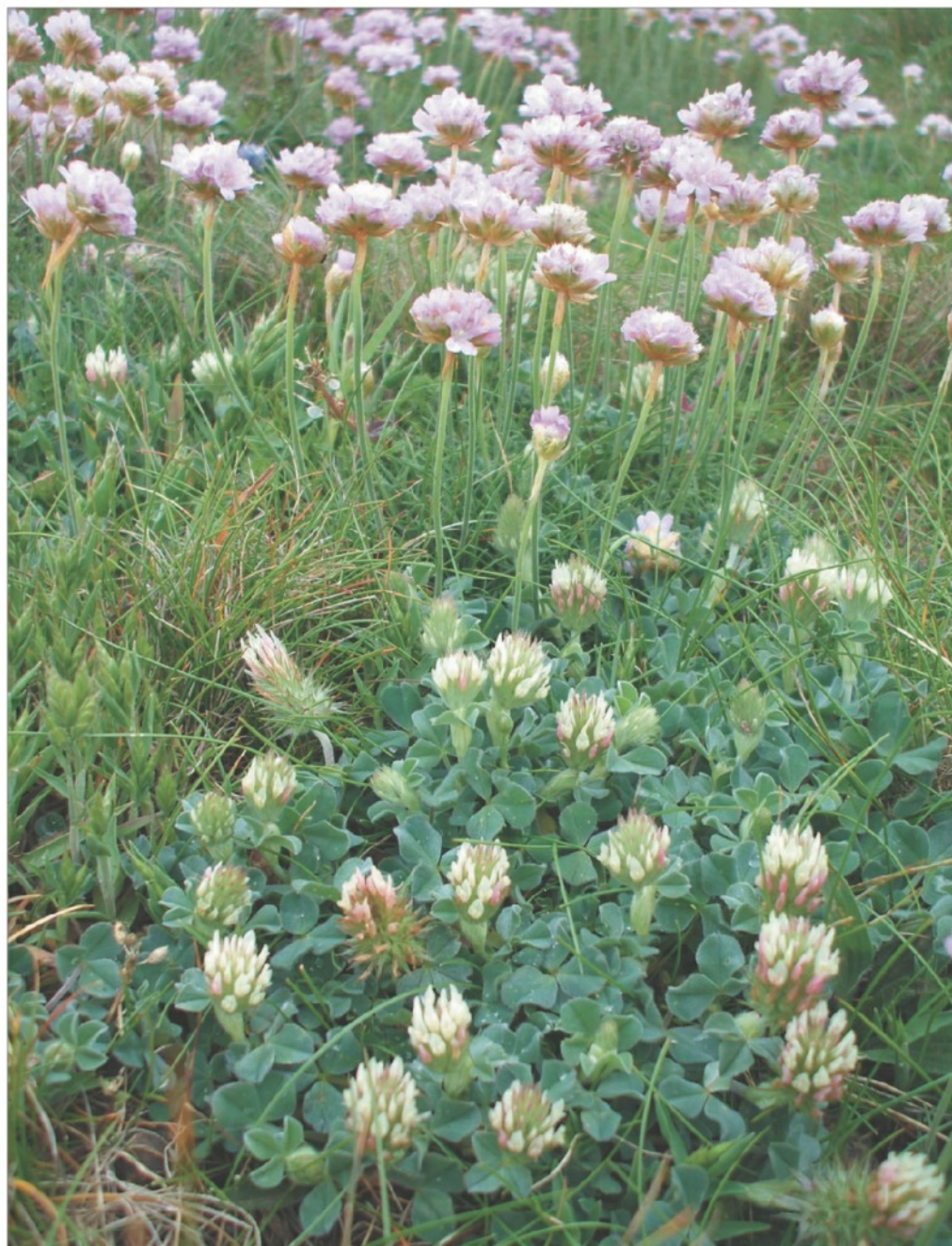


# BSBI News

April 2011

No. 117



Edited by Trevor James & Gwynn Ellis



*Scleranthus annuus* at Birkdale Common  
(v.c.59). Photo P.H. Smith © 2010 (see p. 4)



*Ophrys apifera* var. *fulvofusca*, Pitstone Hill,  
Bucks. (v.c.24). Photo P. Revell © 1983  
(see p. 35)



*Ophrys apifera* var. *fulvofusca*, Weymouth, Dorset (v.c.9). Photos L. Lewis © 2010 (see p. 35)

---

---

## CONTENTS

<b>Important Notice</b> – Treasurer.....	2	<i>Taraxacum subericinum</i> new to the	
<b>Editorial</b> .....	3	British Isles	
<b>Diary</b> .....	4	..... <i>T.C.G. Rich &amp; A.J. Richards</i>	45
<b>Notes</b> .....	5-59	Co. Dublin comfrey renamed after 32	
Rediscovery of <i>Scleranthus annuus</i>		years – a new county record	
ssp. <i>annuus</i> in v.c.59..... <i>P.H. Smith</i>	4	..... <i>P. Green</i>	46
<i>Trifolium incarnatum</i> ssp. <i>molinerii</i>		<b>Requests</b> .....	46-46
in v.c.3 – five years on..... <i>P. Reay</i>	7	<i>Juncus compressus</i> – BSBI Threatened	
Common names applied to <i>Typha</i>		Plants Project..... <i>M. Wilcox</i>	46
<i>latifolia</i> ..... <i>P.C. Horn</i>	11	Cyperaceae Handbook amendments	
Uncertainties over the future of <i>Aesculus</i> :		offered and taxa wanted. <i>M. Wilcox</i>	47
pests and diseases..... <i>J.E. Oliver</i>	13	A request for giant hogweed seeds	
Native population of <i>Brachypodium</i>		..... <i>J. Armitage</i>	47
<i>pinnatum</i> in (v.c.94), re-found after		<i>BSBI News 104 &amp; 111</i> wanted	
144 years..... <i>A. Amphett</i>	16	..... <i>G. Ellis</i>	47
What is biodiversity?..... <i>J. Presland</i>	18	<b>Offers</b> .....	48-49
<i>Diphasiastrum</i> in Strath Nethy (v.c.96)		Long <i>Watsonia</i> run available. <i>A. Outen</i>	48
..... <i>M. Gurney &amp; A. Amphlett</i>	19	<i>Wiltshire Botany</i> articles free	
Some impacts of the Tees Barrage on		..... <i>J. Presland</i>	48
the local flora of Teesside		<i>Flora of Hertfordshire</i> update	
..... <i>D.W. Shimwell</i>	21	available..... <i>T.J. James</i>	48
Possible over-recording in the <i>New atlas</i>		<b>Book Notes</b> ..... <i>J. Edmondson</i>	49
revealed by Norfolk Flora Group		<b>Obituary Notes</b> ..... <i>M. Briggs</i>	49
recording 2000-2009..... <i>R. Leaney</i>	23	Memories of Ann Conolly	
British trees associated with <i>Cephal-</i>		..... <i>K. Thompson</i>	50
<i>anthera longifolia</i> ..... <i>R. Hedley</i>	32	<b>Recorders and Recording</b> .....	51
<i>Fumaria purpurea</i> – the Orkney		Panel of Referees and Specialists	
experience... <i>E. Meek &amp; J. Crossley</i>	34	..... <i>M.C. Sheahan</i>	51
<i>Ophrys apifera</i> var. <i>fulvofusca</i> in		Panel of Vice-county Recorders	
Britain ..... <i>L. Lewis &amp; L. Edwards</i>	35	..... <i>D. Pearman</i>	51
<i>Trichophorum cespitosum</i> : calciphile		<b>Notes from the Officers</b> .....	52-53
or calcifuge?..... <i>J. Roberts</i>	37	Hon. General Secretary..... <i>L. Farrell</i>	52
High-level botanising in Scotland		Scottish Officer..... <i>J. McIntosh</i>	53
..... <i>D. Pearmans &amp; J. McIntosh</i>	39	Solution to Botanical Crossword 15	
<i>Salicornia</i> ‘sorts’ 1: type specimens,		& Crib.....	53
voucher specimens, and		<b>Drawings of wildflower seedlings</b>	
photographs..... <i>D.J. Hambler</i>	40	<i>Hesperis matronalis</i> .....del. <i>S. Evans</i>	54
Botanical Crossword 15..... <i>Cruciata</i>	43	<b>Stop Press</b> .....	55
<b>Aliens</b> .....	44-46	George Steele, 1st Recipient of	
The problem of invasive alien plant		George Band Award.....	55
species..... <i>A. Jarvis</i>	44	<b>Deadline for contribution to News 118.</b>	55

**Cover picture** – *Trifolium incarnatum* ssp. *molinerii*, Devon, May. A typical flowering clump adjacent to *Armeria maritima*. Photo L.R. Austin © 2007 (see p. 7)

---



---

## IMPORTANT NOTICE

LYNNE FARRELL, Hon. Gen. Sec., 41 High Street, Hemingford Grey, Cambs., PE28 9BJ;  
(Tel.: 01480 462728; farrell104@btinternet.com)

### Treasurer

The Society wishes to appoint a new Honorary Treasurer, to replace Terry Swainbank. Please see the enclosed flyer for details. We anticipate that we will also formalise the existing *ad*

*hoc* book-keeping support provided to the Treasurer into a part-time administrative post, supporting both the Treasurer and other Officers, and will be advertising shortly for that too.

---



---

## EDITORIAL

TREVOR JAMES (Receiving Editor), 56 Back Street, Ashwell, Baldock, Herts., SG7 5PE  
(Tel.: 01462 742684; trevorjames@btinternet.com)

GWYNN ELLIS (General Editor), 41 Marlborough Road, Roath, Cardiff, CF23 5BU  
(Tel.: 02920 496042; rgellis@ntlworld.com)

**Goodbye** to our current President Michael Braithwaite who stands down at the AGM in June and welcome to his successor Ian Boner.

I think we all owe an enormous debt of gratitude to Michael, not only for his three year presidency but also for his eleven year stint as Treasurer. During the last 14 years he has ably guided us through all the complexities of a changing world, especially with regard to our ever increasing members of staff, both full- and part-time, and our financial situation is as good now, if not better, than it has ever been.

The photograph on the back cover commemorates his last Council meeting as President.

I know I (*GE*) have benefited enormously from his advice and encouragement over the years – thank you Michael.

We also say goodbye to Terry Swainbank who has decided not to seek re-election to the post of Hon. Treasurer although he will continue to act in that capacity until a replacement can be found (see separate flyer).

**New Rules** – Enclosed with this mailing is a copy of the new Rules, as approved by Council, which will come up for adoption at our AGM in June. Members should read these carefully as many changes have been made and a summary of these can be found on page 4 of the AGM programme, also enclosed.

**BSBI Yearbook 2011** – The new style *Yearbook* appears to have been met with

general approval but the editors would be pleased to have comments from members.

There are two corrections which need to be made. In Ann Connolly's obituary the Red-necked Shrike mentioned on page 83 should have been the Red-backed Shrike; and the ISSN on the back cover should have read – ISSN 2046-2727.

**Please note** that our Head of Research and Development Kevin Walker's phone number has changed and is now 01423 790139 ext. 1799 (Mon-Weds); 01904 328805 (Thurs-Fri).

**Thanks** to Vic Johnstone who points out that the name *Ophrys apifera* var. *atrofusca* (*BSBI News* 116: 35) should probably be *atrofusca* 'so as to agree in gender with *Ophrys* which is feminine'. See also the paper on page 35 of this issue

### **Cumulative index to BSBI News**

As mentioned on page 34 of the last issue a Cumulative index to *BSBI News* covering issues 1-110 is now available as a searchable and downloadable pdf on the BSBI Website. It must be stressed that this is a very basic index with no fancy frills. It is in purely computer generated ABC order where all punctuation marks are sorted as if they were letters or digits. No editing has yet taken place so each entry is given in full without contraction. Eventually I may get around to streamlining it but I thought it best to upload it now, 'warts and all' rather than wait.

### Submission of articles to *BSBI News* and *New Journal of Botany*

The *NJB* will in due course have detailed information for intending contributors of papers, but in the meantime the editors of *BSBI News* would like to clarify the position regarding future content of this journal.

The subject matter that we will focus on remains: short articles and notes on the flora of the British Isles, including Ireland, Man and the Channel Islands, or notes relating to other areas illuminating the flora of these islands. Unlike the *NJB*, articles submitted to *BSBI News* are not normally peer-reviewed, although the editors may seek advice in certain circumstances. If we feel that a submitted article is of sufficient scientific merit to be written up as a paper for the *NJB*, we will suggest to the submitting author that this is the case as soon as possible.

We remain interested in a wide range of articles, including tangential ones relevant to the core subject matter, or concerning people involved in the countries' botany. Owing to pressures on space following the re-focusing of the Society's journals, *BSBI News* will no longer be publishing reports of field meetings or full-length obituaries, which will normally go into the relevant *BSBI Yearbook*, and it has reluctantly had to relinquish publication of

articles relating to literary/artistic usages of botany.

For submitting articles, please take note of the deadlines which are clearly inserted at the back of each issue of *BSBI News*, and please submit all material in the first instance to the Receiving Editor. As we have said before, these do not need to be produced in the format in which they will appear in *News*. It helps us if they are simple electronic WORD documents, with limited or no formatting, other than indication of italics, and in Times New Roman, 10 point type, although we can change this as necessary. We can, of course, still type up hand-written notes for those that are unable to supply articles in electronic format and, if necessary, can also scan in hard copy of typewritten material, although both are time-consuming and can lead to errors.

It is also very helpful to receive photographs as separate JPEGs (or other formats), which should be of as high a quality as possible. Please ensure that the name of the photographer is included alongside full caption details, and the date of the photograph. It would also be useful if photographers could remember that 'portrait' images are often much easier to place in the colour section than 'landscape' and if possible to take a photo in both formats.

---



---

## DIARY

N.B. These dates may be supplementary to those in the 2011 Calendar in *BSBI Yearbook 2011*

14 May	Scottish Committee, Edinburgh.	22 Sep	Meetings Committee, London.
18/19 June	AGM and Spring Conference, Galway, Ireland.	24 Sep	Scottish Committee, Edinburgh.
18 June	BSBI Council, Galway, Ireland.	5 Oct	Records Committee, London.
20 July	Executive Committee, London.	12 Oct	Publications Committee, London.
12/14 Aug	Welsh AGM and Exhibition meeting, Dale Fort, Pems.	15 Oct	Welsh Committee (venue to be decided).
27/28 Aug	Irish AGM, Derrygonnelly, Fermanagh.	26 Oct	Executive Committee, London.
21 Sep	Training and Education Committee, Shrewsbury.	5 Nov	Scottish AGM and Exhibition, Edinburgh.
		16 Nov	Council, London.
		26 Nov	Annual Exhibition Meeting, Natural History Museum, London.

