) by McVeigh *et al.* (2005) – should contribute directly, and speedily, to updated assessments of IUCN threat category in the *Red List*. Taxonomic perspectives keep changing too, with new species and subspecies being described and existing taxa changing taxonomic rank (e.g. varieties becoming subspecies, or subspecies becoming species).

In this way, the 'raw materials' from which the *Red List* is fashioned are apt to change from one year to the next. Hence the need for this update, just 18 months after the original list was published. Our intention is to post an annual list of amendments on the JNCC website, and to publish a summary of the main changes in *BSBI*

*News.* There will be a full-scale review of the *Red List* in about 10 years' time, but meanwhile our aim is simply to try to keep it as up-to-date as possible.

So, what amendments have been made following the first year? Not many, surely? Well, actually quite a few, and we give a summary of the main changes below. For full details, please refer to the JNCC website [www.jncc.gov.uk](http://www.jncc.gov.uk), look under species > species designations, and follow the relevant links.

1. There is just one taxonomic/nomenclatural change to taxa listed as 'threatened' in the 2005 *Red List*: *Asparagus officinalis* ssp. *prostratus* is now listed as *A. prostratus*, in line with Kay *et al.* (2001).
2. There are five 'Extinct' taxa – *Carex davaliana*, *Carex trinervis*, *Pinguicula alpina*, *Rubus arcticus* and *Trichophorum alpinum* – which were inexplicably overlooked when the *Red List* was being compiled, and these have now been added.
3. One species, *Lepidium sativum*, was included in the *Red List* in error, and has now been removed. In the *New Atlas* it is listed as 'casual', not as an archaeophyte.
4. Two newly described taxa have been added: *Sorbus pseudomeinichii* ('Critically Endangered') and *Sorbus whiteana* ('Endangered').
5. *Gentianella germanica*, previously listed as 'Least Concern', has been re-assessed as 'Vulnerable', following a detailed investigation by McVeigh *et al.* (2005).
6. *Buxus sempervirens*, previously listed as 'Least Concern', has been re-assessed as 'Data Deficient'. Although the native range is obscured by its widespread distribution as an introduction, there are very few undoubted native populations and these are now considered to be under threat from box blight.
7. *Senecio eboracensis*, previously included on the 'Waiting List', has now been added to the main list as 'Extinct in the Wild' as it has not been seen in the wild since 2000.
8. *Trifolium incarnatum* ssp. *molinerii*, previously listed as 'Vulnerable', has been re-assessed as 'Least Concern', following the discovery of new populations in S. Devon (Smith 2006). It is still 'Nationally Rare', of course, but now occurs as a presumed native in three 10-km squares in Great Britain, rather than two.
9. 29 infraspecific taxa (subspecies) appearing in Sell & Murrell (2006) have been added to the 'Waiting List' as taxa requiring more

work, while a further 13 have been added to the main list as 'Least Concern'. Thus, for example, the widespread *Leucanthemum vulgare* ssp. *vulgare* has been listed as 'Least Concern', on the assumption that its conservation status is the same as that assigned to the species as a whole. On the other hand, *L. vulgare* ssp. *crassifolium* (thought to be restricted to the Lizard peninsula) has been added to the 'Waiting List' and earmarked for further study to confirm its taxonomic 'worth', overall population size and distribution. Without this kind of detailed information, we cannot say whether (or to what extent) these infraspecific taxa are threatened. The only exceptions are Sell & Murrell's two subspecies of *Galium pumilum*. Ssp. *pumilum* is now listed, like the species as a whole, as 'Endangered', while ssp. *fleurotii* is assessed as 'Data Deficient' – we are fairly sure the latter is threatened, but until we have more detailed information on its distribution we are unable to assign an IUCN threat category.

10. Publication of Sell & Murrell (2006), distributional studies by David McCosh and recent work on numerous Welsh *Hieracia* by Tim Rich and colleagues, have allowed us, for the first time, to include all native species of *Hieracium* on the *Red List*. Previously, only Sect. *Alpina* was included. With the help of David McCosh and Tim Rich, the Year 1 Amendments List incorporates an updated assessment of Sect. *Alpina* (including four new species), along with new assessments for the rest of the genus: 354 taxa in all. Of these, 86 have been categorised as 'Vulnerable', 18 as 'Endangered', 13 as 'Critically Endangered', 2 as likely to be 'Extinct in the Wild', and 5 as probably or certainly 'Extinct'. In addition, 16 species are listed as 'Data Deficient', 7 as 'Near Threatened', and 23 as 'Waiting List' species requiring further work. That leaves 184 taxa which are listed as 'Least Concern'.
11. As for hawkweeds, so also for dandelions! New information in Sell & Murrell (2006), combined with that of Dudman & Richards (1997), now allows us to give greatly improved listings for species within the genus *Taraxacum*. In the 2005 *Red List* we included just six species in the main list. To these we have now added 131 taxa: 3 'Vulnerable', 6 'Data Deficient', 21 'Waiting List' and 101 'Least Concern'.

There is, of course, a huge amount still to do – note, for example, the large numbers of species listed as ‘Data Deficient’ or languishing on the ‘Waiting List’, all of which need work done on them. In addition, many species were Red-listed on account of the small number of locations and/or size of extant populations; and these now require periodic re-survey/monitoring to ascertain whether their IUCN threat categories are still correct. The emphasis within BSBI at the moment on County Rare Plant Registers (CRPRs) is fortuitous, and members need to appreciate how their records can contribute directly to national assessments of the ‘health’ of many Red-listed species. And there are doubtless species categorised as ‘Least Concern’ that others may feel are under threat; we know, for example, that botanists in Hampshire are questioning whether *Gladiolus illyricus* should be listed as ‘Least Concern’, since on many sites in the New Forest it seems to be declining, and on some has been lost altogether. Hopefully, the ‘annual amendments’ process will give the work being done on such species an extra impetus, leading to improved estimates of recent changes in distribution and population size and a better understanding of current and future threats.

#### Acknowledgements

The Year 1 amendments to the *Red List* were compiled by the ‘Species Status Assessment Group’, co-ordinated by JNCC and including representatives from the Biological Records Centre (within CEH), BSBI, Countryside Council for Wales, Natural England (formerly English Nature), Natural History Museum, Plantlife, Royal Botanic Garden Edinburgh, and Scottish Natural Heritage. The present note is written on behalf of that Group. We wish to thank David McCosh and Tim Rich for helpful comments and data on the *Hieracium* species.

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## On the status of *Artemisia campestris* ssp. *maritima* as a native

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I was intrigued to read the two recent articles in *BSBI News* 103 (Smith & Wilcox p. 3 and Clement p. 4) regarding the finding of *Artemisia campestris* ssp. *maritima* on dunes at Crosby on Merseyside, and of the controversy as to its status as a native. I have corresponded with the authors of the two articles and have been supplied with plant material, which confirms the identification.

In my opinion the plant is almost certainly native to the British Isles. *Artemisia campestris* (Field Wornwood) (without subspecies division) has been occasionally recorded around

the coast of mainland Britain over a number of years. The maritime subspecies is reported in *Flora Europaea* (Tutin *et al.* 1976) to grow on dunes along the west coast of Europe, from Holland down to Spain. I have seen and collected this subspecies in France, Portugal and Spain (and have specimens growing in the *Artemisia* Collection), but have not seen any material from Holland or Belgium. The coastal British distribution would certainly fit with the European distribution of the maritime subspecies and there is a site where this particular subspecies has been recorded for many years,

on dunes at Crymlyn Burrows in South Wales (v.c. 41) (see inside Front Cover). In 1990 I obtained a licence from the then Nature Conservancy Council to collect material from that site, and still have it growing in the *Artemisia* Collection. More recent information from the Countryside Council for Wales (Lindi Rich, January 2000), suggests that the plants at the original collection site have been largely replaced by a newer colony a few hundred metres away.

The maritime subspecies is variable in form, but the material that I have seen in Europe shows a distinct progression in habit as it is followed south. Specimens that I have from the Isle de Rhé region south of Brittany are of a very lax spreading habit, perhaps less than 0.3m high, but south of the Gironde the plant appears to be much more erect, producing clumps around 0.5m high. (As Eric Clement says, in France the plant is normally referred to as *A. lloydii*.) (See inside Front Cover). From the coast of Portugal to southern Spain the maritime dune plant becomes even more strongly erect and was described from this region by Linnaeus (1753 p. 846) as *A. crithmifolia*. The leaves of the plant also show an evolutionary trend along the long narrow distribution range, becoming more thickly fleshy with shorter stems and longer lobes, towards the southern extremity. Some of the French material shows a velvety white effect on new leaves, particularly over winter, due to a layer of fine hairs. This effect is perhaps less noticeable on the Welsh (Crymlyn Burrows) form and in the southern populations from Portugal and Spain.

The Welsh plant appears to fit the European mainland progression in leaf form and in being a lax, low growing plant, but it is more prostrate than I expected from the French material. Indeed the plant was so prostrate when I visited the site that even with a site map it took me a while to find it, and I eventually realised that I was standing on stems that were largely hidden amongst the grass. In the *Artemisia* Collection it behaves in a similar fashion although, if undisturbed, builds up as a shrub over several years to a couple of metres across and over 0.3m high. The form growing at Crosby appears, from Philip Smith's description and the photograph to be somewhat more erect than the Welsh form. Perhaps surprisingly for a dune plant, the Welsh form has grown well in my Cambridgeshire garden despite our often harsh East Anglian winters.

*Atlas of the British Flora* includes a map of the distribution of *Artemisia campestris* without subspecies division. The 1976 revision shows

more sites than the 1962 edition. The 1976 map shows it as casual at various coastal sites, approximating to St Austell in Cornwall, Crymlyn Burrows, three other sites in south Wales (from Cardiff to Newport), and a site near Speke on Merseyside. This latter site may be the one at Garston docks referred to by Smith & Wilcox, where the plant had been apparently identified in 1934 as ssp. *campestris*. (Savidge *et al.* 1963). I have not seen this publication. Whilst the find may have been a chance introduction of ssp. *campestris* from the docks, I wonder whether herbarium or more recent living material is available to recheck whether it could have been ssp. *maritima*?

Other coastal sites on the 1976 map are given near the north Norfolk coast and near Hartlepool, Hull, Glasgow and Belfast. The north Norfolk and other inland sites shown may be sites where the Breckland Mugwort / Field Southernwood (*campestris* subspecies) lingered in its decline. I note that the *New Atlas of the British & Irish Flora* shows only the Crymlyn Burrows site as having a recently verified coastal population for *A. campestris* (again without subspecies division) and, in my view wrongly, claims this to be a naturalised population.

I have long been of the opinion that ssp. *maritima* probably grows at other coastal sites in the British Isles, but due to its semi-prostrate and relatively inconspicuous habit it may not have been noticed. It is perhaps only a matter of time before this plant turns up elsewhere on coastal dunes, and anyone living near or planning to visit these areas (particularly where the plant has been recorded in the past) may wish to follow this one up. I would be very pleased to hear of any potential sightings and to help in any identification.

### Distinguishing between the two subspecies

The two subspecies are most easily distinguished by their leaf form and shape. The *campestris* subspecies has very thin, almost needle-like leaves cut once or twice into long leaf lobes, on the ascending flowering stems. In contrast ssp. *maritima* has much fleshier leaves and (in the Welsh, Crosby and French versions) much shorter, fatter leaf lobes (see photo p. 23). From material currently growing in the Collection, I would not be happy to discriminate between these subspecies based on whether or not the undersides of the leaves were 'keeled', or whether or not they were microscopically hairy. The other main discriminator to my eyes is the general habit of the plants. At this time of the year (late October) all my (undamaged) ssp. *campestris* plants are showing two distinct types

of growth namely tall woody flowering stems from this summer and basal rosettes of next year's growth (from the stool). In contrast the ssp. *maritima* plants are showing both flowering and non-flowering stems, the latter branching from the main stems rather than from the stool of the shrub.

### Specific Rank?

I agree with Eric Clement that specific rank may be more appropriate for this plant. I have grown the French forms alongside English ssp. *campestris* for over 15 years and although seedlings appear in the bed they develop into one or other of the parent types. I have not seen anything suggestive of an intermediate. The British material (Crymlyn and Crosby) is very similar to *A. lloydii* (Rouy) from France, but the name *A. crithmifolia* (L.) is earlier. The English name Sand-dune Wormwood suggested by Eric Clement, sounds ideal for this plant.

### Acknowledgements

My thanks to Phil Smith, Mike Wilcox and Eric Clement for supplying living plant material to the

NCCPG National Collection, and for helpful discussions over this article.

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Specimens of *Artemisia campestris* subsp. *maritima* (left) and subsp. *campestris* (right)

Photo J.D. Twibell © 2006

## ***Galeopsis bifida* and *G. tetrahit*: some interesting observations**

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In 2,000 I started serious recording of plants in the area around where I live in South Essex, v.c.18. *Galeopsis bifida* (Bifid Hemp-nettle) was fairly common, mostly in rough grass, scrubby places or secondary woodland. One patch of about 12 plants was in Whitepost Wood, at TQ5619.8292, recorded in July. In those early days I was checking very carefully which *Galeopsis* I was finding, as *bifida* was thought to be less common than *tetrahit* (Common Hemp-nettle), and I soon memorised the key differences, which are entirely in the details of the central lobe of the lower lip of the flower (Stace p. 562, figs p. 561, Rose 2<sup>nd</sup> edn p. 374 with figs). All the ones I found, not just in this location but for some kilometres round about, had a cleft lower lobe, clearly convex, with solid deep purple right up to the edges, showing hardly any white margin. This patch of plants was looked at briefly in most ensuing years, as the woodland is also good for fungi and has other interests. Always true *G. bifida* was seen.

Then on 28<sup>th</sup> August 2006 the familiar patch was seen again, as we were looking for fungi following recent rain. There had not been enough rain to make any difference, and almost no fungi were found, but the *Galeopsis bifida* plants, at exactly the same location, had a very few flowers open, even though the plants were badly wilted. I was amazed to find that these late flowers fitted *G. tetrahit* exactly: the lower lobe had an entire margin, flat, and with fine purple veins in the middle part of the lobe only.

My County Recorder was baffled as much as I was. I was very remiss in not returning with the camera, but alas, I have no pictures to prove it.

Are we looking at just one very variable species, of which *tetrahit* and *bifida* are extreme forms varying according to climate and/or season? My old CTW is uncertain as to whether *bifida* is a separate species or only a variant of *tetrahit*. Or does anyone else have any bright ideas as to what is going on here? Meanwhile, do I enter both species into my MapMate database, or not?

## **Further thoughts on the flora of the Isles of Scilly**

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The note by Eric Clement in *BSBI News* 103, September 2006 has spurred me to follow his comments with a request of my own. Many records of Scilly plants are probably in private notebooks or if published they may, as Eric suggests, be somewhere I am unlikely to see them. Currently I am compiling an update to the Flora of the Isles of Scilly (Lousley's 1971 *Flora* now being very out of date) so would welcome any new records or references to published material in more obscure journals. Many botanists visit Scilly and some are generous in sending me their records, sometimes it is assumed 'I know it all' so I may miss an interesting report. Records of aliens are of especial value as it is proving very difficult to keep up with these – especially as Scilly seems to have so many. Many aliens are not easy to identify so I am very grateful to Eric Clement and other experts who have often helped in this respect.

With reference to Eric's mention of *Senecio glastifolius* (Woad-leaved Ragwort) I can tell him it has spread from Tresco Gardens and is now to be found both on Tresco and also on St

Mary's. Often it is unclear whether plants outside Tresco Gardens have been planted or have spread naturally. *Leptospermum scoparium* (Broom Tea-tree) and *L. lanigerum* (Swamp Tea-tree) are examples of this although they seem to be spreading naturally on Tresco Hill. *Pelargonium tomentosum* (Peppermint-scented Geranium) (with peppermint-scented foliage) has been naturalised in the same area for many years. I can also confirm that *Plecotachys serpyllifolia* (Hottentot Tea) grows on Newman Battery on the Garrison, St Mary's, but the situation suggests it may have originally been planted in the area. Due to the excessive number of aliens on the Isles of Scilly it has been necessary to take a pragmatic approach to recording – so any plant that appears to be spreading naturally is noted. Generally plants in the Abbey Gardens are not recorded unless they have become 'weeds'. But native species that have become weeds in the Gardens are recorded. Among more interesting examples are *Ornithopus pinnatus* (Orange Bird's-foot), *Lotus subbiflorus* (Hairy Bird's-foot-trefoil),

*Silene gallica* (Small-flowered Catchfly),  
*Orobancha minor* (Common Broomrape),  
*Trifolium striatum* (Knotted Clover), *T. glomer-*

*atum* (Clustered Clover), *Poa infirma* (Early  
Meadow-grass) and *Briza minor* (Lesser  
Quaking-grass).

## Known and unexpected microscopy findings in *Callitriche*

JACK OLIVER, *High View, Rhyls Lane, Lockeridge, Nr Marlborough, Wilts. SN8 4ED*

Two Water-starwort species were studied, *Callitriche stagnalis* from ponds and ruts in Savernake Forest, and *C. obtusangula* from the River Kennet. Microphotos ①–⑤ are of *C. stagnalis* (Common Water-starwort) and ⑥ is of *C. obtusangula* (Blunt-fruited Water-starwort).

① Axillary bud epithelial ‘fan’ hair, width 60µ, showing four cells. The average for *C. stagnalis* was 4.2 cells; for *C. obtusangula*, 5.2 cells (see also Lansdown 1998).

② Stem epithelial ‘rosette’ hair, diameter 75µ, showing 9 cells. The average for *C. stagnalis* was 8.4 cells (c.f. Lansdown 1998).

③ Splayed root tissues. The wholly colourless central vascular cylinder, or stele (width 50µ), has been completely separated from the surrounding faintly green root cortex tissues.

④ Stele to maximum magnification. The xylem seems to be reduced to a single vessel

element (width 12µ). The vessel has the appearance of spirally arranged lignified thickening.

⑤ Green bodies mainly within root cortex cells (diameter 1.5–3µ). These are almost certainly root cortex chloroplasts, actively photosynthesising.

⑥ Root cortex green bodies (diameter 1–4µ). *C. obtusangula*, locally at least, can have light green roots: (green roots are less often seen in *C. stagnalis*; underwater stems of both species are always bright green). A variety of algae can occasionally penetrate the root cortex as individual intrusions; but the appearance here may be of extruded and somewhat irregular chloroplasts. Distinguishing featureless 0.5–5µ endophytic algae from extruded chloroplasts is problematic.

**Acknowledgement:** My thanks to Joan & Brian Davies for helping with the illustrations.

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## *Sagina maritima* on roadside verges

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In *BSBI News* 103: 4 (2006) Edward Pratt suggests that *Sagina maritima* (Sea Pearlwort) may have joined the throng of native halophytes spreading inland on roadside margins. This is certainly now the case in Cambridgeshire (v.c. 29). I first detected a single plant on bare ground beside the A14 at Stow cum Quy, just east of Cambridge, in June 2003 and subsequently had its identity confirmed by Prof. Jardine, the BSBI referee. Since then I have recorded it in 5 other sites (in a total of four 10km squares) in the Cambridge area: four in the pavement and kerb cracks on or on the approach to bridges over either the M11 or A11 and the fifth along the verge of the A14 just west of Newmarket. It is abundant in several of these sites and accompanied by a range of other halophytes. Sea Pearlwort was at one time known as a native plant in the county along the tidal River Nene just to the north of Wisbech but was last recorded there (as a single plant) in 1983. There is probably more of it now in the county than there has ever been!

*S. maritima* joins a lengthening list of other halophytes on Cambridgeshire road-verges which now includes: *Parapholis strigosa*, *P. incurva*, *Puccinellia distans*, *Hordeum marinum*, *Catapodium marinum*, *Elytrigia atherica*, *Spergularia marina*, *Cochlearia danica*, *Plantago coronopus*, *Atriplex littoralis*, *Armeria maritima*, *Juncus ambiguus* (conf. Tom Cope and perhaps the first report of this species from inland maritime verges), *Lepidium latifolium*, *L. ruderalis* and *Cerastium diffusum*. It may be surprising to record that of these only the *Lepidium latifolium*, *Cerastium diffusum*, *Cochlearia danica* and *Parapholis incurva* have not previously been recorded as native plants in the county. A detailed account of the early history of the spread of halophytes beside Cambridgeshire roads is given by David Coombe in *Nature in Cambridgeshire* 36: 37–60 (1994).

## 2-5 whorl radially symmetrical polystachions and other variants in *Equisetum palustre* populations

JACK OLIVER, *High View, Rhyls Lane, Lockeridge, Nr Marlborough, Wilts. SN8 4ED*

Twelve of fourteen Floras and books on ferns searched made no mention of polystachions. The description by Ann Pratt (1855?) of *Equisetum palustre* (Marsh Horsetail) polystachions fits figure 1, or categories I & II (perhaps also III) in the ensuing classification. She and Freethy (1987) attribute the formation of these peripheral or radial branch-tip cones entirely to environmental causes, Freethy saying that 'modern day botanists' implicate damage to the apex of the main stem. Whilst this may be true for category 1A (fig. 1A), damage to the apex of the central axis hardly accounts for most of the remaining 8 categories and subcategories. There must be genetic propensities, whatever the environmental triggers. Single rhizome colonies tend to produce rather similar polystachion configurations, despite fairly frequent riotous variation in the vegetative parts. Donald Grose (1957) reported *E. palustre* var. *polystachyum* Weigel at 18 Wiltshire sites, often in successive seasons at the same locations. Grose did not share the prevailing ideas that polystachions were always exclusively environmentally induced phenomena.

The classification here of polystachion configurations is based mainly on populations in N. Wilts., and W. Berks. (v.cc. 7 & 22). Four of the 9 configurations are illustrated, but radial symmetry of the cones can be concealed or confused by extreme variations in the branching. Page (1982) emphasises 'extensive environmentally-induced variation in size and plant habit' in *E. palustre*. This is true for the N. Wilts. populations around the new gravel pit lakes west and east of Ashton Keynes, where there also seem to be genetic variants. These vegetative variations are very much greater than those illustrated by Page (1982) for upland and lowland forms from five Scottish areas and from W. Gloucs. Some were as follows, in approx. order of commonness:

- 1 Very long lower branches, sometimes much overtopping the central axes; if also polystachions, masses of cones bunched above, cones sometimes of different ages.
- 2 Extreme variations in numbers of branches per node (0-10).
- 3 Extreme variations in lengths of undamaged branches (2-25+ cm).
- 4 Unbranched, or hardly branched (from the base) shoots (cones infrequent).

- 5 Compound branching (rebranched branches. See also Grose 1957; Oliver & Storey 1996).
- 6 Prostrate creeping forms with single (but sometimes rebranched) branches from some nodes. (No cones yet seen).

In short, many of these N. Wilts. plants were not the neat regular forms illustrated in figs. 1-4, in Page (1982), Freethy (1989), or Oliver & Storey (1996). This means that polystachion configurations might not look regular or radially symmetrical until the branches were neatly splayed. In particular, the 4 or 5 whorl polystachions (IVC & D) could look like a disorganized mass when occurring in variants 1-3 and 5 preceeding. To date, my best records are two 5-whorl radial polystachions (IVD) from the Waterhay reserve east of Ashton Keynes in August 2006, rather untidy masses of 18-20 surviving 4-9mm mature branch-tip cones surrounding the remnants of the older 30mm terminal cone.

An internet search by my youngest daughter turned up 80 or so 'Polystachion' sources: but nearly all of these related to flowering plants, mainly Knotweeds (Polygonaceae), Cotton-grasses (Cyperaceae) and Grasses (Poaceae). *Equisetum palustre* is distributed throughout N. America and Eurasia, but mostly northern. Fully comprehensive accounts (e.g. Rook 2004) make no mention of polystachions in *E. palustre* (or any horsetail species). Linking 'polystachion' and *E. palustre* only gave two hits, Oliver & Storey (1996); and a puzzling German entry seemingly on old records of British plant pictures (Stueber 2003). Stueber's drawing shows a single-whorl symmetrically radial polystachion with 8 branches of equal length all with mature cones of (nearly) the same sizes and ages.

Grose's (1957) eighteen sites for *E. palustre* polystachions covered half the area of Wiltshire, but the best radially symmetrical multi-whorl colonies (categories IV & V) now seem to be in the extreme north of the county, and in adjacent S.W. Berks. I do not underplay the importance of environmental triggers in inducing (at least the simpler and less regular categories I & II) *E. palustre* polystachions; but suggest that there is more evolutionary significance to these populations than transient aberrations.



**Acknowledgement**

My thanks to Pat Woodruffe for her photos of alternative polystachion configurations on which Fig. 2 is based.

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## Classification of horsetail cone polystachions

IA Central terminal cone damaged or missing. Approx. 2-3 randomly organised branch-tip cones, usually on upper whorl(s).

IB Central terminal cone present (15-35mm). Approx. 2-3 randomly organised smaller (4-10mm) branch cones, usually but not always younger than the terminal cone (see fig IA & IB)

For II to V ensuing, central terminal cones usually present, usually twice or thrice the size of branch-tip cones, usually older but often the same age, rarely younger. Branch-tip cones themselves could vary considerably in age, even on the same whorl.)

II More coned than unconed branch tips in at least one upper whorl, but scarcely approaching radially symmetrical arrangements.

III All or nearly all coned branch tips in at least one upper whorl. Complete or semicomplete

radially symmetrical cone organisation, if allowance is made for immature, young, harmed or bitten-off branch-tip cones. (The branches themselves very often of varying numbers or lengths).

IV All or nearly all coned branch tips in:

A) 2 upper whorls (see fig. 3)

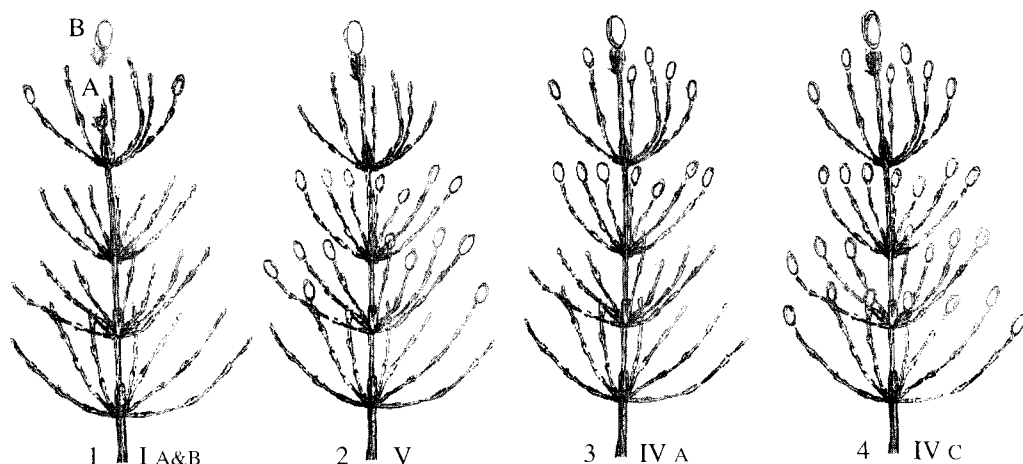
B) 3 upper whorls

C) 4 upper whorls (see fig. 4)

D) 5 upper whorls

(Radially symmetrical organisations of peripheral cones not always obvious, owing to varying branch nos and lengths, immature or shed cones).

V All, nearly all, or most coned radials found in the lower whorls, the uppermost 1-3 whorls having unconed branch tips (see fig. 2).



Semidiagrammatic drawings of 4 main polystachion types, del. J.E. Oliver

## Orange-trunked trees in Savernake Forest

JACK OLIVER, *High View, Rhyls Lane, Lockeridge, Nr Marlborough, Wilts. SN8 4ED*

At certain times of year, numbers of trees in Savernake Forest can develop conspicuously orange trunks. Often one side of the trunk, from ground to branches goes completely orange. The shade of colour matches exactly that of the lichen *Xanthoria parietina*: but the extensive colouration is not caused by a lichen.

Photos ① & ② are of the bark of *Quercus rubra* (Red Oak) taken in April 2006. The orange tufts, best seen in ②, are algal concentrations, (although some lichen species are also discernible, especially in ②). Tree taxa noted to be most affected in 2005 & 2006 included *Quercus petraea* (Sessile Oak), *Q. robur* (Pedunculate Oak), *Q. ×rosacea* (native hybrid oak) the hybrid of the two preceeding, *Q. rubra*, *Fraxinus excelsior* (Ash), *Acer platanoides* (Norway Maple) and *Populus ×canadensis* (Hybrid Black-poplar). *Fagus sylvatica* (Beech) and *Acer pseudoplatanus* (Sycamore) sometimes developed similar orange areas on their trunks. Outside Savernake Forest the same phenomenon was noted also on the trunks of less common non-native trees such as *Ostrya carpinifolia* (European Hop-hornbeam) and *Phellodendron amurense* (Amur Corktree) in two of the four arboreta on the Oare Estate near Pewsey in Wiltshire. More surprisingly, the same orange alga patchily infiltrated thinner parts of the mostly very rugged bark of some inland *Pinus radiata* (Monterey Pine) in Cornwall in June 2006. It therefore seems that a variety of tree species can be colonised, even including conifers.

Microphotos ③ & ④ derived from one side of a young Ash tree, with relatively thin bark. In March 2005, 6 metres of trunk, from ground to first branch, was completely and continuously orange on one aspect; exactly half the trunk. From photos, microphotos, and specimens of bark, the staff at the Alice Holt Lodge Forest Research Centre confirmed the alga as *Trentepohlia*. Magnifications are shown in ③ & ④ at approx.  $\times 300$  &  $\times 1500$  respectively. The orange filaments measured 5–10  $\mu$  across, the cells 15–25  $\mu$  long. The mainly lateral and single terminal granular orange ‘nodules’ may be gametangia or sporangia, mostly around 15  $\mu$  in diameter. The granular green nodules flanking one of the orange ones in ④ were 5  $\mu$  in diameter, and are a mystery; but they show the underlying chlorophyll green which is usually masked by the strong orange pigment.

Attempts, admittedly clumsy, to examine the substratum (top left of ③) indicated that the orange tufts discernable in ② arose from a close mesh of filaments. From this mesh, filaments appeared to have arisen from, or penetrated into, the underlying living bark. They were not just sitting on, or simply stuck to the bark surface, as the situation in respect of conspicuously green subaerial or terrestrial algae (*Pleurococcus*, *Desmococcus*, *Apatococcus*) which so often powder branches, trunks, fences and other surfaces. To the author, the *Trentepohlia* seemed to look and behave more like the mycelia and hyphae of an orange fungus than an alga, with its meshes, tangles and tufts of irregular granular filaments.

The Tree Advice Trust does not consider this *Trentepohlia* to be pathenogenic (Rose 2005). It is one of the ‘Green Algae’ (Chlorophyta) whose colour is masked by orange carotenoid pigments. The most likely candidate is *Trentepohlia abietina*, which can sometimes grow on limestone rocks in Ireland (John, *et al.* 2003). This suggests a subaerial purely epiphytic existence, but some closely related genera such as *Cephaleuros* can be serious pathogens on shrubs and trees in the tropics (ASCC 2003, Canter-Lund 1996, Gorsuch 2004, Lopez-Bautista *et al.* 2002). *Trentepohlia* itself is the second commonest algal partner in lichens (Canter-Lund 1996), Dobson 1992). However as indicated above, the tree-trunk *Trentepohlia* seems to achieve some penetration by filaments into living bark.

The orange pigmentation did not survive on removed flakes of Ash bark. In partial sunlight, damp flakes turned brown. On dry bits, the orange faded in about ten days to turn pale clear grey, as best shown on parts of photo ①, where some of the previously orange tufts have lost their colour. The identically coloured lichen, *Xanthoria parietina* loses its orange pigmentation in shade, revealing the underlying green colour of the algal photobiont. Parietin is the orange pigment which is known to screen out harmful ultra-violet light. It is tempting to speculate whether the orange *Trentepohlia* pigment is chemically similar, with the same function. Tree-trunk *Trentepohlia* lacks the protection afforded to pigments and algal photobionts within lichens. This may explain the relative impermanence of orange tree-trunk

colouration compared with red, orange, grey-green and yellow lichens.

#### Acknowledgements

My thanks to Joan Davies for photos ① & ②; and to Dr Joan Rose of the Tree Disease Diagnostic & Advisory Service, Alice Holt Lodge, Farnham (Tree Advice Trust), for confirming the *Trentepohlia*.

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## Botany in Literature – 43

H.G. WELLS' STRANGE ORCHID – TRIFFIDIAN PARALLELS – A WIFE-EATING PLANT

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The English writer Herbert George Wells (b. Bromley 1866 – d.1946 London) worked as an apprentice draper, then schoolteacher, before coming under the influence of T.H. Huxley at what is now Imperial College, and gaining a First Class Honours degree in Zoölogy, from whence he embraced journalism and literature as a career, writing over a hundred books and stories. However, although he is known for his comic social novels, such as *Kipps* (1905) and *The History of Mr Polly* (1910), he is, despite his avowal of 'I had rather be called a journalist than an artist', best remembered for his scientific fantasies, *The Time Machine* (1895) and *War of the Worlds* (1898), and his short stories (especially *The Country of the Blind*), which demonstrate not only his 'splendid economy' and powers of imagination, but rank as literature (rather than journalism) and earn him, unlike Wyndham (see SOUCHIER, 2006), a place in such worthy compendiums as *The Concise Cambridge History of English Literature* (SAMPSON, 1970).

What is more is that his stories are memorable. This is the case with the short story *The Flowering of the Strange Orchid* (one of a collection in a group of his stories, called *The Stolen Bacillus and Other Incidents* (in WELLS, 1998), which I read very many years ago in a collection published by Benn, and which has stayed in my mind virtually intact.

The story concerns one Winter-Wedderburn, 'a shy, lonely, rather ineffectual man', as Wells, possibly either sympathetically or condescendingly, describes him, who has 'just enough income to keep off the spur of necessity', and with no exacting employment to hinder him, grows orchids in one 'ambitious' little greenhouse. As one who, with a housekeeper (a remote cousin), and odd-job man in attendance,

has little to upset the equilibrium of his existence, he is fascinated by the seemingly eventful lives of others: 'Nothing ever does happen to me' he remarked presently [to his housekeeper], beginning to think aloud. 'I wonder why? Things enough happen to other people. There is Harvey. Only the other week – on Monday he picked up a sixpence, on Wednesday his chicks all had the staggers, on Friday his cousin came home from Australia, and on Saturday he broke his ankle. What a whirl of excitement! – compared to me.' And thus he wonders how it feels 'to have something happen to you, something really remarkable', until, that is, he goes up to London for a sale of orchids from the Andamans and the Indies, and returns with, among some 'Vandas' and a *Dendrobium*, an unidentified shrivelled rhizome which 'may be a *Palaeonophis* – or it may not. It may be a new species, or even a new genus. And it was the last that poor Batten ever collected', Batten being a young orchid collector who died in a mangrove swamp 'with one of these very orchids crushed up under his body' and bled by leeches.

The housekeeper takes an intense dislike to the orchid, describing it as 'a spider shamming dead' with aerial rootlets that look like 'little white fingers ... trying to get at you', their being as Wedderburn remarks, 'a little flattened at the ends', while the leaves are 'of the ordinary broad form, and a deep glossy green, with splashes and dots of deep red towards the base. He knew of no other leaves quite like them.' As the aerial rootlets grow to more than a foot long, and begin to look like 'tentacles reaching out after something', Wedderburn begins to look forward to the orchid's flowering:

And at last the great thing happened. Directly he entered the little glass house he knew that the spike had burst out, although his

great *Palaeonophis Lowii* [sic] hid the corner where his new darling stood. There was a new odour in the air, a rich, intensely sweet, scent that overpowered every other in that crowded, steaming little greenhouse. Directly he noticed this he hurried down to the strange orchid. And, behold! the trailing green spike bore now three great splashes of blossom, from which this overpowering sweetness proceeded. He stopped before them in an ecstasy of admiration. The flowers were white, with streaks of golden orange upon the petals; the heavy labellum was coiled into an intricate projection, and a wonderful bluish purple mingled there with the gold. He could see at once that the genus was altogether a new one. And the insufferable scent! How hot the place was! The blossoms swam before his eyes. ....

At half-past four his cousin made the tea, according to their invariable custom. But Wedderburn did not come in for his tea. 'He is worshipping that horrid orchid,' she told herself and waited ten minutes. 'His watch must have stopped. I will go and call him.' She went straight to the hothouse,<sup>1</sup> and opening the door, called his name. There was no reply. She noticed that the air was very close, and loaded with an intense perfume. Then she saw something lying on the bricks between the hot-water pipes. For a minute, perhaps, she stood motionless. He was lying, face upward, at the foot of the strange orchid. The tentacle-like aerial rootlets<sup>2</sup> no longer swayed freely in the air, but were crowded together, a tangle of grey ropes, and stretched tight with their ends closely applied to his chin and neck and hands. She did not understand. Then she saw from under one of the exultant tentacles upon his cheek there trickled a little thread of blood.

With an inarticulate cry she ran towards him, and tried to pull him away from the leech-like suckers.<sup>3</sup> She snapped two of these tentacles,<sup>4</sup> and their sap dripped red. .... She caught up a flower-pot and smashed in the windows at the end of the greenhouse .... She tugged now with renewed strength at Wedderburn's motionless body and brought the strange orchid crashing to the floor. It still clung with the grimmest tenacity to its victim. In a frenzy she lugged it and him into the open air.

Then she thought of tearing through the sucker rootlets one by one, and in another

minute she had released him and was dragging him away from the horror.

He was white and bleeding from a dozen circular patches.<sup>5</sup>

## NOTES

In *BSBI News* 103: 25 I mentioned that Wyndham in his *The Day of the Triffids* derived inspiration from Wells. Apart from the direct reference to him and his *The Country of the Blind*, viz. '...In the country of the blind the one-eyed man is king.' 'Oh, yes – Wells said that, didn't he? – ...' '...Wells imagined a people who had adapted themselves to blindness...' (WYNDHAM, 2000 [prius 1951]: 66), there are several instances in Wyndham where the material is obviously either commentary or derivative, hence the parallels as outlined below in 1, 2, 3(b), 4, and 5.

1. *hothouse*: 'We in temperate zones were not ignorant of insectivorous plants, but we were unaccustomed to find them outside special hothouses, and apt to consider them as in some way slightly indecent, or at least improper.' (WYNDHAM, 2000: 32).

2. *rootlets*: the fact that here they are swaying freely is a possible source of inspiration for the triffid's violently lashing tendril, if not, a triffid's three rootlets.

3. *leech-like suckers*: (a) The transference by Wells of the actuality of leeches taking every drop of blood out of Batten ('... and in the end he was killed by jungle-leeches. It must have all been very troublesome, but then it must have been very interesting, you know- except, perhaps, the leeches.') to the concept and foreshadowing of a plant that acts like a leech or would-be vampire is here apparent. (b) Wyndham's debt to Wells is shown here (i.e. compare the adhesive pads (suckers) of a triffid (see SOUCHIER, 2006: 26).

4. *tentacles*: Again, compare the stinging tendril of a triffid (l.c.) and the way it aims for the face (c.f. Wedderburn's chin and neck).

5. *a dozen circular patches*: c.f. Bill Mason's 'blotchy-red raised weal' on the side of his face (see WYNDHAM, 2000: 30).

Similarly, a parallel exists between the orchid's overcoming of Wedderburn and Mason's being hit 'one terrific slam, [that] knocked me out...' by a triffid (l.c.).

NOTE: Just as Wells inspired Wyndham, Wyndham's triffids inspired, no doubt and no less, the following lyrics, written and performed by one Triffid (and also, obviously, the artist's

name). The lyrics, written in the time of Chuck Berry's *Roll Over Beethoven* (and tell Tchaikovsky the news) are not especially elegant or profound, but do, when sung in a deep Elvis-like voice and accompanied by the zany guitar playing, bring more than a glimmer of mirth (and to some possibly thoughts of mischief!) to the listener's lips. Obviously, the song is not to be played or cited on auspicious occasions, but if, perhaps, things have come to a pretty pass ('You say eether, I say eyether [either]'), then behold:

*The Plant that Ate My Wife*

My wife and I were  
not on speaking terms,  
We had a row and  
things were not too hot.

So I drifted into an  
exotic plant boutique, saying,  
'I need a present for my wife,  
what have you got?'

A selection of geraniums and  
hyacinths greeted me,  
But I needed something  
special for my wife.

He rummaged at the back of  
his room behind,  
He said, 'I believe this  
is just going to be right.'

I had it delivered to  
my wife's abode,  
With a note that said,  
'Please forgive me, Dear.'

My wife she took  
the plant inside,  
But after that date,  
she disappeared.

*The Plant that  
Ate My Wife,*

*It was the best thing that has  
happened in my life.*

I live alone  
as happy as I can be,  
'Cos my wife she used  
to nag and aggravate me.

I can remember when I came home  
that fateful night,  
I was greeted by a  
truly awful sight.

The plant it grew up  
to the roof,  
It looked almost like it had  
a smile upon its face.

And where my wife  
once had stood,  
Only a pair of slippers  
were in her place.

*The Plant that  
Ate My Wife*

*It's the best thing that has  
happened in my life.*

Obviously this was not  
a normal plant,  
But one who liked  
the taste of bones.

What clever people in  
the flower shop,  
To rid me of the problem  
In my home!

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## Botany in Literature – 44

AN EPISCOPAL CONTRIBUTION TO INSTANTLY FORGETTABLE BOTANICAL VERSE

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One of the oddest contribution to the enshrining of botany in literature follows. Its author was for a long period most elusive. Moreover, this piece of literature was known to me only, until very recently, from an address to the Belfast Naturalists' Field Club, delivered on 19 March

1901, by the Club's Vice-president William Henry Phillips (1830–1923) who was a fern enthusiast (see *BSBI News* **62** (1992): 26). Phillips' address was entitled 'My hobby about ferns and its results: personal reminiscences', and towards the end of the published version

(*Proceedings of the BNFC 1900–1901*: 15–16) we read this:

One of our poet bishops, since gone to his rest, wrote as follows to a clergyman of his diocese who had promised to go with him to Connemara, but was prevented by engagements. The

description [Phillips continued] is very humorous, and would almost describe some of our Ulster scenes, say Newcastle:—

DERADDA LODGE, CONNEMARA,  
August 1895.

Dear Fowler, I think, on the whole, you'll agree with me,  
This place is delicious (I wish you could be with me!);  
But especially charming to one who has got any  
Fancy for fishing, conjointly with botany.  
Just think, when on land from your boat you get out,  
Having captured a salmon, or ten or twelve trout,  
As you lounge on the margin, enjoying your lunch,  
You suddenly find that your cushion's a bunch  
Of what we consider our fairest of spolia,  
Menziesia to wit, species polifolia.  
Then to stretch your cramped legs, you stroll off a short way,  
And lo! there's the heath that is nam'd from Mackay;  
Or perchance you may find (you know it most rare is)  
Another heath bearing the name ciliaris;  
Or even by luck one outrivalling any – a  
Bush of the *Erica Mediterranea*.  
Then look in that ditch—there's a prize for herbaria!  
The true Intermediate *Utricularia*.  
You will know it, without any flower or fruit,  
By the groups of small bladders apart from the root.  
Then in casting your fly you hook into a weed—  
Draw it in—why, what is it? a rush or a reed?  
No, the treasure you've hook'd in that cast so unwary  
Is the *Eriocaulon septangulare*!  
When the salmon have baffled your patience and skill,  
Take half a day off, and walk over that hill,  
And there, on the rocks (it's no fiction or phantom),  
Grows the real unmistakeable true *Adiantum*:  
While in that little lake which the seabreezes fall on,  
All full of *Lobelia* and *Eriocaulon*  
(In vain the green depths of its waters defy us),  
With a gaff we secure the much-coveted *Naias*.  
Now I think, my dear Fowler, I've well proved my case,  
That this is a most undeniable place;

And once more I wish you were with me to fish up Big trout and rare plants!—  
Your affectionate Bishop.

Nothing in that botanical hymn could be said to describe Newcastle, County Down! Phillips' plant geography was a trifle askew. The verse is entirely correct for Connemara – the bishop knew more than Phillips, even though his tortured rhymes may appal.

Let's investigate the evidence and unmask the poet.

#### Deradda Lodge

Deradda Lodge was the name of a house, probably best described as a sporting lodge, situated in the townland of Derryadd West (Doire Fhada Thiar) at Toombeola, a short distance from

Roundstone in Connemara (v.c. H16). According to the gazetteer that accompanies Tim Robinson's superbly detailed *Connemara* (1990) map, in 1839 a Scot, John Robertson, leased the fishery on the Ballynahinch River, which forms part of the townland's western boundary, and started a cannery using the local salmon. Robertson was not the only Scottish Presbyterian in the area. The McCalla family lived in Roundstone, and a Presbyterian chapel was built in the village in 1840. Robertson surely knew William McCalla, botanist and one-time schoolmaster, who discovered *Erica mackaiana*, and whose melancholy tomb marks the site of the vanished chapel.

About 1840 Robertson (see Robinson 1990: gazetteer, p. 75) built a fishery cottage which by 1850 had been converted into a hotel. In April 1865 Robertson was among the signatories of an 'Address by the Magistrates, Clergy, Gentry, and Inhabitants of Connemara, to Thomas Dillon Fitzgerald, Esq., R. M., Late of Clifden' (*The Cork examiner* 25 April 1865: <http://www.irelandoldnews.com/Cork/1865/APR.html>). Subsequently, Walter Blackadder, the manager of the fishery for the Ballynahinch estate, rebuilt the hotel and in 1872, named *The Angler's Return*, it was advertised (Robinson 1990) as 'beautifully situated for Salmon and Sea Trout Fishing, Sea Bathing and Seal Shooting.' The website for *The Angler's Return* presently proclaims: 'nestled at the foot of Derradda Hill, is an eighteenth [*sic*] century sporting lodge, now a small family run guest-house ...'.

The poetical bishop evidently stayed in Deradda Lodge in the late 1800s, for the fishing, and he certainly knew his Connemara botany very well. Of the plants he wove into his verse *Adiantum capillus-veneris* (maidenhair fern) is perhaps the most indicative because it is known only to occur on one solitary boulder: '... And there on the rocks (it's no fiction or phantom) / Grows the real unmistakeable [*sic*] true *Adiantum*.' The fern was first found in the vicinity of Roundstone before June 1836 by William McCalla. According to D. Webb and M. Scannell (1983 *Flora of Connemara and The Burren*, p. 266) its 'occurrence on an isolated boulder by L. Bollard is unusual ...'.

### Tracing 'your affectionate Bishop'

I tried for many years unsuccessfully to identify the episcopal author of this hymn to heathers, a man who was clearly addicted to fly-fishing, possibly more than to botanizing.

The break-through came when I was reading J. Harris Stone's 1906 book *Connemara and the neighbouring spots of beauty and interest*. In it I happened on a reference the death on 10 August 1897 at Dhulough House, near Leenane in the northwestern reaches of Connemara, of the Bishop of Wakefield, the Most Revd Dr William Walsham How. Stone commented that the bishop 'had only arrived about a fortnight before in search of rest and health.' According to How's entry in the *Oxford dictionary of national biography* (J.H. Overton, 'How, William Walsham (1823–1897)', rev. M.C. Curthoys, 2004 [<http://www.oxforddnb.com/view/article/13882>, accessed 23 Aug 2006]), he was 'a keen fisherman, an accomplished botanist, and a most popular writer, both in prose and verse. His dates fitted too. Phillips stated that the poet had 'since

gone to his rest', and in a database I maintain of botanists and horticulturists with multifarious Irish connections, I had noted How but queried his entry: 'why did he die in Leenane?'

How was indeed a fisherman and a botanist. He wrote about the botany of Great Orme's Head and contributed a list of plants to Roberts' *Gossiping guide to Wales*. He assembled a 'tolerably large herbarium—devoted, however, mainly to the rarer species' (*Memoir*: 450) which 'was given to one of his nieces ... when press of work prevented his giving attention to it'. How also wrote verses about other plants and other places (PDF files can be supplied on request!):

'Thrift the Plant'. Written for the first number of the Periodical 'Thrift'.

'London Pride. (*Saxifraga umbrosa*) (An apology.)' – because 'The author received a remonstrance against the last line of the preceding poem' –

... Our Thrift shall fertilize the springing blade,  
And fence our life-plots with a fairy braid;  
'Tis better worth, and comelier beside,  
Than that rank *Saxifrage* called 'London Pride!'

'Mountain-pansies. (Moelydd, near Oswestry)',  
'Golden-saxifrage. (Pont-Vaen, near Chirk.)',  
and

'Gentleman John. A tale told at a village inn to a Naturalists' Field-club on a wet day': it ends after 18 pages –

... Well, gentlemen, I will close my tale, for it's  
brighter overhead,  
And the rain has stopped, and I think there'll be  
time to look at the fossil-bed. ...

Finally, I obtained a copy of Frederick Douglas How's biography of his father: *Bishop Walsham How a memoir* (1899: cited as *Memoir*). This contains a chapter on 'The bishop as a fisherman' (*Memoir*: 432–447), and another on 'The bishop as a botanist' (*Memoir*: 449–459). The bishop visited Connemara 'several times' on fishing expeditions, the first in 1867 with his cousin Mr G. F. King. They stayed at Deradda Lodge but the 'sport was not good'; 'He chronicled the visit in rhyme, which he illustrated with spirited pen-and-ink sketches.' The whole poem is reprinted (*Memoir*: 436–438).

DAY 1.  
Calmly bright  
Is the morning light;  
Lovely blue are the mountain ridges;  
Gently ripple the waters  
Like the prattle of Erin's daughters;  
But oh! Confound these venomous midges!

And, there were five more days/stanzas.

How visited Deradda again in 1869 with a friend Colonel Lloyd, and in 1895 'he took several members of his family for a short tour in Ireland, spending ten days at Deradda Lodge.' He wrote on 14 August 1895: 'I have managed to get in a bit of botanising, and have found two or three rare plants, but I am going to cut the fishing one day, and have a botanical ramble on Roundstone Hill [*sic*, Errisbeg], three or four miles from here, where there are two or three very rare heathers, as well as some other rarities.'

Prior to this trip, the bishop wrote to that well-known plantsman and expert on *Hieracium*, Frederick Janson Hanbury (1851–1938) who was a former neighbour (*Memoir*: 454):

I am going on this day week to Connemara for some salmon-fishing, and shall be at Ballinahinch, not far from Roundstone and Clifden. Can you tell me what plants I should look for if the weather does not do for fishing and I can get a little botanising? It is the heather that are said to be specialities here. *E. Mackaiana* is said to be findable, but *E. ciliaris* very doubtful. I was there long ago but did not get to the heath habitats. The bogs at Ballinahinch were full of *Menziesia polifolia* and *Drosera anglica*, but little else interesting. Yes, by the way I found *Utricularia minor* there. If you know anything of the region, and can give me hints, I shall be greatly obliged.

So the Bishop of Wakefield wrote the poem about Deradda Lodge, perhaps the only one in any language to contain the names of no fewer than *four* heathers and certainly the only one ever to include the binomials *Erica mediterranea* and *Eriocaulon septangulare*! The bishop is undoubtedly better known for his other hymns: as a chorister I sang 'For all the saints who from their labours rest ...' countless times.

The hapless Fowler to whom the poem was addressed, was the Rector of Liversedge in Wakefield diocese, the Reverend William Fowler (1835–1912), a Lincolnshire man who is known for his contributions to the botanical recording of that county. Fowler was described (*Memoir*: 456) as one of How's 'chief botanical friends'. So the poem's addressee is also identified.

William Walsham How may not have caught many salmon or sea-trout, yet he must rank as an incomparable rhymers. Consider his couplets:

... more rare is / ... Ciliaris;

... Or even by luck one outrivalling any – a /  
Bush of the *Erica Mediterranea*.

... that cast so unwary / ... *Septangulare*;

... seabreezes fall on / ... *Eriocaulon*.

I wonder, idly, what he would have done with the famously rhymeless plant name 'orange'?

## Botanical Crossword No. 7

by *Cruciada*

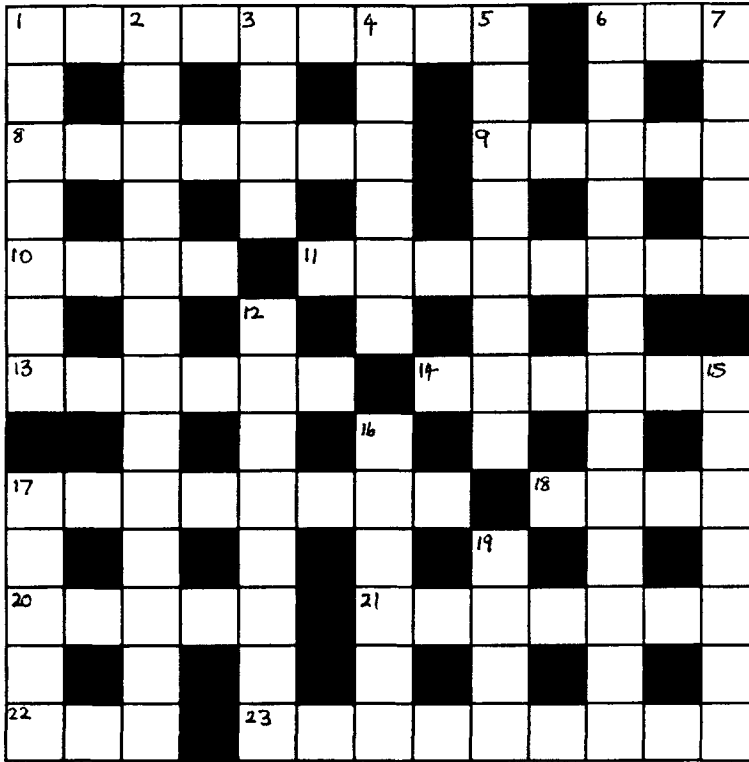
### Across

1. Cyperaceous plant observed at side of fence (4,5)
6. Meadow spread over dale and hill (3)
8. Gulpd ice-lolly – left with just the stalk! (7)
9. Doctor deleted, direction to bury (5)
10. Preserve mixed flower receptacle (4)
11. Eternal band of brothers loses other ranks in hectic remedy (8)
13. Thatcher is sound lecturer (6)
14. Embroider shade (7)
17. Capacity for pulp in fungus (8)
18. She's landed batchelor – Robert, perhaps (4)
20. Nodules risen in dried stems (5)
21. Twist no riots (7)
22. Hear upper-class electorate make unlikely plea! (3)
23. Garden hay scattered around garden shrub (9)

### Down

1. Symbol of killing fields portrays father against indecision (7)
2. Her couch is cold, admitting true *Galium* (5, 8)
3. Plaintive instrumental sound produced by pouches (4)
4. How Adam proverbially dug the garden while his wife was at the distaff (6)
5. Niger ore fabricated into bugbear of bugs (s.l.) (8)
6. Appearing in autumn, dead before fine degrading (4-9)
7. Grass species (not a grass) despatched with bow (5)
12. Get harrow without a combine to produce new shoots (8)
15. Bird and I with a tree pea (7)
16. Locked up, ran away and went over (6)
17. Oak trees have such bryophyte moots in Linden 6 (5)
19. It's not odds on fair decad . . . tetrad, hectad, v.c. , whatever (4)





## ALIENS

### *Juglans nigra* in Norfolk

ALEC BULL, *Hillcrest, East Tuddenham, Dereham, Norfolk, NR20 3JJ*

Referring to Eric Clement's note on *Juglans nigra* (Black Walnut) in *BSBI News* 103, my wife and I discovered a line of these trees, probably during the 1980s, though no record was kept as we considered them to be obvious exotics. They were fruiting liberally at the time, and a number of walnuts were brought home. We soon discovered that the only way to crack them was with a hammer on a concrete surface, and, when once cracked, the somewhat scanty contents were almost impossible to whittle out from the remainder of the shells.

As they appeared to be rather nice trees, one walnut was put in a flowerpot of compost and, in spite of the hardness of the shell germinated no later than the following spring. The subsequent sapling was duly planted out when large enough and is now a fine young tree about 15 to 18 feet high, and threatening to shade that corner of the garden.

We actually visited the parent site this last summer, and it was noted that among the line of now quite mature trees, were a number that were obviously younger, and also out of line with the original planting.

The site, in Thetford Forest, is a Forest Enterprise plantation which includes a number of other exotics including Box Elder (*Acer negundo*).

For anyone wishing to pay homage to these Black Walnuts, of which there must be 12-15, though I have never counted them, they are on the west side of the minor road which runs from the A134 to Santon Downham, and probably in Lynford parish, Norfolk, between GRs TL829.899 and TL824.891.

Bearing in mind the length of time which has elapsed since we first found them, I would imagine that they must be approaching 45-50 years of age. (See Colour Section, Plate 1 for a photo of a Kew specimen).

## *Glyceria canadensis* in Dumbarton (v.c. 99)

JOHN MITCHELL, 22 Muirpark Way, Drymen, by Glasgow, G63 0DX

It was the 2006 Scottish Open Golf Championship shown on television that prompted thoughts of a return botanical visit to this rather exclusive golf course at Rosdhu Park on the west side of Loch Lomond. Just for once the weather held fine for the four day event in mid July, with the wetland habitats which could be seen in the background to the coverage of play looking as inviting as ever. So in the following week after the media bandwagon had moved off to the next news-worthy sporting event, I found myself heading back to Rosdhu.

One of several objectives that day was to photograph *Glyceria canadensis* (Rattlesnake Grass) – a native of the eastern states of North America (ref. Hitchcock 1951) – which had previously been recorded within the park, apparently its only British station. Although a thorough search has yet to be undertaken, this alien grass would appear to be confined to the general vicinity of a 19<sup>th</sup> century ornamental water garden and fish pond (NS358.892), features now almost unrecognisable having become totally overgrown. To the best of my recollection it must getting on for thirty years ago that this grass was first pointed out to me by the late Allan McG. Stirling, but beyond pinning it down to a *Glyceria* he was unable to go further with a name. Presumed to have been introduced to Rosdhu Park as nursery stock

planted in the water garden sometime in the past, as such the species failed to gain a place in the comprehensive card index Allan compiled for his projected, but sadly uncompleted *Flora of Dumbartonshire*.

By comparison with relevant herbarium sheets held at the Royal Botanic Garden, Edinburgh, the mystery grass was eventually identified as *Glyceria canadensis* by Keith Watson from material he collected in September 1995. A specimen from Rosdhu was subsequently shown at the BSBI Scottish Annual Exhibition Meeting held at Glasgow University on 7<sup>th</sup> November 1998 (Watson 1999).

Today *Glyceria canadensis* is well established in several clearings within damp woodland (see Colour Section, Plate 1) on both sides of the Arn Burn where it flows past the old water garden before finding its way into Rosdhu Bay. A bonus for botanists visiting the immediate locality is the presence of the Scottish or Loch Lomond Dock *Rumex aquaticus* in more open ground, with a clump or two of this nationally rare species readily seen from the north side of the road bridge over the burn.

### References:

- HITCHCOCK, A.S. 1951. *Manual of the Grasses of the United States*. Washington: United States Department of Agriculture.  
WATSON, K. 1999. *Glyceria canadensis* at Loch Lomond. *BSBI Scottish Newsletter* 21: 12.

## Abyssinian Mustard, a naturalised crop?

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

As reported in BSBI News 101: 35, *Crambe hispanica* L. (*Crambe abyssinica* Hochst. ex R E Fries.) (Abyssinian Mustard) is now grown in Britain as an industrial crop for its oil-seed. In September/October 2004 I found a few specimens of this plant as a casual in two places by the river Tweed 7km apart but did not trace the source crop. In 2006 I have found about 2,500 plants widely scattered over a 10km stretch of river from Lees Haugh, Coldstream NT844.388 to Ladykirk House NT894.461 in v.c. 81 Berwickshire, 34 plants have also been found within a 1km stretch upstream of Norham Bridge from NT896.459 to NT893.467 in v.c. 68. No plants were found in a 1½km stretch upstream of Lees Haugh. I had never seen so much of any crop species by the river and wished to try to find out what was going on: in

particular whether the plants represent escapes of seed from a cultivated crop or whether they are evidence of naturalisation.