---



---

## NOTES

---

### Rediscovery of *Scleranthus annuus* ssp. *annuus* (Annual Knawel) in v.c.59 (South Lancashire)

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

#### Introduction

While completing a botanical survey at Birkdale Common, Merseyside (SD320148) on 1<sup>st</sup> November 2010, I was surprised to find a low-growing plant that was unfamiliar to me. It was soon determined as *Scleranthus annuus* ssp. *annuus* (Annual Knawel), thought extinct in v.c.59 (South Lancashire) since 1986 (D. P. Earl *in litt.*, 2010) (see inside front cover). Further visits were made with friends to establish the size of the population and characterise its habitat.

#### Ecology and status of *Scleranthus annuus*:

In the British Isles, *S. annuus* is a widespread annual or biennial, occurring in two distinct habitat types: arable fields and dry, heathy grasslands (Lockton & Pearman, 2010). Ellenberg indicator values show that this species is adapted to generally well-lit places (L = 7), soils of below average dampness (F = 4), usually moderately acid soils (R = 4), rather infertile conditions (N = 4), and is absent from saline soils (S = 0) (Hill *et al.*, 2004). Although its British range seems unchanged, the plant has greatly declined in frequency, the *New atlas* citing a Change Index of -2.68, with most losses having occurred since 1950 (Lusby, 2002). Reflecting this decline, *S. annuus* is listed in the Great Britain Red Data List as “Endangered” (Cheffings & Farrell, 2005).

Savidge *et al.* (1963) describe *S. annuus* as “occasional” in South Lancashire, giving ten records between 1868 and 1940 in dry, sandy fields and waste land. Their most recent sighting on what is now the Sefton Coast was in 1914. The *New flora of south Lancashire* (2010 Archive Version) shows past occurrences in nine tetrads, the most recent being at Queen’s Park, Blackburn, where the plant occurred in 1986 on ground disturbed by the

development of a golf course (D. P. Earl, *in litt.*, 2010).

#### The study area

Situated on the outskirts of Southport, Birkdale Common is a 10ha open space that is heavily used for informal recreation, especially dog-walking. It forms part of the extensive Sefton Coast sand-dune system, lying close to the eastern fringe of the surviving dune belt. As the substrate is several centuries old, the initially high lime-content of the sand has been removed by leaching, the vegetation consisting largely of open acidic grassland dominated by *Festuca ovina* (Sheep’s-fescue) and *Agrostis capillaris* (Common Bent).

*S. annuus* appears to be confined to an area of about 27 × 23m, mainly associated with the west-facing slope of a large sandy mound, probably of artificial origin. Here the plant is widely scattered but also locally abundant in three patches, ranging from 3 to 8m in diameter. The number of mature plants on 7<sup>th</sup> November 2010 was estimated at about 250 but there were also many non-flowering first-year rosettes. A total of 29 associated vascular and bryophyte taxa was found (Table 1, p. 6). There are three notable species in addition to *S. annuus*, these being *Aphanes australis* (Narrow-leaved Parsley-piert), *Ornithopus perpusillus* (Bird’s-foot) and *Spergula arvensis* (Corn Spurrey). The first two are listed as Species of Conservation Importance in North West England (Regional Biodiversity Steering Group, 1999) and were locally abundant elsewhere on the site, while the third is Red Data List “Vulnerable” (Cheffings & Farrell, 2005). All are typical of disturbed, somewhat acidic open habitats. A small population of *Potentilla argentea* (Hoary Cinquefoil) (Red Data List “Near Threat-

ened”) occurred on the Common from about 1950 to at least 1995, but has not been seen in recent years (D.P. Earl *in litt.* 2010).

Reference to keys in Rodwell (1992, 2000) indicates that the plant community is referable either to the U.K. National Vegetation Classification’s U1: *Festuca ovina-Agrostis capillaris-Rumex acetosella* grassland or to the rather similar SD12: *Carex arenaria-Festuca ovina-Agrostis capillaris* dune grassland, these sometimes being difficult to separate in coastal habitats. The former is a widespread calcifuge type in southern Britain, being characteristic of base-poor, summer-parched soils of the warm, dry lowlands, and often maintained by grazing and trampling (Rodwell, 1992). SD12 is associated with fixed acidic sands around the coasts of Britain, especially towards the north and west, where calcareous wind-blown sand has leached over time (Rodwell, 2000). At Birkdale Common, there is little evidence of rabbit-grazing and no livestock, but the plant community is maintained by occasional mowing, recreational trampling and summer drought, these factors creating a short sward with frequent bare patches ideal for colonisation by non-competitive plants, such as *S. annuus* and several of its associates.

### Conservation

Although much of the Sefton Coast is designated for its nature conservation interest, Birkdale Common does not benefit from protected status. However, its recently established botanical value may justify inclusion in Sefton Council’s list of local wildlife sites (Sites of Local Biological Interest) designated under the Unitary Development Plan. The Common was heavily disturbed during the Open Championship at the adjacent Royal Birkdale Golf Course in July 2008, but it is thought that the *Scleranthus* site was not directly impacted and no lasting damage has been detected (D.P. Earl, *in litt.*, 2010). The habitat occupied by *S. annuus* is maintained by its current land-use and no particular

conservation management is required, although control over dog-fouling would be beneficial.

### Acknowledgements:

I am grateful to Catherine Highfield, Patricia Lockwood and Michael Wilcox for assistance with field work and comments on a draft of the manuscript; Catherine Highfield identified the bryophytes; Dave Earl kindly provided information, including records from the *New flora of south Lancashire* database.

### References:

- CHEFFINGS, C.M. & FARRELL, L. (eds.) (2005). *The vascular plant Red Data List for Great Britain*. Joint Nature Conservation Committee, Peterborough.
- HILL, M.O., PRESTON, C.D. & ROY, D.B. (2004). *PLANTATT. Attributes of British and Irish plants: status, size, life history, geography and habitats*. Centre for Ecology & Hydrology, Monks Wood, Cambridge.
- LOCKTON, A.J. & PEARMAN, D.A. (2010). Species account: *Scleranthus annuus*. BSBI: www.bsbi.org.uk.
- LUSBY, P.S. (2002). ‘*Scleranthus annuus* Annual Knawel’. In: C.D. Preston, D.A. Pearman, & T.D. Dines (eds.) *New atlas of the British and Irish flora*, (p.169). Oxford University Press, Oxford.
- Regional Biodiversity Steering Group (1999). *A biodiversity audit of north west England*. Merseyside Environmental Advisory Service, Bootle.
- RODWELL, J.S. (ed.) (1992). *British plant communities, volume 3: Grasslands and montane communities*. Cambridge University Press, Cambridge.
- RODWELL, J.S. (ed.) (2000). *British plant communities, volume 5: Maritime communities and vegetation of open habitats*. Cambridge University Press, Cambridge.
- SAVIDGE, J.P., HEYWOOD, V.H. & GORDON, V. (eds.) (1963). *Travis’s flora of south Lancashire*. Liverpool Botanical Society, Liverpool.

Table 1: Vascular and bryophyte taxa associated with *Scleranthus annuus*, Birkdale Common, November 2010

a = abundant; f = frequent; o = occasional; r = rare; l = locally.

Taxon	English name	Frequency
<i>Agrostis capillaris</i>	Common Bent	a
<i>Ammophila arenaria</i>	Marram	o
<i>Aphanes australis</i>	Narrow-leaved Parsley-piert	lf
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	o
<i>Carex arenaria</i>	Sand Sedge	o
<i>Cerastium</i> sp.	Mouse-ear	o
<i>Ceratodon purpureus</i>	Redshank	o
<i>Erodium cicutarium</i>	Common Stork's-bill	o
<i>Erophila verna</i>	Spring Whitlow-grass	r
<i>Festuca brevipila</i>	Hard Fescue	o
<i>Festuca ovina</i>	Sheep's-fescue	a
<i>Geranium molle</i>	Dove's-foot Crane's-bill	f
<i>Hypnum cupressiforme</i> s.l.	A Plait-moss	a
<i>Hypochaeris radicata</i>	Cat's-ear	o
<i>Lolium perenne</i>	Perennial Rye-grass	o
<i>Ornithopus perpusillus</i>	Bird's-foot	f
<i>Plantago coronopus</i>	Buck's-horn Plantain	o
<i>Plantago lanceolatus</i>	Ribwort Plantain	f
<i>Plantago major</i>	Great Plantain	r
<i>Poa annua</i>	Annual Meadow-grass	o
<i>Polytrichum juniperinum</i>	Juniper Haircap	la
<i>Prunella vulgaris</i>	Selfheal	o
<i>Rumex acetosella</i>	Sheep's Sorrel	o
<i>Sagina procumbens</i>	Procumbent Pearlwort	r
<i>Sedum acre</i>	Biting Stonecrop	o
<i>Spergula arvensis</i>	Corn Spurrey	r
<i>Syntrichia ruralis</i> ssp. <i>ruraliformis</i>	Sand-hill Screw-moss	la
<i>Trifolium dubium</i>	Lesser Trefoil	f
<i>Trifolium repens</i>	White Cover	f



## ***Trifolium incarnatum* ssp. *molinerii* (Long-headed Clover) in South Devon – five years on**

PETER REAY, *Crooked Fir, Moorland Park, South Brent, Devon, TQ10 9AS*;  
(peter.p.j.reay@btinternet.com)

### **Introduction**

Ian Bennallick may be spurred on “to seek out new sites and search old, known sites” of local rarities (Bennallick, 2010), but I’m happy just to stumble upon them! Admittedly, this approach has not been wildly productive so far, but it was how I found *Trifolium incarnatum* ssp. *molinerii* (Long-headed Clover) in S. Devon (v.c.3) in June 2005 (Smith, 2006) (see front cover). It was a spooky find, as my first ever encounter with this clover had been on the Lizard only a few weeks earlier, and I wouldn’t have seen it there had the returning Choughs not needed RSPB volunteers to keep an eye on them. Even so, I certainly wasn’t looking for it while carrying out a survey of vascular plants on the Bolt Head to Bolt Tail SSSI, on National Trust land near Salcombe, this time as an English Nature (now Natural England) volunteer with Wendy Rees – after all, it was one of the Lizard species, so why would it be there?

Although there are two historical records for Devon (Smith, 2006), these are presumed to have been casuals, and none were recorded in Devon in either the county tetrad atlas (Ivimey-Cook, 1984) or the national atlas (Preston *et al.*, 2002). Prior to 2005, the occurrence of the Long-headed Clover in the British Isles was believed to be limited to the Lizard on the mainland, and to Jersey in the Channel Islands, and this limited distribution resulted in it being listed as ‘Vulnerable’ in the British Red Data List (Cheffings & Farrell, 2005), although it has subsequently been downgraded to ‘Least Concern’ following its discovery in Devon (Leach, 2007).

When discovered in late June 2005, flowering was almost over, but because of the abundance of its large flower-heads in the sparse cliff-top vegetation, it was conspicuous, even to my relatively inexperienced and unprepared eye. I just happened to be stumbling in the right place. Based on the

Lizard experience I thought it looked like Long-headed Clover, but initially had to assume it was the introduced ssp. *incarnatum*, although I knew nothing about this one. However, after consulting the literature, and getting confirmation from Roger Smith, it was soon clear that the Devon plants were indeed ssp. *molinerii*, and Roger and I set about searching a wider area of the SSSI. We provisionally pinpointed its distribution to about 1km of SW-facing cliff-top and slope running south-east from Bolt Tail (SX669395 - SX675389) in three main colonies named (after their locations) Graystone, Whitechurch and Redrot. In August 2005, stumbling again, I also found a small outlying colony above Soar Mill Cove about 3km to the south-east.

Questions began to arise about the origin of this population on the Devon schists, just over 100km east of the Lizard peninsula: how long had it been there and why hadn’t it been recorded before? The first is perhaps unanswerable, the latter a real puzzle. Although much of the population was distributed along the cliff edge not normally visited by the public, the general area had been far from ignored by local botanists over the years, and none of the colonies was more than 50m from the SW Coastal Path. Indeed, one colony was growing almost alongside the path where it runs close to the edge at Redrot Cove (see colour section plate 4, photo 1). But, however intriguing its history, I simply set out to monitor the population of my first and, so far, only rarity. As it was known to fluctuate in abundance from year to year on the Lizard (e.g., Hopkins, 1999), and 2005 was apparently a good year for it there (Smith, 2006), our hunch was that its conspicuous flowering in Devon in 2005 was a rare event happily coinciding with a detailed plant survey. It had perhaps escaped detection up to then by lying low, either in very small numbers and/or not

flowering. So I braced myself for a poor showing in 2006.

### Methods

Part of the study has involved further exploration of the coastline of the SSSI to search for new colonies (and, in moments of optimism, other Lizard species). Much can be reached on foot, but even using binoculars, and occasionally a rope, some areas of steep cliff slope remain unsearched. With regard to measuring abundance, the ideal would have been to count individual plants, but because of the difficulty of distinguishing between individuals in high density colonies, two simpler methods were chosen:

- At Graystone and Redrot (the largest colonies), the limits were initially marked with small red flags (see photo 1), and the number of flower-heads counted in at least 40 quadrats (0.25 m<sup>2</sup>) placed at regular intervals along transect lines in each colony on visits in early June in 2006, 2008, 2009 and 2010. The results were expressed as mean numbers of flower-heads m<sup>2</sup>, and, coupled with limited observations on the number of flower-heads per plant, could also be used to estimate the number of plants. At Whitechurch and other smaller colonies, a total flower-head count was attempted.
- At Graystone and Whitechurch, a short transect line was established using permanent pegs to anchor a line with marks at 2m intervals, giving four more-or-less fixed quadrat positions. A 0.25m<sup>2</sup> quadrat divided into 25 × (10 × 10cm) cells, was placed at each position, and the presence or absence of the clover in each cell recorded. This gave a maximum potential score of 100 for each site on each visit, so the results could be expressed as % occurrence. This was mainly applied to vegetative plants in January and May, but the quadrats were also used to record the number of flower-heads along the transect lines in early June.