I have now established that the source crop was grown in 2003 in a field above Coldstream at Lees Haugh adjacent to one of my initial finds by the river. A local merchant had offered contracts in that year and several farmers near Coldstream grew the crop. Although the crop was successful, the business which crushed the seed for oil in the north of England withdrew from the market and contracts were not available in the subsequent years.

Mr Letham of Fireburnmill grew the crop in 2003 in a field well away from the river at NT823.394. I visited the field on 30 September 2006 and found it to be in stubble after a wheat crop. The *Crambe* was everywhere. There was

at least a 10% ground cover over the 10ha field giving an estimate of upwards of 100,000 plants. While 90-95% of these had either not yet flowered or were just coming into flower, the rest had set seed. This contrasts with similar stubble fields where there are oilseed rape volunteers as these seldom flower in the autumn.

Mr McGregor farms the fields by the river at Lees Haugh. The Lees Haugh field had grown a wheat crop in 2005 and the stubble was unploughed on 12 October when the Tweed experienced a record flood. The field flooded. It seems very possible that much *Crambe* escaped to the river; both dormant seed from 2003 and seeding volunteer plants of 2005.

The *Crambe* plants found by the river in 2006 have almost all been near the drift line of the record October 2005 floods as much as four metres above normal river level. Their habitat is a dry open one colonised by a range of ruderal species such as *Alliaria petiolata* (Garlic Mustard), *Carduus crispus* (Wetted Thistle), *Dipsacus fullonum* (Wild Teasel), *Glechoma hederacea* (Ground-ivy), *Malva sylvestris* (Common Mallow), *Reseda luteola* (Weld), *Silybum marianum* (Milk Thistle), *Sisymbrium officinale* (Hedge Mustard) and only rarely by the dominants of the river-edge such as

*Impatiens glandulifera* (Indian Balsam), *Symphytum ×uplandicum* (Russian Comfrey) or by species of the river gravels such as *Rorippa sylvestris* (Creeping Yellow-cress).

When the *Crambe* was seen at the end of September and early October not all the plants found were in seed (with a few flowers still open): they were accompanied by several times as many plants with a much more lush growth-form that were not yet in flower, or barely so. These had apparently germinated in the autumn. A few dried-off plants which had dropped most of their seed were also found, these had apparently germinated in the spring.

I conclude that it is impossible to separate the riverside plants of *Crambe* seen in 2006 into plants seeded from the original escape in 2003 and those derived from seed escaped in 2005, but that one must assume that most fall into the second class. Nevertheless even the 2005 escapes derive from the one sowing in 2003, so a degree of persistence is implied. I will now watch the fortune of this species by the Tweed with interest to see if it does or does not establish a naturalised population.

An excellent illustrated account of the *Crambe* is given in Dr Sally Francis' *British Field Crops*, 2005.

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## ***Bassia scoparia* & *Echinochloa crus-galli* now in Northamptonshire**

BRIAN LANEY, 5 South Close, Long Buckby, Northants, NN6 7PX

Regarding *Bassia scoparia* (Summer Cypress) and *Echinochloa crus-galli* (Cockspur), both are now in Northamptonshire. Paul Stanley first spotted *Bassia* on the central reservation of the A43 near Towcester in 2005. This year I have seen it as large single plants or small groups on the A45 between junction 15 of the M1 up to the turning off the A45 for Irthlingborough (the A6), usually growing in the central reservation but also on the side of the road. I remember one early Sunday September morning in the fog running out to the central reservation with a pair of secateurs to get a piece of *Bassia* for Gill Gent the county recorder and Eric Clement to confirm the plant's identity. Luckily I missed the oncoming lorries!

*Echinochloa crus-galli* is also present in the same areas as the *Bassia* on the A45. I have also seen it beside the A5 at Kilsby by the roundabout and by the A5 at Towcester and Foster's Booth, in quite big clumps.

I have also turned up *Digitaria sanguinalis* (Hairy Finger-grass) in the central reservation of the A45 near the turn off and roundabout for Wilby. There was a good clump on the roadside here so the hazard lights went on and, pretending to look at the front to the car, I grabbed a bit of the grass!

In the *Flora of Northamptonshire* 1995 by Gill Gent and Rob Wilson both the cockspur and the hairy finger-grass were last seen in 1994 so it was good to update those records.

And to round things off I have just had *Setaria verticillata* (Rough Bristle-grass) on the side of the A5 opposite the entrance to the Bell Plantation Garden Centre. Excellent!

Many thanks go to Eric Clement, John Poland and Paul Stanley for identifying the specimens for me.

## *Echinochloa crus-galli* on roadsides in Somerset (v.cc. 5 & 6)

SIMON J. LEACH, *Natural England, Roughmoor, Bishop's Hull, Taunton, Somerset TA1 5AA*;  
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Further to notes on the occurrence of *Echinochloa crus-galli* (L.) P. Beauv. (Cockspur) on roadsides in S. England (*BSBI News* **101**: 37-38, **102**: 46), there has been a considerable 'rush' of new records in 2006. By way of illustration, Fig. 1 shows the distribution of records in v.cc. 5 and 6, using data gathered by SJL and fellow members of the Somerset Rare Plants Group (SRPG); closed symbols indicate 1km squares with first records made during the period 1998-2005, while open symbols indicate 1km squares with first records made in 2006. One can clearly pick out the M5 as a more or less continuous line of records, from north to south, and there is also now a second string of records – not so continuous, this one – running west-east along the line of the A303. There are several roadside populations elsewhere in the county, but none yet to match those on the M5 and A303.

Interestingly, Green *et al.* (1997) described *E. crus-galli* in Somerset as a rare casual of 'waste and cultivated ground... and rubbish tips', with no indication in the mid 1990s that it might also occur on roadsides. Yet, of the 82 1km square records for which we have habitat details, no

fewer than 64 (77.1%) are from roadsides, with six (5.6%) from 'road-related' habitats (pavement cracks, street kerbsides and car-parks), and just 12 (14.5%) from cultivated ground/arable fields (mainly maize).

Arable habitats are probably less well recorded than roadsides; but, even so, it seems clear that in the last few years road verges – and particularly those beside major trunk routes – have quite suddenly become the predominant habitat for this species in Somerset. To underline this point: for the seven years 1998-2004, just 12.5% of *E. crus-galli* records on the SRPG database were from roadsides, compared with 88.5% for the period 2005-2006.

Clearly, here is a species which is currently undergoing a quite dramatic extension of range along Somerset's road network. And for anyone who gets a 'buzz', like me, from finding new plants in new squares, *Echinochloa* is certainly worth a closer look!

### Reference

GREEN, P. R., GREEN, I. P. & CROUCH, G. A. 1997. *The Atlas Flora of Somerset*. Wayford & Yeovil: privately published.

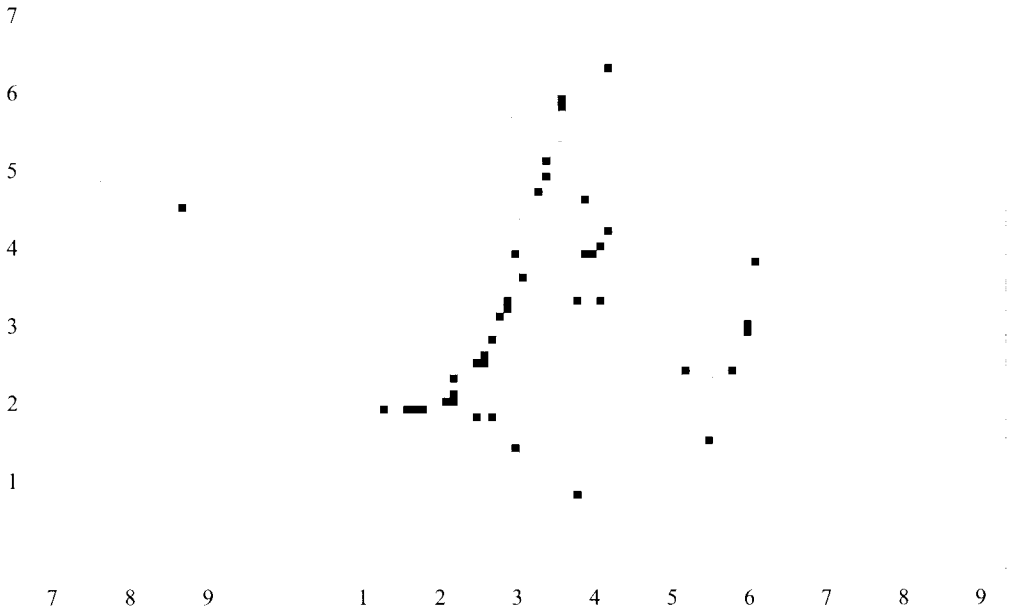


Figure 1. 1km distribution of *Echinochloa crus-galli* in Somerset: closed squares, 1<sup>st</sup> record 1998-2005; open squares, 1<sup>st</sup> record 2006 (mapped using MapMate, version 2.1.6. © Teknica Ltd. 2006; base map © Batholomew 2003)

## A Wizard's Weeds? – the poisonous baggage of Soya Bean hull

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

Duncan Gill of Hutton, Berwickshire, phoned me at the beginning of August 2006 to say he had found a Thorn-apple plant *Datura stramonium* in the field next to the church at NT908.539. A month later he phoned again to say that he had now counted over 300 plants in the field. I was down the next day and we had a walk round the potato field in question. He had done some asking around and had found out that the farmer had had some manure from his neighbour who had been feeding Soya Bean hull (*Glycine max*) to his cattle. The Soya is thought to have been grown in America. The manure had been spread, the potatoes planted and pre-emergence weedkiller applied. Although the crop came up clean to start with it was festooned with fumitory when I visited and thorn-apples were easily seen dotted around the field though most of them were at the margin where there was a set-aside strip. The thorn-apples were up to 1.5m tall and still in flower though there were also plenty of ripening fruit. Thorn-apple is a very poisonous plant and, despite its relatively recent introduction to Britain at the end of the sixteenth century, it has already built up a folk lore and Richard Mabey quotes an article in a British Rail newsletter where it was claimed to have been used by wizards. I was not surprised to hear that the farmer at Hutton had decided to remove the Thorn-apples from his crop by hand, wearing protective clothing to guard against the poisons, as he was not inclined to have more of their very long-lived seeds in his land than he presumably has already.

There were other aliens with the Thorn-apples, some only found on subsequent visits by Luke Gaskell and myself. There were about 60 plants of *Solanum nigrum* (Black Nightshade), 200 of *Amaranthus retroflexus* (Common Amaranth), and four of *Persicaria pensylvanica* (Pinkweed). The grasses included 100 plants of *Echinochloa crus-galli* (Cockspur), 30 of *Setaria verticillata* (Rough Bristle-grass), ten of *S. italica* (Foxtail Bristle-grass) and two of *S. pumila* (Yellow Bristle-grass). All of these species are unheard of in field crops in these parts even in a hot summer like this one. I had a look at the Goosefoot plants, which also seemed odd, but, while almost all keyed to *Chenopodium album* (Fat-hen), a couple of low-growing plant with broadly oval entire leaves key to *C. polyspermum* (Many-seeded Goosefoot) and one late-flowering plant is probably *C. probstii* (Probst's Goosefoot).

I did not handle the Thorn-apples but I did pick a couple of specimens of the Black Nightshade with contrasting leaf shapes. Within a minute I felt a tingling at the tips of my fingers and thought I had better wash them in a puddle. The next day I laid out the specimens for pressing and had the same sensation again even though I had only handled the specimens very lightly. The tingling took about two hours to wear off. All a bit too much like magic for my liking! However there were no reports of illness in the cattle to which the Soya had been fed.

### Reference

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

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## Boringdon Park – Alien Invasion

DAVID FENWICK, *96 Wasdale Gardens, Estover, Plymouth, Devon, PL6 8TW*

In 1997 detailed planning permission was granted for a 27 hole Golf Course with Clubhouse and Driving Range; with approximately two-thirds of the course area within the city limits of the Plymouth City Boundary and one third in the South Hams District. The golf course, previously arable farmland, will span Plymbridge Road, a road running from Plympton to the South-East across the River Plym at Plym Bridge to Estover in the North-West, its centre at SX529.577.

The construction work overlooks most of the south and east of Plymouth and there are some absolutely superb views to be gained from the

site. How marvellous that it should now become such an amenity for people to enjoy. All summer long I said to myself I must take a look up there one afternoon, just to check what is up there, the site lying just across the valley, clearly visible from the top of the hill where I live.

I first visited the site on Bank Holiday Sunday, 27<sup>th</sup> August 2006, and found that there were two sites north and south of Plym Bridge Road. The landscaping on the south side, the Plymouth side, was more advanced and you could already see all the harrowing and raking that had been done, and where the greens were to be. So I decided to conduct my search on the

South Hams side of the site, and where the landscaping was obviously less advanced. Less advanced was really an understatement for thousands of tonnes of topsoil had been scrapped from the site and placed in bunds for later use, and an even larger amount of demolition rubble, top soil and sub-soil had been imported for the landscaping of the course, in some areas the ground has been built up by 9m or more.

On walking across the site for the first time, and looking at the flora, in areas it was very difficult to tell the natural and the imported substrates, as so many aliens were sharing the ground with so many natives, although the site was overall quite sparse of vegetation. The term 'native' as used here includes many taxa that are more correctly termed 'archaeophytes'. Rather notably there were very few docks, dandelions or grasses, this was probably due to the fact the topsoil had been taken off, and the demolition rubble would have been quite alkaline, thus leading to a site low in fertility.

Two mounds caught my attention from a distance, they were both about 1.8m high and covered in sunflowers of an equal height, I thought them worth investigating more closely. The first plants I found amongst the sunflowers were *Panicum miliaceum* (Common Millet), *Phalaris canariensis* (Canary-grass) and *Setaria italica* (Foxtail Bristle-grass) but these were followed by dicots such as *Cannabis sativa* (Hemp), of which there was quite a lot, *Fagopyrum esculentum* (Buckwheat) (see Colour Section, Plate 1) and *Carthamus tinctorius* (Safflower) (see Front Cover), the latter two I'd never seen before.

Beside these two mounds was an area covered with brightly coloured horticultural species, a small area I now sympathetically call 'The Garden'; an area containing Aubretia, Californian Poppy, Oriental Poppy, Early Goldenrod, Hollyhock, Nemesia, Pansy, Pot Marigold, Cypress Spurge and Argentinian Vervain, hence the name. However, amongst all the garden plants were a couple of very interesting finds, the first possibly being there as a horticultural escape, the second certainly not. The very small *Chaenorhinum organifolium* (Malling Toadflax) was the first find, a find that took days to identify; and the second took even longer, but was finally identified with the kind help of Dr Akeroyd, the *Persicaria* Referee, it was a plant previously seen twice in East Devon since 1900, *Persicaria hydropiper* var. *densiflorum* (Dense-flowered Water-pepper) (see Colour Section, Plate 1). The plant itself looked

like water-pepper but there was just something else about it, my initial thoughts were that it could just possibly be a hybrid between water-pepper and *Persicaria lapathifolia* (Pale Persicaria), as to me that's what it looked like. Fortunately, I was suspicious enough to make a voucher and take photographs as I'm very pleased by this find.

I just had to go back the next day, especially with it being Bank Holiday Monday, and the weather was much better for photography so I decided to spend an afternoon taking pictures of what I had seen the previous day and look around a little more. It wasn't long before I was finding more plants, aliens yet again, but this time of the vegetable kind, Marrows, Pumpkins and Tomatoes; later being followed by *Amaranthus retroflexus* (Common Amaranth), *Nicandra physalodes* (Apple-of-Peru), *Nicotiana glauca* (Sweet Tobacco), *Setaria pumila* (Yellow Bristle-grass) and the native *Thlaspi arvense* (Field Penny-cress).

Of course having just had a very enjoyable Bank Holiday, I just had to inform a friend about the site, local amateur botanist Phil Pullen, and Phil was very interested in coming along as there was quite a few plants he hadn't seen before. It had already been something of an alien summer for Phil as he had already provided records for *Rostraria cristata* (Mediterranean Hair-grass), *Erucastrum gallicum* (Hairy Rocket), *Senecio inaequidens* (Narrow-leaved Ragwort) and *Aster squamatus* (South-eastern Annual Saltmarsh Aster), from the centre of Plymouth, the latter possibly a first record for the UK.

On the 3<sup>rd</sup> September I picked Phil up and we made our way to the site. I first took him to see the plants I'd found on previous visits, but after this we resumed our search across more of the site, and it wasn't long before we started finding more plants. Aliens worthy of mention included *Guizotia abyssinica* (Niger), *Bassia scoparia* (Summer-cypress), *Lepidium sativum* (Garden Cress), *Scrophularia scorodonia* (Balm-leaved Figwort) and *Datura stramonium* var. *tatula* (Thorn Apple); among the native plants found that day was *Mercurialis annua* (Annual Mercury). We finished the day by discussing the site, trying to piece together just why there were so many aliens and why so many noteworthy natives, and I will come to this later. There was one thing that we did agree on; same place, same time, the following Sunday.

So on the 10<sup>th</sup> September we embarked on yet another search of the site and yet again new plants were found. As this is now getting a bit



*Glyceria canadensis* (Rattlesnake Grass) in Rossdhu Park, Dumbarton (v.c. 99) with close-up of panicle inset.  
Photo J. Mitchell © 2006 (see page 36)



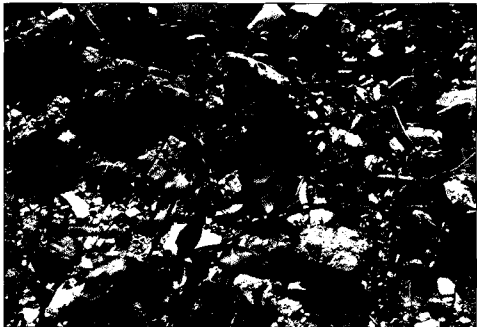
*Juglans nigra* (Black Walnut). Thames towpath, Kew.  
Photo S. Taylor © 2006 (see page 35 & 103: 33)



*Senecio inaequidens*, showing short lobed leaves.  
Shipley railway station (v.c. 63).  
Photo M. Wilcox © 2006 (see page 45)



*Fagopyrum esculentum*, Boringdon Park (v.c. 3).  
Photo D. Fenwick © 2006 (see page 40)



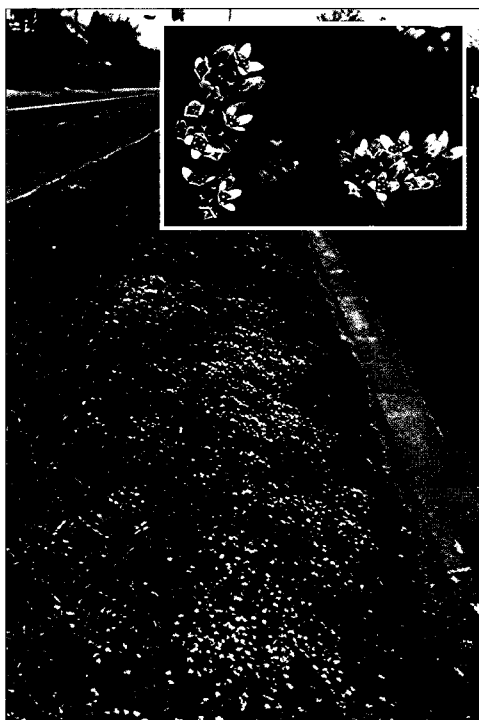
*Persicaria hydropiper* var. *densiflorum*, Boringdon Park (v.c. 3). Photo D. Fenwick © 2006 (see page 40)



*Carex maritima* on Taransay, S Harris (v.c. 110). Photo P. Smith © 2006 (see page 63)

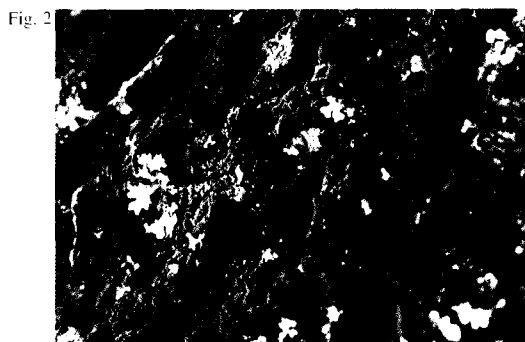


*Persicaria vivipara* (top) and *Orobanche alba* (bottom), S Harris (v.c. 110). Photos R. Pankhurst & P. Smith respectively © 2006 (see page 64)



*Cochlearia danica* on central reservation of dual carriageway, with close up of flowers inset, Wiltshire. Photos © J. Presland (see page 16)





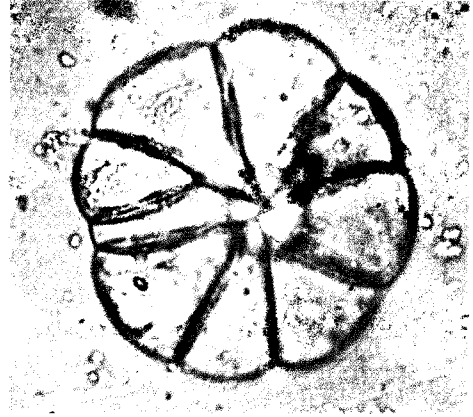
Orange-trunked Trees in Savernake Forest. Photos Top: J. Davies, Bottom: J. Oliver © June 2006 (see page 28)



*Pteris multifida* on a basement wall in Bath (v.c. 6). Photo J. Crouch © 2006 (see page 42)



1. Axillary Bud "Fan" hair



2. Stem "Rosette" hair



3. Stele separated from cortex (root)



4. Single central xylem vessel (root)



5. Root cortex cell chloroplasts



6. Root cortex green bodies  
(extruded chloroplasts?)

1. - 5. *Callitriche stagnalis*. 6. *C. obtusangula*  
Photos J.E. Oliver © 2006 (see page 25)

monotonous, plant list after plant list, I must describe the search in a little more detail. The site itself, and here I mean 'the area of interest', and not the complete field, is probably just 250 to 350 metres square, not necessarily a large site to search, but the searching was made much more difficult purely because of the fact we didn't know what to expect. It was all too easy for the eye to be drawn to something brightly coloured, and miss seeing something literally under your feet; and a case of 'plants being easier to find if you'd come across them before syndrome', so a lot of methodical searching and concentration had to be employed.

Initially, we actually concentrated our searches where we saw brightly coloured horticultural annuals for we realised it was in these areas where we would initially find a wider variety of plants, natives included, these areas probably being more suitable for the germination of a wider range of species. However, it later became apparent that literally anything could be found anywhere across the site and so less densely populated areas also became important for searching.

The 10<sup>th</sup> September proved to be another very interesting day for aliens, another *Amaranth* was found, this one still has to be identified, similar to *A. retroflexus* but glaucous, *Ambrosia artemisiifolia* (Common Ragweed), *Borago officinalis* (Borage), *Oxalis incarnata* (Pale Pink-sorrel), *Galinsoga quadriradiata* (Shaggy-soldier), *Physalis peruviana* (Cape-gooseberry) and *Sisyrinchium californicum* (Yellow-eyed-grass). Four alien grasses were also found, *Echinochloa crus-galli* (Cockspur), *Echinochloa esculenta* (Japanese Millet), *Polypogon viridis* (Water Bent) and *Polypogon monspeliensis* (Annual Beard-grass).

The natives this time included *Chaenorhinum minus* (Small Toadflax), *Linaria repens* (Pale Toadflax), *Lactuca virosa* (Great Lettuce), *Beta vulgaris* subsp. *maritima* (Sea Beet) and *Lavatera arborea* (Tree-mallow); the latter suggesting that at least some of the imported soil and demolition material might have come from areas on or close to Plymouth's Devonian Limestone Belt, and possibly somewhere close to the waterfront. The best find of the day though, was without a doubt, *Spergularia bocconei* (Greek Sea-spurrey), and we are both very grateful to Tim Rich for his confirmation.

After such a good day, or good couple of weekends we both considered that we might have just about found everything there was to be found, but given the urgency to record as much as possible because work is on-going on the site,

I decided to look around one evening the following week and I just couldn't believe my luck. Growing just off the path beside a storage area, quite close to where I park the car, a creamy-white flower took my eye, it turned out to be *Misopates calycinum* (Pale Weasel-snout) and I found another plant that positively confirmed the identification later that week. Other plants I found that week included more horticultural annuals such as *Busy Lizzie*, *Salpiglossis* and *Petunia*, and the shrubby *Solanum capsicastrum* (Winter-cherry), quite hardy in parts of the south-west; but *Myrrhis odorata* (Sweet Cicely) and *Solanum physalifolium* var. *nitidibaccatum* (Green Nightshade) were the best finds; the latter I'd originally dismissed for *Solanum nigrum* but having read about certain subspecies of *S. nigrum* in Stace I decided to go back and look at it again, good thing I did.

At this stage I am 'really' thinking that we've covered the site fairly well, but no, I continue to prove myself wrong and on writing this I am expecting to continue to add new plants to the plant list for this site for some time yet. Every time I go, I find something else, it is such a remarkable site. On showing friends to the site Phil and I have continued to find more plants whilst taking them around. One of these plants was tentatively identified by John Crellin of ([www.floralimages.co.uk](http://www.floralimages.co.uk)), who visited the site recently, as *Linaria × dominii*, (*L. purpurea* × *L. repens*) (a hybrid toadflax); other alien finds include *Campanula poscharskyana* (Trailing Bell-flower), *Beta vulgaris* ssp. *cicla* var. *flavescens* (Swiss Chard), *Diascia barberae* (Twin-spur), *Hyoscyamus niger* (Henbane), *Ficus carica* seedling (Fig) and possibly *Linaria nevadensis* (Roadside Toadflax) but yet to be confirmed. With natives (or archaeophytes) including, *Chenopodium ficifolium* (Fig-leaved Goosefoot), *Chenopodium murale* (Nettle-leaved Goosefoot) and *Senecio viscosus* (Sticky Groundsel).

Further visits are planned during October and November 2006 but as the autumn draws to a close and the likelihood of finding much else diminishes there will be more time to conduct research into finding out where much of the flora came from. The flora on this site can roughly be divided into four main groups, Alien (Horticultural), Alien (Seed Aliens) – probably bird seed, Local Natives and Imported Natives.

According to the site manager, demolition material and subsoil has been brought in from a multitude of places and I have already hinted at the potential for the origin of some of the plants. My first idea was that a proportion of the rubble

and soil might have come from an old allotment site, where animals were kept, or old walled garden, but this would not explain why all these unusual plants are occurring across the whole site in such numbers. However on driving back from the site one day an idea came into my head, and I thought I might have to think bigger. Could all the imported material be coming from a local zoo or wildlife park? It would explain a lot.

I first contacted the nearest wildlife park, the Dartmoor Wildlife Park at Sparkwell, which is reasonably close to the site, sadly the reply was, 'No recent demolition'. So I then contacted the Curator of Plants at Paignton Zoo and asked the same question, I received a similar reply but the curator was very interested in what I had to say. He stated that most of the aliens found were indeed 'Bird Seed Aliens' and thought I was on the right track by thinking the material could have come from the demolition of a wildlife park, although he suggested that it was probably from a Bird Park, as this would account for the Alien (Horticultural), Alien (Bird Seed) and Imported Native. He also stated that a Bird Park in East Devon closed down in 2005, so this is a lead to be followed up. In the meantime I might be able to roughly target where the Imported Natives might have come from using the BSBI Atlas Project (<http://www.bsbiatlas.org.uk/>

main.php) or information gained from Roger Smith, the South Devon BSBI Recorder; using such plants as *Persicaria hydropiper* var. *densiflorum*, *Hyoscyamus niger*, *Mercurialis annua*, *Spergularia bocconeii*, *Linaria repens*, *Scrophularia scorodonia* and *Chenopodium murale*, natives that rarely occur in the Plymouth area. Here I must thank Roger Smith for all the help and assistance he has given.

It is likely that by the time this is published, the only plants to be found on the site will be amenity grasses and hundreds of trees and shrubs; at least by then we will have a good record of what was found, and possibly a better insight and understanding of why so many unusual species, some new to Devon, occurred in such a small area.

To finish I would like to thank the site manager at Boringdon Park for allowing us to record whilst construction work was in progress and making this article possible.

David Fenwick is a qualified horticulturalist with a long time interest in wildflowers. He produces a photographic wildflower website called Wildflowers of Devon and Cornwall, which can be found at [www.aphotoflora.com](http://www.aphotoflora.com). Images of all of the flowers described in this article can be found there.

## Discovery of *Pteris multifida* Poir. in Bath

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At the 2005 BSBI Exhibition Meeting, one of us (FJR) exhibited a definitive list and keys to the established pteridophyte aliens in Britain (see *BSBI News* 102: 20-21, where it is mistakenly attributed to Prof. John Edgington). This reminded the other (HJC) that she had seen a *Pteris* specimen growing in a basement in Bath. Green *et al.* (2000) mention two sightings of *Pteris cretica* L. (Ribbon Fern) in Bath (v.c. 6), both of them found on the walls of basements in the late 1970s by Mr R.M. Payne. Neither is believed to have persisted. The only other record for v.c. 6 is from Gough's Cave, Cheddar, where *Pteris cretica* was recorded in 1979, also by Mr R.M. Payne, but again it is not believed to have persisted (Green *et al.*, 1997). It thus seemed that this new sighting in Bath may be the only one in the vice county, so it was revisited to make a proper record. The newly found site is a rather derelict-looking basement, of an apparently unoccupied house in Pierrepont Street, Bath. There are now four separate

healthy plants. Upon revisiting though, their fronds looked narrow and more winged than expected, which threw up doubts as to whether indeed this was *Pteris cretica* at all. Early attempts to collect a specimen failed – the substantial, spiked basement railings are too close together for adult arms and the basement is locked. A return visit was made after dark, with a long-armed teenager and small skinny-armed child in tow. Sadly the long arms were too wide and the skinny arms too short to reach a frond! Undaunted by the growing interest of passers-by, a portion of frond was collected by the helpful small child by an alternative technique.

The fronds are typically about 30cm long and are once or twice pinnate, with narrow, pointed pinnae. The edges of the pinnae are sinuose. Wings from the pinnae extend down the rachis, below the first, second and third pairs of pinnae (see Colour Section, Plate 3). The plants are clearly not *Pteris cretica* L. but *Pteris multifida*

Poir. (Spider Brake). This species is not included in the *New Atlas of the British & Irish Flora* (Preston *et al.*, 2002), nor does it appear on the British List.

*Pteris multifida* Poir. is an attractive small fern, widely grown as a greenhouse, or window-sill plant. A native of Japan and China, it is similar to the better known and more widely distributed *P. cretica* L.; it may indeed occasionally be overlooked for that species. *P. multifida*, however, has narrower pinnae and can easily be distinguished by the  $\pm$  completely winged rachis below the upper 2-3 pinna pairs. (In *P. cretica* the rachis is winged at most to mid-way between the first and second pairs of pinnae from the tip, and sometimes all are unwinged). Both species are somewhat tender, although Hoshizaki & Moran (2001) regard *P. multifida* as the hardier of the two. In spite of this, the majority of British records, primarily from urban walls (e.g. Green *et al.*, 2000), are for *P. cretica*. This may reflect the greater abundance of that species in commerce, but may also result from an element of misidentification, as the alternatives are often not explicitly stated in floras and as a result identification of horticultural escapes is often unsatisfactory.

Examination of herbarium material, in preparation of the definitive list and keys to the established pteridophyte aliens presented at the BSBI Exhibition Meeting in 2005, revealed an additional and earlier record of *P. multifida* and that a rather unfortunate error had been made following taxonomic changes elsewhere. It is now timely to report on these following the recent discovery of this plant as an established alien in Bath.

At **BM** there is a specimen collected in Devon, by a Mr Gooch, in October 1935 and identified correctly on the sheet, perhaps by its recipient C. Waterfall, or more likely at some later stage. The label states that the plant was found 'on a terrace wall quite a mile from any greenhouse' but unfortunately gives no other information as to its locality. The record is not included in Keble-Martin & Fraser's (1939) county *Flora*, which was then in active preparation, and has been overlooked in later accounts of our alien flora. Attempts to trace additional past records in other major herbaria and through literature sources have been largely fruitless. Search on the NBN gateway, however, revealed a 1995 record, from SU5.2, in S. Hants. (v.c. 11). Martin Rand kindly filled in some more details. The plant was originally found by Paul Stanley and is in a unique situation: a covered well-shaft actually within a pub. It was still

present in 2000 and checking on its continuing survival promises to be an enjoyable excursion!

*P. multifida* was apparently first recorded as a naturalised alien, as *P. serrulata* L. f., by McClintock (1975), in his review of exotics for 1974 in the *Wild Flower Magazine*. That plant had been discovered by Mike Mullin in a basement area in Bristol (v.c. 34), where it reportedly persisted for a few years. Unfortunately this record subsequently suffered from a mistake in identity in a few definitive sources, of which Stace (1991) is the first we have traced; an error then perpetuated by all later authors, e.g. Clement & Foster, (1994). The confusion has been caused because more than one fern has been described under the name *P. serrulata*: the plant described by Linnaeus' son is now known under Poiret's earlier name of *P. multifida*, whereas that of Forskål is the plant we now know as *P. incompleta* Cav. The latter, striking fern (to over 2m tall), is native to the sheltered Laurel woodlands of the Atlantic islands and is found as a great rarity in coastal Macaronesian enclaves on the Iberian peninsula and northernmost Morocco. It is extremely rare in cultivation and not commercially available and yet this is the name under which the ex-Bristol basement plant currently masquerades in our floras. *P. incompleta* Cav. should thus be deleted from the British List and be replaced by *P. multifida* Poir. This species, although apparently now gone from its former location in Bristol (v.c. 34) is, however, alive and well in a similar situation in Bath (v.c. 6) and perhaps also in v.c. 11.

Our thanks to Jenny Crouch for her assistance in collecting a specimen.

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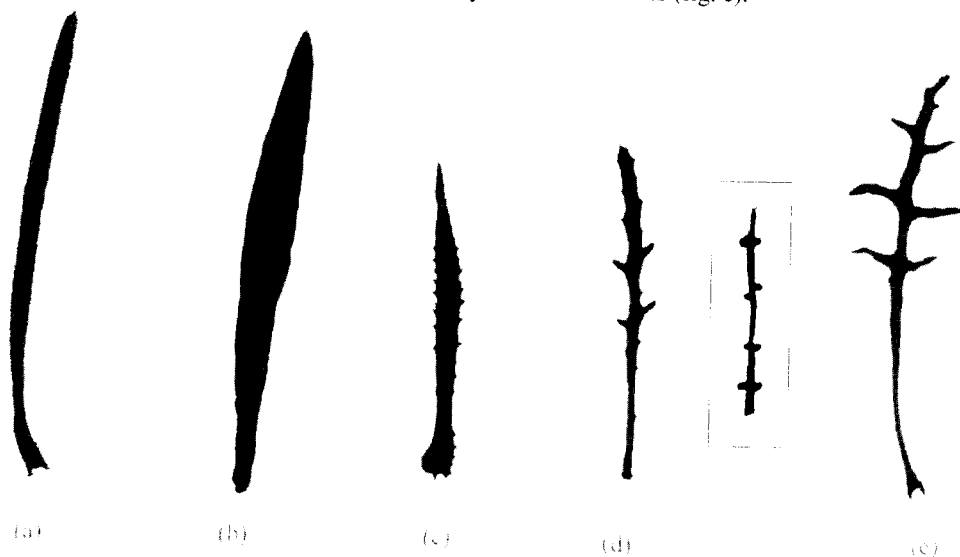
## *Senecio inaequidens*, variation in leaf types

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Recently, *Senecio inaequidens* (Narrow-leaved Ragwort) has appeared in *BSBI News*, (Sept 2006, 103). The content of the two articles has prompted this article a little earlier than proposed. Eric Chicken's article (p. 36) mentions the possibility of a hybrid and Quentin Groom's (p. 35) is in relation to the numbers of this plant in Britain. Though known from a number of places in Britain, and still spreading, its stronghold in Yorkshire appears to be the city of Bradford within the 10km<sup>2</sup> of SE1.3. The estimate for Bradford would be between 1000 and 1500 plants, perhaps more. In terms of numbers it is probably the most abundant *Senecio* taxon in Bradford but not the most widespread.

Like Eric Chicken's plants, some strange lobed-leaved plants were encountered, mainly

in Shipley around the railway station, (approx SE149.373) (see Colour Section, Plate 1). Like Eric it was immediately thought that these could be hybrids. However it was clear that in these plants, the flowers had been and gone in most of them and the young ones would not flower that year. The following year plants were checked throughout the spring and summer. A total of 47 plants had lobes of one kind or another. Leaf silhouettes are provided below. The leaves were either the typical narrow leaves 3–5mm, often with either entire margins though sometimes remotely dentate, partly revolute (fig. a), very rarely broad 9–11mm (fig. b), but occasionally coarsely dentate (fig. c), with some having short lobes (very similar to Eric Chicken's) (fig. d) and a few plants were found with pinnately-lobed leaves (fig. e).



Silhouettes of leaves of *Senecio inaequidens* with Eric Chicken's drawing inset.

All of the plants were fertile *in situ* but when transplanted to the garden for further study they did not produce fruits the first year, or appeared sterile. However, they did start to produce a few achenes towards the end of the year. All of the involucre bracts become fully reflexed even in ones that at first appeared sterile, (in sterile/partially sterile hybrids, involucre bracts do not open fully). The plants were clearly fertile, if not quite producing achenes, but tended to do so in 'wild situations.'

In Stace (1997) and Sell & Murrell (2006) the key features show that the leaves are entire to remotely dentate. Searching for other descriptions, the EPPO data sheet (2006 – web version) describes not only the spread of *S. inaequidens* across Europe but states that:

'Cauline leaves are mostly linear-lanceolate to elliptic-lanceolate, apex acute, margins denticulate to coarsely and irregularly-toothed, referring to its name "*inaequidens*" meaning "irregular tooth" in Latin. Upper

leaves are occasionally pinnately-lobed, shortly petiolate, subsessile or sessile.' Plants in Shipley, Bradford, can have the lower leaves shortly lobed to shortly lobed throughout (see Colour Section, Plate 1) and occasionally the whole plant can be pinnate (as in fig. e). The lobes on the leaves are very evident in younger plants but they are lost particularly in lower leaves, which tend to shrivel and fall off as the plant becomes larger. The plant, which exhibited the pinnate leaves of fig. e in all leaves when young, at maturity shows little or no evidence of having had lobed-leaves at all. This seems to be the case for most plants with lobes, and may be one reason why they are not evident in populations, which tend to be most noticeable in late summer.

A study at St Andrews University, using DNA techniques, will be looking at the genus *Senecio* (as well as other genera) and may provide further information in time but is beyond the scope of this article and its author, though material from Bradford has been provided. At the present, it is known that *S. inaequidens* is a tetraploid in Britain and Europe, which is said to have originated from the Lesotho region of South Africa where 2 diploid populations occur and it is thought that the tetraploid may have arisen through hybridization of the two DNA types of diploids in the Lesotho region, (Lafuma

*et al.* 2003). As a species, it could be ancestrally of hybrid origin or just more variable than previously described. The flowering time of *S. inaequidens* in Britain varies greatly and starts as early as May/June and can still be in flower Nov/Dec, perhaps longer as it can be tolerant of low temperatures. As it comes in to contact with other *Senecio* species it may hybridise at some point but at present it seems that those with lobed-leaves appear to be variants of *S. inaequidens* that are not mentioned in British floras, though generally they appear as mainly linear leaved plants.

#### Acknowledgements

Thanks to Eric Chicken for his hand drawing of the leaf type from Elland, South Yorkshire, which was accidentally omitted [by the Editor!] from his article in *BSBI News* 103.

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## *Dittrichia graveolens* – a new roadside colonist in S. Hants (v.c. 11)

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On 18<sup>th</sup> September 2006, SJL and Liz McDonnell (EJMcD) were on their way from Somerset to a meeting of English Nature botanists, at Wisborough Green in Sussex. They raced up the A303, then onto the A36, down through Salisbury and on to junction 2 of the M27, watching out for *Bassia scoparia* as they went.

The central reservation of the M27 was 'thick' with *Bassia*. On reaching Eastleigh, they left the motorway to pick up a colleague, Ian Taylor, who was flying in to Southampton Airport from Manchester. They arrived at the airport about an hour early, so decided to do a bit of botanising on the neighbouring industrial estate/business park.

Having seen large quantities of *Bassia* on the M27, and more patchily on the A303 and A36 (on the latter, in some abundance alongside the dual carriageway to the south-east of Salisbury), they were unsurprised to come across a *Bassia*-like plant on the roadside leading to the airport,

just outside the Premier Travel Inn (SU4476.1674). They parked the car and made a dash for the plant, and found – to their astonishment – that it wasn't *Bassia* at all! It had something of the 'jizz' of *Bassia*, for sure, but looked like a large *Erigeron*, or possibly an *Inula* or *Conyza*; very narrow-leaved, glandular-hairy, a pungent smell of camphor when crushed, and small flower-heads that, infuriatingly, seemed to be either 'in bud' or 'gone over'. Ian thought it had the appearance of a narrow-leaved *Aster*.

Once back on the M27, from Eastleigh at least as far as junction 8, they began to wonder whether all the *Bassia* was, indeed, *Bassia* – were there not other plants of taller stature, less rounded outline, more 'open' branching and darker foliage, which seemed to look quite a bit like the 'airport *Aster*'? But the light was failing, and by the time they reached Havant it

was pretty well dark. These plants would have to wait...

So, for the next two days the mystery composite sat in a vase on the meeting table. All those at the meeting were botanists, or so they thought, but the *Aster/Conyza/Erigeron/Inula* was a constant reminder of their collective ignorance! Only on returning home, and with Stace, Sell & Murrell and 'alien handbooks' to hand, was it discovered that the plant was, in fact, *Dittrichia graveolens* (Stinking Fleabane). No doubt at all: it keyed out very easily, and perfectly matched the descriptions – and one of the buds had opened up while 'in captivity', revealing inconspicuous, but bright yellow, ray-florets.

Was this a 'first' for S. Hants (v.c. 11)? Initially, we thought it was, but then MR heard from John Poland that on 17<sup>th</sup> September – just one day before the discovery in Eastleigh! – Alan Lewis had found *D. graveolens* on the A31 in the Ringwood area (exact locality uncertain), and during the following week had also seen it at the A31/M27 interchange at Cadnam (SU28.13). John Poland collected specimens from Cadnam, and these were later confirmed as *Dittrichia graveolens* by Eric Clement.

Following these sightings, MR surveyed the A31→M27→A27 from Ringwood to Havant, the A3(M)→A3 from Havant to Petersfield, and the M3 from Southampton to Winchester. *Dittrichia* was found to be widespread and locally abundant in two areas: (1) the A31/M27 on either side of Cadnam, with smaller outliers to the west on the A31 at Bratley and Ocknell, and to the east on the M27 at Ower; (2) the M27 between Eastleigh/Swaythling and Hedge End (including, no doubt, those plants glimpsed in the gloaming by SJL *et al.* on their way to Sussex). Voucher specimens, from the Cadnam roundabout, are to be deposited at **HCMS**. Details of all records to date (30<sup>th</sup> October 2006) are given below.

SU1.0: A31, exact locality uncertain, 17/09/06, A. Lewis.

SU2.0: SU22.09, A31 Bratley, 10/10/06, MR.

SU2.1: SU24.11, A31 Ocknell, 10/10/06, MR; SU26.11, A31 Stoney Cross, 10/10/06, MR; SU27.12, A31 Malwood, 10/10/06, MR; SU28.12, A31 Shave Green, 10/10/06, MR; SU28.13, A31/ M27 Cadnam, Sept. 06, A. Lewis, voucher specimens coll. J. Poland, conf. E.J. Clement, site visited by MR 10/10/06; SU29.13, M27 Cadnam, 10/10/06, MR; SU29.14, M27 Cadnam, 10/10/06, MR. SU3.1: SU30.14, M27 Copythorne, 10/10/06, MR; SU32.16, M27 Ower, 10/10/06, MR.

SU4.1: SU44.15, M27 near Southampton Airport, 18/10/06, MR; SU4476.1674, Eastleigh Airport, in shrubbery/flower beds outside Premier Travel Inn, 18/9/06, SJL & E.J. McDonnell; SU44.16, M27 Stoneham, 18/10/06, MR; SU485.135, A334 Hedge End, 16/10/06, R.C. Rand (conf. MR, 18/10/06); SU48.14, M27 West End, 18/10/06, MR.

Thus, between 17<sup>th</sup> September and 18<sup>th</sup> October, *D. graveolens* was found in 15 1km squares and five hectads. It is highly unlikely that *Dittrichia* was a new arrival in 2006. MR now realises that he had been aware of its presence – without recognising it – for the previous two years, on the central reservation at the point where the M27 becomes the A31 at the boundary of the New Forest. This is a dangerous and unpleasant spot, where three lanes funnel into two at speeds of up to 80mph, so it is not surprising that it had been recorded simply as a 'funny-looking *Aster*' until this year.

Spotting *Dittrichia* from a moving vehicle is probably jolly difficult before fruiting time (late September–October); especially when growing in close proximity to *Bassia*, as is so often the case in its Hampshire localities. But then, once in fruit, it becomes surprisingly easy, with conspicuous pale involucres and pappuses rather evenly distributed over almost the whole height of the plant, reminiscent of a decorated Christmas tree (see inside Back Cover). In fruit it is more likely to be confused with an *Aster* species than with *Bassia*, but *Aster* inflorescences are either domed corymbs or elongated panicles that do not extend down to the base of the plant (nor does *Aster* have quite the same growth-form, *Dittrichia* being shaped like a rather fat, straight-sided 'spire'). Like *Bassia*, well-established colonies of *Dittrichia* are dense and can extend over scores of metres – but once one is familiar with the jizz, stands of fruiting plants can be spotted fairly easily, even at speed.

As yet, we cannot say much about its ecological preferences. It is most prominent on central reservations, but seems also to thrive by slip roads, feeders and neighbouring roundabouts to a much greater extent than *Bassia*. Sites are mostly where the underlying geology is gravel, sand or alluvium, usually free-draining but often with some available moisture. We have not, so far, recorded it from roadsides overlying chalk. A photo inside the Back Cover shows part of its site at Cadnam, where there is *Spergularia marina*, *Plantago* spp. and a little *Puccinellia distans* in front of it on the verge, and a tall-herb community with much *Pulicaria dysenterica* behind it. On the outer verge of the roundabout



at Cadnam, its near neighbours include *Agrostis capillaris*, *Ulex minor* and *Epipactis helleborine*; while on the nearby central reservation of the M27, it is co-dominant for hundreds of metres with *Bassia*, *Echinochloa crus-galli* and *Atriplex* spp.

*D. graveolens* is a native of southern Europe, the Mediterranean and SW Asia, but is now apparently well established as an alien in many other parts of the world, including Australia and North America. We see from a quick 'google' that this species is salt- and drought-tolerant, and its habitats include both 'estuarine margins' and 'roadsides'. In parts of Australia it seems that *Dittrichia* is a quite frequent, and sometimes notoriously abundant, colonist of roadsides and disturbed places (including overgrazed pastures); in Victoria, it is found '...on sandy and other light textured soils in open, unshaded areas with annual rainfall of 300 to 500 mm... It occurs over broad areas of grazing land and on roadsides and neglected areas... [it] invades dry coastal vegetation, mallee shrubland, lowland grassland... grassy woodland and dry sclerophyll forest' (Parsons & Cuthbertson 1992). In New York State in the 1940s it was recorded as an abundant coloniser of road construction sites (*Flora of North America* 2005). In California, where it arrived in the early 1980s, it is now spreading rapidly in a range of disturbed habitats including railway tracks, roadsides and the spillways of torrent creeks, and is considered to have the potential to become a 'noxious weed' (Preston 1997).

Interestingly, given its occurrences on roadsides, *D. graveolens* is known to be very tolerant of high metal concentrations (including mercury, zinc and nickel), and has been proposed as a bio-accumulator on polluted sites in eastern and southern Europe. Zinc and (less consistently) nickel have been documented from several developed temperate and subtropical countries as roadside pollutants – zinc claimed to come particularly from tyre abrasion and the use of galvanised crash barriers, and nickel from heavy brake use.

Eric Clement tells us that *D. graveolens* has never before been reported in Britain in any quantity, having occurred only very sporadically as a wool-alien and casual of disturbed ground. He is not aware of any other established colonies on the near continent. Its appearance in southern Germany, however, has been reported by Nowak (1993), while the recent spread of *Dittrichia* along motorways and main roads in parts of Bavaria is documented in some detail in a doctoral thesis by Hetzel (2006). Given its success in Hampshire, we would be surprised if it were not already present – but undetected – elsewhere on the trunk road network in southern England, and would anticipate that this is another roadside species set to increase its range in coming years. One possible constraint on the spread of *Dittrichia*, as with many other motorway aliens and roadside halophytes, would now seem to be the increasing practice of paving or concreting central reservations. Our observations this autumn, however, suggest that *Dittrichia* (much like *Echinochloa crus-galli*) is able to survive quite well in less extreme roadside situations, such as on roundabouts and slip roads – and possibly on the outer verges/hard shoulders of motorways and dual carriageways too – and so could be less affected by these changes than some other species.

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## Another new crop plant in Britain, *Solanum sisymbriifolium* Lam.

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In October 2006 two local botanists drew my attention to an unusual crop in fields at Waldringfield, East Suffolk (TM26.44). I had noticed one of the fields from the A12 showing a tall (c. 1m),

lilac-flowered plant, obviously planted in rows. One of my callers had suggested it might be the Carolina Horse-nettle, *Solanum carolinense* and, as I could not think why anyone would grow such

a toxic plant as a crop, I visited the site to investigate. Two large fields of several acres on light, sandy soils were full of the plants, in full flower, making an attractive display. The crop was in fact another annual South American *Solanum*, the Red Buffalo-bur or Sticky Nightshade, *S. sisymbriifolium*.

The plant has been known as a rare casual arriving in oil-, bird- and agricultural seed, with only two previous Suffolk records, both of singletons in gardens. The *New Atlas* has only one recent record (from Bristol docks) and reports that although it was grown in Britain by 1815, and was first recorded in the wild in 1922 (W. Gloucs.), it appears to have declined, perhaps with the declining use of wood shoddy.

This rather handsome, spiny plant is regarded as a noxious weed in the southern states of America and in South Africa. As the specific name suggests, it has divided leaves like *Sisymbrium*, except that they are furnished with many sharp spines. The flowers are quite large, similar in shape to potato, and come in a variety of shades ranging from mauve through to white. Although the tomato-like fruits are apparently edible (known as Morelle de Balbis in France) the alternative English name of 'dense-thorned bitter apple' suggested that it was unlikely to be cultivated in quantity for culinary use. Indeed, the calyx is so covered in needle-sharp spines that it would be very difficult to harvest without injury (see drawing page 49).

A little research on the internet soon revealed that the plants were actually being used as a biological control for nematodes (eel worms).

Potato cyst nematodes (*Globodera pallida* and *G. rostochiensis* known as 'PCN') are serious pests for the UK potato industry. More than 60% of potato land is infested, and for some growers the cost of countering PCN is the highest of all their inputs. In Britain it costs an estimated £47m each year to control the pest with chemical sprays. The nematodes attack the roots of potato plants and, after harvest, they remain in the soil for up to 20 years in the form of cysts. These are the dead bodies of female nematodes that are filled with eggs. The eggs remain dormant until they come into contact with a substance exuded from the roots of potato plants.

In the past good results were obtained using potatoes that were resistant to the nematodes. However, the nematodes always managed to overcome each line of resistance. There have been similar problems with the use of chemical nematicides and soil fumigants, the use of which is strictly controlled by EU regulations. The idea of using a sacrificial, or 'trap' crop of potatoes

lifted before PCN complete their life cycle had been tried, but the timing was difficult and could result in increased infestation if they were left even a few days too long before harvesting. Dutch researchers at Wageningen University investigated the use of other *Solanum* species as a trap crop for the nematodes. In the 1990s Klaas Scholte tested about one hundred species from the potato family in pots, in order to find a plant which produced the hatching agent.

*Solanum sisymbriifolium* showed promise; like potatoes, the plant roots produce exudates that induce hatching of nematode larvae from eggs in the cyst. Although the nematodes are able to feed on the roots of *S. sisymbriifolium*, they are unable to reproduce (perhaps because of the lack of tubers) and complete their life cycle. The result is a drastic decline in the density of viable cysts in the infested soil. Field-scale trials in the Netherlands have shown this to be an effective trap crop for PCN with no risk of population increase regardless of how long the crop is left growing. Dutch plant breeders have selected a number of varieties of *S. sisymbriifolium* with improved field performance and from 2005 these have been available commercially in the UK from Branstons Ltd and Greenvale AP Ltd, marketed as 'DeCyst'. Further research on the optimum conditions for establishment and growth of the crop in different soil types is being carried out in Britain at Rothamsted (see <http://www.rothamsted.bbsrc.ac.uk/ppi/pnccontrol/SA%20project%20sisym.htm> for details). The idea is to cultivate *S. sisymbriifolium* somewhere in the period between potato harvest and the planting of the next potato crop. As well as promoting a nematode hatch of up to 70%, the crop can also be used to produce 10-12 tons/ha of green manure which is easy to plough in at the end of the season. It has been trialled in Nottinghamshire and Norfolk and, even though costs per acre are roughly equivalent to those for chemical treatments, its use will probably become widespread if the reductions in PCN can be sustained in the long term.

Although this is being heralded as an environmentally friendly solution to the problems of PCN, I cannot help wondering whether if it will become another member of our introduced weed flora. The plants at Waldringfield were fruiting well, and although it requires warm temperatures for germination, I think we can expect to see it turn up there in future years, possibly as a competitive weed in the subsequent potato crop.

It is interesting to see a significant pest species in tropical parts of the world (In S. Africa they

are investigating biological control of this *Solanum* using chrysomelid beetles) becoming a useful 'crop' in Britain. I hope global

warming does not mean it will follow that well-worn path of apparently benign introductions that later become problem invasive plants.



*Solanum sisymbriifolium* from Britton, N.L., & A. Brown. 1913. *Illustrated flora of the northern states and Canada*. Vol. 3: 167.

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## REQUESTS & OFFERS

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### Aquatic Plants

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

In order to gain experience for a small study on *Utricularia*, I would be grateful to receive live material (sent in sealable bag, damp, between newspaper or kitchen towel). Flowering material would be very useful in relation to identification but would welcome vegetative material (live) in order to carry out a growing trial. Also for general experience in aquatic and

sub-aquatic plants in any genus, if you have any spare material preferably fresh, these would be gratefully received. Send usual recording details, (A.S.A.P) postage can be paid if required (anyone in Europe knowing *U. bremii* would be welcome to send material) to the author at the address above.

### Mistletoe plants in Ireland

E. CHARLES NELSON, Tippiwiche Cottage, Hall Road, Outwell, Wisbech, Cambs., PE14 8PE

I am attempting to co-ordinate records of mistletoe (*Viscum album*) plants in Ireland, both within gardens, orchards and demesnes, and in the 'wild'. If you know of any mistletoe please send me details of the locality (if possible with an OS grid reference), county, host tree (if you can identify it), and approximate number of plants. I intend submitting all accumulated data to *Irish botanical news*.

While not considered native, mistletoe is clearly under-recorded in Ireland. There is no entry for *Viscum album* in either *An Irish flora* (1996, 7<sup>th</sup> edition) or *Census catalogue of the flora of Ireland* (1987, 2<sup>nd</sup> edition), but it is in Sylvia Reynolds' *A catalogue of alien plants in Ireland* (2002). The map in *New atlas of the British & Irish flora* has only 6 grid squares for Ireland, yet the on-line *Flora of Northern Ireland* has two additional square for the Province (<http://www.habitas.org.uk/flora/species.asp?item=3624> accessed 10 October 2006). At the time of writing, thanks to various informants, I have information for about another dozen squares. *Viscum* is known presently to inhabit the following counties –

Waterford, Wexford, Carlow, Wicklow, Limerick, Dublin, Armagh, Down, Antrim – and has formerly been recorded (and may persist) in Cork, Roscommon and Tyrone. Allen & Hatfield (*Medicinal plants in folk tradition*) note that mistletoe was employed in folk remedies in Cavan and Meath – oddly there are no records, ancient or modern, for *Viscum* in those counties.

Mistletoe has been reported in Ireland on the following hosts: Norway maple (*Acer platanoides*) and sycamore (*A. pseudoplatanus*); red horse-chestnut (*Aesculus* cf *× carnea* 'Briotii'); birch (*Betula* sp.); cotoneaster (*Cotoneaster* cf *horizontalis*); cultivated apples (*Malus* 'Bramley Seedling' and other cultivars); crab-apple (*Malus* cf *sylvestris*); poplar (*Populus* cvs); willows (*Salix* spp); rowan (*Sorbus aucuparia*); lime (*Tilia* spp or cultivars). There is no record of it on oaks.

Please send the records to me either by post or by email ([tippiwiche@zetnet.co.uk](mailto:tippiwiche@zetnet.co.uk)) – when sending data by email, please do not add any large attachments such as photographs).

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### Plant Amnesty

JOHN POLAND, 91 Ethelbert Avenue, Southampton, Hants., SO16 3DF. [jpp197@alumni.soton.ac.uk](mailto:jpp197@alumni.soton.ac.uk)

The text to the *Vegetative Key to the British Flora* is fast approaching completion. Consequently, as the keys are being constantly rewritten to permit fast and simple use, a great number of queries are being thrown up and many 'missed' or conflicting observations are emerging.

I know that many members out there surreptitiously grow unusual British plants, both natives

and aliens. Many helpers have already contributed garden-grown material, and my gratitude is extended to them. However I wondered if there were even more who may be able to help – at least in some small way. Additionally, I'm sure there is an untapped resource situated in many botanic or physic gardens of which I am woefully unaware.

Although UK provenance is most desirable, foreign material grown from seed will suffice since, although the morphology may be different (e.g. leaf size, shape, hairiness, etc.), the anatomical characters usually remain unchanged. It is the latter which are impossible

to determine from herbarium specimens and are often essential to clinch identification.

If anyone can assist by either sending me a short list of unusual accessions, or offering to help with my problem plants as they arise, I would be extremely grateful. Thanks!

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## Hosts of semi-parasites

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

I am sorry I have been slow to thank Chris Gibson for his most informative article Host Range of *Rhinanthus minor* (*BSBI News* 102: 15-16). From what he writes about that, and about *Pedicularis* species, I presume that other semi-parasites (*Odontites*, *Parentucellia*,

*Bartsia*, *Melampyrum*) in the same family also use a range of hosts; though I realise there is a possibility that such a presumption is wrong.

But what of *Thesium* please – can anyone tell us whose food supply it gatecrashes?

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## Gofynne Seed List 2007

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.

*Bromus interruptus*  
*Carex depauperata*  
*Carex muricata* ssp. *muricata*  
*Centaurea cyanus*  
*Cytisus scoparius* ssp. *maritimus*

*Damasonium alisma*  
*Dianthus gratianopolitanus*  
*Epilobium lanceolatum*  
*Geranium purpureum*  
*Juncus capitatus*  
*Juncus pygmaeus*  
*Polycarpon tetraphyllum*  
*Ranunculus ophioglossifolius*

*Rumex rupestris*  
*Rumex maritimus*  
*Rumex palustris*  
*Saxifraga cernua* (bulbils)  
*Sorbus leyana*  
*Sorbus minima*  
*Sorbus porrigentifolius*  
*Torilis arvensis*

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## Seeds from Ware 2006-2007

GORDON HANSON, 1 Coltsfoot Road, Ware, Herts., SH12 7NW; gordon27@tesco.net

Please send labelled packets or small envelopes and a S.A.E.