### Results

The clover colonies are in short and/or sparse vegetation on thin soils, mostly close to the cliff edge, which shows characteristics of the MC5 *Armeria maritima*–*Cerastium diffusum*

ssp. *diffusum* maritime therophyte community (Smith, 2006). The commonest associated species include *Armeria maritima* (Thrift), *Bromus hordeaceus* ssp. *ferronii* (a coastal form of Soft-brome), *Festuca rubra* (Red Fescue), *Plantago coronopus* (Buck's-horn Plantain) and *Plantago lanceolata* (Ribwort Plantain).

The position and extent of the colonies, established in 2005, does not appear to have changed subsequently. There are three main colonies, at Graystone (100 × 4.5m), Redrot (50 × 3.5m) and Whitechurch (20 × 3m), and only a few small colonies between the main ones have been added (but these may have been overlooked initially), and none seem to have disappeared. The small outlying colony above Soar Mill Cove has also persisted from 2005 to 2010.

Flowering was over when found in late June 2005, but it is now clear that the clover has flowered in all the colonies, including the outlier, every year from 2005 to 2010. Flowering time varies a little, but is generally from mid-May to mid-June. Recognisable seed-heads persist until August (see photo 2), and vegetative plants are visible from September onwards (see photo 3), so searching for this annual clover need not be restricted to the short flowering period.

The clover is by no means a rare plant in the thin strip of cliff-top where it occurs. Within the colonies it is at least frequent, and often abundant, on a DAFOR scale, and in 2006 all 0.25m<sup>2</sup> quadrats contained at least some plants, the number of flower-heads per quadrat reaching a maximum of 164 – there wasn't room for many more. In July 2005, Roger Smith (pers. comm.) recorded 25–80% cover (with a mean of 43%) in ten 1m<sup>2</sup> quadrats within the colonies, which gives a further indication of its abundance.

Even casual examination would have detected a variation in abundance between years. This is quantified in Table 1 (p. 10), where, irrespective of index and site, abundance was highest in 2006, and lowest in 2008, followed by an increase in 2009 and 2010. A question mark hangs over 2007

because of a lack of data on mean flower-head density, but, at least at Graystone, fixed quadrat data indicate a lower abundance than 2006, but still higher than in other years. At Whitechurch, low abundance in 2007 and 2008 was associated with an early drying-out of the vegetation, perhaps linked to thinner soils. Although no comparable quantitative data are available for 2005, it is felt that the abundance in that year was probably similar to that in 2006. From the limited data available, it is tempting to suggest a cyclical pattern to the changes in abundance, so it will be interesting to see what emerges from a longer time series.

Multiplying the mean density of flower-heads by the area covered by the colonies, and adding in some total counts from the smaller colonies, gives estimated total flower-head counts of about 160,000 in the peak year of 2006, and about 5,000 in 2008. These convert to 32,000 and 1,000 plants, assuming five flower heads per plant. This number was mainly based on counts carried out in 2009, when warm dry conditions in May had killed off much of the surrounding vegetation (but, interestingly, not quite the clover) so that the plants were naturally exposed (see photo 4) and flower-heads easier to count; the range was 2-15 in a sample of 27 plants at Whitechurch.

Weather conditions varied greatly over the five-year period, so variation in abundance is not surprising. There may also have been biotic and anthropogenic processes (in particular, sheep grazing) at play. It is beyond the study, and certainly this article, to wander too far into the mire of population dynamics, but an insight into when key factors may determine abundance is provided by the data in Figure 1 (p. 11). It can be seen that there is a reasonably good correlation between % occurrence in January and May in the same year, tentatively suggesting that the main factors operating on abundance do so in the six months following flowering rather than in the six months preceding it. It seems likely, therefore, that factors associated with pollination, seed-set, germination and/or early seedling

survival in one year, have the most influence on abundance in the next.

### **The Lizard population**

Although the species is currently doing well on The Lizard (Pearman & Byfield 2010), there is no information on recent fluctuations (Ian Bennallick & David Pearman, pers. comm.). However, work was carried out from 1950 until at least 1989 by botanists from the University of Bristol (Martin & Frost 1980; Frost 1990). This showed a particularly high abundance in 1977, with approximately 36,000 plants, crashing to 1,500 only two years later, a pattern which bears an uncanny similarity to events in Devon during 2006-2008, and also suggests that overall population size at the two sites is perhaps of a similar order. The Lizard studies clearly point to drought as the main factor driving population size, with high abundance tending to follow a drought year as a result of the adverse effect on competing grasses, although factors such as grazing are also involved.

### **Conclusions**

The methods used here are not perfect, but repeated application over a five-year period has yielded some interesting, if not completely watertight, results. Whatever the history of this population prior to 2005, it has been established that it now consists of thousands of plants (ranging annually from 1,000 to 32,000 over five years) and has persisted and flowered each year since 2005. Observations in early 2011 also show that it continues to flourish in spite of the harsh winter. Rather than 2005 being a one-off bountiful year, it is perhaps the relatively poor showing in 2008 that was the more unusual event.

After five years of gentle monitoring, I now feel a special affinity with this plant, reinforced by the realisation that the initial letters of its trinomial spelled out the name of my late son, Tim. I am keen to continue monitoring, although concede that a more robust approach is probably needed. It is also hoped that monitoring can be resumed on The Lizard in order to compare fluctuations in the two places, and to further assess the role of drought and other factors.

### Acknowledgements

Thanks are due to: Lesley Austin, Simon Leach and Roger Smith for their comments on an earlier draft; to Ian Bennallick and David Pearman for information on the Lizard population; to Wendy Rees for getting me onto the Bolts in the first place and for setting up the initial surveys; to Rob Dixon for supplying (and anchoring) the rope; and to Liz McDonnell for the loan of flags.

### References:

- BENNALICK, I. (2010). '*Centaurium scilloides*, *Juncus subnodulosus* and *Phegopteris connectilis* rediscovered in Cornwall after many years'. *BSBI News* **115**: 30-34.
- CHEFFINGS, C.M. & FARRELL, L. (eds.) (2005). 'The vascular plant red list for Great Britain'. *Species Status* **7**: 1-116. Joint Nature Conservation Committee, Peterborough.
- FROST, L.C. (1990). 'Droughts and the rare annual plants of the Lizard district'. *The Lizard* (3rd series) **II**: 11-15.
- HOPKINS, J.J. (1999) '*Trifolium incarnatum* ssp. *molinerii* (Balbis ex Hornem.) Syme' In: Wigginton, M.J. (ed.). *British red data books, 1. vascular plants*. 3<sup>rd</sup> ed. Joint Nature Conservation Committee, Peterborough.
- IVIMEY-COOK, R.B. (1984). *Atlas of the Devon flora: flowering plants and ferns*. Exeter: the Devonshire Association.
- LEACH, S. J. (2007). 'The vascular plant red data list for Great Britain: year 1 amendments'. *BSBI News* **104**: 19-21.
- MARTIN, M.H. & FROST, L.C. (1980). 'Autecological studies of *Trifolium molinerii* at the Lizard Peninsula, Cornwall'. *New Phytologist* **86**: 329-344.
- PEARMAN, D & BYFIELD, A. (2010). Field Meeting Reports: 2010. East Lizard, W. Cornwall (v.c.1), 29-31 May. *BSBI News* **115**: 60-61.
- PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. (2002). *New atlas of the British and Irish flora*. Oxford University Press, Oxford.
- SMITH, R.E.N. (2006). 'A "Lizard" clover in South Devon'. *BSBI News* **101**: 12-13.

Table 1. Long-headed Clover in S. Devon. Abundance in 2006-2010 using three different indices. ND = no data

Indices of abundance	2006	2007	2008	2009	2010
<i>A. Mean density of flower-heads m<sup>-2</sup></i>					
Graystone	258	ND	6	19	67
Redrot	241	ND	12	27	72
<i>B. No. flower-heads m<sup>-2</sup> (sum of four fixed quadrats)</i>					
Graystone	354	220	25	97	127
Whitechurch	62	2	2	22	32
<i>C. % occurrence (sum of four fixed quadrats)</i>					
Graystone	75	75	27	38	40
Whitechurch	60	4	2	8	9

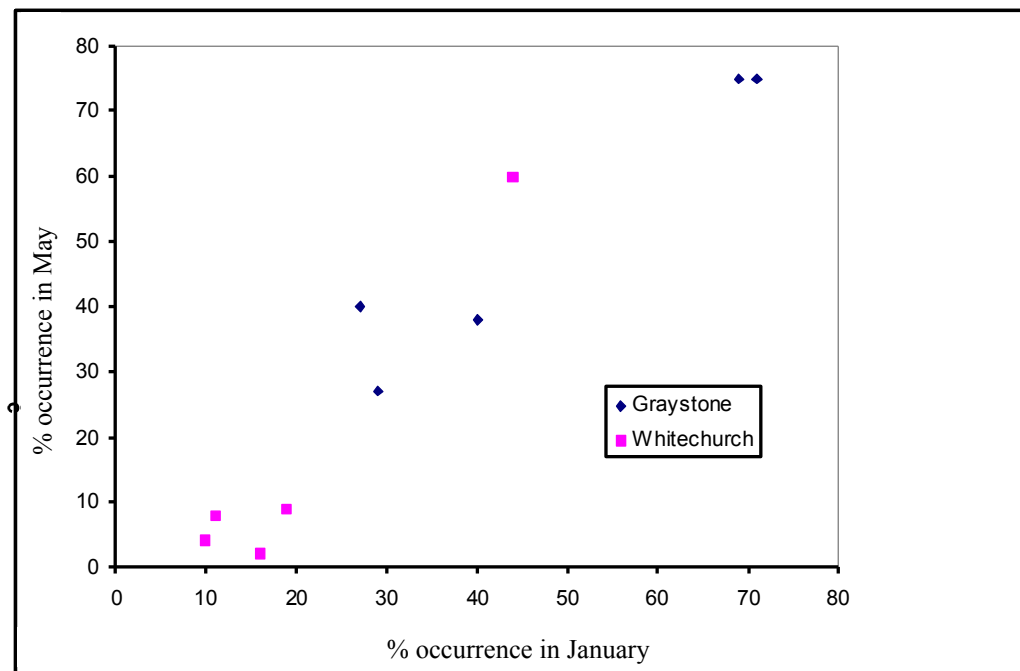


Figure 1. Long-headed Clover in Devon. The relationship between % occurrence in the fixed quadrats in January and May at the Graystone and Whitechurch sites, 2006-2010.

## Common names applied to *Typha latifolia*

PETER C. HORN, 22 Jowitt Avenue, Kempston, Bedford, MK42 8NW

The English plant-names ‘Reedmace’ and ‘Cat’s-tail’, as applied to *Typha latifolia*, go back at least as far as the mid 16<sup>th</sup> century, where Turner states: “*Typha groweth in fennes and watersides among the reedes; it hath a blacke thinge almost at the head of the stalke lyke blacke velvet. It is called in englishe cattes taylor or a Reedmace*” (W. Turner: *The names of herbs*. 1548).

From this time, for about 400 years, *Typha latifolia* was commonly known as ‘Reedmace’, whereas in America the name ‘Cat’s-tail’ was applied to the plant. At some time during the 20<sup>th</sup> century a growing number of people, who were not botanists, for some reason began to apply the name ‘Bulrush’ to *Typha*. This was potentially confusing because the name ‘Bulrush’ was applied, by botanists, to *Scirpus* (now *Schoenoplectus lacustris*, which is of course an entirely different plant. However, during the 1970s the

botanists gave way to common usage and called the Reedmace ‘Bulrush’ (Richard Mabey, *Flora Britannica*, 1996). Thus “common usage wins over botanical protocol” (*Ibid.*).

The botanists then changed the common name of *Schoenoplectus lacustris* from ‘Bulrush’ to ‘Common Club-rush’. However, the name ‘Reedmace’ continues to be applied to *Typha* by some writers, and still appears on plant labels at some garden centres.

The question arises: why was the name ‘Bulrush’ applied, in the first place, incorrectly, to *Typha latifolia*? Was it because some country people do sometimes have their own way of using certain plant-names? For example, I have on occasions heard the name ‘Deadly Nightshade’ applied to *Solanum dulcamara*, and the name ‘Hemlock’ applied to umbellifers that are not *Conium maculatum*.

Another explanation as to why the name ‘Bulrush’ was first applied to *Typha*, an explanation that seems to have gained general acceptance, is that people were misled by a certain oil painting. The oft-repeated story is that the artist Sir Lawrence Alma-Tadema, in his oil painting entitled ‘Moses in the Bulrushes’, depicted Moses among *Typha latifolia* instead of *Schoenoplectus lacustris*. From then on, it is maintained, under the influence of this painting, people (non-botanists) generally began to apply the name ‘Bulrush’ incorrectly to *Typha*.

However, there is a twist to the tale, in that it appears that Sir Lawrence Alma-Tadema did not paint a ‘Moses in the Bulrushes’. In 1904 he painted ‘The finding of Moses’, but this painting does not show *Typha* or *Schoeno-*

*plectus*. Of course it is possible that some other artist painted a ‘Moses in the Bulrushes’, showing *Typha*, but, so far, no such painting has come to light.

[For consistency, the eds. follow the usage in C.A. Stace *New flora of the British Isles* (3<sup>rd</sup> ed.) (2010), where ‘Bulrush’ applies to members of the genus *Typha*, while ‘Common Club-rush’ applies to *Schoenoplectus lacustris*, although I, for one, regret the loss of the English ‘Reedmace’! A quick look at the Internet (7<sup>th</sup> November 2010) found an illustration from an anonymous Bible card, published in 1904, that might explain the promulgation of the erroneous attribution of ‘Bulrush’ to *Typha* (see below), if not its origin! *T.J.*].



## Uncertainties over the future of *Aesculus*: pests and diseases

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

Stace (2010) gives three *Aesculus* species as self-sown in Britain: *Aesculus hippocastanum* (Horse-chestnut), *A. carnea* (Red Horse-chestnut), and *A. indica* (Indian Horse-chestnut). All three are also much planted, the first two frequently a feature of our landscape, especially roadsides and avenues. In 2009, Wiltshire tree surgeons were gloomily predicting that all our conker trees might go the way of English Elms. Bacterial Bleeding Canker (see below) was spreading rapidly and killing numbers of medium and large trees.

Mabbett (2009) reviews the two main conditions severely afflicting *Aesculus* since 2008: Bacterial Bleeding Canker and Horse-chestnut Leaf-miner infestation (see below). At that time, Horse-chestnut Leaf-miner "... only damages *A. hippocastanum*", but by 2010 *A. carnea* (Fig. 1, p. 15) and *A. indica* (Fig. 2) were obviously affected in the Marlborough locality.