*Agrostemma githago* (cult.)  
*Allium roseum* (Croatia)  
*Alonsoa incisifolia* (Chile)  
*Amaranthus hybridus* (wool alien)  
*Amaranthus lividus* (wool alien)  
*Arabis cyprium* (cult.)  
*Aristolochia paucinervis* (cult.)  
*Bensoniella oregana* (USA)  
*Beta procumbens* (Tenerife)  
*Carduus tmoleus* (Turkey)  
*Chaerophyllum azoricum* (Azores)  
*Chlorogalum pomeridianum* (cult.)  
*Chenopodium quinoa* (Herts.)  
*Chenopodium striatum* (wool alien)  
*Coreopsis basilis* (cult.)  
*Cucubalus baccifer* (cult.)

*Cucumis myriocarpus* (cult.)  
*Datura discolor* (cult.)  
*Dierama pulcherrima*  
*Dovyalis caffra* (cult.)  
*Echinops tournefortii* (cult.)  
*Erodium chium* (Tenerife)  
*Erodium moschatum* (wool alien)  
*Erysimum perofskianum* (cult.)  
*Geum triflorum* (cult.)  
*Habranthus texanus* (USA)  
*Habranthus tubispathus* (USA)  
*Heliotropium ramosissimum* (Tenerife)  
*Hieracium cillense* (Wales)  
*Hieracium sabaudum* (Wales)  
*Hypericum grandiflorum* (Tenerife)  
*Lavatera arborea* (Turkey)  
*Leontodon hispidus* (Italy)  
*Lilium martagon* (Herts.)  
*Madia capitata* (cult.)

*Meum athamanticum* (cult.)  
*Nonea lutea* (cult.)  
*Oenothera stricta* (Devon)  
*Paeonia lutea* (cult.)  
*Phytolacca americana* (Italy)  
*Salvia glutinosa* (cult.)  
*Salvia sclarea* (Turkey)  
*Salvia viscaria* (cult.)  
*Scaligeria napiformis* (cult.)  
*Scrophularia smithii* (Tenerife)  
*Sigesbeckia serrata* (wool alien)  
*Solanum atropurpureum* (cult.)  
*Stachys germanica* (Turkey)  
*Taeniatherum caput-medusae* (Turkey)  
*Trigonella foenum-graecum* (cult.)  
*Verbascum thapsus* (USA)  
*Verbascum virgatum* (cult.)

## FIELD MEETING REPORTS – 2006

Reports of Field Meetings are edited by, and should be sent to: Dr Alan Showler, 12 Wedgwood Drive, Hughenden Valley, High Wycombe, Bucks, HP14 4PA, Tel.: 01494 562082. Potential

authors of reports should note that they should not be much longer than 500 words (half a page of *News*) for a one day meeting and 1000 words (1 page of *News*) for a weekend.

### Magdalen Hill Down, Winchester, North Hants. (v.c. 12). 23<sup>rd</sup> April (& 30<sup>th</sup> September)

JOHN POLAND

Following on from last years successful New Forest meeting concentrating on vegetative identification, another similar training day was arranged to explore chalk grassland. The advertised April meeting attracted so much interest that a second meeting was arranged for September. A limited total of 30 members attended.

Magdalen Hill Down, a Butterfly Conservation reserve, consists of original chalk downland and former farmland now reverting, through extensive management, back to chalk grassland. Close to the car park, attendees were shown the burdock-like leaves of *Brunnera macrophylla* (Great Forget-me-not). The sharply hispid unicellular hairs of the plant are typical of the borage family (most unlike burdocks and other members of the daisy family). Nearby, two common species causing confusion were *Stachys sylvatica* (Hedge Woundwort) and *Ballota nigra* (Black Horehound). A sharp break of the petiole provides the answer – there are three vascular bundles in *Stachys* but only two in *Ballota*.

The original chalk turf supported an excellent flora, with notable species such as *Thesium humifusum* (Bastard-toadflax) causing much interest from those attending from the Black Country! Members were shown the most reliable method of separating the ever-variable

rosettes of *Plantago lanceolata* (Ribwort Plantain) and *P. media* (Hoary Plantain); *P. media* has long silky brown hairs at the extreme leaf base (in the centre of the rosette) whilst the hairs are white in *P. lanceolata*. It was demonstrated how similar the pinnate rosette leaves of *Sanguisorba minor* (Salad Burnet) and *Pimpinella saxifraga* (Burnet-saxifrage) can be, with many opinions on which leaves belonged to which plant! Thankfully there are many vegetative differences, such as the presence of white latex in the petioles of *P. saxifraga*.

Moving on to an area of re-seeded former arable and exposed chalk scrapes, we were treated to a wide array of arable plants. Particularly exciting, on the September visit, was *Geranium columbinum* (Long-stalked Crane's-bill) – a new site record. As many readers are now aware, the petiole hairs provide the best vegetative character – sparse and adpressed in *G. columbinum* but dense and deflexed in the remarkably similar *G. dissectum* (Cut-leaved Crane's-bill).

My thanks to Phil Budd for jointly leading the event, and to all those who attended and contributed to the day, particularly Eric Clement and Martin Rand. Thanks also to Butterfly Conservation (Hampshire & Isle of Wight Branch) for permitting access.

### Langton Matravers, Dorset (v.c. 9) 11<sup>th</sup> May

EDWARD PRATT

Nineteen members of the BSBI and the WFS, enjoyed a sunny day on The Purbeck Wares. This was a repeat of the overbooked walk of a year ago, though some of it was on a different route because of this year's grazing plan.

The first species of interest was again *Rumex pulcher* (Fiddle Dock) in leaf. Next we saw *Cerastium pumilum* (Dwarf Mouse-ear) on top of a former spoil heap, together with the first few *Ophrys sphegodes* (Early Spider-orchid), a

species which appeared at frequent intervals during the walk, sometimes in many hundreds.

A walk along a narrow scenic path yielded the first plants of *Valerianella eriocarpa* (Hairy-fruited Cornsalad). Purbeck is the national HQ for this National Rarity, with a number of new sites recently discovered on Purbeck Limestone and two on chalk. We then turned into two meadows, where a large population of *Orchis morio* (Green-winged Orchid) had just come into flower; there was more of the Cornsalad,

and some *Saxifraga tridactylites* (Rue-leaved Saxifrage) by flat surface stones. Clare Kitchen pointed to seven plants of *Ophioglossum vulgatum* (Adder's-tongue) at our feet, and thereby made the first record for the tetrad!

Moving out on to the rough downland again, we looked at *Asplenium ruta-muraria* (Wall-rue) on some rocks. Though these may be an old small quarry face, it was the first time that most of the party had seen it away from a manmade building. The leader had asked for sightings of *Carex caryophyllea* (Spring Sedge), which is not easy to spot after its pollen has been shed, and Mark Kitchen made one there.

Then we descended an old track down the slope, and more beautiful patches of *Polygala calcarea* (Chalk Milkwort) appeared, in light blue as well as its usual colours of royal blue and pink. One *Orchis mascula* (Early-purple Orchid) was spotted by a party member in an area where it had not been seen before.

On reaching the Coast Path, under the east side of a stonewall the leaves of *Arum italicum* ssp. *neglectum* (Italian Lords-and-Ladies) were seen, but no flowers. Entering White Ware the party enjoyed the large colonies of *Orchis morio*

and *Ophrys sphegodes*, and plenty of *Brassica oleracea* (Wild Cabbage) in full flower on the cliff-top. There we stopped for a late lunch. Naomi Bailey and another member found they had sat down to eat by plants of Spring Sedge! During lunch the leader took small parties into the nearby cliff quarry to see *Asplenium marinum* (Sea Splenwort) and other maritime species.

Late plants of *Myosotis ramosissima* (Early Forget-me-not) were the first sighting of note after lunch, and then the party descended to Dancing Ledge to see small plants of *Carex distans* (Distant Sedge) and the first flowers of *Spergularia rupicola* (Rock Sea-spurrey).

17 of us chose to go an extra half mile to try to see *Gentianella anglica* (Early Gentian), but, though it had been in full bloom 8 days earlier last year, there was no sign of it.

As last year, on the way back to the car park we saw *Lotus glaber* (Narrow-leaved Bird's-foot-trefoil) in leaf, and we visited a pond to see *Ranunculus trichophyllus* (Thread-leaved Water-crowfoot).

Appreciation was expressed at the end of the walk.

## Southern scales (Ingleborough) Mid-West Yorks. (v.c. 64) 20<sup>th</sup> May

PAUL ASHTON

The appeal of Ingleborough to botanists has long been known. In 1660 John Ray wrote '.....and especially Ingleborough Hill, ..... for variety of rare plants, exceeds that of any I have travailed in England'. It must have been this reputation that encouraged a dozen hardy people to visit the Yorkshire WT reserve at Southern scales despite the presence of another feature for which the Yorkshire Dales is occasionally noted – torrential rain.

Organised as part of a BSBI commitment to running introductory excursions, our group featured a pleasing mixture of ages, sexes and botanical abilities.

The late spring meant that there was not a great deal in flower on the limestone grassland, the most conspicuous being a profusion of Early-purple Orchid (*Orchis mascula*) with Common Dog-violet (*Viola riviniana*) and Meadow Buttercup (*Ranunculus acris*) also being abundant. This absence of early identifiable flowers necessitated a traditional hands and knees, nose to the ground approach to enable identification of species with more cryptic flowers and those with vegetative material only. This revealed the glorious diversity of limestone

grassland with Blue Moor-grass (*Sesleria caerulea*), Spring Sedge (*Carex caryophyllea*), Fairy Flax (*Linum catharticum*), Field Wood-rush (*Luzula campestris*), Sweet Vernal-grass (*Anthoxanthum odoratum*) and Limestone Bedstraw (*Galium sternerii*) all being abundant. This vegetation also gave the group practice in separating vegetatively Red and Sheep's Fescue (*Festuca rubra* and *F. ovina* respectively) and Glaucous and Carnation Sedges (*Carex flacca* and *C. panicea*).

We then examined the restricted but superficially similar looking flora of the mire above the limestone pavement. Deergrass (*Trichophorum cespitosum*) was in flower making it easily the most distinctive species. Beyond this the group considered separation of pairs of Ericaceous shrubs, Cross-leaved Heath (*Erica tetralix*) and Heather (*Calluna vulgaris*) plus Bilberry (*Vaccinium myrtillus*) and Cranberry (*Vaccinium oxycoccos*). We then moved onto the distinguishing features of the various graminoid monocots; Heath Rush (*Juncus squarrosus*), Common Cottongrass (*Eriophorum angustifolium*), Hare's-tail Cottongrass (*E. vaginatum*), Wavy Hair-grass (*Deschampsia*

*flexuosa*), Purple Moor-grass (*Molinia caerulea*) and Common Sedge (*Carex nigra*). After this set of green and dun delights, the distinctive Bog Asphodel (*Narthecium ossifragum*) and Tormentil (*Potentilla erecta*) provided welcome contrast.

Dinner on a different limestone grassland, in the partial shelter of a short wall of limestone pavement provided additional species in flower in Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*), Wild Strawberry (*Fragaria vesca*), Lady's Bedstraw (*Galium verum*), Primrose (*Primula vulgaris*), Moonwort (*Botrychium lunaria*), Yarrow (*Achillea millefolium*) and Germander Speedwell (*Veronica chamaedrys*). Democracy and relative inexperience also led to a tentative identification of a Lady's-mantle as Small Lady's-mantle (*Alchemilla minima*).

As the rain finally lifted, a visit to the limestone pavement was made. This eternally fascinating landscape had the pleasing mix of woodland and grassland species. The full range of distinctive pteridophyte flora, common and rare was found. This included Maidenhair and

Green Spleenworts (*Asplenium trichomanes* and *A. viride*), Brittle Bladder-fern (*Cystopteris fragilis*), Rigid Buckler-fern (*Dryopteris submontana*) and Limestone Fern (*Gymnocarpium robertianum*).

Among the species in flower were Mountain Everlasting (*Antennaria dioica*), Dog's Mercury (*Mercurialis perennis*) and Rue-leaved Saxifrage (*Saxifraga tridactylites*).

Additional unusual species not in flower were Field Garlic (*Allium oleraceum*), Baneberry (*Actaea spicata*), Hairy Rock-cress (*Arabis hirsuta*), Wall Lettuce (*Mycelis muralis*) and Lesser Meadow-rue (*Thalictrum minus*).

Finally we closed the day with a discovery of Hutchinsia (*Hornungia petraea*), described by one of our members as 'quite a twitch'. Despite the weather a successful and hopefully informative day was enjoyed by the members of the excursion. As the organiser, I would like to thank Mike Wilcox, Clare O'Reilly and John O'Reilly for their help in aiding the group. It would have been much less successful without them.

## Jersey (v.c. 113) 20<sup>th</sup>-26<sup>th</sup> May

TONY MARSHALL, DAVID BEVAN, ALISON WATT, PAT VERRALL, SHEILA & TERRY WELLS, CLARE & MARK KITCHEN

This week-long excursion for a party of 20 members, organised by Jane Croft, used the kind and knowledgeable services of local botanists Mrs Joan Banks and Mrs Margaret Long (BSBI vice-county recorders) to guide us to the most flower-rich parts of this fascinating island. Hardly a leaf went unturned, as we saw almost all the botanical specialities Jersey had to offer and still found time for leisurely lunches of fresh-caught lobster salad and chardonnay! The only limitation was unseasonable weather that sometimes drove us to shelter when we would have preferred to explore even further.

The highlight of our first rainy morning was undoubtedly a visit to the wet meadows north-east of St Ouen's Pond, where *Orchis laxiflora* (Loose-flowered Orchid) grows in impressive numbers. This magnificent orchid used to be more widespread in the island, but intensive farming practices and other developments have led to its demise at several sites, and its distribution is now very limited in Jersey. Since 1972 the National Trust for Jersey has owned and managed these two fields, and here at least its future seems secure. Other orchids growing in the fields included *Dactylorhiza praetermissa* (Southern Marsh-orchid), the two Spotted-or-

chids (*D. maculata* and *D. fuchsii*), and a number of putative hybrids.

We then explored the narrow strip of land between the sea wall and the coast road along the northern half of St Ouen's Bay, which occupies the whole west coast. There were swathes of *Lagurus ovatus* (Hare's-tail), naturalised here for at least a century, together with another introduction of similar age: *Centaurea aspera* (Rough Star-thistle). Native plants included *Geranium purpureum* (Little-Robin) and *Poa bulbosa* (Bulbous Meadow-grass).

After lunch at the Jersey Pearl near L'Etacq we set off across a nearby sandy field full of *Muscari comosum* (Tassel Hyacinth), also known from this site for more than a hundred years. Heavy rain and sleet forced us to take shelter under a conveniently placed *Cupressus macrocarpa* (Monterey Cypress). When the rain eased, we drove further south. Close to the sea wall, on stony ground created during the German Occupation, we admired an extensive population of *Limonium normannicum* (Alderney Sea-lavender). In the same general area there were several patches of *Parapholis incurva* (Curved Hard-grass), the South African introduction *Disphyma crassifolium* (Purple



Dewplant) and *Cerastium pumilum* (Dwarf Mouse-ear). Two species of Thrift occur here (*Armeria maritima* and *A. arenaria*). The latter (Jersey Thrift), flowers several weeks later than the widespread species, and we were too early to see it in flower. We did, however, see a convincing hybrid between the two which was in flower.

The second full day in Jersey was very windy, but mainly dry. We visited the cliffs of the south-west – home to warmth-loving species. We were taken to three sites, with a well-planned lunch (indoors!) to sustain us. The first stop at Beau Port was a wonderful headland with many treasures, of which the highlight was *Tuberaria guttata* (Spotted Rock-rose) – some flowers being without spots. We searched close to the turf for patches of *Juncus capitatus* (Dwarf Rush), the fruit and leaves of *Ranunculus paludosus* (Jersey Buttercup), *Filago minima* (Small Cudweed) and thousands of plants and seeds of *Romulea columnae* (Sand Crocus). Inland heath sported other little gems – *Ornithopus perpusillus* (Bird's-foot), *Myosotis discolor* (Changing Forget-me-not), and *Vicia lathyroides* (Spring Vetch).

After lunch, walking past a host of *Hypochaeris glabra* (Smooth Cat's-ear) in full flower, we clung in the wind to the precipitous rocks of La Corbiere headland, among brown wind-seared clumps of *Ruscus aculeatus* (Butcher's-broom), to see superb specimens of *Orobanchae rapum-genistae* (Great Broomrape), *Asplenium obovatum* (Lanceolate Spleenwort), and *Moenchia erecta* (Upright Chickweed). Finally, a dune system at La Pulente, although being overrun by *Sedum album* (White Stonecrop), still yielded a few tiny specimens of *Viola kitaibeliana* (Dwarf Pansy), *Silene nutans* (Nottingham Catchfly) in a variety of colours, *Orchis morio* (Green-winged Orchid) and *Anisantha rigida* (Stiff Brome).

On the third day our first stop was in the wooded St Peter's Valley, in the centre of the island, where the delicate fronds of *Anogramma leptophylla* (Jersey Fern) grow precariously on the crumbly rocks right beside the busy road, accompanied by *Catapodium rigidum* (Fern-grass) and Little-Robin. From here we travelled eastwards through narrow lanes, many like leafy tunnels, between meadows of Jersey cows and fields of potatoes, until we emerged to a spectacular view across St Catherine's Bay to the coast of France. In sunshine that lasted the rest of the day we explored a number of sites. Not yet in flower, *Lythrum hyssopifolium* (Grass-poly) was hard to spot in a sward of

*Chamaemelum nobile* (Chamomile) but on nearby rocks, though out of reach, a robust clump of *Sedum praealtum* (Greater Mexican-stone-crop) with bright yellow flowers was an easier target. A vivid orange plant also caught our eye on a 45° rock-face above the boatyard. A few intrepid members scaled up to inspect it. (Naturally we then found some at ground level just round the corner!) This was later identified as *Lampranthus aureus* (conf. E.J. Clement), a new record for Jersey. *Lavatera cretica* (Smaller Tree-mallow) was hanging on in the hedgerows.

After lunch at the Jersey Pottery in the picturesque village of Gorey, we drove south along Grouville Bay, dominated by the ancient Mont Orgueil Castle. In grassland above the beach *Silene conica* (Sand Catchfly) and *S. gallica* (Small-flowered Catchfly) could be compared closely, the latter being variably pink or white, while *Thesium humifusum* (Bastard Toadflax) lurked here and there. We crossed the golf course, past a spectacular bank of *Lupinus arboreus* (Tree Lupin) with both yellow and white flowers, and an unusual *Fallopia japonica* (Japanese Knotweed) which our London member, David Bevan, recognised as var. *compacta*. We returned to Gorey through a lush meadow with scattered old trees of *Populus alba* and *P. nigra* (White and Black Poplars), finishing off a warm day with ice-creams. On the way back, near St Helier, we stopped to inspect St Matthews Church, known as the Glass Church, from its unique interior created by Rene Lalique. Not that we had descended to mere tourists, for we dutifully recorded *Polycarpon tetraphyllum* (Four-leaved Allseed) on the car-park walls, a species we saw everywhere over the island.

In the evening we were guests of the Botanical Section of the Societe Jersiaise at the Howard Davis Experimental Station. Roger Long, Margaret's husband, showed a selection of his superb slides of both the flowers and wildlife of Jersey.

The fourth day continued sunny, but the wind was still strong on the exposed cliffs at Les Landes on the north-west corner of the island, where the ruined castle of Gros Nez stands. A green hairstreak butterfly clung for its life to vegetation, as we descended below the castle from heathland of gorse and heather to the more grassy vegetation of the steep gullies. This area is famous for the presence of *Hypochaeris maculata* (Spotted Cat's-ear), a species with a disjunct distribution in the British Isles. At its nine sites on the mainland it occurs on calcare-

ous soils, whereas at Gros Nez it grows on granitic acid soils. We were fortunate to have in the party Terry Wells, who had studied this plant (*Journal of Ecology* **64**, 1976 pp757-774). One of the purposes of his visit was to compare the size of the existing population with what he had recorded 30 years previously. Unfortunately, gale-force winds prevented a complete survey, but 55 plants were counted on one slope we could reach relatively easily, most of them robust with 6-12 large leaves in a basal rosette. Nearby we found more Spotted Rock-rose and Small Cudweed, *Potentilla ×mixta* (Hybrid Cinquefoil), and two notable fescues, *Festuca huonii* (Huson's Fescue) on exposed ledges, and *F. longifolia* (Blue Fescue), its glaucous leaves conspicuous in more sheltered clefts.

Despite these riches, we gladly moved to a more sheltered site at L'Etacq. Here we saw large quantities of seaweed on the shore. In the past this would have been harvested and dried to provide manure for the early potato crop of Jersey Royals. Nowadays artificial fertilisers are used, some say to the detriment of the flavour. A species of broomrape growing near *Daucus carota* (Wild Carrot) here was suspected to be *Orobancha minor* var. *maritima* and Margaret took a specimen for confirmation. A good stand of *Torilis nodosa* (Knotted Hedgeparsley) was found on the roadside verge.

Lunch was taken at the Prince of Wales pub in the pretty harbour at La Greve de Lecq. On the wall across the road from the pub was *Medicago minima* (Bur Medick) and in the car park a specimen of *Conyza bonariensis* (Argentine Fleabane), recognisable from its red-tipped bracts.

In the afternoon we moved inland to Cooke's Rose Farm to see a wet meadow where a colony of *Dactylorhiza maculata* (Heath Spotted-orchid) was in flower. The meadow contained a rich mixture of species including *Carum verticillatum* (Whorled Caraway), which most of the party had not seen before, and a sedge that might have been *Carex distans*, which awaits confirmation when the fruits are ripe, as it is currently known only from one site in Jersey (Samares Meadows).

In the evening two of the party took a long walk north of the hotel in St Mary to Mourier Valley and found *Sibthorpia europaea* (Cornish Moneywort) on a damp roadside bank in deep shade.

The fifth day started with a visit to Les Blanchés Banques SSSI, part of a vast stabilised dune system on the island's west coast. Green-winged Orchid and swathes of Nottingham

Catchfly led us to our quest of the morning, a strong colony of the cryptically marked *Himantoglossum hircinum* (Lizard Orchid). Though these tall orchids were relatively easy to spot from afar, the same could not be said of the diminutive *Bupleurum baldense* (Small Hare's-ear) and, flowering surprisingly late, *Hornungia petraea* (Hutchinsia), both being strictly hands and knees jobs! Although not in flower, large tufts of *Corynephorus canescens* (Grey Hair-grass) were conspicuous with their grey leaves and purple sheaths. Colonies of *Rosa pimpinellifolia* (Burnet Rose) bore bright red round galls of an as yet un-named gall midge.

In the afternoon we moved on to Le Ouaisne Common in the island's south-west corner. We were by now well accustomed to the mix of acidophilous dwarf clovers (including Western, Rough, Clustered & Subterranean Clovers – *Trifolium occidentale*, *T. scabrum*, *T. glomeratum*, *T. subterraneum*) and associated heathland annuals. Here they included a white form of Changing Forget-me-not (var. *pallida*). Unfortunately the party were unable to refind *Scleranthus annuus* (Annual Knawel), not seen in recent years in the wake of car park works. However, it was pleasing to see a Dartford Warbler at close range and in a damp hollow a Great Green Bush Cricket presided over a carpet of *Eleocharis uniglumis* (Slender Spike-rush) and *Littorella uniflora* (Shoreweed). *Hypericum elodes* (Marsh St John's-wort) was found by one of the ponds.

On the final day another visit was made to Les Quennevais dunes, but much further inland, where Sand Catchfly and *Petrorhagia nanteuilii* (Childing Pink) were found in quantity. A short stop at Bouley Bay, on the rocky north coast, proved worthwhile, as *Scrophularia scorodonia* (Balm-leaved Figwort) hung from the cliffs in some quantity, whilst many of the party marvelled at the aerial manoeuvres of a Humming-Bird Hawk-moth. The geologically-inclined collected pebbles of spheroidal rhyolite from the beach, where a specimen of our largest crane-fly *Tipula maxima* was seen. A few miles eastwards, at La Tour de Roael, there was a fine flowering *Mespilus germanica* (Medlar) growing in an ancient hedge. Here an earthen bank beside a car park enabled comparison of two similar species, *Lotus subbiflorus* and *L. angustissimus* (Hairy and Slender Bird's-foot-trefoil). Along the headland *Cuscuta epithymum* (Dodder) cast a pink veil over the host gorse bushes, while a mist began to roll in that would disrupt everyone's departure plans – but that is another story!

## Gairloch, Wester Ross (v.c. 105) 9<sup>th</sup> -12<sup>th</sup> June

JIM MCINTOSH & JAMES FENTON

On a gloriously sunny afternoon seven of us met in the centre of Gairloch before proceeding the short distance to the sand dunes at Big Sand. We made our plans for the weekend and then began botanising where we sat – on dry, rabbit-grazed turf – a challenging place for botanising at the best of times! However the sand dunes seem to lack significant amounts of shell-sand and so are acidic and not particularly species-rich.

We managed to identify most of what we found, although did get confused by common species growing out of context, such as *Arrhenatherum elatius* (False Oat-grass) growing amongst the *Ammophila arenaria* (Marram Grass). More interesting was one clump of *Carex remota* (Remote Sedge) growing in an exposed site at the top of the high tide line, together with a few plants of *Carex otrubae* (False Fox-sedge). These are both new records for this 10km square, indeed for the wider locality, as shown in the *New Atlas*. However, for *C. otrubae* this is an error, as I previously recorded this species here in 1979 and it was good to see it is still present. It was still gloriously sunny, not a midge in sight, as we drove back to Gairloch in the evening with the Torridon mountains clear in the distance.

Heat and sunburn were the main problems of the next day. We met at the north end of Loch Maree, aiming to explore the Tollie birchwoods along the loch shore and back inland, in effect a circular tour of Tollie Rock. We were ten in number as we set off in the sunshine and headed down to Tallie Bay. We almost missed the extensive stands of *Hymenophyllum wilsonii* (Wilson's Filmy-fern) as they were looking so dried out; this forms extensive stands on the large boulders throughout the wood.

Although we looked at ferns closely, apart from the filmy-fern, all the others were species common to the area such as *Dryopteris affinis* (Scaly Male-fern), *Oreopteris limbosperma* (Lemon-scented Fern) and *Dryopteris dilatata* (Broad Buckler-fern). There was great excitement when Jim McIntosh announced he had found *Viola canina* (Heath Dog-Violet), very rare in Wester Ross; however after much deliberation we decided it would have to be sent to a referee for confirmation. One problem of botanising in Wester Ross is that species that are often rare in the area can be common elsewhere, and *vice-versa*. Hence one can get excited by

species such as *Sanicula europaea* (Sanicle), *Galium odoratum* (Woodruff) and *Allium ursinum* (Ramsons), which tend to indicate ancient woodland in the area, although people from the south are less than impressed!

The woods here are almost exclusively dominated by *Betula pubescens* (Downy Birch), and the extensive natural regeneration that has been taking place here over the past few decades makes one wonder at the need for the woodland planting that has taken place recently over most of the moorland of the area. A characteristic of this area is the flushes of *Schoenus nigricans* (Black Bog-rush) that wend through the more acidic moorland, and which often contain *Pinguicula lusitanica* (Pale Butterwort) and *Drosera intermedia* (Intermediate Sundew). We were mostly too early for the butterwort but did see one plant, and there was plenty of the sundew.

The loch level was low, with extensive stands of *Littorella uniflora* (Shoreweed) exposed, often growing with heathland plants more characteristic of dry ground, and also in the loch were *Subularia aquatica* (Awlwort), *Lobelia dortmanna* (Water Lobelia) and *Juncus bulbosus* (Bulbous Rush). However, most interesting was the large extent of *Lycopodiella inundata* (Marsh Clubmoss) that we found in two areas of open, stony ground that is flooded when the loch is at its highest level. One site is a previously known locality, but the biggest extent, extending along at least 100m of shore, could be a new site.

We were too hot and tired on the return home to do much botanising, but some of us did re-find a small stand, 20 plants, of *Lycopodiella inundata* right beside the path which I first found in 1979 – which luckily had managed to survive both path improvement works and recent tree planting!

The Sunday was thankfully a bit cooler with some cloud about and a breeze to keep the midges at bay, but as the day progressed the cloud dispersed to leave full sunshine. We met in Poolewe and set off to look at some patterned bogs around Loch Kernsary, passing on the way a rich marsh where the presence of *Dryopteris carthusiana* (Narrow Buckler-fern) needs to be confirmed later in the season when the plants are fully developed – if confirmed, this is a new 10km square record.

Near Loch Kernsary we found the diminutive *Utricularia minor* (Lesser Bladderwort) growing amongst flushes of *Schoenus nigricans*, with which it is usually associated, and then walked through some calcareous heathland where the first orchids were beginning to appear – everything very late – including *Gymnadenia conopsea* (Fragrant Orchid) and *Platanthera bifolia* (Lesser Butterfly-orchid) and quite a lot of *Carex pallescens* (Pale Sedge) and one small area of *Eriophorum latifolium* (Broad-leaved Cottongrass).

Then over the moors, largely *Calluna vulgaris* (Heather), *Erica tetralix* (Cross-leaved Heath), *Trichophorum cespitosum* (Deergrass) and *Molinia caerulea* (Purple Moor Grass). We passed a stand of *Carex lasiocarpa* (Slender Sedge), which also contained, after much discussion, *Carex limosa* (Bog Sedge). The small patterned bogs on National Trust for Scotland land between Lochs Kernsary and Ghiuragarstidh are some of the finest in Scotland for their small size, with very obvious parallel pool systems. Of particular note here is the *Rhynchospora fusca* (Brown Beak-sedge) and also of interest is *Phragmites australis* (Common Reed) growing in blanket peat.

We walked across the bogs to a long line of Scots pine wood planted by Osgood Mackenzie in the 19<sup>th</sup> Century along an esker; this was relatively species poor but does contain much *Trientalis europaea* (Chickweed-wintergreen) –

this is not common in the west and was perhaps introduced along with the trees? Thereafter through a small oasis of farmland at Kernsary, where we made a quick record of everything we saw, and then back along the track to Poolewe. In the evening we risked a barbecue on the shore outside my cottage, it being remarkable for being a) dry, b) sunny, c) warm, and d) breezy enough to keep midges at bay!

The sun was still shining on the last day as we set off to the south side of Loch Gairloch with the aim of surveying a complete tetrad, starting at the Shieldaig Lodge Hotel. We began along the roadside but soon came to an excellent bog where there was abundant *Carex limosa*, one *Platanthera bifolia* and also a stand of the *Carex pauciflora* (Few-flowered Sedge) – the latter being a plant that I am sure is often overlooked as it is only obvious for the short period it is in flower. There was also a peaty Lochan surrounded by *Cladium mariscus* (Great Fensedge), not a common plant in these parts.

As we returned along the road, in the event not having time to cover the whole tetrad, we were surprised to see *Carex laevigata* (Smooth-stalked Sedge) growing right on the road verge. And so ended a long weekend when it did not rain once! The good weather encouraged us to dawdle, which made it easier to achieve one of the aims of this meeting which was to improve people's identification skills. I hope we achieved this.

## Mynydd Cilan, near Abersoch, Caerns. (v.c. 49) 17<sup>th</sup> June

WENDY MCCARTHY

15 of us met on the common at Cilan in beautiful weather. This coastal headland, which consists of heath and grassland, sea-cliffs and a series of small pools is now managed by the National Trust. We began by exploring each of the pools in turn, finding much of interest in and around them. The first was fringed with *Carex rostrata* (Bottle Sedge), *Equisetum fluviatile* (Water Horsetail) and *Eriophorum angustifolium* (Common Cotton-grass) and on the damp ground around the edges we found *Lythrum portula* (Water-purslane), *Scutellaria minor* (Lesser Skullcap) and *Eleocharis multicaulis* (Many-stalked Spike-rush). In the second pool there was an abundance of *Apium inundatum* (Lesser Marshwort), *Eleogiton fluitans* (Floating Club-rush) and *Hypericum elodes* (Marsh St John's-wort) while extensive pink mats of flowering *Anagallis tenella* (Bog Pimpernel) kept the photographers happy. Moving on, we searched the edges of the track

through the heather for *Radiola linoides* (Allseed) and were soon rewarded, finding it on the damp sides of the track where the ground was kept open by trampling. Here too, we saw the flowers and fruits of *Ornithopus perpusillus* (Bird's-foot). Passing by the third pool, we noted the muddy rutted track where *Ranunculus tripartitus* (Three-lobed Crowfoot) had flowered earlier in the year, although by now, of course, there was no sign of it. *Agrostis vinealis* (Brown Bent) was present on the drier part of the heath, and we compared its rhizomes with the stolons of *Agrostis canina* (Velvet Bent) which grew in the wetter areas around the pools. In seasonally-damp shallow depressions, we found the fine-leaved tussocks of *Deschampsia setacea* (Bog Hair-grass), though it was too early to see its inflorescences. Arriving at the final and largest of the pools, we sat on the bank in the sunshine for lunch, with *Chamaemelum nobile* (Chamomile) forming a fragrant carpet

around our feet, and were entertained by several species of dragonfly. At the edge of the water, *Baldellia ranunculoides* (Lesser Water-plantain) was flowering and we inspected its basal parts to find that it does indeed smell of Coriander, just as the book says! Andy Jones waded into the water and came out triumphantly with *Pilularia globulifera* (Pillwort), a nationally scarce species for which the British sites are particularly important as it is sadly in decline in many of its European sites. In this pool, we were dismayed to find several clumps of a variegated Iris with blue flowers which we decided to uproot and despatch to the garden pond of one of the participants. One of the aims of the meeting had been to check the identity of a *Sparganium* species in this pool, but although it was plentiful, it was not yet in flower. (A return visit later in the year found it in flower and fruit and revealed it to be *S. emersum* (Unbranched Bur-reed) not unfortunately *S. natans* (Least Bur-reed) as previously identified). With some reluctance, we left the pools behind, and set off to explore the cliffs, seeing the pretty star-like flowers of *Sagina subulata* (Heath Pearlwort) and a few lingering plants of *Scilla verna*

(Spring Squill) on the way. We were unexpectedly shown the hybrid between *Hypericum humifusum* (Trailing St. John's-wort) and *H. linariifolium* (Flax-leaved St. John's-wort) by local botanist Iwan Edgar who had discovered it here previously and we were pleased to count over 30 plants. The commoner parent was present but the other was not, although it is in the vicinity. On arrival at the cliff-top, some of us decided to sit in the sunshine, while the fitter members set off down the winding path to the foreshore with orders to refind *Carex punctata* (Dotted Sedge) so that we could enter an updated record in the county rare plant register, now in preparation. On the way down, we found *Asplenium obovatum* (Lanceolate Spleenwort) in crevices in the cliffs and lots of *Erodium maritimum* (Sea Stork's-bill) on the bare sandy ground. The sedge was eventually located and a count revealed over 100 thriving plants, enabling us to take a specimen to those waiting at the top. A very rewarding day with useful updates for several scarce species, and my thanks go to those who helped with the counts.

## Maltby Low & Far Commons, nr Rotherham, SW Yorks. (v.c. 63) 17<sup>th</sup> - 18<sup>th</sup> June

DAVID DUPREE & DOROTHY BROOKMAN

On Saturday 17<sup>th</sup> June about a dozen members gathered at Maltby to view the rich flora of the Magnesium Limestone. Due to an Orienteering exercise some alteration had to be made to the programme and we therefore set out for the nearby Anston Stones Wood where we were soon being instructed on the special grasses of the area such as *Brachypodium sylvaticum* (False Brome) and the two species of *Helictotrichon* (Oat-grasses). We then crossed some grassland with rock outcrops viewing large numbers of *Dactylorhiza fuchsii* (Common Spotted-orchid), *Orchis pyramidalis* (Pyramidal Orchid) and *Ophrys apifera* (Bee Orchid). Unfortunately the *Ophrys insectifera* (Fly Orchid) were past their best. We also spent some time discussing the possibility that one of the plants with unspotted leaves may have been *Dactylorhiza praetermissa* (Southern Marsh-orchid). On such a hot, sunny day we moved with some relief into the welcome shade of the woodland area where a fine specimen of *Tilia platyphyllos* (Large-leaved Lime) was admired and lunch was taken near a colony of *Aconitum ×cammarum* (Hybrid Monks-hood).

After lunch we moved to a lower level of the woodland looking at *Carex digitata* (Fingered Sedge) *en route* and then confirming a colony of *Hordelymus europaeus* (Wood Barley) considered to be the best find of the day. We then returned to the cars pausing to admire a good colony of *Vicia sylvatica* (Wood Vetch).

During the day one of the features was the number of shrubs, such as *Euonymus europaeus* (Spindle), *Viburnum lantana* (Wayfaring-tree), *Cornus sanguinea* (Dogwood) and a single specimen of *Rhamnus cathartica* (Buckthorn).

Another genus of interest was *Hypericum* (St John's-wort). *Hypericum perforatum* (Perforate St John's-wort) was common but *H. pulchrum* (Slender St John's-wort) in the woodland was more unexpected. *H. hirsutum* (Hairy St John's-wort) was scattered over the open areas and there were two or three plants of *H. montanum* (Pale St John's-wort). More surprisingly one plant of *H. humifusum* (Trailing St John's-wort) was found.

On the Sunday a slightly different group of members met at Maltby to visit the Low and Far Commons. At the Low Common the non-local

members were amazed by the vast colony of *Valeriana dioica* (Marsh Valerian) mainly in seed and some good-sized colonies of *Cirsium dissectum* (Meadow Thistle). It was interesting to see how the flora changed as we moved from a predominately calcareous area to a more acid one as indicated by finds of *Pedicularis sylvaticus* (Lousewort), *Calluna vulgaris* (Heather), *Erica cinerea* (Bell Heather), *Nardus stricta* (Mat-grass) and *Danthonia decumbens* (Heath-grass). Some time was spent examining the sedges which included *Carex pilulifera* (Pill Sedge), *C. nigra* (Common Sedge) and *C. hirta* (Hairy Sedge). The differences between *Carex viridula* ssp. *oedocarpa* and *C. viridula* ssp. *brachyrrhyncha* (Yellow Sedges) were demonstrated. The hybrid between *Juncus effusus* (Soft Rush) and *J. conglomeratus* (Compact Rush), *Juncus ×kern-reichgeltii* was also identified. The whole of this area supported a large colony of *Dactylorhiza fuchsii* (Common Spotted-orchid). As we left Low Common the hybrid between *Lolium perenne* (Perennial Rye-grass) and *L. multiflorum* (Italian Rye-grass), *L. ×boucheanum*, was found and demonstrated.

After lunch we moved onto the Far Common which had a somewhat different flora including dramatic quantities of *Platanthera chlorantha* (Greater Butterfly-orchid). It was noted that

some of the plants of *Rhinanthus minor* (Yellow-rattle) in this area were *Rhinanthus minor* ssp. *stenophyllus* with flowering branches from the middle and lower parts of the stem. This open area has benefited enormously from the clearing of overgrown shrubs and trees in recent years. Moving towards the woodland we found several colonies of *Aquilegia vulgaris* (Columbine). Walking through the remaining woodland we admired a mature tree of *Sorbus torminalis* (Service-tree) and shortly afterwards we were delighted to be shown *Astragalus glycyphyllos* (Wild Liquorice) – the highlight of the day. As we left the Commons we were shown a small colony of *Thalictrum flavum* (Meadow-rue) and surprisingly a thriving plant of *Lychnis chalcidonica* (Maltese-Cross) presumably a throw-out from nearby gardens.

Our thanks for a most successful weekend must be given to our Leader, Geoffrey Wilmore and also to four most knowledgeable local botanists. George and Beryl Griffith, Everal Ellis and Robert Beevers.

Some members may think that this part of South Yorkshire, so near to Rotherham, is just an industrial wasteland but we hope that this report shows that there is most attractive and interesting countryside in the area.

## Birkdale Sand-dunes, Merseyside (v.c. 59) 24<sup>th</sup> June

DAVE EARL & PHIL SMITH

Over 20 enthusiastic members from as far afield as Cumbria and Yorkshire assembled at Weld Road, Birkdale, to sample some of the delights of the extensive Sefton Coast sand-dune system. First we were treated to Mike Wilcox's expertise on hybrid willows, comparing well-grown specimens of the nationally rare *Salix ×friesiana* (*S. repens* (Creeping Willow) × *S. viminalis* (Osier)), *S. ×angusensis* (*S. repens* × *S. viminalis* × *S. cinerea* (Grey Willow)) and *S. ×subsericea* (*S. repens* × *S. cinerea*). Nearby was *S. ×forbyana* (Fine Osier), a basket-willow which is abundant on the Sefton Coast.

We then moved to a series of slacks that support many local specialities, including *Dactylorhiza incarnata* ssp. *coccinea* (Early Marsh-orchid), *Epipactis palustris* (Marsh Helleborine), *Parnassia palustris* (Grass-of-Parnassus), *Eleocharis uniglumis* (Slender Spike-rush) and abundant *Blysmus compressus* (Flat-sedge). Recent surveys show that the latter species is actually increasing here, in contrast with its nationally declining status.

The margin of an excavated scrape supported a vigorous translocated stand of *Schoenoplectus pungens* (Sharp Club-rush). Birkdale is now the only locality in Britain for this distinctive species, originally collected at Ainsdale in 1909. The jury is still out on whether it should be considered a native here.

After lunch entertained by dragonflies cavorting over the scrape, the party resorted to the nearby Birkdale Green Beach, a biodiversity hot-spot of developing salt-marsh, dune and dune-slack habitats less than twenty years old. Hundreds of newly emerged Natterjack Toadlets were a brief distraction from the remarkable plant communities and a new taxon was soon added to the Green Beach list. This was *Carex ×pseudoaxillaris* (*C. remota* (Remote Sedge) × *C. otrubae* (False Fox-sedge)) with both parents. A literature check later revealed that this was the first vice-county record since the 1990s! Nearby was a stand of *Blysmus rufus* (Saltmarsh Flat-sedge), also new to the site, while a flooded channel produced *Ruppia maritima* (Beaked Tasselweed) previ-

ously only known on this coast from Southport Marine Lake. Material gathered by Eric Greenwood was later confirmed as *Juncus compressus* (Round-fruited Rush), not recorded in Sefton since 1933 but doubtless overlooked in the large stands of the rather similar *J. gerardii* (Saltmarsh Rush). Other interesting species in some abundance were *Trifolium fragiferum* (Strawberry Clover), *Centaureum littorale* (Seaside Centaury) and the related *C. pulchellum* (Lesser Centaury). A spectacular display of several marsh-orchid taxa included putative *Dactylorhiza × wintoni* (*D. praetermissa* (Southern Marsh-orchid) × *D. incarnata*) with huge numbers of the parents.

Returning through slacks recently cleared of invasive *Hippophae rhamnoides* (Sea Buckthorn) by the local authority, we found

*Ophrys apifera* (Bee Orchid) and *Anacamptis pyramidalis* (Pyramidal Orchid) and the group was delighted to see *Juncus balticus* (Baltic Rush) doing well in its only English station. Another scrape produced a single plant of the alien *Lysichiton americanus* (American Skunk-cabbage), new to the dune-system, and masses of *Equisetum × litorale* (Shore Horsetail) (*E. fluviatile* Water Horsetail) × *E. arvense* (Field Horsetail).

The visit concluded for a few hardier members with a diversion to Southport Marine Lake dunes to see *Coincya monensis* ssp. *monensis* (Isle of Man Cabbage) and the dried-up remains of *Mibora minima* (Early Sand-grass), the latter in its only English native locality. A pleasing end to a rewarding day!

## Kirkcudbrightshire (v.c. 73) 24<sup>th</sup> - 26<sup>th</sup> June

CLARE O'REILLY & BETH WILSON

Botany at its best involves exploration and this three day recording meeting provided an opportunity to search where no botanist has gone before, amongst the miles of granite, schists and calcareous crags of Kirkcudbrightshire. The hills in this quiet part of southern Scotland are relaxed rather than dramatic but remote, only accessible via winding, amorphous forestry tracks and little frequented by walkers.

Nine members met David Hawker, v.c. recorder for Kirkcudbrightshire and Jim McIntosh, BSBI Scottish Officer and v.c. recorder for Perthshire at St John's Town of Dalry before car-sharing to drive up to the Merrick Hills. The aim of the meeting was to record in upland areas off track in search of montane species to about 800m. We split into three groups to record tetrads, with no more than five in a group, so that there would be plenty of one to one learning opportunities for anyone new to recording.

Day one produced several important records. There was an unscheduled stop on the forest drive up into the hills to look at the extensive areas of *Meum athamanticum* (Spignel) with thousands of plants in full flower. Five previously unrecorded populations were added to the existing 60 known sites. *Rubus chamaemorus* (Cloudberry), an uncommon and under-recorded species in the area, occurred in a small patch at about 550m, while around 580m both groups found stately stands of *Carex bigelowii* (Stiff Sedge) with its stiff, triangular stem curved to one side, just like the pictures in the books. Jim's group could not refind *Sedum*

*villosum* (Hairy Stonecrop), despite the fact that he had worked them hard to cover the whole tetrad, however they did find plentiful *Saxifraga stellaris* (Starry Saxifrage) and recorded *Listera cordata* (Lesser Twayblade). David McCosh and Vince Jones' hawkweed hunt also proved fruitless but nonetheless re-located *H. caespitosum* and *H. sparsifolium*, the latter in some quantity.

By day two around Curleywee the competition between Jim's group and ours was mounting and Jim set the pace with a 'come on team', striding off up the hill while we were still deciding where to go. We didn't move far from the species-rich banks of the burn beside the cars, with various sedges including *Carex laevigata* (Smooth-stalked Sedge), *C. pallescens* (Pale Sedge), and *C. dioica* (Dioecious Sedge) but apparently no sedge hybrids. When we finally did get up the hill, a crag somewhere up Drigmorn Hill was covered with a good population of *Saussurea alpina* (Alpine Saw-wort), only the 5<sup>th</sup> record for the county, as well as plentiful *Thalictrum alpinum* (Alpine Meadow-rue). Jim's group also found plentiful *Thalictrum alpinum* together with *Diaphasiastrum alpinum* (Alpine Clubmoss). *Carex pauciflora* (Few-flowered Sedge) was observed around the edge of a small lochan after lunch, along with an inquisitive herd of feral goats! The most interesting find of the day for Jim was *Sedum rosea* (Roseroot) high up amongst the crags. The hawkweed group ventured further afield and recorded *H. daedalopedioides* from the Grey Mares Tail waterfalls.

Prompted by complaints regarding too much acidic vegetation, day three featured a botanical hot spot, along the Cairnbaber crags. The climb-up passed plentiful populations of *Listera cordata* (Lesser Twayblade), nestling under the *Calluna* among *Sphagnum* and some convincing examples of *Potentilla erecta* ssp. *strictissima* (Tormentil), although the existence of this taxon was debated. At the top we found *Potentilla crantzii* (Alpine Cinquefoil), the only site in the county, along with a range of ferns including *Gymnocarpium dryopteris* (Oak Fern), *Cystopteris fragilis* (Brittle Bladder-fern) and

*Cryptogramma crispa* (Parsley Fern). We gave up recording the *S. rosea* population here – it was just too numerous! David McCosh spotted one plant of *Vicia orobus* (Wood Bitter-vetch) high on a rock face, easily identified with binoculars, as well as a hawkweed collected by Jim that could not be identified and may be a new microspecies, in addition to new records for *H. uricum* and *H. conops*.

Thanks to our leader David for organising the meeting (and the weather!); to Jim for leading a group; and to David and Vince for sharing their hawkweed expertise.

## Bryn Euryn, Colwyn Bay, Denbighshire (v.c. 50) 1<sup>st</sup> July

JEAN A. GREEN

Bryn Euryn is a limestone hill, rising to 131m. It is surrounded by houses and much used, for recreation. The woods on the lower slopes have many introduced species, such as *Leycesteria formosa* (Himalayan Honeysuckle), *Cotoneaster* ssp., *Buddleia davidii* (Butterfly Bush) and *Allium carinatum* (Keeled Garlic).

Five of us met to explore this well botanised hill. By the path was *Daphne laureola* (Spurge Laurel), *Allium vineale* (Wild Onion) and *Carex divulsa* ssp. *leersii* (Grey Sedge) (det. D. Pearman). The woods gave way to ungrazed grassland and scrub, where we found *Anacamptis pyramidata* (Pyramidal Orchid) and *Dactylorhiza fuchsii* (Common Spotted-orchid) and patches of *Filipendula vulgaris* (Dropwort). Two grasses, rare in the county, were *Bromopsis erecta* (Upright Brome) and *Brachypodium pinnatum* (Tor-grass). In the longer grass were *Hypericum montanum* (Pale St John's-wort), *Cynoglossum officinalis* (Hound's-tongue) and a flowering stand of *Astragalus glycyphyllos* (Wild Liquorice).

It was a very hot day, so we had lunch on the top in a cool breeze. Superb views were had of the sea and the Little Orme and southwards to the Conwy valley and the Carneddau. Below was the A55, crowded with holiday traffic. The south facing cliffs are windy and exposed. Plants are low-growing, e.g. *Helianthemum oelandicum* (Hoary Rock-rose), *H. nummularium* (Common Rock-rose) and *Thalictrum minus* (Lesser Meadow-rue). Under the cliffs on the lower slopes is one (male) plant of *Juniperus communis* (Juniper) in its only Denbighshire site. It is being managed by CCW and Conwy County Council and appears to be unthreatened. Another rarity on this slope was

*Rosa agrestis* (Small-leaved Sweet-briar), first recorded here in 2000 (by Wendy McCarthy & Martyn Stead) and re-found by Graeme Kay. This is a British RDB species and one to be looked for on the many limestone sites in the county.

Nearby on the cliffs were scattered plants of *Erigeron karvinskianus* (Mexican Fleabane). We watched many Humming-bird Hawk moths feeding on thyme and the rare *Cistus Forester* moth, a beautiful metallic green, which is known for this site. On the way down we saw self-sown *Quercus cerris* (Turkey Oak) and *Arbutus unedo* (Strawberry-tree) and one plant of *Epilobium montanum* var. *verticillata* (Broad-leaved Willowherb) – its leaves in whorls of three.

As a complete change we spent the afternoon on the shingle beach at Llandulas, where the Afon Dulas runs into the sea. *Glaucium flavum* (Yellow Horned-poppy), *Crambe maritima* (Sea-kale), *Lepidium draba* (Hoary-Cress), *L. campestre* (Field Pepperwort) and 6 plants of *Eryngium giganteum* (Tall Eryngo) were there. This uncommon non-native has been known from this site since 2000 (Wendy McCarthy & MS). It has leathery, cordate, basal leaves which over-winter, and a beautiful branched inflorescence with blue flowers, very attractive to bees. On the fine shingle were *Coronopus didymus* (Lesser Swine-cress), *Puccinellia distans* (Reflexed Saltmarsh-grass), *Sagina maritima* (Sea Pearlwort) and *Spergularia marina* (Lesser Sea-spurrey). By the river a clump of *Stachys ambigua* (Hybrid Woundwort) was flourishing with no sign of the parents. It was a fitting end to an interesting day.



## South Harris, Outer Hebrides (v.c. 110) 4<sup>th</sup> - 7<sup>th</sup> July

PAUL SMITH & RICHARD PANKHURST

'Oh no, not another *Carex maritima* population...'

Nineteen people joined this meeting, with an initial rendezvous at Borvemor on the evening before the meeting proper.

The first day was sunny and unusually hot, and we pottered gently through a machair hayfield owned by a local crofter, admiring the splendid show from *Vicia cracca* (Tufted Vetch) in one area, as well as *Rhinanthus minor* (Yellow-rattle), *Euphrasia nemorosa* (an eyebright), *Thalictrum minus* (Lesser Meadow-rue) and in places *Centaurea nigra* (Common Knapweed) attempting to take over the pasture. Where a stream ran through the pasture we debated *Rorippa* species, eventually agreeing that only *R. nasturtium-aquaticum* s.s. (Watercress) was present. Other damp machair species included *Veronica anagallis-aquatica* (Blue Water-speedwell) and *Eleocharis palustris* (Common Spike-rush). We moved on along the sea shore to a grazed area of machair, where in a former sand quarry in the machair which now has a seasonally damp, level bottom we admired a new population of around 15,000 spikes of *Carex maritima* (Curved Sedge), which the leaders had discovered before the field meeting had even started. Returning after a gentle first morning we examined a possible hybrid *Dactylorhiza* (marsh-orchid), and compared it with the other species present, *D. purpurella* (Northern Marsh-orchid) and *D. incarnata* ssp. *coccinea* (Early Marsh-orchid).

In the afternoon we split into groups, one heading to Loch Cistavat where despite finding five *Potamogetons* (and starting a trend for wading in there) – *P. gramineus* (Various-leaved Pondweed), *P. filiformis* (Slender-leaved Pondweed), *P. pectinatus* (Fennel Pondweed), *P. perfoliatus* (Perfoliate Pondweed) and *P. polygonifolius* (Bog Pondweed) they did not rediscover *P. ×sparganiifolius* (Ribbon-leaved Pondweed), previously reported there by Heslop-Harrison. Their other objective, to refine an old site for *Carex maritima* at the north end of Borge sands, was well fulfilled with four separate populations, and starting off on another target species for the BSBI they also found a single *Platanthera bifolia* (Lesser Butterfly-orchid). The second group moved south into another tetrad at Scarasta, finding quite a range of interesting local species, including *Conopodium majus* (Pignut) (very scarce and possibly introduced in the Outer Hebrides), and a further

new site for *Carex maritima*, in a locality where golf balls were a very real danger! The third group managed to avoid *C. maritima*, but found a widely scattered population of around 30 *Platanthera bifolia* in some rich marshy areas and round Loch an Duin, and added a range of moorland species to the tetrad.

The second day was devoted to a trip to Taransay, and two boatloads were whizzed across the sound. Two intrepid groups tackled four tetrads (two each) in the west of the island, though none of these were very rich. The highlight from this area was a last-minute find of *Carex maritima* (see Colour Section, Plate 2) at the east end of the beach separating the two parts of Taransay, before both groups had a long and tiring walk back to be picked up by the boat.

Meanwhile nearer the landing place at Paible one group investigated the machair, which was very heavily sheep-grazed, but managed to find several interesting plants including *Euphrasia ostensfeldii* (an eyebright), *Eleocharis uniglumis* (Slender Spike-rush), *E. quinqueflora* (Few-flowered Spike-rush) and *Anagallis minima* (Chaffweed). The tradition of wading for *Potamogetons* turned up *P. pectinatus* in a brackish loch and finally some quaking bog and a second, more inland loch had *Carex limosa* (Bog-sedge), a large population of *Platanthera bifolia* and one of only a handful of British records for *Armillaria ectypa* (a BAP fungus). At the end of the day another population of *Carex maritima* was found just east of Paible.

A more active group walked up the coast to Corran Ra, a large sand spit with dunes behind, where they found *Arabis hirsuta* (Hairy Rockcress). The BSBI Scottish Officer's designs on *Carex maritima* were superabundantly fulfilled, to the point where the group became bored with estimating populations in the thousands. Given that there were no records of this species from Taransay before the meeting, it's clear that it has been under-recorded! A fifth splinter group walked up Ben Ra, and in many ways had the most interesting day, finding a ravine with *Populus tremula* (Aspen) and also *Polystichum aculeatum* (Hard Shield-fern) in one of its very few sites in the Outer Hebrides. They also managed to find *Polypodium interjectum* (Intermediate Polypody) and finished the day with a few plants of *Echium vulgare* (Viper's Bugloss), once extremely common on Corran Ra and now restricted to a relatively ungrazed

slope. It seems likely that it will be lost if grazing pressure continues.

The third day saw a much mistier start, but we had an early stop to admire the *Orobancha alba* (Thyme Broomrape) (see Colour Section, Plate 2) near Northton and a salutary lesson for the leader in how hard it is to count as the full group managed to almost double his tally from a few days previously to 27 spikes. Then we parked at Northton, only for a new VCR to turn up in the car park of the MacGillivray Centre – *Acaena anserinifolia* (Bronze Pirri-pirri-bur). The group dealing with this area of cultivated machair, beach and salt marsh found many nice weeds including *Lamium purpureum* (Red Dead-nettle), *L. confertum* (Northern Dead-nettle) and *L. amplexicaule* (Henbit Dead-nettle). But perhaps the find of the day was a population of *Persicaria vivipara* (Alpine Bistort) (see Colour Section, Plate 2) on a low hill, looking extremely tall and lush in the grassland relative to its more normal size on the mountain tops. This species had last been recorded for South Harris by the Rev W. Shoolbred in 1894! A second party did two coastal tetrads on the east side of Toe Head, and they too found a single plant of *P. vivipara* in the smallest scrapule of land and another uncommon plant for Harris, *Alchemilla glabra* (a lady's-mantle). Both parties also managed to find (you guessed it) populations of *Carex maritima*.

A third party, taking on the rockier western shore of Toe Head covered three tetrads including one with spectacular sea cliffs with many nesting birds, *Vicia sepium* (Bush Vetch), and *Ligusticum scoticum* (Scots Lovage). In other places along the coast were *Sagina maritima* (Sea Pearlwort), and *Anagallis minima*. Coming back over Ben Chaipaval they also found *Listera cordata* (Lesser Twayblade), *Salix herbacea* (Dwarf Willow) and a single plant of *Melampyrum pratense* (Common Cow-wheat) (also a scarce plant in the Outer Hebrides).

The final day was a half day for most groups, as many people were booked on the afternoon ferry, but three sandy areas in the Luskentyre Banks and Saltings SSSI were covered – Traigh Nisaboist, Corran Seilebost and Luskentyre. The first two are less rich but Traigh Nisaboist had *Carex maritima* and *Equisetum variegatum* (Variegated Horsetail), and Corran Seilebost turned up a second population of *Spartina anglica* (Common Cord-grass) for the vice county; this was originally introduced, but seems hardly to be spreading. The group at Luskentyre had the most interesting finds, with two possible *Dactylorhiza* hybrids. Also, emboldened by the previous day's discoveries, they managed to refine Shoolbred's locality for *Persicaria vivipara* and also locate a single *Platanthera bifolia*.

One hardy group made a full day excursion covering two of the bigger hills in the centre of South Harris, An Coileach and Heileasbhal Mor. The species here were characteristic of rocky moorland, and substantially different from what had been recorded elsewhere during the week. Among them were *Thalictrum alpinum* (Alpine Meadow-rue), *Salix herbacea*, *Dryopteris aemula* (Hay-scented Buckler-fern) and *Hymenophyllum wilsonii* (Wilson's Filmy-fern).

Overall a great many records were made, many interesting and formerly unknown, and it seems that the concentration on underworked areas caused by the tetrad recording approach is greatly increasing our knowledge of the flora. We were astonished by both the number of sites and the size of the populations of *Carex maritima*, which clearly seem to make South Harris a stronghold. There are also substantial numbers of *Platanthera bifolia*, and clearly even such an attractive species as *Persicaria vivipara* has been overlooked. We would like to thank all the participants for their enthusiasm and various landowners and boatmen for enabling our visit.

## Salen, Mull, Mid Ebudes (v.c. 103), 9<sup>th</sup> –14<sup>th</sup> July

LYNNE FARRELL

Over the six days of the field meeting, 29 people took part, which was a tremendous help for my work on the Flora of Mull. A total of 32 tetrads were visited, which only leaves 150 tetrads to record.

A Beginners' Day was held in the middle of the week and everyone participated in this, including staff from the Forestry office in Aros, and two relative newcomers to Mull, now living at Craignure. Richard Pankhurst led a group on

sedge and rush identification and ecology, whilst Chris Cheffings searched for ferns; and Kevin Walker and Clare Pinches considered grasses. Everyone learnt something, even the teachers, and there was a significant increase in the records for all these groups in the following days.