The following six conditions are of varying importance individually, but there are probably important synergistic interactions between them, and between these and certain environmental adversities.

1. Horse-chestnut Leaf-miner Moth *Cameraria ohridella*. References: Tilbury & Evans, 2003; Mabbett, 2009. British and European members of the B.S.B.I. should by now be familiar with the early leaf-patches and subsequent browning of Horse-chestnut foliage. This late autumnal effect can strike *A. hippocastanum* trees from June onwards, but in this part of Wiltshire *A. carnea* and *A. indica* are infested later, and (so far!) less severely (Figs. 1 and 2). The pupa can survive overwintering temperatures of -23°C. I have not yet seen invasions on the leaves of *A. flava* (Yellow Buckeye), *A. neglecta* (Sunrise Horse-chestnut), or *A. turbinata* (Japanese Horse-chestnut). The North American counterpart of *C. ohridella* is *C. aesculisella*, but I would predict that

*C. ohridella* (from Macedonia, now pan-European?) will soon make use of local North American and Japanese *Aesculus* leaves. *C. ohridella* has 15 or so natural enemies, mainly parasitic wasps, but they only account for as little as 1-6% of the moth larvae and pupae, hardly making any impact so far.

2. *Aesculus* Scale Insect *Pulvinaria regalis*. Reference: Bevan, 1987. The Forestry Commission damage rating on this pest of *Aesculus* is only fourth on a scale of five, one above 'unimportant'.
3. Bacterial Bleeding Canker *Pseudomonas syringae* p.v. *aesculi*. Reference: Mabbett, 2009. The trunks and forks of *A. hippocastanum* and *A. carnea* are becoming infected in increasing numbers by this gram-negative rod bacterium, which so far infects the leaves but not the trunks of *A. indica*. Water-logging, timber cracks, drought, mechanical or frost damage and close planting increase the vulnerability of *A. hippocastanum* and *A. carnea* trees to wind-borne infected water droplets. Mabbett has eight good colour photos, one showing *Cameraria* moths on the trunk ooze. I have examined the transparent resinous ooze and the black scabs and rotting bark-crevice tissues under high-power microscopy, but I have failed to find the bacterial rods, or any other infecting organism. It would seem that, of the five or six suggested modes of disease transmission, *Cameraria* moths would only carry the *Pseudomonas* if they alighted on recently-opened, soggy, infected sub-bark tissues, rather than dried, dead bark scabs or resinous exudates. Despite the pessimistic title of his article, Mabbett is quite optimistic about the future of *A. hippocastanum* and *A. indica* in the U.K. In 10 years, Dutch Elm Disease devastated the English Elm population, but the Horse-chestnuts are genetically so varied that many survive.

4. Leaf-blotch fungus *Guignardia aesculi*. This condition mimics the Horse-chestnut Leaf-miner Moth infestation. Although it is fairly common on Horse-chestnuts in this part of Wiltshire, I have only seen it sometimes infecting a few patches of a few leaflets on a few trees, with no apparent serious effects on the foliage.

5. *Phytophthora*. These are fungal-like organisms, the pathogenic forms of which have been devastating tree populations in parts of the British Isles and elsewhere.

a. *Phytophthora cactorum* and *P. citricola* can cause *Aesculus* trunk rots or bleeding canker, similar to *Pseudomonas*. However, these conditions are uncommon and slow-spreading.

b. *Phytophthora ramorum* and *P. kernoviae*. References: Forestry Commission (2010a, b); Mabbett (2010); Mackinlay & McIntosh (2010). *P. kernoviae* is a serious pathogen newly identified from Cornish (hence 'Kernow') Rhododendrons and a Beech, but subsequently found as far afield as New Zealand. One or both of these pathogens, acting via the soil, may be responsible for die-back and deaths of numbers of Savernake Forest mature oaks, especially *Quercus robur* saplings of alien (non-Wiltshire) provenance. The four studies listed above give many woody taxa as vulnerable to (or infected with) *P. ramorum* and/or *P. kernoviae*. The combined totals are:

Broad-leaved trees: 14 genera, 17+ species (6 native, 4 naturalised, including *Aesculus*).

Shrubs: 11 genera, 15+ species and hybrids (8 native).

Conifers: 4 genera, 4 species (1 native: Yew).

Woody climbers: 1 species (native: Ivy).

To date, the most serious concerns have been directed towards plantations of *Larix kaempferi* (Japanese Larch) and forest *Quercus robur* (Pedunculate

Oak). *Aesculus hippocastanum* is prone to infection by *P. ramorum* and/or *P. kernoviae*.

6. Powdery Canker. Reference: Bean, 1989. This is a degenerative disease affecting only mature *Aesculus carnea* trees. Ugly trunk eruptions were conspicuous on specimens and groups in Marlborough and on the Tottenham Estate, adjacent to Savernake Forest. Most such trees have now been removed.

### Recoveries

Severe infestations of *A. hippocastanum* over three years by *Cameraria* moth larvae have killed few trees, despite halving the annual photosynthetic period. I have noted on some trees unusual new green leafy August shoots, comparable to 'Lammas' growths in oaks. Conker yields have been very much reduced. The more serious fulminant, Bleeding Canker (probably *Pseudomonas* rather than *Phytophthora*) certainly kills some trees, but others recover completely, whether or not there has been tree surgery. It is not possible to guess which of the other trunk-rots might be caused by one of the *Phytophthora* species without full laboratory expertise. However, I have noted recovery of one tree in which two thirds of the trunk was ringed. Some of the branch and trunk rots followed Grey Squirrel damage and were therefore not caused by primary pathogens. These also healed in time.

### Summary

Bacterial Bleeding Canker (*Pseudomonas*) is currently the main threat to *Aesculus hippocastanum* and *A. carnea*, but will probably not prove fatal to all trees. Large-scale disfiguring of the foliage of *A. hippocastanum*, *A. carnea* and *A. indica* by Horse-chestnut Leaf-miner seems likely to continue. Plant scientists currently seem uncertain over the recent waves of *Phytophthora* afflicting our native, introduced and plantation woody species, including *Aesculus*. *A. carnea*, a species originating from *A. hippocastanum* × *A. pavia* hybridisation, is the only *Aesculus* vulnerable to all six of these conditions. It remains to be seen whether 1, 3 and 5b will, in combination, seriously decimate our *Aesculus* populations.



It would seem inadvisable to plant any *Aesculus* trees as avenues or *en masse* in future. They should be mixed with different tree genera. *A. indica* and *A. turbinata* might stand a better chance than *A. hippocastanum* and *A. carnea* in decades to come.

#### Acknowledgements:

My thanks to Tony Coultiss, Data Projects Officer of the Wiltshire & Swindon Biological Records Centre.

#### References:

- BEAN, W.J. (1989). *Trees and shrubs hardy in the British Isles*. Vol. 1: A – C. John Murray, London.
- BEVAN, D. (1987). *Forest insects*. Forestry Commission Handbook, no. 1. H.M.S.O., London.
- FORESTRY COMMISSION (2010a). '*Phytophthora kernoviae*'. Web page: [www.forestry.gov.uk/forestry/infd-66jlgb](http://www.forestry.gov.uk/forestry/infd-66jlgb) (accessed 13/10/2010).

- FORESTRY COMMISSION (2010b). '*Phytophthora ramorum*'. Web page: [www.forestry.gov.uk/pramorum](http://www.forestry.gov.uk/pramorum) (accessed: 13/10/2010).
- MABBETT, T. (2009). 'Horse Chestnuts bleeding to death'. *Forestry Journal* **15(6)**: 42-44.
- MABBETT, T. (2010). '*Phytophthora ramorum* hits larch in Ireland'. *Forestry Journal* **16(10)**: 9.
- MACKINLAY, L. & MCINTOSH, J. (2010). '*Phytophthora ramorum* and *P. kernoviae* in Scotland'. *BSBI News* **113**: 11-12.
- STACE, C.A. (2010). *New flora of the British Isles*. 3<sup>rd</sup> ed. Cambridge University Press, Cambridge.
- TILBURY, C. & EVANS, H. (2003). *Exotic pest alert: Horse-chestnut Leaf Miner Cameraria ohridella*. Forestry Commission.

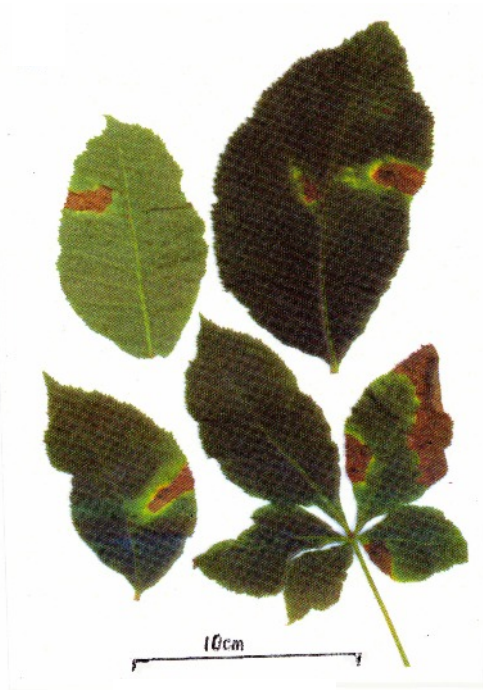


Figure 1: Leaf and leaflets of *Aesculus carnea*

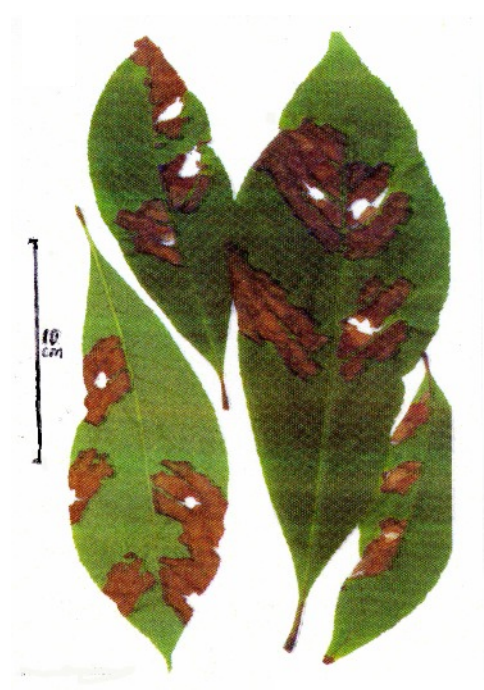


Figure 2: Leaflets of *Aesculus indica*

Both damaged by Horse-chestnut Leaf-miner Moth caterpillars (September 2010). J. E. Oliver

## A native population of *Brachypodium pinnatum* (Heath False-brome) in Banffshire (v.c.94), re-found after 144 years

ANDY AMPHLETT, 72 Strathspey Drive, Grantown-on-Spey, Morayshire, PH26 3EY;  
(Amphlett@grantownonspey.freerve.co.uk)

*Brachypodium pinnatum* agg. (Tor-grass) is a perennial of dry calcareous soils. Its distribution in Great Britain is centred on central southern and eastern England. Populations in SW England, western Wales and Scotland are mapped as alien in the *Atlas* (Preston *et al.*, 2002). In Scotland, the *Atlas* maps it as occurring in c.10 hectads, with the most northerly sites being in Mid Perthshire (v.c.88). Further recording and computerising of historic records has increased the number of hectads in Scotland to c.13 (BSBI, 2011).

There is actually a record of *B. pinnatum* agg. from further north in Scotland, from Banffshire (v.c.94). J.P. Bisset collected it at Craighalkie (NJ1519), near Tomintoul in 1866. There is a voucher at the University of Aberdeen (ABD), and the record was, according to Mary McCallum Webster's card index for the county, published (*J. Bot.*, 4 (1866): 392). It is not clear why this record was not mapped in the *Atlas*. A source for the only subsequent record, in 1969 at Tomintoul, listed in a dataset collated during work for the *Atlas*, can not be traced, and this record is probably best discounted as a transcription or data entry error.

Craighalkie, a small site supporting calcareous woodland and grassland with limestone outcrops, lies within the Creag nan Gamhainn SSSI and SAC, south of Bridge of Avon. Known to generations of botanists in NE Scotland as a location for a number of rare and locally notable plants, it must be considered relatively well recorded. A minimum of 29 different botanists have visited and recorded here, in 43 different years over the period 1839 to 2010, and there are plant records for 20 of the last 30 years. Immediately adjacent to the A939, the site is easily accessible. Therefore, while I was aware of Bisset's 1866 record, and kept it in mind when botanising here, I was doubtful that the species would be re-found. That other Scottish records were considered to

be introductions, e.g. on roadsides, only increased my suspicion that the plants may not have persisted.

In 2010, I re-found *Gymnadenia densiflora* (Marsh Fragrant-orchid) here, at its only site in the county, updating a 1993 record made by Kathy Fallowfield. On 24<sup>th</sup> July I returned to survey the population in greater detail. 58 flowering plants were counted, centred on the best remaining area of open grassland. Having completed my count, I walked northwards into the edge of open woodland, mainly comprising *Betula pubescens* (Downy Birch). The ground here is steep, and I was giving as much attention to my footing as to plants, when I virtually walked into a dense patch of c.100 erect stems of a distinctive and unfamiliar grass. A couple of stems were collected, and the plant was keyed out at home: *Brachypodium pinnatum* – I had re-found it, virtually by accident.

Stace (2010) and Cope & Gray (2009) differ in their treatment of *B. pinnatum* agg, both recognising two taxa, but at different ranks. Stace gives two species, *B. rupestre* and *B. pinnatum*, while Cope suggests the two taxa are probably best recognised as subspecies of *B. pinnatum*. The population I had found had hairy glumes and lemmas and the leaf blades were sparsely hairy on the upper surface. Examining the lower surface of a folded leaf at  $\times 30$  under a stereo microscope with transmitted light, I could see very small stiffly erect hairs (average c.10 $\mu$ m length) across the whole width of the leaf surface, both between and on the veins. These are the 'prickle-hairs' referred to by Stace and Cope, and stated by Stace to be the definitive identification feature. These hairs are invisible using a  $\times 20$  hand lens, so identification using this feature is only possible using a microscope. Stace, in his key, states that to observe these hairs requires a minimum  $\times 50$  magnification. On the plants I examined, as long as a folded leaf was viewed

back-lit, the hairs were visible at  $\times 30$ . Therefore, using the criteria adopted by Stace, I identified the plants as *B. pinnatum sens. str.* (Heath False-brome).