We also had a break from tetrad-bashing on the Thursday, when most of the party went on the regular boat trip to Staffa and the Treshnish Isles. Six minke whales were seen on the

outward journey. Unfortunately the swell was too rough to land on Staffa, but we enjoyed the waves splashing into Fingal's cave and over the basalt columns. This meant that we actually had more time on the Treshnish Isles themselves, which was to our advantage. Six people landed on Lunga, with four walking south to count the expanding colony of *Mertensia maritima* (Oysterplant), where 267 plants were found. Because of the exceptionally low tides, two intrepid explorers were able to walk across the rocky causeway to the adjacent islet of Sgeir a'Chaisteil, where 40 species were recorded, though the once thriving colony of *Mertensia* was confirmed as having been totally washed away in the winter storms of January 2005. The remaining four sailors were rowed ashore in a small rubber boat on the two adjacent islets of Carn Burg More and Carn Burg Beg. The first islet yielded 66 species and the second 63, but more excitingly for some, two Corncrakes were both heard and seen on the More.

But back to the beginning and the basic botany. On the first day, Sunday 9<sup>th</sup> (yes, I had not quite got my pre-planning right and it was the World Cup final and Wimbledon finals – but later in the day) we all drove across to the north-west side of the island to survey the headland north of Calgary Bay. We were in glorious sunshine until 2km from the area, when we became enveloped in the sea mist. It soon cleared, and we split into groups to visit six tetrads, which led to the complete coverage of this headland. This was an excellent start and showed the value of having a team of willing volunteers in the field. There were some good finds, but other patches were surprisingly dull. The more interesting, and indeed typical, species of these island aspects included *Geranium sanguineum* (Bloody Crane's-bill), *Ligusticum scoticum* (Scots Lovage), and *Orobancha alba* (Thyme Broomrape). A clump of *Inula helenium* (Elecampane) was found far from present habitation. This plant was often introduced by monks in the past because of its medicinal properties, so this clump could be very old! *Meconopsis cambrica* (Welsh Poppy), *Carex distans* (Distant Sedge), *Carex extensa* (Long-bracted Sedge) and *Gymnadenia conopsea* (Fragrant Orchid) were all good finds around the coast. *Ranunculus bulbosus* (Bulbous Buttercup), restricted to the small areas of machair on Mull, was a particularly welcome record.

On Monday, we again divided into groups and set to work in the 10km square NM4.4, west of Loch Frisa, in the districts of Kilninian and

Kilmore. We ranged from the ridge walk, into the valleys, over the raised bogs, by the wide River Bellart, and into the forestry areas. *Utricularia minor* (Lesser Bladderwort), masses of *Rhynchospora alba* (White Beak-sedge), *Carex lasiocarpa* (Slender Sedge), and the hybrid *Carex × fulva* were among the wetter elements, with *Dryopteris oreades* (Mountain Male-fern), *Polystichum aculeatum* (Hard Shield-fern), *Botrychium lunaria* (Moonwort), *Phegopteris connectilis* (Beech Fern) and a suspected *Dryopteris expansa* (Northern Buckler-fern) representing the more interesting pteridophytes. Species of the higher places included *Galium boreale* (Northern Bedstraw), *Thalictrum alpinum* (Alpine Meadow-rue), *Sedum rosea* (Roseroot) and *Rubus saxatilis* (Stone Bramble). Several *Hieracia* were collected and are awaiting attention before sending to David McCosh. Whilst most of these species are not of great rarity in the UK, they are of significance in v.c. 103, and these records from what appeared an unpromising area of ground, proved that it is always worth looking.

As the weather was improving slowly, and the cloud level lifting, most people set off for the Ardmeanach peninsula on the Tuesday. Many wished to see for the first time *Koenigia islandica* (Iceland-purslane), one of Mull's nationally rare species, but they were asked to record in the high-level tetrads whilst they were in the vicinity. The landscape of Ardmeanach is fascinating – stepped basalt cliffs like layers of a cake, and the views across the islands provide outstanding 180 degree panoramas. It is one of my favourite places. *Juniperus communis* (Juniper) is widespread but nowhere abundant, whilst *Persicaria vivipara* (Alpine Bistort) is quite restricted to the mountains of the central massif and Ardmeanach, and *Vicia sylvatica* (Wood Vetch) is relatively rare. *Trollius europaeus* (Globeflower) used to be common in the north of the island and apparently also in the south, according to Ross in 1879, but until this visit I had only found it in one locality. On this field day several colonies were seen on wet cliffs in remote places. Both *Saxifraga aizoides* (Yellow Saxifrage) and *Saxifraga oppositifolia* (Purple Saxifrage) are uncommon in v.c. 103, and we located several new areas, as well as over 100 plants of *Dryas octopetala* (Mountain Avens), a very rare plant on Mull. At the end of the day several groups came across *Equisetum telmateia* (Great Horsetail), known only from the northern, grassy slopes of Ardmeanach.

Whilst most of the groups were on the plateau, some were exploring the Glen Forsa square

NM5.4 on the east coast, south of Salen, and making a full list for this part, with highlights being *Honkenya peploides* (Sea Sandwort), *Lythrum salicaria* (Purple Loosestrife), an uncommon species in v.c. 103, *Ranunculus hederaceus* (Ivy-leaved Crowfoot), and several hybrids. Another group went into NM7.3 south of Grass Point to verify and count both *Platanthera bifolia* (Lesser Butterfly-orchid) and *P. chlorantha* (Greater Butterfly-orchid). The remaining group explored the environs of Duart Castle in NM7.3 before departing for the mainland.

On the final day, Friday 14<sup>th</sup>, we ended with a diverse programme – some clambering up the cliffs above Gribun in NM4.4, with others recording in the adjacent valley. Species of note on the cliffs included *Orchis mascula* (Early-purple Orchid), here in its main niche in v.c. 103, *Populus tremula* (Aspen), *Gymnocarpium dryopteris* (Oak Fern) and *Gentianella campestris* (Field Gentian). Both subspecies of *Pedicularis palustris* (Common Lousewort); *sylvatica* and *hibernica*, were growing close together. The waterfall near Eas Fos also in NM4.4

attracted a small group, who recorded *Rubus nemoralis* and *R. polyanthemus*, two of the few brambles known from Mull. *Atriplex praecox* (Early Orache) was found near the waterfall but the best finds were *Pyrola media* (Intermediate Wintergreen), only previously known from two areas near Tobermory, and *Pseudorchis albida* (Small-white Orchid), which has a scattered distribution but is rare. A more energetic group set off into the challenging hills southeast of Ben More in NM5.3, and treated themselves to the delights of Coladoir Bog in the same tetrad at the end of the day, where they saw *Rhynchospora fusca* (Brown Beak-sedge) in flower, only recorded from there in the last 10 years. Other species of note on the hills themselves were *Salix herbacea* (Least Willow), *Diphysastrum alpinum* (Alpine Clubmoss), *Lycopodium clavatum* (Stag's-horn Clubmoss), and *Luzula spicata* (Spiked Woodrush).

The final evening was spent having a convivial dinner in the garden of the rented cottage at Aros Mains, admiring the *P. chlorantha* and *Dactylorhiza purpurella* (Northern Marsh-orchid) on the front lawn, whilst watching the sunset.

## Cleeve Common, E. Gloucestershire (v.c. 33) 15<sup>th</sup> July

CLARE & MARK KITCHEN

Cleeve Common is one of the most extensive areas of limestone grassland in the Cotswolds and is of importance for its botany, geology and for its geophysical features.

It was a particularly hot day in what was to prove to be a long hot summer. *Astragalus danicus* (Purple Milk-vetch) was found to all be in fruit and was remarkably difficult to locate despite its large fruiting head. It was surrounded by *Asperula cynanchica* (Squinancywort) with its delicate pale pink flowers. The cliffs of a disused quarry at the edge of the Common were extensively colonised by *Nepeta x faasenii* (Garden Catmint) a species seldom encountered in the wild.

Next we traversed along the base of a series of cliffs formed when the stone was taken for the building of Regency Cheltenham. In places the rock had broken down to scree and one scree patch held a colony of *Gymnocarpium robertianum* (Limestone Fern) and many plants of the rare arable weed *Galeopsis angustifolia* (Red Hemp-nettle), whilst further along at the cliff base was a colony of *Marrubium vulgare* (White Horehound). Although not unusual in the Forest of Dean across the River Severn, *Marrubium* is rare in the Cotswolds. It was used traditionally to alleviate chest complaints and

bronchitis and it is possible that it was brought to Cleeve by quarrymen and miners suffering from problems caused by the dust.

Climbing onwards and upwards towards Gloucestershire's highest point, a few plants of *Cynoglossum officinale* (Hound's-tongue) were noted by a broken-down dry-stone wall whilst a relatively recently created dew pond was found to be choked up with *Lagarosiphon major* (Curly Waterweed). On gaining the top of the hill, the party came across a large area of acidic heath land which indicated that we had passed from the limestone onto the Cotswold Sands. Here notable species included *Calluna vulgaris* (Heather), *Galium saxatile* (Heath Bedstraw) and *Potentilla erecta* (Tormentil). This vegetation was much more lush in a large enclosure demonstrating the effects that rabbits had on keeping the turf short on the rest of the Common.

Descending through Watery Bottom, a marshy area below a spring proved to be of interest with *Blasmus compressus* (Flat-sedge) and *Ranunculus hederaceus* (Ivy-leaved Crowfoot) and *Isolepis setacea* (Bristle Club-rush). A little further downstream *Catabrosa aquatica* (Whorl-grass) was found, near the sheep-dip, in some quantity.

Passing further down the steep-sided valley, thoroughly pock-marked by extensive quarrying and covered with scree slopes derived from spoil tips, great stands of *Gymnocarpium robertianum* (Limestone Fern) were observed. The short turf between these areas contained a number of flowering spikes of *Herminium monorchis* (Musk Orchid) which was having one of its better flowering years. However, a search for *Antennaria dioica* (Mountain Everlasting) proved fruitless. Although having

been recorded in the previous year this species is very elusive on the Common. It is often searched for but seldom found, with up to 70 years between successive records at this site.

We briefly left the Common to walk along the old Cheltenham – Winchcombe Road, now little more than a dirt track, where a small number of *Rosa pimpinellifolia* (Burnet Rose) bushes grow and having located these we returned to our starting point.

## Grasses, Sedges & Rushes Training Day, Borrowdale, Cumbria (v.c. 70), 22<sup>nd</sup> July

PETER OWEN

This weekend training session and field meeting was led by Clare and John O'Reilly. Saturday 22<sup>nd</sup> was a joint BSBI/WFS grasses, sedges and rushes training session for beginners. The course attracted participants from a wide age-range and an equally wide range of botanical experience.

The morning session took place at the wet grassland at Canon Dub near the head of Derwent Water. Our tutors introduced the morning session with a discussion about the differences between the grass, sedge and rush families. The key characters used for identification were also discussed and explained. The tutors' clear explanations were backed up by a number of well-presented worksheets summarising the key points. We then set to work keying out sedges using Stace. During the morning session we examined a variety of sedges including *Carex rostrata* (Bottle Sedge), *C. vesicaria* (Bladder Sedge), *C. ovalis* (Oval Sedge) and *C. nigra* (Common Sedge). We also looked at rushes during the morning session and examined *Juncus tenuis* (Slender Rush) and *J. effusus* (Soft-rush). Before lunch we looked for and found the delicate *Juncus filiformis* (Thread Rush).

After a pleasant lunch admiring the scenery of Borrowdale we sought some welcome shade in woodland close to Bowder Stone car park. This gave us an opportunity to look at the commoner species associated with woodlands and also to study a species-rich flush in a clearing. We reviewed the structure of grasses with more excellent worksheets and practised keying out grasses using Hubbard. Both tutors incorporated short periods of revision into the sessions helping the participants to consolidate their knowledge of the plants seen. We keyed out *Agrostis capillaris* (Common Bent), *Molinia caerulea* (Purple Moor-grass), *Danthonia decumbens* (Heath Moor-grass) and *Deschampsia flexuosa* (Wavy Hair-

grass). Close inspection of the wet flush revealed rushes not studied in the morning; *Juncus acutiflorus* (Sharp-flowered Rush) and *J. articulatus* (Jointed Rush) were compared. We also saw *Carex echinata* (Star Sedge), *C. pulicaris* (Flea Sedge) and *Rhynchospora alba* (White Beak-sedge). Other plants seen and compared were *Festuca ovina* (Sheep's-fescue) and *F. rubra* (Red Fescue). *Cynosurus cristatus* (Crested Dog's-tail), *Nardus stricta* (Mat-grass) and *Anthoxanthum odoratum* (Sweet Vernal-grass) were also studied. Also seen were *Carex viridula* (Yellow-sedge), *C. hostiana* (Tawny Sedge), *Juncus bulbosus* (Bulbous Rush), *Eriophorum angustifolium* (Common Cotton-grass) and *Trichophorum cespitosum* (Deergrass).

Members of the WFS ended the day with an extra excursion to some nearby woodland to look for *Circaea alpina* (Alpine Enchanter's-nightshade), *C. lutetiana* (Enchanter's-nightshade) and their hybrid *C. ×intermedia* (Upland Enchanter's-nightshade). Whilst heading towards the grid-reference for *C. alpina* we saw *Festuca altissima* (Wood Fescue) gracing a rocky woodland stream. After much searching and close study of a number of *Circaea* populations we eventually found *Circaea alpina* under bracken and the more common hybrid *C. ×intermedia* close by.

This course proved to be an excellent introduction to grasses, sedges, rushes. The course materials and the tutors' explanations were well suited to meeting the objectives of the course. Moreover, the tutors' patience and great enthusiasm helped everyone further their knowledge and appreciation of the plants of this very beautiful part of northern England. It was also pleasing that the organisers had made the course accessible to those travelling by public transport and had encouraged the use of car-sharing.

## Llyn Gwngu, Cards. (v.c. 46), 5<sup>th</sup> August

ARTHUR CHATER

Ten members (including two stalwarts who came for the day from Somerset and Devon) and friends met at the county boundary on the mountain road east of Cwmystwyth for an arduous two-hour walk to this remote and rarely visited upland lake. It was mostly through monotonous, dense *Molinia* tussocks, made worse for walkers in the last few years by a reduction in the numbers of sheep, but on a welcome stretch of eroding blanket bog on top of Banc Cerrig-fendigaid we saw numerous plants of *Andromeda polifolia* (Bog Rosemary), recently elected by Plantlife as Cardiganshire's county flower. The lake, grandly sited in a wide hollow in the hills at 435m altitude, has a very peaty substrate, and except for a part of the east margin where *Littorella uniflora* (Shoreweed) was abundant, has no sloping or gravelly shore. The marginal swamp elsewhere had extensive stands of *Carex rostrata* (Bottle Sedge), *C. lasiocarpa* (Slender Sedge), *Phragmites australis* (Common Reed) and *Equisetum fluviale* (Water Horsetail), with a small amount of *Utricularia minor* (Lesser Bladderwort) and a great abundance of *Eleogiton fluitans* (Floating Club-rush) spreading out into the open water. *Nuphar lutea* (Yellow Water-lily) was in flower, and *Potamogeton natans* (Broad-leaved Pondweed) was the other main floating species. Roger Maskew recorded nine species of dragonfly, and Richard Birch saw a Water Vole and

demonstrated its giveaway signs and effects on the vegetation to us. We wondered too what the effects on the vegetation may have been of the flocks of geese that were driven here from Cwmystwyth, 5km away, for summer grazing a century or more ago, as related in Erwyd Howells's recent book *Good Men and True*.

Flushes on the slope west of the lake had *Galium uliginosum* (Fen Bedstraw), its only other site in the county being in the lowlands in calcareous fen near Cardigan, *Carex hostiana* (Tawny Sedge) and its hybrid *C. ×fulva*, *Euphrasia scottica* (Scottish Eyebright), *Linum catharticum* (Fairy Flax), *Scutellaria minor* (Lesser Skullcap) and *Triglochin palustre* (Marsh Arrowgrass). On the walk back we examined the cleistogamous inflorescences of *Danthonia decumbens* (Heath-grass) with ant-attracting elaiosomes on the paleas, and the strange cleistogenes or specialised cleistogamous spikelets concealed in the sheaths at the base of the culms. On a flushed slope by the Nant Cerrig-fendigaid *Wahlenbergia hederacea* (Ivy-leaved Bellflower) was abundant, along with more *Euphrasia scottica*. Those of us with energy and time remaining ventured onto the extensive and partly eroding bog of Gors Lwyd and were rewarded by spectacular sheets of *Rhynchospora alba* (White Beak-sedge), unprecedented in the county and perhaps encouraged into such prolific growth and flowering by the recent drought.

## Lossie Forest, Moray (v.c. 95) 2<sup>nd</sup> – 3<sup>rd</sup> September

JACKIE MUSCOTT

Some 20 people gathered for the last British field meeting of the season, led by Ian Green. The Moray Firth has a good reputation for fine late summer weather and we were not disappointed – we had 2 days of warm sunshine, give or take the odd heavy shower.

Lossie Forest covers a considerable area between Lossiemouth and Spey Bay, much of it on old sand dunes, bordered on the seaward side by large shingle banks, which are still accumulating. Near Kingston at the eastern end there are dune slacks between the shingle and the forest, and this is where we started our explorations. The vegetation here included grassland, maritime and heathland plants with wetland species in the damp hollows. Highlights included *Anthyllis vulneraria* (Kidney Vetch), larval food plant for the rare Small Blue butterfly which flies here in

June, *Leontodon saxatilis* (Lesser Hawkbit) and quantities of *Gentianella campestris* (Field Gentian). *Anagallis minima* (Chaffweed) and *Filago minima* (Small Cudweed) were found in well-trodden areas, with plenty of *Schoenus nigricans* (Black Bog-rush) in damp patches and a small amount of *Carex maritima* (Curved Sedge) in a wet hollow. The Scotch Argus butterfly, (food plant *Molinia caerulea* (Purple Moor-grass)) and the immigrant Red Admiral were both on the wing.

At this end of the beach there is a considerable amount of shingle behind the first ribbon of trees, but the Ministry of Defence has cut through both shingle and trees at one point to create a firing range, and this too proved of interest. *Viola tricolor* ssp. *tricolor* (Wild Pansy), *Lepidium heterophyllum* (Smith's Pepperwort) and the

beautiful sky-blue *Jasione montana* (Sheep's-bit) were all to be found on a sandbank at the back of the range, while the short turf was dotted with the tiny yellow flowers of *Hypochaeris glabra* (Smooth Cat's-ear) along with *Teesdalia nudicaulis* (Shepherd's Cress), *Ornithopus perpusillus* (Bird's-foot) and a few plants of *Filago vulgaris* (Common Cudweed). There were also Field Mushrooms (*Agaricus* sp.) and bright yellow Wax Caps (*Hygrocybe* spp.) in the grass.

We had lunch on the range and then it was 'into the woods' dominated by Pines and rich in mosses and fungi as well as interesting plants, including typical pinewood species such as *Tridentalis europaea* (Chickweed Wintergreen), *Goodyera repens* (Creeping Lady's-tresses) and *Pyrola minor* (Common Wintergreen). In one wet area a single splendid plant of *Osmunda regalis* (Royal Fern) was growing with *Carex paniculata* (Greater Tussock-sedge), while in another *C. diandra* (Lesser Tussock-sedge) was growing with *C. curta* (White Sedge) and *Eleocharis multicaulis* (Many-stalked Spike-rush). Perhaps the most interesting fungus was the grey, wrinkled, *Helvella lacunosa* related to the Morels.

We ended the afternoon by driving to another part of the wood to see quantities of *Apium inundatum* (Lesser Marshwort) in a dried-up pond and *Eleogeton fluitans* (Floating Club-rush) growing vertically in damp grass instead of floating on water; I suspect few of us would have noticed it let alone recognised it in this curious situation. At this point, however, a heavy shower terminated activities for the day, and perhaps helped to provide both plants with more suitable conditions.

On the following day we investigated the west end of the forest closer to Lossiemouth. Our first stop was a pond, to view *Lemna trisulca* (Ivy-leaved Duckweed) at its most northerly British site, along with one of those nasty grass-like Pondweeds (later identified as *Potamogeton berchtoldii* (Small Pondweed). Both *Sparganium erectum* and *S. emersum* (Branched and Unbranched Bur-reed) were growing in the pond and *Kniphofia praecox* (Greater Red-hot-poker) formed a surprising component of the pond-side vegetation. Pairs of Highland Darter Dragonflies

were busy laying on the pond. The Highland Darter is very close to, perhaps identical with, the Southern Darter which is currently moving north and will perhaps soon meet up with its close northern relative.

Further into the wood a small patch of *Schoenoplectus tabernaemontani* (Grey Club-rush) was just hanging on in a damp patch with a little *Juncus gerardii* (Saltmarsh Rush); then we were into a clearing where motor-cyclists are apparently being trained and where *Centaurium erythraea* (Common Centaury) and *Gnaphalium sylvaticum* (Heath Cudweed) were both in flower.

We emerged onto the beach amid a splendid patch of *Ligusticum scoticum* (Scots Lovage) and quite the most vertical plant of *Astragalus danicus* (Purple Milk-vetch) I have ever seen, struggling to get its head above the surrounding vegetation. Here we had lunch among the sand dunes that begin to replace the shingle as one approaches Lossiemouth, and were surprised to find ourselves sitting near plants of *Huperzia selago* (Fir Clubmoss) growing in sand at sea level. We walked along the sand for some distance before returning to the forest, and one of the party, Ian Evans, was able to identify non-flowering *Elytrigia juncea* (Sand Couch) by its gall, caused by a fly, *Tetramesa hyalipensis*.

Butterflies were again in evidence – Common Blue (whose food plant *Lotus corniculatus* (Bird's-foot-trefoil) was abundant), Scotch Argus, a Small Copper (food plant Sorrels) and several Whites. The woodland fungi included colourful Russulas, Boletes and milking *Lactarius* spp. and another member of the party) Rosemary Smith, departed with a lunch-box full of them – for identification, not eating, though some were indeed edible.

The visit ended with a trip down an old railway line (where yet more Highland Darters were sunning themselves) to see the nearest specimen of the rare *Corynephorus canescens* (Grey Hair-grass). It was well over, but the tufts of fine grass could easily be recognised by the blue colouration of the lower stems (they otherwise look rather like Fescue tufts). Ian assured us it was plentiful on the dunes close to Lossiemouth – which a couple of us afterwards verified.

A most enjoyable end to the field season.

## BOOK NOTES

DAVID PEARMAN, *Algiers, Feock, Truro, Cornwall, TR3 6RA*; Tel: 01872 863388; dpearman4@aol.com

I am sorry, but I have had no time this autumn after my exertions last time. Sue Atkins has again kindly agreed to let me use her notes, and I reproduce those as given.

*Botany Illustrated: Introduction to Plants, Major Groups, Flowering Plant Families.* Glimm-Lacy, J, and Kaufman, P B. 2<sup>nd</sup> edition, Springer 2006. 146pp, drawings. Pbk £19.95. Clear drawings illustrate plant structure, major groups, and a selection of flowering plant families; descriptions are opposite the illustrations, and the reader is encouraged to become familiar with botanical structures by colouring in the plant pictures using the 'color code' provided.

*Orchids of Europe, N Africa and the Middle East.* Delforge, Pierre. A&C Black, 2006. 640pp. 1,270 colour photographs. Hbk £29.99. The new edition, in English, of this comprehensive guide is now in stock. With descriptions of over 520 species, and notes on subspecies and varieties, this fully revised and substantially enlarged edition provides the fullest reference for the identification of European orchid species.

*Irish Wild Plants – Myths, Legends & Folklore.* Mac Coitir, Niall. The Collins Press, 2006. 376pp. 36 col. Plates, line drawings. Hbk £18.99.

An attractively illustrated and well-presented account of the folklore of Irish flowers, with much reference to Celtic legend, traditional and medicinal uses and superstition. Gaelic, local Irish, English and Latin names are given, as also the species' associated star signs. The book is nicely illustrated, with watercolours by Grania Langrishe and black-and white drawings taken from Sowerby's English Botany.

*Plants – Evolution and Diversity.* Ingrouille, M J, and Eddie, B. CUP, 2006. 440pp, colour photos, drawings. Pbk £29.99.

Well-illustrated look at the array of form and habitat in the plant kingdom, and the ways in which our lives are inextricably linked with this fascinating world. Includes: the origin of photosynthetic organisms; growth and differentiation; interaction with the environment; reproduction and dispersal; phylogeny; adaptation to habitat; plant uses; history of botanical study.

In addition I have had notice of the following, with the publisher's note:

*Nature Conservation: Concepts and Practice.* Dan Gafta & John R. Akeroyd (eds). Springer, 2006, pp.460, with photographs, figures and tables. €159.95, £123.00.

This book, which includes 42 papers by 86 contributors from 13 countries, provides a multi-disciplinary coverage of the broad field of species, community and landscape conservation. The wide panel of contributors, who include botanists, zoologists, ecologists, architects, lawyers and journalists, consider a range of topics in vegetation and biodiversity assessment, planning and management of conservation zones and protected areas, together with historical and social/legal issues of the environment and nature conservation. The case-studies reported emphasize the importance of traditional phytosociological, floristic and faunistic research, in combination with cutting edge molecular biology and genetics. The book celebrates the life's work of Professor Franco Pedrotti, who has done so much to propagate a holistic view of conservation.

## Book Reviews Editor wanted

MARTIN SANFORD, Receiving Editor, *Watsonia*, SBRC, Ipswich Museum, High Street, Ipswich, Suffolk, IP1 3QH, Tel: 01473 433547

We are looking for a new Book Reviews editor for *Watsonia*. The post is not too demanding and would suit a bibliophile with good contacts in the botanical world. It mainly consists of receiving new books, passing them on to appropriate reviewers and collating the reviews in a standard format suitable for the journal. It may sometimes require a little chasing to extract the promised review from some authors! You may

also need to request review copies of books that should be covered in *Watsonia* from publishers who do not always supply them automatically. You have the advantage of seeing new books as they appear and may even choose to review some yourself. If you wish to discuss the work further please contact me or one of the previous incumbents (David Pearman or Chris Preston).



## Wild Flower Key 2<sup>nd</sup> Edition: corrigenda and addenda, Jan. 2007

CLARE O'REILLY, 3 Station Cottages, Lambley, Northumberland, CA8 7LL

Details of important corrections to the *Wild Flower Key* are set out below, **in addition to** corrections appearing in *BSBI News* 102: 71. Many of these are corrections to the original edition. The publishers have now agreed to make corrections on a forthcoming reprint, due in 2007. **Apologies:** to those whose contributions to the book were edited and the result not sent to them for checking – as already explained to them individually and in my note in *BSBI News* 102, in line with modern digital publishing procedures allowing even major changes at the last minute, this checking had been agreed to take place alongside proof-reading; in fact neither were permitted in order to meet the publishing deadline.

### Acknowledgements:

Many thanks to Mary Smith, for proof reading the entire text, and to all of those who have sent corrections – keep them coming as together we can make the book even better for beginners.