I sent a specimen to Tom Cope at Kew and he commented: “The specimen you sent is a very good example of why I didn’t recommend in the grasses handbook that a formal distinction be made between *B. pinnatum* and *B. rupestre*, at least at the species level.” Given that the prickly hairs were to be found over the whole lower surface of the leaf, in both costal and intercostal regions he agreed that the plants fell within the circumscription of *B. pinnatum sens. str.* However he noted that, “the raceme (stiffly upright) is characteristic of *rupestre*; the vegetative parts are intermediate in their indumentum; the length of the ligule is in the zone of overlap, as is that of the lemma and the awn. The habitat is almost certainly that of *rupestre*.” He concluded that “There is more work needed to determine whether a distinction is both practicable and useful”.

Chater (2010) reports two apparently native, and four non-native populations of *B. pinnatum* agg. in Cardiganshire (v.c.46). He comments that the diagnostic characters of *B. pinnatum* and *B. rupestre* are not well correlated in these populations, and all six populations differ in varying characters from each other. He therefore lists them all as the aggregate species.

The site where *B. pinnatum* grows in Banffshire is the most northerly and, at 320m A.O.D., the highest altitude site for *B. pinnatum* agg. in the British Isles. A further search of the area in early September 2010 failed to locate any additional stands, and the population may be restricted to this single patch.

Closely associated species were: *Alchemilla filicaulis* (Hairy Lady’s-mantle), *Arrhenatherum elatius* (False Oat-grass), *Betula pubescens* (Downy Birch), *Brachypodium sylvaticum* (False Brome), *Bromopsis ramosa* (Hairy-brome), *Carex flacca* (Glaucous Sedge), *Centaurea nigra* (Common Knapweed), *Cirsium heterophyllum* (Melancholy Thistle), *Clinopodium vulgare* (Wild Basil),

*Corylus avellana* (Hazel), *Dactylis glomerata* (Cock’s-foot), *Danthonia decumbens* (Heath-grass), *Galium verum* (Lady’s Bedstraw), *Helianthemum nummularium* (Common Rock-rose), *Avenula pratensis* (Meadow Oat-grass), *Hypericum hirsutum* (Hairy St John’s-wort), *Origanum vulgare* (Wild Marjoram), *Plantago lanceolata* (Ribwort Plantain), *Potentilla erecta* (Tormentil), *Succisa pratensis* (Devil’s-bit Scabious), *Trifolium medium* (Zigzag Clover) and *Vicia sylvatica* (Wood Vetch).

Given the relatively undisturbed, semi-natural habitat in which *B. pinnatum* grows, that all the associate species are native to the area, and that it was first recorded here over 100 years ago, it is reasonable to consider it native to the site. This is 200km north of the most northerly native site mapped in the *Atlas*, in North Northumberland (Swan, 1993). Are there other populations in Scotland that should be re-assessed as native? Smith *et al.* (1992) list *B. pinnatum* agg. as native in Mid and East Perthshire (v.cc.88 & 89), although these records were mapped as alien in the *Atlas*.

Given that the small Banffshire population was overlooked for so long, are there other native populations to be discovered in Scotland? Duncan (1980) mentions an unconfirmed 1956 record from a sea cliff near the mouth of the Eathie Burn (another well known botanical site), near Cromarty in Easter Ross (v.c.106). In the absence of a specimen, and not able to relocate the species here herself, she discounted the record.

Re-finding species last recorded decades or more ago is particularly satisfying. *Crepis mollis* (Northern Hawk’s-beard), was also collected at Craighalkie by J.P. Bisset in 1863, and last recorded here by E.S. Marshall & W.A. Shoolbred in 1905. This is the most northerly recorded site in Great Britain. Could it still be present here? I have looked for it, but without success so far ...

#### References:

- BSBI (2011). <http://www.bsbi.org.uk/atlas/main.php> – accessed 04/02/2011.  
CHATER, A.O. (2010). *Flora of Cardiganshire*. Aberystwyth.

- COPE, T. & GRAY, A. (2009). *Grasses of the British Isles*. BSBI Handbook No. 13. London.
- DUNCAN, U.K. (1980). *Flora of East Ross-shire*. Edinburgh.
- PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. (2002). *New atlas of the British & Irish flora*. OUP, Oxford.
- SMITH, R.A.H., STEWART, N.F., TAYLOR, N.W. & THOMAS, R.E. (1992). *Checklist of the plants of Perthshire*. Perth.
- STACE, C.A. (2010). *New flora of the British Isles*. 3<sup>rd</sup> edn. CUP, Cambridge.
- SWAN, G.A. (1993). *Flora of Northumberland*. Newcastle upon Tyne.

## What is biodiversity?

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

In order to write an article for *Wiltshire Botany* on how to promote biodiversity locally, I read a variety of publications on the topic. Though it has now become a major issue, I could find no clear definition of the word. So I constructed one. Readers may wish to share it – and, indeed, improve on it.

Biodiversity is a term for the variety of wildlife which we ought to be maintaining and enhancing. It refers to the existence of a large number of species, and variations within species, of living things (e.g. Pyramidal Orchid, the Marbled White butterfly), of the different communities of which they form a part (e.g. species-rich limestone grassland), and of the environments which these species and communities require (e.g. limestone grassland which has not been agriculturally improved by fertilisers, herbicides, etc.). It is perhaps another word for “nature”, but with value judgements implied.

The term “biodiversity” appears to have become more prominent than the formerly popular term “nature conservation”. Perhaps this is because “nature conservation” had become too associated in the public mind with maintaining rare species rather than a wide variety of species and a variety of entire communities. Biodiversity encompasses both. Further, nature conservation may have implied that we only keep what we have, whereas biodiversity thinking includes enhancement of existing communities and creation of new ones to increase the number and variety of organisms and link them up into networks through which species can more easily move and establish themselves more widely.

However, “biodiversity” is not an activity – it needs a word added to say what we need to do. Perhaps we should speak of “biodiversity promotion”, since more than conservation is required. The Lawton Review (2010) has recently reported to the Government on how to take biodiversity further, taking the stance that we need to advance beyond trying to hang on to what we have to “large-scale habitat restoration and recreation”. A major aim, they argue, should be to enlarge and improve current wildlife sites, add new ones and find means of joining them up. Wildlife sites should be “more, bigger, better and joined”.

### References:

- LAWTON REVIEW PANEL (2010). *Making space for nature: a review of England's wildlife sites and ecological network*. Report to Defra.
- PRESLAND, J. (2011). ‘Biodiversity at parish level: the example of Winsley’. *Wiltshire Botany* **12**: 26-35.

[Note from the Editor: The International Union for the Conservation of Nature (I.U.C.N.) gives the following definition of ‘biodiversity’: “the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.”]

### Reference:

- I.U.C.N. Website. (<http://www.iucn.org/what/tpas/biodiversity/about/?gclid=CKCbwanIxcCFQoZ4QoduAHyCw>)(accessed 11/3/2011)]

## *Diphasiastrum* clubmosses in Strath Nethy (v.c.96)

MARK GURNEY, *RSPB, The Lodge, Sandy, Beds., SG19 2DL*

ANDY AMPHLETT, *RSPB, Forest Lodge, Nethybridge, Inverness-shire, PH25 3EF*

Issler's Clubmoss is a rare plant in Britain. Clive Jermy (1989) reviewed its history and taxonomy and concluded that the most appropriate name for the British plants is *Diphasiastrum complanatum* ssp. *issleri*. As the taxon is of hybrid origin (*Diphasiastrum complanatum* × *Diphasiastrum alpinum*) it might be more appropriate to call it *Diphasiastrum* × *issleri* or to regard it as a species (*Diphasiastrum issleri*) in its own right. Otherwise, why should it be included as an infraspecific taxon of one parent rather than the other?

Jermy (1989) mentioned a record from Strath Nethy, Easternness (v.c.96, but mistakenly listed under v.c.92), where David Tennant found a population between 750m and 800m altitude in NJ0206, south-west of Bynack Beg, in 1981. The site is now part of Abernethy National Nature Reserve, which is managed by the Royal Society for the Protection of Birds.

It does not seem to have been recorded in Strath Nethy again until Andy Amphlett visited the site in 1993 and found two populations in the area of the original discovery. In 1994 he and David Wood made a thorough search of the area, and they noted several hundred patches across an area of at least four hectares. Three years later, in 1997, Andy returned with James Cadbury. They found the clubmoss in two separate areas about 800m apart, in NJ0206 and NJ0205. The northern locality had a few plants growing near a gravelly deer track, and this was probably the site that David Tennant had found. At the southern locality, the clubmoss was found in good numbers extending over at least 200m, but here it was mostly growing under *Calluna vulgaris* (Heather) and *Vaccinium myrtillus* (Bilberry).

In September 2010, we went to Strath Nethy to try to re-find Issler's Clubmoss and to map its distribution using GPS data. We found the two populations that Andy and James had seen thirteen years ago, one of which was rather

small, on the exposed gravel near a deer track. The other extended for about 160m along a gully formed by a stream, and continued for 350m south along the slope in a band about 50m wide. Altogether, the plant was common over an area of about 2.5ha (we recorded it in 67 10m × 10m grid squares). Both locations were between 700m and 750m altitude, with plants descending to 670m down the gully. The slopes were covered by Heather and *Empetrum nigrum* (Crowberry), so the vegetation was not outstanding. Similar conditions must be found in hundreds of places throughout the Highlands, but they are botanically unpromising and rarely visited by those seeking unusual plants. *Erica cinerea* (Bell Heather) was present, but usually on more exposed areas, and the clubmoss seemed to avoid areas of Bell Heather, preferring the Heather instead.

*Diphasiastrum alpinum* (Alpine Clubmoss) was growing with Issler's Clubmoss in a number of places, and we spent some time sorting out the differences between these two similar species. Alpine Clubmoss is often found in exposed areas of short vegetation. In these environments it is glaucous, its branches are short and bunched, and its stems are rather fat, unlike the bright green, straggling, flat stems of shaded Issler's Clubmoss. However, when it is growing under Heather or in other shaded places, the familiar Alpine Clubmoss of mountain summits can take on the appearance of Issler's Clubmoss. We found some clubmosses that had flat, green or yellow-green stems straggling through the undergrowth, but they had trowel-shaped ventral leaves and strongly curved side leaves typical of Alpine Clubmoss. Conversely, plants in exposed situations looked very similar to these, but they had straight ventral leaves, parallel side leaves, and long cones typical of Issler's Clubmoss. This range of variation was confusing, but after we examined a number of specimens, we were satisfied that

we were looking at two entities, even though a few plants were almost intermediate, with slightly bent ventral leaves. At another location on the Abernethy reserve, at only 360m altitude, Alpine Clubmoss has been found growing on a forest track. Here the plants were bright green, looking almost identical to Issler's Clubmoss, but with trowel-shaped leaves.

The *Fern Guide* (Jermy & Camus, 1991) and *Plant Crib 1998* (Rich & Jermy, 1998) give useful features for identifying the *Diphasiastrum* clubmosses, but the variation in Alpine Clubmoss is confusing. We thought that some of our observations might help others to find this plant. Its localities do not seem particularly special, so it could easily be hiding in places that receive little attention from botanists.

The leaf shape of the side and ventral leaves seems to be the most reliable vegetative feature. Leaves on young shoots are often not typical, so those on second year shoots are the ones to look at. These are the parts of the branches immediately below the first constriction. The trowel-shaped ventral leaves of Alpine Clubmoss are mentioned in the guides. These leaves have a distinct angled bend in them when viewed from the side (see colour section plates 2-3, photo 6). Our plants either had leaves with a distinct bend, like a trowel, with the blade parallel to the surface of the stem but raised above it by the 'handle' of the trowel (Alpine Clubmoss); or leaves without a bend, though often curved, and held away from the stem at an angle or lying flat upon it (Issler's Clubmoss) (photo 7). The trowel-shaped ventral leaves were found on shoots with side leaves that curved strongly in to the stem (photo 4), whereas the straighter ventral leaves were associated with side leaves that were straight for much of their length (photo 5). The ventral and side leaf characters therefore fitted the descriptions of leaf shapes for each of the taxa, and we were confident that the two leaf types referred to the two species. The colour and flatness of the shoots were more variable. As we mentioned above, the

bright green, broad stems of Issler's Clubmoss growing in the shade were striking (photo 1), but in the open it had narrower, yellow-green stems, similar in colour and shape to Alpine Clubmoss growing in the shade (photo 2). It is important to compare plants growing under similar conditions.

The cones of the Alpine Clubmoss had largely finished releasing spores, whereas those of the Issler's Clubmoss were just starting to release theirs. The cones were a good feature to pick out the Issler's Clubmoss, as they were longer than those of Alpine Clubmoss, and often in pairs on short stalks (photos 2 & 3). The stalks were much shorter than those shown on the silhouettes in the *Plant Crib 1998*, and not all the cones had stalks, but they were different from the short, solitary cones of Alpine Clubmoss. The sporophylls of Alpine Clubmoss were gradually tapered at the apex (photo 8), whereas those of Issler's Clubmoss were more rounded with a point (photo 9), but the shape varied, and unless one was comparing sporophylls from the same part of the cone on similarly aged cones, the difference was subtle.

The spores themselves were puzzling. As the Alpine Clubmoss had mostly finished releasing its spores we were only able to get samples of Issler's Clubmoss from our Strath Nethy site, but a few weeks later Stewart Taylor kindly sent us some cones of Alpine Clubmoss from a site at higher altitude, so we could compare the two species. The spores from Issler's Clubmoss in Strath Nethy were 44.2µm in diameter (mean of 33 spores, standard deviation 3.32). About 30% were misshapen, like deflated footballs (69 of 250 spores checked, but we were rather conservative in our classification, and a spore had to be obviously deflated to count). The spores of the Alpine Clubmoss were 36.2µm in diameter (mean of 33 spores, standard deviation 2.29), and about 30% were misshapen (84 out of 250). This is the converse of the sizes reported by Jermy (1989): 30 – 38µm for *complanatum*; 42 – 47µm for *alpinum*.

**Acknowledgements:**

Thanks to Stewart Taylor for collecting the Alpine Clubmoss cones and for the use of his photos, and to Fred Rumsey for help with identifying specimens and other useful information.

**References:**

JERMY, C.J. (1989). 'The history of *Diphasiastrum issleri* (Lycopodiaceae) in Britain

and a review of its taxonomic status'. *Fern Gazette* **13**: 257-265.

JERMY, A.C. & AND CAMUS, J. (1991). *The illustrated field guide to ferns and allied plants of the British Isles*. Natural History Museum, London.

RICH, T.C.G. & JERMY, A.C. (1998). *Plant crib 1998*. BSBI, London.

---

## Some impacts of the Tees Barrage on the local flora of Teesside

D.W. SHIMWELL, *High House Farm, High Stoop, Satley, Bishop Auckland, DL13 4HL*;  
(shimwell44@tiscali.co.uk)

The major ecological effect of the Tees Barrage, completed in 1995, was to limit the tidal reach of the river. Before the construction of the barrage, the river had been tidal as far as the reach above High Worsall Ford (NZ384095), on the lands of Newsham Grange, some 25 kilometres upstream as the river meanders. Inevitably, the abrupt change from tidal to freshwater has affected the distribution of several plant species of marginal aquatic habitats in the main river channel and personal field observations have indicated the contraction of species of saline habitats and the concomitant expansion down river of certain freshwater species. The halophyte *Aster tripolium* (Sea Aster) formerly extended as far upstream as Preston-on-Tees, in the vicinity of the Bowesfield Nature Reserve (NZ443164), some six kilometres from the barrage, primarily as a colonist of the retaining walls as a chasmophyte, usually within one metre above the level of normal high tides. *Bolboschoenus maritimus* (Sea Club-rush) formerly grew on fragments of muddy salt-marsh which also supported small populations of *Cochlearia officinalis* (Common Scurvy-grass), *Plantago maritima* (Sea Plantain) and *Puccinellia maritima* (Common Saltmarsh-grass), but now it is restricted to a few isolated stands in brackish backwaters of the main river course. It seems probable that up-river populations of all these halophyte species will continue to contract their distribution in the Tees corridor due to the progressive desalini-

sation of marginal habitats following the construction of the barrage.

In some way offsetting these losses, the barrage has had a positive effect in causing the development of an excellent strip of salt-marsh along either side of the course of the Old Tees where it runs through the Teesside Retail Park (NZ467186 to NZ469177). In the early 19<sup>th</sup> century, the natural meanders of the Tees were a major drawback to the rapid access of traffic bound to and from the port of Stockton. The year 1791 saw the first proposal to straighten the river by a new channel across the northern neck of the meander, an undertaking that was destined to be a mere 220 yards in length, but one which would save a distance of 2½ miles of navigation. The Mandale or Old Cut was completed on 18<sup>th</sup> September 1810 and is today that stretch of the river forming the northern boundary of the Queen's Campus of the University of Durham, as far as the seaward side of the Tees Barrage. The vice-county boundary between NE Yorkshire (v.c.62) and Durham (v.c.66) follows the former course of the river as it was before the construction of the Mandale Cut, and this original line was marked by the 1<sup>st</sup> edition of the Ordnance Survey (1856-1865). The line of the county boundary was changed in the early 20<sup>th</sup> century to follow the straightened course of the river, but although these changes from the original were noted by Reverend Gordon Graham in *The flora & vegetation of County Durham* (1988:25), records from the area were

not included on account of accessibility problems.

The marginal habitats of the river upstream from the barrage on the north bank, once fragmentary salt-marshes, have become one of the best localities in the county to see *Oenanthe crocata* (Hemlock Water-dropwort), which dominates a narrow marginal strip for some 100m upstream from the northern end of the Teesside Water Sports Complex (NZ458191). Associates include *Carex otrubae* (False Fox-sedge), *Carex pendula* (Pendulous Sedge), *Epilobium hirsutum* (Great Willowherb), *Filipendula ulmaria* (Meadowsweet), *Impatiens glandulifera* (Himalayan Balsam), *Lysimachia vulgaris* (Yellow Loosestrife), *Scrophularia auriculata* (Water Figwort), *Smyrniolum olusatrum* (Alexanders) and *Urtica dioica* (Nettle). To understand the composition of this plant community, one must make recourse to a basic comprehension of the structure of the barrage and its maintenance. The primary functional component of the barrage is a tidal weir, comprising four bottom-hinged, fish-belly, flap gates, each 13.5m wide and 8m high, which must remain free-flowing and free from blockage at all times. After heavy falls of rain in the hills and the ensuing rapid rises in river level, trunks and branches of several tree species – predominantly *Salix fragilis* (Crack Willow) are washed down river and deposited on the northern Tees bank by the prevailing south-westerly winds. In order to avoid a log jam at the barrage, the British Waterways Board employs a staff of seven labourers to remove this natural flotsam and stockpile it on the southern bank (NZ461189). The peak of activity is from late April to the end of May, during which period personal observations over the past four years have suggested that one of the main mechanisms of dispersal downstream of many species in the marginal *Oenanthe crocata* community is as colonists of the mud-encrusted trunks of floating trees. From observations made from May 2007 to June 2010 *passim*, on floating trunks on the north bank and in the south bank stockpile, the floristic assemblage comprised the following

species: *Alliaria petiolata* (Garlic Mustard), *Anthriscus sylvestris* (Cow Parsley), *Apium nodiflorum* (Fool's Watercress), ***Barbarea vulgaris*** (Common Wintergreen), *Calystegia sepium* (Hedge Bindweed), ***Carex pendula***, ***Carex otrubae***, ***Carex remota*** (Remote Sedge), *Cerastium fontanum* (Common Mouse-ear), *Heracleum mantegazzianum* (Giant Hogweed), ***Hesperis matronalis*** (Dame's-violet), *Impatiens glandulifera*, ***Lysimachia vulgaris***, ***Oenanthe crocata***, *Poa trivialis* (Rough Meadow-grass), *Prunella vulgaris* (Self-heal), *Rumex obtusifolius* (Broad-leaved Dock), ***Smyrniolum olusatrum***, *Sonchus oleraceus* (Smooth Sow-thistle), and ***Urtica dioica***. Those species highlighted in bold are key species established in the *Oenanthe crocata* community.

A comparison of the distribution maps of species published by Graham (1988) and *The flora of North-east England* ([www.botanicalkeys.co.uk/northumbria](http://www.botanicalkeys.co.uk/northumbria)) indicates that species such as *Hesperis matronalis*, *Lysimachia vulgaris* and *Oenanthe crocata* have extended their distribution downstream in the lower reaches of the Tees within hectad NZ41. The records for *Carex remota*, *Carex pendula* and *Smyrniolum olusatrum*, however, are new for NZ41 and their transport by the flotsam trunks has clearly been from further upstream. In addition, the effects of a greater frequency of tidal inundation in the Old Tees and the development of salt-marshes have confirmed older, pre 1986 records for *Aster tripolium*, *Plantago maritima*, *Puccinellia maritima* and *Triglochin maritimum* (Sea Arrow-grass) in the tetrads NZ4616 and NZ4618, which include salt-marsh in both v.c.62 and v.c.66. One marginal, upper salt-marsh sward which is only inundated by spring and autumn neap tides and is dominated by the latter three species, is actually mown as an amenity grassland from May to August.

#### Reference:

GRAHAM, G.G. (1988). *The flora and vegetation of County Durham, Watsonian vice-county 66*. Durham Flora Committee & Durham County Conservation Trust, Durham.



## Possible over-recording in the *New atlas* revealed by Norfolk Flora Group recording 2000-2009

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

*A flora of Norfolk* (Beckett, Bull & Stevenson), published in 1999, was widely praised for the completeness of its recording methods, based on systematic tetrad recording. Every tetrad in the county was covered at least once over a period of 12 years, some several times, and the results were presented in the form of tetrad maps using DMAP, besides providing the bulk of the Norfolk records for the *New atlas* (Preston, Pearman & Dines, 2002).

The Norfolk Flora Group has continued systematic tetrad recording, and numerous other visits all over the county, during the ten years since 1999. These further surveys have suggested four examples of over-recording, and it is the purpose of this article to deal with these four cases, and also to speculate on the reasons why this over-recording happened.

### Why suspect over-recording?

Over-recording was, of course, mainly suggested by the fact that we found much fewer sites for these four taxa than would be expected from the 1999 Norfolk Flora and *New atlas* maps. One has to be wary in making this assumption, because a taxon can be very scarce and still have the same number of dots on the map as a common taxon, especially at the hectad level. However, in these four cases we have found virtually no sites at all since 2000, and in all four cases there are other reasons to suspect over-recording.

With *Salix cinerea* (Grey Willow) ssp. *oleifolia* and *Sedum forsterianum* (Rock Stonecrop) over-recording was also very strongly suggested by anomalous looking distributions in the national atlas, distributions not explained by special habitat or climatic factors - and especially in the former case also by an obviously 'artefactual' straight boundary for distribution between E. and W. Norfolk (and also between E. and W. Suffolk, where the Norfolk Flora Group did a lot of recording in the north of the county).

In the case of *Prunus domestica* (Wild Plum) and *Symphytum officinale* (Common Comfrey) the dot maps show a similar density in surrounding counties, and here the over-recording that seems to have occurred in Norfolk may well have occurred elsewhere. In both these taxa, authorities on the species have suggested over-recording - D.J. McCosh in a general sense for *Prunus domestica* (under *P. cerasifera* in the *New atlas*, 2002), and F.H. Perring, specifically for Norfolk, for *Symphytum officinale* (pers. comm.).

Another factor leading to over-recording would seem to be the policy of accepting records for common species from inexperienced botanists. Such botanists are very likely to be led astray by the standard vernacular names, assuming that the 'Common Comfrey' is the scarce *S. officinale*, or that the usual 'Wild Plum' is *P. domestica* and not *P. cerasifera*! Perhaps occasional problems like this are inevitable if one is going to obtain really detailed distribution maps for the commoner taxa in this way.

Another caveat is the fact that unusually complete recording could in itself suggest over-recording where there is none. If surrounding vice-counties are at the time less completely recorded, this could produce an anomalous looking map, and very complete coverage, using a few hundred recorders, could also produce out of the way records that would take subsequent surveys many years to turn up again. However, whereas the gradual turning up of such records has cast (slight) doubt on suspicions of over-recording in some other instances (e.g. *Trifolium dubium* (Lesser Trefoil) as *T. campestre* (Hop Trefoil)) this has very much not happened in these four cases.

Finally, in *Sedum forsterianum* and *Salix cinerea* ssp. *oleifolia*, local misconceptions as to status and identification, going back over several generations, could also be factors in

over-recording. In the former case, statements as far back as 1901 that *S. forsterianum* was abundant in Norfolk (Geldart, in Petch & Swann, 1968) still held sway a hundred years later. With the *Salix*, over-reaction to an absolute statement that this taxon was completely absent from Norfolk may have resulted in over-recording in the east (v.c.27) and under-recording in the west (v.c.28). A few examples of misidentification like this probably occur in most counties, but will not necessarily be evident in vice-counties where recording is less complete.

### Mis-recording of *Symphytum* ×*uplandicum* as *S. officinale*

The tetrad map for *S. officinale* in the 1999 flora of Norfolk appears to show this species as much more widespread and abundant in the county than is, in fact, the case. Tetrad dots are closely spaced over almost the whole county, whereas Franklyn Perring (pers. comm.) was of the opinion that it has always been restricted to the extreme S.W. of the county bordering the fens, and that it was “more or less confined to fens and river banks” (*Critical supplement to the atlas of the British flora*, 1968). The hectad map in the *New atlas* of 2002 shows much the same distribution as the Norfolk flora map.

Franklyn Perring’s view has been supported by N.F.G. surveys in the ten years since 1999. During these surveys we have found hundreds of sites for *S. ×uplandicum* all over the county, and nearly all on road verges, but finds for *S. officinale* have been virtually restricted to a few relict fens and a few dyke banks in ‘fen country’, on the S.W. borders of the county, and nearby. In the east (v.c.27) the v.c. recorder and I have only recorded the species once. I have been living for 25 years on top of eight 1999 tetrads without seeing it once in the area.

In 1999 W. Norfolk (v.c.28) had 113 tetrads for *S. officinale*, around two thirds on the edge of the fens, or along river valleys draining westwards into the Fens (mainly the Little Ouse and Nar). Since 1999 we have confirmed *S. officinale* in 18 of these tetrads, and all ‘re-finds’ were in this catchment area,

with none of the 40 odd tetrads further north and east being confirmed. In E. Norfolk (v.c.27) only one of the 53 tetrads for 1999 has been confirmed, at Hickling, with another reliable new record for Strumpshaw. Both of these were in the same sort of fen or dyke-side sites found in the far west of the county - the only other two records since 1999, from more ‘upland’ areas, are now considered a little dubious (R. Ellis pers. comm.).

I feel certain this discrepancy is partly due to the inappropriate vernacular name for *S. officinale* (‘Common Comfrey’), and the fact that records for commoner species were accepted for the flora (and the national atlas) from inexperienced botanists who simply assumed the common plant (*S. ×uplandicum*) to be this species. It may also be relevant that one of the most widely used field guides during tetrad recording in the 80s and 90s for the Norfolk flora and national atlas (Keble Martin, 1965) had illustrations for the genotypes of *S. officinale* with both creamy-white and deep purple flowers (the latter much like those of *S. ×uplandicum*), but did not illustrate *S. ×uplandicum*, the commoner taxon all over the country, at all. It is easy to see how an inexperienced botanist could simply take any purple flowered comfrey as *S. officinale*.

It is possible also that the odd population of *S. ×uplandicum* may have been misidentified as *S. officinale* because of winging extending the whole length of the internodes. Such plants are occasionally found, presumably due to introgression with *S. officinale*, but the ones I have found are otherwise very typical of *S. ×uplandicum* in other respects, with extremely large, stiff, dark green, bristly leaves, and with the dark black-purple buds and violet purple open corolla of the  $2n = 36$  genotype found in our region (see Perring, in Rich & Jermy, 1998).

All the colonies of *S. officinale* found by the N.F.G. since 1999 have had creamy-white flowers, indicating either ssp. *bohemicum* ( $2n = 24$ ), or var. *ochroleucom* of ssp. *officinale* ( $2n = 48$ ). Perring stated that ssp. *bohemicum* is the form found in Cambridgeshire and Huntingdonshire, almost confined to relict

fen, so this is probably our plant. The carmine flowered form of ssp. *officinale*, with flower colour more likely to be mistaken for *S. ×uplandicum*, we have never found in Norfolk, and I do not think we could miss it - *S. officinale* is a much less robust, paler green and more softly hairy plant than *S. ×uplandicum*.