### p7 Illustrations Acknowledgements

*BSBI Water-starworts Handbook* – replace with *Water-starworts of Europe*

Add text: copyright BSBI

p13 para 4

2 Petals 5 – lvs alt .... – delete 2

p24 couplet 6 line 5

yellow or white fls – replace with coloured

p46 couplet 3 line 3

stamens ~~ff~~ 10 – replace with <

p47 para 3 line 9

(~~IV~~) – replace with V

p50 Master Key couplet 3 line 5

Insert 4 at end of line

p109 Table 2

Add text: There is no reliable character to distinguish *Ranunculus penicillatus* ssp *pseudofluitans* from ssp *penicillatus* when both lack laminar lvs.

p118 I line 3

~~three~~-seeded – replace with 2-3

p118 K line 1

like E – replace with J

p135 ID Tips Oraches bullet 3

~~causal~~ introd spp – replace with casual

p156 C.1

~~fl~~-stalks shorter than ~~sepals~~ – replace with fr-stalks shorter than fr

p158 A line 6

gd by ~~pounds~~ – replace with ponds

p163 couplet 11

*Persicaria amphibia* (p168 F) – replace with H

p163 couplet 12

*P. vivipara* (p168 E) – replace with G

*P. bistorta* (p168 D) – replace with F

p163 couplet 16

*P. lapathifolia* (p168 B) – replace with D

*P. maculosa* (p168 A) – replace with C

p163 couplet 17

*P. hydropiper* (p168 H) – replace with A

*P. minor* (p168 C) – replace with E

*P. mitis* (p168 I) – replace with J

p164 I line 5

habitat as for I – replace with H

p185 *Viola* key couplet 5 line 1

(vr, ~~Teesdale~~) – replace with N Eng

p186 A.1 line 4

N Eng: vr on limestone ~~rocks in Teesdale~~ – replace with gsls

p198 couplet 5 line 1

*Arabis petraea* (p21 A.1) – replace with p212

p226 F.1 line 1

*Phyllodoce ~~aeerulea~~* – replace with *caerulea*

p242 couplet 7

*S. stellaris* (p244 G.1)

Line 2 – replace 9 with 8

p242 couplet 8 line 2

Replace 8 with 9

p242 couplet 9 line 2

Add text: lf-stalk ~~hairy~~ or hairless

p246 couplet 7 line 2

Insert 11 at end of line

p249 D line 3

as in B – replace with A

p252 L line 4

Add text: panicle of pink fls (~~La~~)

p253 ID Tips line 3

lvs or fr-stalks – replace with hip to read hip-stalk

p253 couplet 6 lines 1 & 4; p254 couplet 9 lines 1 & 3;

p254 couplet 10 lines 1 & 3; p254 couplet 13 lines 1

& 2; p254 couplet 14 lines 1 & 2; p254 couplet 15

lines 1 & 3; and p254 couplet 16 lines 1 & 3

fr-stalks – replace with hip, to read hip-stalks

p253 couplet 8 line 2

Delete text: with an ~~unpleasant~~ resinous scent

p254 couplet 10 line 3

shrub with ~~winding~~ stems – replace with flexuous

p256 B line 5

segments than in 379 and 381 – replace with A and C

p258 couplet 1 line 3

fls ~~yellow (rarely white)~~ – replace with coloured or white

Line 4: replace 5 with 4

p264 C line 2

8-20 pairs of ~~larger~~ lfts – replace with smaller

p265 illustration ~~Ba~~ – replace with Bb

Insert Ba beside illustration of lower leaf

p267 couplet 14 line 1

(p286 F) – replace with p284

p268 E line 3

Delete text: bracteoles (~~Ea~~)

p268 F line 4

Delete text: bracteoles (~~Fa~~)

p270 para 3 line 2

Delete text: solitary in lf-axils, pink ~~or yellow~~  
p277 illustration D

Insert Da next to illustration of fruit-head

p278 B line 3

only 4-6 together – replace with 3-6

p280 couplet 7 line 2

(p284 D) – replace with p282

p292 A line 8

Delete text: (~~actually 3 lfs and 2 stipules~~)

p300 A line 2

Add text: lvs opp, oval, truncate-rounded

p310 E line 8

Replace ~~scattered~~ with scattered

p312 A line 2

Add text: lvs alt or ± opp

p317 C line 2

Add text: fls in umbel-like cymes

p325 ID Tips Umbellifers line 7

Add text: **Sanicle** (*Sanicula europaea*)

p342 B line 1

Rather bushy ~~per~~ – replace with ann or bi

p342 E line 2

Add text: stems usually slightly hollow or solid

p344 E line 4

Add text: like parasols, on often hairy stalks

p359 couplet 9 line 4

Add text: shiny like porcelain or grey-brown

p359 couplet 9 line 1

Delete text: ~~lowest lvs long-stalked~~

p359 couplet 9 line 3

Delete text: ~~lowest lvs scarcely stalked~~

p360 B line 4

fr-stalks 3-5 times – replace with 2 ½ - 5

p364 H.1 line 2

10-20 cm in 802 – replace with H

p367 couplet 12 line 3

(p376 F) – replace with E

p368 couplet 13 line 6

(p376 E) – replace with F

p371 illustration D – re-label E

illustration E – re-label D

p390 C line 2

Add text: lanceolate lvs minutely hairy 1<sup>st</sup> year twigs

p390 C.1 line 2

Add text: has oval lvs; hairless 1<sup>st</sup> year twigs

p394 A line 2

Add text: but ± without (or < 1 mm) wings

p394 B line 3

staminode rounded as in F – replace with C

p402 D line 2

lower lips as in 746 – replace with B

p428 D line 4

Add text: pale mauve to blue

p436 couplet 9 line 2

p440-1 – replace with 440-2

p446 F

Insert upwards pointing triangle to left of text  
(illustration for this species on previous plate)

p448 G line 5

habitat as for 944 – replace with F

p453 B line 3

fewer than in 920 – replace with A

p454 couplet 6 line 1

oil glands ( Aa below) – replace with B

p454 couplet 6 line 3

oil glands ( B below) replace with Aa

p455 E.1 line 3

Delete text: Br Isles, ~~± in wa~~, r; on ar ....

p459 A line 1

50-30 cm – delete 0

p468 D.1 line 4

narrow as in 950 – replace with D

p489 couplet 12 line 2

(p492 E) – replace with D

p493 I line 1

with a leaf sheath structure like H – replace with stipule

p495 illustration on left – add label B and scale bar

5mm long

p505 B line 4

Add text: habitat as A. Fl 5-6.

p510 B line 5

to perianth-lobes – replace with segments

middle of the lobe – replace with segment

p513 couplet 1 line 2

Add text: fls various colours

p515 E.1 line 3

Add text: Cornwall, IoS, NW Ire only, vlf;

p532 B line 5

Add text: Fls many, usually more than 15 ...

p536 D line 1

usually ~~less tall~~ – replace with taller

p546 A line 6

Scot abs – replace with one site only

p546 D line 4

Delete text: (but fading ~~to~~ when older)

p562 Index to Keys

Roadsides 82 – replace with 83

p562 ID Tips

Add text: Orchids 522

p562 Keys to Genera

~~Stoneworts~~ and pigmyweeds – replace with  
Stoneworts

## Good homes needed for various BSBI journals

PATRICIA A. LOCKWOOD, 13 Stanley Road, Formby, Liverpool, Merseyside L37 7AN

The following journals are offered.

*Proceedings of the BSBI*: September 1960 to  
May 1969 inclusive

*BSBI News*: Vol. 1, No. 1 January 1972 to  
September 2003

*Watsonia*: Vol. 1 part 4 January 1950 to Febru-  
ary 2005

*BSBI Welsh Bulletin*: Volume 26 February 1977  
to winter 2003

Botanical Society and Exchange Club of the  
British Isles, Volume 12 part 6. Report for  
1943-44

Free to anyone who can collect or pay carriage.

## Request for BSBI Journals

MATT MURPHY, *Director, Sherkin Island Marine Station, Sherkin Island, Co. Cork, Ireland*  
Tel: +353+28+20187 Fax: +353+28+20407

I have *BSBI News* Nos: 38-49, 51-57, 71-80, 82-87, 91-97, 100, 101,

*BSBI Abstracts*: 8-20, 26-27.

*BSBI Year Book*: 1991, 1996, 1998-2001, 2003-6.

I would like to have the full set of all the above journals. If anyone could help me fill in the gaps I would be very grateful.

## OBITUARY NOTES

MARY BRIGGS, *Hon. Obituaries Editor, 9 Arun Prospect, Pulborough, West Sussex, RG20 1AL*

With regret we report the death of Vera Gordon, a member since 1950 who was elected as an Honorary Member in 2005. Many members had the pleasure of Vera's cheerful companionship, sharing both her wide and reliable botanical knowledge and her lively personality.

Vera was Recorder for v.c. 59 (S. Lancs) for 36 years, from 1959 to 1995. John Edmondson writes:

'She was, as you know, one of the principal amateur botanists in N.W. England and a long term Vice-county recorder. Her overseas collections, made on holidays to far-

flung places, were also numerous – a quick search of our database came up with 4,421 records (and that's just the Phanerogams).'

We also report with regret the deaths of the following members notified since September 2006 (year of joining in parentheses): Mrs M Cowling of Marlow (1953); Mr R A Finch of Cambridge (1965); Mrs P Gregory of Birmingham (1977); Mr S N Griffiths of Brough (2002); Mr A S Lewis of Swansea (1999); Dr J Proctor of Burnley (2005) and Mrs R Ryan of Guernsey (1999).

All the above will be sadly missed.

## ARCHIVIST NOTES

MARY BRIGGS, *Hon. Obituaries Editor, 9 Arun Prospect, Pulborough, West Sussex, RG20 1AL*

### BSBI Conference Reports

The Society is currently missing a number of the Reports of past BSBI Conferences.

The missing volumes are:

No. 12. Valentine, D.H., ed. (1972). *Taxonomy and phytogeography of plants in relation to evolution*. Academic Press, London.

No. 13. Green, P.S., ed. (1972). *Plants wild and cultivated*. E.W. Classey, London.

No. 16. Richards, A.J., ed. *The pollination of flowers by insects*. Academic Press, London.

No. 19. Jones, M., ed. (1988). *Archaeology and the flora of the British Isles*. Oxford University Committee for Archaeology.

No. 20. Noltie, H.J., ed. (1986). *The long tradition: an exploration of a flora*. Scottish Natural History Society, Edinburgh.

No. 23. Colston, A. & Perring, F.H., eds. (1995). *Insects, plants and set-aside*. BSBI, London.

If any member has a spare copy of any of these missing reports the Society would be delighted to hear from you. Please send a card to me letting me know of the availability or, if easier for you, email the General Editor of [rgellis@ntlworld.com](mailto:rgellis@ntlworld.com). You will then hear from us.

The BSBI Archives, including the series of Conference Reports, are housed in the British Herbarium at the Natural History Museum, London, where they are available to BSBI members for reference.

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## RECORDERS AND RECORDING

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### Panel of Referees and Specialists

MARY CLARE SHEAHAN, 61 Westmoreland Road, Barnes, London SW13 9RZ;  
mc\_sheahan@hotmail.com

As usual there are a number of alterations to the list: Philip Nethercott (*Sorbus*) 1966 and Keith Ferguson (*Salicornia*) have both said they would like to retire; they both began as referee 40 years ago, and they are much thanked for their contribution over the years. We are very glad to report that Tim Rich has offered to take on *Sorbus*, and also *Brassicaceae* and *Gentianella*.

The new beginners' referees are starting this year. They have provided detailed instructions

in the *Year Book*, and we look forward to hearing how they get on.

There are several address changes in the list, so please make sure you use the addresses in the 2007 *Year Book*. It would be useful if referees whose email addresses aren't already in the list could send them to me them for inclusion.

Referees are reminded that the BSBI is anxious to receive records of their expert determinations and confirmations; they should be sent to the BSBI Coordinator, Alex Lockton.

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### Panel of Vice-county recorders

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

Recent Changes since September *News*. These will all be reflected in the 2007 *Year Book*, but are reproduced here for ease of reference.

#### Changes of Recorders

**V.c. 6 (N Somerset).** Helena Crouch to become joint recorder; all correspondence to Mr R.D. Randall. Ian Green recorder since 1993, steps down.

**V.c. 21 (Middlesex).** Dr Mark Spencer to become recorder. Rodney Burton, recorder since 1998, to retire.

**V.c. 62 (NE Yorkshire).** Mr Vince Jones and Mr Mike Yates to become joint recorders. Tom Medd retires after service here and in v.c. 65 dating back to 1975.

**V.c. 66 (Co. Durham).** John Durkin to become recorder. Gavin Hardy retires.

**V.c. 67 (S Northumberland).** John Richards to become joint recorder. Prof. George Swan to

retire from this half of Northumberland, where he has been recorder since 1961.!

**V.c. 68 (N Northumberland).** Mr Chris Methrell to be joint recorder; all correspondence, as before, to Prof. George Swan.

**V.c. H09 (Clare).** Dr Sharron Parr & Dr Stephen Ward to become joint recorders. Fiona Devery to transfer to Co. Offaly.

**V.c. H18 (Offaly).** Fiona Devery to become recorder. Mrs Aideen Austen to retire after 10 years in the post.

As ever, I would like to thank all those retiring for their often mighty efforts over so many projects over so many years.

#### Changes of Address

**V.c. 50 (Denbs).** Mrs J.A. Green has moved to 3 Karen Court, Denbigh, LL16 4RB.  
j.green456@btinternet.com

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### Scottish Vice-county recorder vacancies

JIM MCINTOSH, BSBI Scottish Officer, c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR; Tel: 0131 2482894; j.mcintosh@rbge.ac.uk

#### West Perthshire – V.c. 87

The old county of Perthshire is divided into three vice-counties, West, Mid and East Perthshire. West Perthshire is bounded by the River Forth to the south, and the Forth-Tay watershed to the north and includes Clackmannanshire. It is a remarkably diverse vice-county, with the flat and fertile Carse of Stirling to the south,

rising to more mountainous terrain to the north – including ten mountains over 3,000 feet.

It is important for its lowland raised bogs, and includes Flanders Moss, the largest remaining in Britain, its semi-natural oak woodland, and its river systems and associated riparian habitats. Particularly notable species in the vice-county include *Elatine hydropiper*, *Lychnis viscaria* and *Pilularia globulifera*. Whilst the montane

habitats hold fringe populations of several Breadalbane rarities, such as *Bartsia alpina*, *Veronica fruticans* and *Woodsia alpina*.

The present Vice-county Recorder, Neale Taylor, has tendered his resignation, for personal reasons, and we would like to thank him for his work during his term.

#### **Dunbarton – V.c. 99**

The vice-county of Dunbarton, to the west of Glasgow, is rich and varied. Despite being the third smallest Scottish vice-county, it has the sixth highest number of species listed in the *Vice-County Census Catalogue* in Scotland. It straddles the highland boundary fault, with low and fertile ground to the south, and more mountainous terrain to the north, culminating in Ben Vane and Ben Vorlich – its highest point at 941m. It includes Loch Lomond, Britain's largest freshwater lake, and much of the Loch Lomond and the Trossachs National Park.

Its western boundary is formed by Loch Long and the Clyde estuary, whilst its eastern boundary is Loch Lomond. Apart from Loch Lomond, and its islands, its key natural features are its extensive Atlantic oakwoods, the River Leven and the Clyde Estuary. It holds important populations of *Callitriche palustris*, *Carex elongata*, and *Rumex aquaticus*.

Alison Rutherford has been vice-county Recorder since 1987, and has given notice that she would like to retire. The BSBI is very

grateful for her invaluable contribution over the past 19 years.

We are looking for one (or more) keen and physically fit botanists to take over in each of the two vice-counties, either singly or in partnership. Working in partnership has many advantages such as mutual support, splitting the workload, etc. Living in or near the vice-county can be an advantage, but is not essential – some VCRs live remotely and operate very successfully. But you would have to be able to spend time in the vice-county each year.

The principal VCR task is, of course, the collection, validation and maintenance of vascular plant records in the vice-county on behalf of the BSBI. Being a reasonable competent botanist is important, but knowing one's limits is even more important. No one can be an expert in all aspects of a county's flora and our referees are on hand to support and help VCRs. BSBI staff, and neighbouring and retiring VCRs will be happy to provide general advice and support. Competency with computers, particularly e-mail, the internet and MapMate, would be highly desirable (although some training can be provided).

For full details of what a vice-county Recorder's job entails, or if you are interested in either vacancy, please contact me, Jim McIntosh, by e-mail or post at the addresses above.

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## **NOTES FROM THE OFFICERS**

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### **From the Hon. General Secretary – David Pearman**

*Algiers, Feock, Truro, Cornwall, TR3 6RA; Tel: 01872 863388; DPearman4@aol.com*

#### **'Director' post**

The exercise referred to in the last two *News* has been completed and approved by Executive and Council. It metamorphosed into a Review of what the BSBI really wanted to do, especially in the recording field, and I append the summary below. It probably sounds dull to most of you – it certainly did to me when I had to struggle to write it in blissfully warm May and June! But after the President had taken my efforts in hand and produced a much better focus, we all felt enthusiastic again. The focus for the first year or so will be the building up of the proposed Plant Unit.

We advertised the job – under the new title of Head of Research & Development, which we felt better reflected what we are after – in mid-December, with interviews to take place at the end of January.

The full review is available from me to any interested member as a Word file and the 'Executive summary' is given on the next page.

#### **Publications**

I apologise to those who have sent off for the new Sedge Handbook. Illness to two of the authors has meant an unexpected delay. We cannot see the book out before late spring.

#### **Website**

I appreciate that not all members have computers or access to them, but please try and see our website ([bsbi.org.uk](http://bsbi.org.uk)) sometime. On the rare occasions that I find time to look, I am amazed at the amount Alex Lockton and his contributors have put up there, with access to all sorts of interesting information and now, of course, to Quentin Groom's Reticule website too.

## EXECUTIVE SUMMARY – ‘DIRECTOR’ POST

An introduction to the BSBI is provided (ch.2), describing its aims, the way it is organised, its volunteer skills base, its achievements to date and the challenges it faces in the future. The latter demand that the Society:-

- Strengthen its capacity to develop and carry out an ongoing programme of field survey, monitoring and botanical research.
- Develop, with partners, its capacity to manage, interpret and disseminate botanical data and information.
- Develop its activities, in collaboration with partners, in botanical education, training and outreach.
- Develop its administrative infrastructure, including an ability to seek the necessary funding, in order to achieve its aims.

These challenges are discussed under four main headings: science strategy (ch.3), data holdings (ch.4), volunteer support (ch.5) and BSBI Plant Unit (ch.6). The main thrust of the review is to make a case for establishing formally a professional wing of the BSBI to help the Society meet the challenges described above.

**Science Strategy** (ch.3) is summarised and reviewed. Two areas are the focus of the Society’s work:

- taxonomy and related work
- biogeography

Both underpin conservation programmes. The first covers chiefly the key product of a list of accepted taxa, studies of critical groups and of infra-specific variation. The second deals with a) monitoring national distributions and trends; and b) monitoring rare and scarce species, including endemic or near-endemic taxa. A consideration of current, ongoing and future projects leads to the conclusion that they could all be integrated into a **national plant surveillance programme**. This would best be delivered under the auspices of a BSBI Plant Unit (ch.6).

**Data holdings** (ch.4) owned by or available to the BSBI are described and summarised. It is estimated that about

38 million records exist, only about a third of which are currently available via the NBN Gateway. The diverse nature of the different datasets is emphasised and the difficulties of making them more generally available are highlighted. Particularly acute is the shortage of IT skills, time and money needed in order to begin to remedy the situation. The Society’s data management challenge is outlined and a solution is proposed that envisages the appointment of a Data Manager to oversee the integration of the databases as the core of the proposed Plant Unit.

**Volunteer support** (ch.5) available to the BSBI is highlighted as one of its chief assets. At the top of the pyramid are 150 key workers, our vice-county recorders, each in charge of and intimate with their county. Behind them is a core of about 500 skilled, enthusiastic field workers, up to 2000 members and many more from local flora groups can be mobilised on surveillance projects to collect plant records. The potential benefits of a Plant Unit in providing organisational support, co-ordination and encouragement to this botanical team are emphasised.

The **Plant Unit** (ch.6) would be based around the BSBI’s extensive data holdings and its dedicated volunteer workforce. Establishment of a Plant Unit would:-

- make data gathering and interpretation activities more efficient, better managed and more widely known;
- improve support for the volunteer work force;
- provide interpreted data to those organisations who need it to inform governmental and other biodiversity conservation programmes.

The Plant Unit would be staffed as follows:-

- Director (to be appointed asap)
- Secretary (to be appointed shortly after)
- Data Manager (to be appointed asap)
- Country Officers, based on the Scottish model

## From the Scottish Officer – Jim McIntosh

BSBI Scottish Officer, c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR;  
Tel: 0131 2482894; j.mcintosh@rbge.ac.uk

### Computerisation

Computerising Vice-county Recorders' records vastly increases their usefulness. It is an important first step in projects such as checklists, Rare Plant Registers and floras, and it allows VCRs to map and analyze their records and respond to queries more easily. The data contributes to the Atlas Updating Project and you can already see the newly computerised data from the first Computerisation project on the BSBI Maps Scheme webpages. It should benefit conservation too – as the records will be available to SNH, and other conservationists, and used to help in their day to day work. Consequently, I have devoted a lot of time and energy to a series of computerisation projects. The first of which is almost complete, the second is underway, and a third will commence in autumn 2007.

### First BSBI Scottish Computerisation Project

106,000 vascular plant paper records from four Scottish VCRs have been computerised by BSBI contractors and handed back to the VCRs in MapMate format. By the time you read this we hope that the final step will be complete and that the data will have been uploaded onto the BRC Vascular Plant DataBase and the NBN Gateway. The BSBI is very grateful to SNH for its support for the project.

### Second BSBI Scottish Computerisation Project

We have just started another project to computerise a further 135,000 records, this time thanks to the help of Esmée Fairbairn Foundation funding. Like the first it uses contractors drawn from amongst the membership. Some VCRs will even be contracted to computerise their own records. This helps to meet one of the project aims, to build capacity within the BSBI to computerise and maintain our own records. Data from E. Ross (v.c. 106), N. Ebudes (v.c. 104), Westerness (v.c. 97), Easterness (v.c. 96) and Moray (v.c. 95) will be computerised this winter.

### Third BSBI Scottish Computerisation Project

As if that wasn't enough, I've just secured £82,000 SNH funding for a much bigger three year project to computerise some 450,000 paper records beginning later in 2007. Generally these records will be those in the VCR's main dataset. Again, like the previous projects a

considerable volunteer effort will be required by participating recorders to prepare record cards for computerisation, and to check records once computerised against the original paperwork. I will keep you posted.



Esmée  
Fairbairn  
FOUNDATION

### Educational Work

Over the summer I was involved in a number of very enjoyable educational initiatives. One of these involved helping Biological Recording in Scotland (a group which encourages recording and supports Local Record Centres) with four one-day Wildflower Identification courses for the public. We had a total of 65 people attend these courses. For the last two years, the National Trust for Scotland have organised wildflower identification courses for their rangers and I was very pleased to be invited to help again at this year's event, in Galloway.

Together with my Field Meeting volunteer, Dot Dahl, we organised a number of educational field meetings for BSBI members. We particularly welcomed members who had never been on a BSBI field meeting before. The feedback from these meetings was very enthusiastic and we are planning more this summer. Look out for the entries in the Field Meeting programme in the 2007 Year Book.

### Site Condition Monitoring

Over the past three years BSBI volunteers have been involved in this project to monitor the condition of SSSIs designated to protect vascular plants. The work entails trying to refine populations of nationally rare or scarce 'target' species and reporting on their precise location and size, and whether there is evidence of regeneration or damage, using GPS, photographs, sketches and forms. Last summer's programme was modest with just five sites being surveyed. The reports are currently being drafted and will be checked and forwarded to SNH shortly. Many thanks to the volunteers who contributed.

This year's programme is likely to involve at least twice as many sites – so we will need more volunteers to help. The work puts your botanical skills to good use. It also takes you to some

really interesting places – and is a lot of fun. We need volunteers to lead on each site (to organise fieldwork & write the reports) as well as volunteers to help out with the fieldwork. If you would like to get involved please get in touch.

### Scottish Annual Meeting

Judging by the record number, 129, attending this season's Scottish Annual Meeting at the Royal Botanic Garden Edinburgh, and the positive feedback received after the event, the new conference-style format was very successful. The second most commonly made point was that there was too much to do and not

enough time to do it in! This is probably a sign of a successful event – the converse would be far worse! After using the previous programme for many years, I think we probably ought to allow the new format time to settle-in before making any further major changes.

### Scottish BSBI WebPages

For more information about what the BSBI Scottish Officer and the BSBI are doing in Scotland check out the BSBI Scottish WebPages. Follow the link from the main website, or type "BSBI Scotland" into a search engine!

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## Coordinator's Corner

ALEX LOCKTON, 66 North Street, Shrewsbury, Shropshire, SY1 2JL; [coordinator@bsbi.org.uk](mailto:coordinator@bsbi.org.uk)

### Web Site

It is said that the average web site has only one visitor a day: the site's own creator. There is a lot of competition for people's attention on the internet, so you have to work quite hard if you want people to read your postings. It seems to me that what people really want from our web site are useful resources to download. When we put Mick Crawley's Rare Plant Register of Berkshire on, it immediately became the most popular feature, so we've followed that by making more publications freely available, such as *Irish Botanical News* and *Watsonia* (with thanks to Brian Rushton and Martin Sanford). The 2003 edition of IBN was read by 54 people in November, and the most popular paper in *Watsonia* that month was a 1993 one on *Cardamine bulbifera* by Alan Showler and Tim Rich (34 readers). These aren't huge numbers, but how many people do you suppose read an old paper copy of *Watsonia* each month? A good proportion of our visitors are from abroad, and I think it is quite unlikely that the BSBI will lose many members by offering such resources over the internet.

Our hit rate is now about 175,000 a month from 4,500 unique visitors, plus at least that many on Quentin Groom's linked BotanicalKeys web site. Another thousand people a month visit the Maps Scheme web site to view the current distribution maps. The latest peak in usage came when David Pearman was interviewed on BBC Radio 4 about his work on the island of Rum. I was pleased that we were prepared for that and had the story on our web site already. If anyone in the BSBI is planning anything interesting, such as the launch of a book or a conference, let me know beforehand

and we can promote it as well as provide up-to-date information.

### Recorders' Conference

Feedback from the Recorders' Conference last September was sufficiently enthusiastic that I am organising another at Shrewsbury again in 2007 (Fri 14<sup>th</sup> – Sunday 16<sup>th</sup> Sept). Shropshire has not yet run out of interesting places to visit on the field trip. Last year's was fun, with a day on Introductions that sparked some interesting thoughts. Tim Rich presented what I think of as the traditional phytogeographer's view that re-introductions should only be done as a last-ditch effort to save a rare plant; but Mary Gibby showed how international conventions, as applied in UK law, are going to cause a lot more of this sort of thing to happen. Heather McHaffie gave us a glimpse into a future of secretive plantings across the country, which a lot of us suspect is already happening far more than we know; and David Pearman displayed the BSBI's database of introductions. The sheer scope of these, mainly for BAP plants, surprised many of those present. Finally Ian Trueman demonstrated what seems the more sane and sustainable approach of habitat creation, with examples of rarities that have successfully been introduced in this way.

The theme for next year's conference is the way our data is used. Everyone is familiar now with species lists and dot maps, but these don't actually tell you much that wasn't explicit in the records when they were collected. What we need to explore is what the data can tell you that you could not possibly know just from looking at a plant in the wild. For example, we have been researching *Carex maritima* (Curved Sedge) which, from the data available in the *New Atlas*, appeared to be one of the most



dramatically declining species; but it turns out that it is impossible to prove that from the data, and in fact it may just as easily be increasing overall. There is as yet no scientific way to answer this question, for many species.

#### Site surveys

As if you didn't have enough to do, we have a new and interesting challenge for BSBI members. In 1975 Frank Perring produced one of the first thorough site survey when he wrote the *Flora of Attingham Park*. A few other similar studies have been done, most notably, perhaps, Tim Rich's *Flora of Ashdown Forest* – although that is a more ambitious project. Last year Sarah Whild repeated the *Flora of Attingham* and found that it worked rather well as a way of monitoring changes in a site. Since then Michael Braithwaite has produced a *Flora of St Abb's Head NNR*, based on a similar process and timescale, and he has also made interesting findings. I can't believe that no-one has really cottoned onto the fact that a really thorough

survey of a site is a good way of monitoring changes. The problem is perhaps that ecologists have traditionally thought in too short a timescale: in reality a monitoring process takes place over decades rather than months or years. What we do is to visit a site many times during the year so we are reasonably confident that we have found most of the plants that occur there, and that gives a genuine baseline from which to describe changes. In a site the size of Attingham Park, you would need something like twenty visits to be able to do that.

So our idea is that thorough site surveys like this should be done for more interesting and important places, and the results published so they have a reasonable chance of surviving for a decade or two until someone wants to repeat it. I shall make a page on the web site to give fuller details for anyone who wants to try it, and I'd like to hear from anyone who has experience of similar projects that I don't know about.

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## STOP PRESS

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### More on the rise and fall of *Veronica filiformis*

ROGER M. HENSON, 9 Harlow Manor Park, Harrogate, North Yorkshire, HG2 0EG;  
henson-a.r@zetnet.co.uk

In an email Dr Dirk Albach (of the Institut für Spezielle Botanik Johannes Gutenberg-Universität Mainz Bentzelweg 9b 55099 Mainz, Germany) writes. 'A colleague sent me your two notes [*BSBI News* **101**: 46; & **103**: 34] on the 'rise and fall of *Veronica filiformis*' because I am currently investigating the introduction of the species. My emphasis is the question why the plants do not produce seeds in Europe but I have also observed the fluctuation of density of

the plant. I have not investigated the reason for *Veronica filiformis* but the pattern is common among introduced plants. It is likely that the species is spreading vigorously up to a point when pathogens in the soil have adapted to the newcomer. After that the species remains present but at markedly lower density. I am grateful that you confirmed my casual observation from Germany.'

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#### CONTRIBUTIONS INTENDED FOR

##### *BSBI NEWS* 105

should reach the Receiving Editor before  
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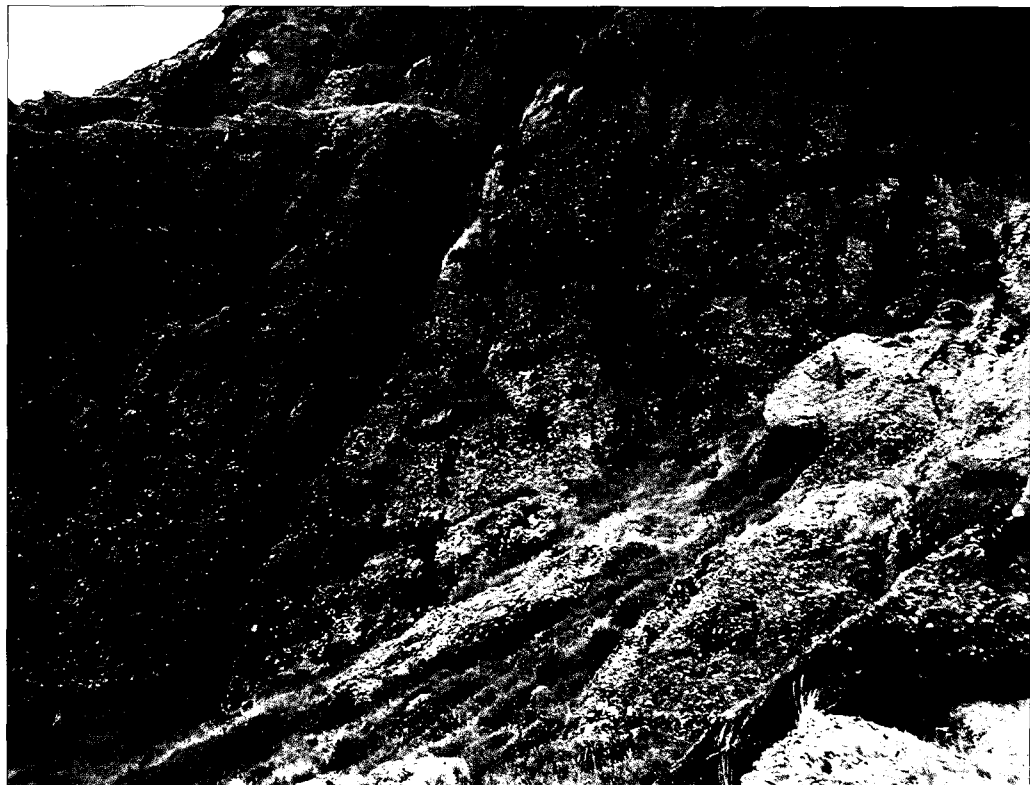
[www.bsbi.org.uk](http://www.bsbi.org.uk)



*Dittrichia graveolens* roadside colonist in S. Hants (v.c. 11). Photos M. Rand / S.J. Leach © 2006  
(see page 45)



*Minuartia hybrida* on the Defence Training Estate (Salisbury Plain)  
Photos S. Pilkington © 2006 (see page 4)



*Minuartia recurva* in the Comeragh Mountains, Co. Waterford. Habitat above and fruiting specimen (l) below. Flowering plant (r) below from Co. Cork. Photos P.R. Green © 2006 (see page 4)