Our experience in Norfolk would suggest that the remark in the *New atlas* that *S. officinale* is still over-recorded for *S. ×uplandicum* is very much correct, and is likely to apply to much of the country. Across the rest of England it is interesting that the overall distribution of *S. officinale* is exactly the same as that of *S. ×uplandicum*, something one would not expect given their different habitat requirements. Furthermore, the dots are equally dense in all lowland areas except for four very obvious gaps corresponding to v.c. boundaries (Cheshire, S.E. Yorks, N.E. Yorks. and E. Kent) – could these be the vice counties where the determination has been correct? It would seem very likely that a large number (possibly the great majority) of records in the *New atlas* for *S. officinale* relate, in fact, to *S. ×uplandicum*, as we have found in Norfolk.

### **Mis-recording of *Prunus cerasifera* as *P. domestica***

Although not so clear cut, there has been a similar discrepancy noticeable between records for *P. domestica* in the 1999 Norfolk flora and the *New atlas*, and subsequent records, during tetrad and other surveys. Both maps show an almost complete distribution in every hectad of the county, whereas in fact we find it, in the wild, very infrequently indeed. In contrast, we find *P. cerasifera* (Cherry Plum) in a wild situation on virtually every tetrad survey. The early flowering of *P. cerasifera* and the green first year twig character have been well known for some decades now, and were expected to prevent this species being under-recorded. However, I do not believe this has really happened for several reasons.

Firstly, most botanical surveys do not begin until April or May, by which time *P. cerasifera* has finished flowering. Secondly, the

green twig character needs careful interpretation, for it is not present in all twigs, and even then it is often to be found only on the shaded under-surface of the twig. Thirdly, confusion is compounded by there being two distinct fruit colours - either a uniform dark yellow, or an equally uniform dark red, both types being opaque rather than translucent in appearance. The trees on which these different coloured fruits occur appear vegetatively identical.

Once one ties up these characters at different times of the year in the same trees one begins to realise how different *P. cerasifera* is from the other plums in “jizz”, so that one can identify it on vegetative features alone. Compared with *P. domestica*, the branches of *P. cerasifera* are much more fine and graceful, with long internodes and slenderer and more flexible terminal twigs, along with thinner-textured, more narrowly obovate-elliptic leaves. Being able to recognise this appearance, without flowers and fruit, and check it quickly by looking for at least part-green first year twigs, shows to my mind that nearly all ‘wild plums’ in Norfolk are *P. cerasifera*, even when they grow in yearly clipped hedges without flowering or fruiting. In our county at least it was obviously much favoured for hedging by farmers and landowners a century or two ago, and more recently by local authorities for planting around the edges of towns and villages. Self-sown trees along country roads and tracks are also quite frequent.

*Prunus domestica* ssp. *domestica*, on the other hand, is found quite infrequently, and mainly in obvious plantings near habitation, or on old garden sites, not qualifying for wild status. It is very much less common as a human dispersed fruit tree than the apple, seldom used for rural hedge planting, and hardly ever self-sows. *Prunus domestica* ssp. *insititia* (Bullace) is just as infrequent in a wild situation in the county and is in fact an extreme rarity in my experience. In getting on for 200 tetrad surveys I personally have found it only once. I do know it in two hedges near my home, where I have found it in early April because of its very special jizz during flowering (see below). This is before our

surveys begin, but these local bullaces are equally conspicuous when fruiting in September when surveying is still in full swing, so I feel that we are not missing it to any degree.

There seems to have been a considerable amount of confusion about *P. domestica* ssp. *insititia* in floras and field guides, and not all of it, I feel, due to hybridisation with other forms of *P. domestica* (Stace, 2010). The various authorities disagree considerably, for instance, on fruit colour, which is “blue-black or purple” in Stella Ross-Craig (1979), blue-black in the Keble-Martin (1965) illustration, “purple or yellow” in Butcher (1961), “blue-black or purple” in Clapham *et al.* (1962), and “amber coloured” in the 1999 *Flora of Norfolk!* Interestingly, the latter is the only description that fits the three populations I have seen.

The Norfolk bullaces I have found have much thicker and stiffer twigs, with shorter internodes, than *P. cerasifera*, although less so than in *P. domestica* ssp. *domestica*. The twig ends are minutely and densely hairy, and occasional spines may be present on vegetative shoots. The flowers are noticeably larger than those of *P. cerasifera*, and with markedly overlapping petals (cup shaped rather than star like). Most especially they have short pedicels and occur in groups of (1-) 4-6 to form conspicuous masses separated by bare internodes. The inflorescences are thus very different from the long, loose, frothy terminal inflorescences of *P. spinosa* (Blackthorn), or the scattered flowers in ones or twos found in *P. cerasifera* or *P. domestica* ssp. *domestica*. On occasions the terminal inflorescences also have extremely long and regularly-arranged spines, much longer than those in *P. spinosa*. The leaves are more broadly elliptical or obovate than those of *P. cerasifera*, and thicker in texture. The fruits are translucent greenish yellow, but with an orange flush on the sun-exposed surface, stippled with dark purple red dots.

The only illustrations that fit the Norfolk bullace fruit colour are those in *Wildflowers of Britain and northern Europe* (Gibbons &

Brough, 2007) and those in the *New Oxford book of food plants* (Vaughan & Geissler, 1997). The photograph in the first of these books is exactly the appearance of our Norfolk Bullaces with greenish to amber coloured fruit, but the text describes them as greenish purple! In the latter, two cultivars of ssp. *insititia* are described – ‘black bullace’, with purple fruits, and the ‘shepherd’s bullace’, where they are said to be greenish yellow, with an orange flush in the illustration, but without the dark purple-red stippling. It would appear that the Norfolk bullaces are of this variety.

Sell (in: Sanford & Fiske, 2010) places these greenish-yellow fruited plums under ssp. *insititia* var. *syriaca* (White Bullace) and the purple-black fruited forms under var. *nigra* (Black Bullace). Alec Bull, in his excellent review of this problem (Bull, 2000), calls the White Bullace of Sell the Yellow Bullace, and, like myself, wonders whether the purplish-black fruited form could be a hybrid between the Yellow Bullace and Damson (ssp. *insititia* var. *damascena*) or *Prunus spinosa*.

I would suggest that the whole *P. domestica* group has been grossly over-recorded in Norfolk, mainly for *P. cerasifera*. The v.c.27 recorder, Bob Ellis, feels that the over-recording could be for *P. ×fruticans* (*P. domestica* × *P. spinosa*) and he may be right in part. I have only seen *P. spinosa* like plums with larger fruits (which I take to be either this hybrid or *P. spinosa* f. *macrocarpa*) on a very few occasions, but I may be overlooking it.

Whatever it has been over-recorded for, all forms of *P. domestica sensu lato* seem to me to be extremely scarce in Norfolk in situations normally defined as wild. *P. domestica* ssp. *insititia* var. *syriaca* does occur in hedges and can be recorded as wild, but extremely scarcely. I have only seen *P. domestica* ssp. *insititia* var. *damascena* (Damson) on two occasions, in non-hedge plantings, and ssp. *italica* (Greengage) once, again in a planted situation. *P. domestica* ssp. *domestica* occurs more often but almost always in obvious plantings, as already described. *Prunus cerasifera* is a widely distributed hedge constituent all over the county and when local people talk

(as they still do) of “picking bullaces”, this is what they mainly mean, in my opinion. I doubt if they are distinguishing the Yellow Bullace from the commoner yellow fruited form of *P. cerasifera*.

### **Mis-recording of *Sedum rupestre* as *S. forsterianum***

The *New atlas* shows an apparently anomalous distribution for *S. forsterianum*, with a concentration of 13 hectads records in E. Norfolk (v.c.27) and then an extremely thin distribution elsewhere in S. E. and central regions (one or two dots per v.c.) until the mainly native population begins in the border country, Wales, and Devon. What could be the explanation of this?

My interest arose because I have always found it difficult to be sure that what I thought were plants of *Sedum rupestre* (Reflexed Stonecrop) were not in fact *S. forsterianum*. This situation commonly occurs where there are two similar species, one extremely scarce in one's area, which have overlapping characters difficult to interpret - one often does not know which of the two one has for sure, despite careful use of keys, until one is shown the rare species and realises (usually) that it is actually much more different than one suspected!

Once I was shown *S. forsterianum* by Bob Ellis (v.c.27 recorder), who has it in his garden, I realised that virtually all the large yellow-flowered stonecrops I had been seeing, mainly on churchyard walls and kerbed graves, but also occasionally on road banks, were *S. rupestre*, and that I had seldom seen *S. forsterianum*.

Contrary to standard descriptions, *S. rupestre* can have ‘tassels’ of sterile leaves, usually long and cylindrical, but very short and ‘spherical’ at certain stages of growth, and on occasions with somewhat flat tops. Moreover, the leaves are not strictly terete, as often described, but have a slightly flattened upper surface, and a few dead leaves can occur occasionally just below or in the tassels. The specimen of *S. forsterianum* given to me differed not so much in these usual characters, but in being strikingly less robust with much

narrower, less inflated and more crowded leaves in the pre-flowering clusters. The leaves had strictly flattened upper surfaces and the ‘tassels’ were more shortly cylindrical or ‘spherical’ with more cut-off tops. The dead leaves usually described were on the stalk beneath the tassel, not mixed in with the live ones.

Could it be that the recorded frequency of *S. forsterianum* in E. Norfolk is genuine and due to the unusually large numbers of churchyards and kerbed graves we have in the county? This would beg the question as to why it is virtually absent from W. Norfolk. Furthermore, I have visited around 300 churchyards, most in E. Norfolk, and now realise that I only found it once, although *S. rupestre* is frequent.

Petch and Swann (1968) talked of *S. forsterianum* being “locally common in hedgerows in E. Norfolk”, with no mention of churchyards or walls at all, mentioning reports from 1901 and 1915 of it “taking possession of a large tract of land miles square”, or of being “extraordinarily abundant”. Although it is conceivable that this species was once so abundant, but has died out due to eutrophication, why should a plant thought to be a native of wetter western regions of the U.K. be common on dry banks at the other climatic extreme? There are no reports of *S. forsterianum* being common in the past in the floras of Lincolnshire, Cambridgeshire, Suffolk or Essex.

E. Norfolk has 16 new or old hectad records for *S. forsterianum* in the *New atlas* compared with only one or two in the other vice-counties of E. Anglia and the Midlands, and compared with only four in the first *Atlas* map. The *New atlas* describes a “considerable increase in records since the 1962 Atlas”, but this increase is vastly less outside v.c.27.

All this suggested over-recording of *S. rupestre* for *S. forsterianum*, both around a hundred years ago and recently, so I decided to check the only three v.c.27 records with grid references. To my surprise, I confirmed all three as *S. forsterianum*, one on a kerbed grave and two on very poor steep road banks!

It is very difficult to tie all this conflicting evidence together, and plainly any conclusions will be speculative. However, I would suggest that *S. forsterianum*, when spreading eastwards from its more natural rock and scree sites in Wales and the South-west, could have found especially congenial habitats in Norfolk because of the enormous number of churchyards in the county, and possibly also because of a vogue for kerbed graves - it could even have been introduced with the granite chippings these tend to be covered with (Clement & Foster, 1994: xii) – for instance from the southern edge of Dartmoor, one of its strongholds. From churchyards, and also as an escape from garden rockeries as elsewhere in the east, it could have spread to the numerous very tall steep sided road banks we have in the NE of the county.

One also has to ask whether N.E. Norfolk could have held a relict native population of *S. forsterianum*, due to its unusually light, acid soils and steep dry banks. A number of bryophytes largely confined in our region to N.E. Norfolk are considered to be native, and not present for many hundreds of miles to the west because the soils in this area are either ‘boulder clay’ drift deposits or derived from limestones or chalk (R. Stevenson, pers. comm.). Could a similar thing have happened with *S. forsterianum*?

It is interesting to note that a similar isolated area of heathy vegetation and very light acid soils, again surrounded mainly by clayey or chalky soils, is to be found in Surrey, another centre of population in the *New atlas* for *S. forsterianum* (British Geological Survey/N.E.R.C., 2007). This is again considered to be non-native, but the populations considered to be native in the U.K. are also disjunct, with concentrations on the Welsh borders, Exmoor and Dartmoor. On the continent the presumed native population is similarly disjunct, with two patches in Brittany, and one in the hilly S.W. border area of Germany, well to the east of the Norfolk population (Fitter, 1978).

Whether native or alien, it is possible that *S. forsterianum* (and not *S. rupestre*) was indeed “extremely abundant” in N.E. Norfolk

at the beginning of the last century and thus could still be more common now than elsewhere. The anomalous looking map could also be due partly to under-recording in surrounding vice-counties with less systematic tetrad recording.

#### **Mis-recording of *Salix cinerea* ssp. *cinerea* as ssp. *oleifolia***

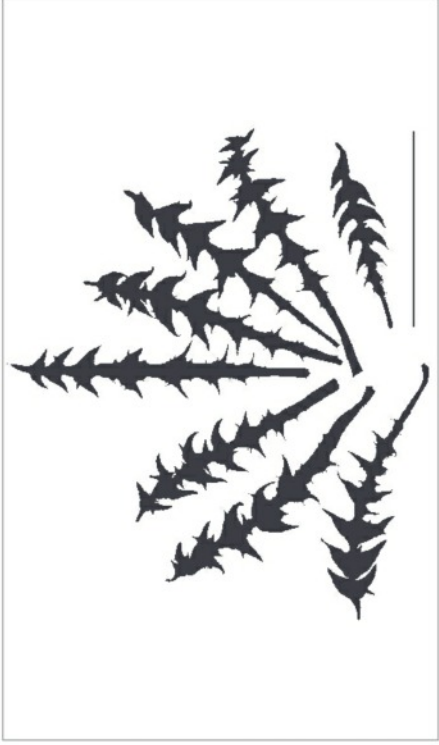
The map for *S. cinerea* ssp. *oleifolia* in the *New atlas* is, on the face of it, very indicative of over-recording in v.c.27, as well as in the north of v.c.25 (E. Suffolk), where the N.F.G. helped recording for the new Suffolk flora. There is a confluent distribution in these areas, and a straight line cut off at the v.c. boundaries with W. Norfolk and W. Suffolk, which shows at least a difference of opinion between v.c. recorders. There are only occasional hectads in W. Norfolk and W. Suffolk, and relatively few also in Cambridgeshire and S. Lincolnshire - further west it becomes the predominant ssp. over the whole of the U.K.

The 1999 Norfolk flora does not map the two ssp. separately but mentions that ssp. *oleifolia* “appears to be the commonest taxon in E. Norfolk”, and ssp. *cinerea* in the west. It is conceivable that ssp. *oleifolia* could be more common in E. Norfolk because of an unusual amount of suitable habitat, with several large areas of heath as well as numerous fens and river valleys – ssp. *oleifolia* tends to be a plant of drier and more acidic sites, including hedgerows and woodland edge (Meikle, 1984). Among the thousands of sites for *S. cinerea*, even a tiny percentage of ssp. *oleifolia* could yield a fairly general distribution on a hectad map, although one would expect the distribution to be on the more acidic soils of N.E. Norfolk, not so much south of Norwich.

Several hundred further tetrad surveys of these areas in the last ten years have only turned up two examples of ssp. *oleifolia*. These plants had extremely narrow, oblanceolate leaves with only obscurely undulate-serate edges and a very dark green lustrous upper surface (looking much like a leaf of holm oak), with a scanty rusty indumentum beneath. These specimens were confirmed by



1. Habitat at Undercleave with Tim Rich



2. Silhouettes of leaves (scale bar 10cm). Photo T. Rich



3. Leaves showing red venation



4. Close-up of capitulum and bracts in bud

All photos are of *Taraxacum subericium*, Devon (v.c.4). Photo 1 J.C. Rich © 2009; photos 3-4 © T.C.G. Rich 2009. (see p. 45)



1. *Diphasiastrum complanatum* ssp. *issleri*. Shaded sterile material with flat, bright green stems. [Photo 1]



2. *Diphasiastrum complanatum* ssp. *issleri*. Fertile material in open ground, with yellow-green, narrow stems, and long cones on short peduncles or sessile. [Photo 2]



3. *Diphasiastrum complanatum* ssp. *issleri*. Fertile material in shade. Bright green, flat stems, and multiple cones on short to long peduncles. [Photo 3]



4. Ventral view of shoots of *Diphasiastrum alpinum* (left) and *D. complanatum* ssp. *issleri* (right). [photos 4 & 5]





5. Side view of shoots of *Diphasiastrum alpinum* (left) and *D. complanatum* ssp. *issleri* (right). [Photos 6 & 7]. Ventral side on top in both photos



6. Cones of *Diphasiastrum alpinum* (left) and *D. complanatum* ssp. *issleri* (right). [Photos 8 & 9]



*Gunnera tinctoria* invading pastures in Achill Island (v.c.H27), W. Ireland. Photo A. Jarvis © 2009 (see p. 44)

All *Diphasiastrum* photos Strath Nethy (v.c.96) © M. Gurney, 2010 (see p. 19).



1. *Trifolium incarnatum* ssp. *molinerii*, June. Colony on the left (seaward) side of the SW Coastal Path at Redrot Cove, Devon.

Photo W. Rees © 2006.



2. *Trifolium incarnatum* ssp. *molinerii*, August. Dead flower head



4. *Trifolium incarnatum* ssp. *molinerii* June. Single plant in unusually dry conditions.

3. *Trifolium incarnatum* ssp. *molinerii*, October. Young plants among *Armeria maritima*, *Plantago coronopus* etc., made particularly conspicuous by water droplets trapped on hairy leaves.

R.D. Meikle as typical of ssp. *oleifolia*, and it seems very unlikely that we have been missing this ssp. because it was so strikingly different from the usual form in the vice-county. Every other specimen I have seen in the last 30 years has had the markedly undulate-serrate edges and dull grey-green upper surface characteristic of ssp. *cinerea*, which is the ssp. characteristic of East Anglia.

It is true that the rusty hairs usually said to be diagnostic can be difficult to find, needing a 20× lens and good light for confirmation, and that one also has to look late in the year, certainly after July and even as late as October (R.D. Meikle & J. Webb, pers. comm.). The translucent hairs, present mainly on the veins, only show up as coppery coloured when the light shines through them. On the other hand the leaf under-surface can look orangey or rusty to the naked eye without rusty hairs being present - sometimes due to orange waste pigment in the underlying vascular tissue, or due to tiny spots of rust fungus.

The presence of rusty hairs is anyway not enough on its own to make the determination. The two subspecies hybridise freely and many examples of *S. cinerea* with rusty hairs will be hybrids, not pure ssp. *oleifolia* (R.D. Meikle and J. Webb, pers. comm.). To determine the pure ssp. one needs the characteristic leaf colour and shape described above, and these are also the spotting characters.

I would suggest that these factors have led to substantial over-recording of ssp. *oleifolia* in E. Norfolk and adjacent N.E. Suffolk in the *New atlas*, with the trend continuing in *A flora of Suffolk* (Sanford & Fiske, 2010). This has 19 hectad records for E. Suffolk (v.c.25) and 17 for W. Suffolk (v.c.26), very similar to the 30 in E. Norfolk (v.c.27) in the *New atlas*. Sanford regards ssp. *oleifolia* (147 tetrads in the whole of Suffolk) as “not as well recorded as ssp. *cinerea*” (347 tetrads), and likely to be “at least as common”. In contrast, the present v.c.27 recorder, Bob Ellis, and I have found only two examples of the subspecies in E. Norfolk, and one in N.E. Suffolk in the ten years since the *New atlas*! This is despite taking a special interest in *Salix*, and finding

during this period confirmed examples of *S. ×forbyana*, *S. ×mollissima*, *S. ×calodendron*, *S. ×holosericea*, *S. ×rubens* and *S. ×multinervis*, amongst others.

There has clearly been a major difference in opinion on the determination of ssp. *oleifolia* between the various botanists involved in this region, over 50 years or so of recording. The statement by Petch and Swann (1968) that *S. atrocinerea* (= ssp. *oleifolia*) “does not occur in Norfolk” continued to hold sway in W. Norfolk (v.c.28) until the *New atlas* and perhaps did lead to some lack of awareness of the taxon, or rejection of records (both authors were from the west). This statement was clearly wrong, but the handful of hectad records for W. Norfolk in the *New atlas* is much closer to the experience of Bob Ellis and myself than the hundreds of tetrads and scores of hectads recorded by Alec Bull for E. Norfolk, and by Martin Sanford for Suffolk. The only explanation I can see for this discrepancy is that hybrids of ssp. *oleifolia* (mainly × ssp. *cinerea*) are being recorded as the pure subspecies due to over emphasis on the rusty hair character.

The three examples I have seen have all been initially identified because of their completely different jizz. They were not necessarily tree-like, but the leaves were strikingly narrow, dark green and shiny from a distance - nothing like ssp. *cinerea* at all, and more like a different species altogether. Looking for rusty hairs on sallows with broadly obovate, dull grey, undulate-edged leaves is likely to result in over-recording of ssp. *oleifolia*.

### Conclusions

One hopes that this review of four possibly over-recorded taxa for Norfolk (v.c.27 and v.c.28) in the *New atlas* will lead to better recording for these taxa in other vice-counties. The factors thought responsible for over-recording in these cases might also be operating for other taxa, both in Norfolk and elsewhere.

The main conclusions are as follows: -

#### 1. *Symphytum officinale*

Of the 51 tetrad and 25 hectad dots for 1999 in v.c.27 (E. Norfolk), the v.c. recorder and I feel

only one is definite. This and one new record are both in fen situations in the Broads area. In v.c.28 (W. Norfolk) *S. officinale* has been confirmed as fairly frequent, but seems very much restricted to fens and dyke edges in the extreme south-west. Around a third of the 1999 records for further N. and E. in the vice-county were probably actually *S. ×uplandicum*. The species has clearly been grossly over-recorded due to confusion with *S. ×uplandicum*, except in the extreme S.W. of the county bordering the Fens. The reasons I feel are, firstly, the misleading vernacular name of ‘Common Comfrey’, secondly the acceptance of records from inexperienced botanists, and lastly lack of awareness of the fact that this species in our region always has pale creamy-white flowers. For the reasons presented, I feel that quite gross over-recording has probably occurred over much of the U.K.

## 2. The *Prunus domestica* group

Botanists in Norfolk, as elsewhere I am sure, seem much at odds over the status of this taxon. There are some who regard non-flowering *P. domestica* as fairly common in frequently cut hedges, whereas I feel that the vast majority of plums can be identified vegetatively as *P. cerasifera*. More significant, perhaps, are differences in opinion as to when one should record *P. domestica* as occurring in the wild. In my view, nearly all are on road verges in or around villages, in overgrown hedges of old gardens, edges of village greens and so on. It is often a matter of opinion as to whether such sites should be recorded as wild.

Despite these doubts, it is my personal belief that the *P. domestica* group has been much over-recorded in Norfolk, and probably in the U.K. generally, except perhaps where plums have been commercially planted. Over-recording has been mostly due to continuing confusion with *P. cerasifera* in my opinion, although confusion with *P. ×fruticosa* is also possible. In Norfolk *P. cerasifera* is by far the commonest plum found regularly in hedges, and self-sowing into wild situations.

## 3. *Sedum forsterianum*

It is possible that the anomalous looking map in the *New atlas* can be explained as the remains of a large population of *S. forsterianum* reported as taking over “square miles” in N.E. Norfolk a hundred years ago. The trouble is that there was at the time much taxonomic confusion between this species and what we at present call *S. rupestre*, so this population could have been *S. rupestre*. The area would have provided unusually suitable habitat for either species, with a unique concentration of churchyards with curbed graves and other stonework, as well as very steep, high road banks on light soils.

Nowadays *S. rupestre* is by far the commonest of the two species in Norfolk, including the north-east, but nearly all sites are on stonework or other artificial sites, and when it does occur on road banks it never in my experience takes over large areas. The only two large road bank colonies I have seen have been of *S. forsterianum*. A check with the v.c. recorders for the main native population of *S. forsterianum* (v.cc.40, 43 & 47) showed that both species occur almost exclusively on rocky substrates, but that it is *S. forsterianum* that occasionally colonises grassy banks.

Unfortunately, we have grid references for only three sites, but all of these were confirmed, and two were large colonies on very dry road banks within a few miles of Southrepps. It was on a herbarium sheet for a specimen from this village that Geldart noted that *S. forsterianum* had “taken possession of a tract of land some miles square”.

We will never know, but it is entirely possible that, rather than being over-recorded in v.c.27, *S. forsterianum* was indeed very common on N.E. Norfolk road banks a hundred years ago, either as an alien, finding unusually suitable man-made habitats, or as a disjunct native population. The concentration of records in the *New atlas* could be the remains of such a large population that has been disappearing due to eutrophication.

## 4. *Salix cinerea* ssp. *oleifolia*

The *New atlas* map has 40 new hectad dots for this taxon in E. Norfolk (v.c.27) and the north

half of E. Suffolk (v.c.25), and then a total of only 17 dots in all for the south half of v.c.25, W. Norfolk (v.c.28), W. Suffolk (v.c.26) and the eastern half of Cambridgeshire (v.c.29). This anomalous-looking concentration of records in the N.E. corner of East Anglia has not been confirmed by Bob Ellis or myself in the ten years since the *New atlas* – between us we have only found three examples of this taxon, two in E. Norfolk and one in N.E. Suffolk, all confirmed, and all strikingly different in appearance and difficult to miss.

In my opinion there has been enormous over-recording of ssp. *oleifolia* in E. Norfolk, and in Suffolk, probably due to over-reliance on the rusty hair character, resulting in hybrids between the two subspecies being recorded as pure ssp. *oleifolia*. I feel that existing records for ssp. *oleifolia* for E. Norfolk and Suffolk should be re-assessed, and any new suspected ssp. *oleifolia* sent to the referee.

#### Acknowledgements:

I should like to thank Gillian Beckett and Alec Bull (former recorders for v.c.28 & v.c.27) for all I have learnt from them over 20 years, both in the field and from their flora, and would invite their comments, and those of Martin Sanford, recorder for Suffolk (v.c.25 & v.c.26). Bob Ellis (present v.c.27 recorder) has helped with records and numerous discussions on this article, and largely agrees with my conclusions, except for those regarding the *P. domestica* group, which he regards, probably rightly, as a “can of worms”! Finally, I would like to thank Dr S.J. Whild, Mrs S.M. Spencer, and Dr A.K. Thorne (recorders for v.c.40, v.c.43 & v.c.47) and Alex Lockton, for help with the status of *Sedum forsterianum* in their area, and Jeanne Webb and Desmond Meikle for determining numerous *Salix* specimens.

#### References:

- BECKETT, G., BULL, A.L. & STEVENSON, R. (1999). *A flora of Norfolk*. Privately published.
- BRITISH GEOLOGICAL SURVEY/N.E.R.C. (2007). *Bedrock geology: U.K. South*. B.G.S./N.E.R.C., Nottingham.
- BUTCHER, R.W. (1961). *A new illustrated British flora*. Leonard Hill, London.
- BULL, A.L. (2000) ‘What is a Bullace?’ *BSBI News*, 83: 28-29.
- CLAPHAM, A.R., TUTIN, T.G. & WARBURG, E.F. (1962). *Flora of the British Isles* (2nd ed.). CUP, Cambridge.
- CLEMENT, E.J. & FOSTER, M.C. (1998). *Alien plants of the British Isles*. BSBI, London.
- FITTER, A. (1978). *An atlas of the wildflowers of Britain and northern Europe*. Collins, London.
- GIBBONS, B. & BROUGH, P. (2007). *Wild flowers of Britain and northern Europe*. Philips, London.
- GIBBONS, E.J. (1975). *The flora of Lincolnshire*. Lincolnshire Naturalists’ Union, Lincoln.
- JERMYN, S.T. (1974). *Flora of Essex*. Essex Naturalists’ Trust, Colchester.
- KEBLE-MARTIN, W. (1965). *The concise British flora in colour*. George Rainbird, London.
- MEIKLE, R.D. (1984). *Willows and poplars of Great Britain & Ireland*. BSBI Handbook No 4. BSBI, London.
- PERRING, F.H., SELL, P.D., WALTERS, S.M. & WHITEHOUSE, H.L.K. (1964). *A flora of Cambridgeshire*. CUP, Cambridge.
- PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. (2002). *New atlas of the British & Irish flora*. OUP, Oxford.
- PETCH, C.P. & SWANN, E.L. (1968). *Flora of Norfolk*. Jarrold, Norwich.
- PERRING, F.H. (ed). (1968). *Critical supplement to the atlas of the British flora*. Thomas Nelson & Sons, London for the BSBI.
- RICH, T.C.G. & JERMY, A.C. (1998) *Plant Crib 1998*. BSBI, London.
- ROSS-CRAIG, S. (1979). *Drawings of British plants* (Vol. 3). Bell & Hyman, London.
- SANFORD, M.N. & FISKE, R.J. (2010). *A flora of Suffolk*. D.K. & M.N. Sanford, Ipswich.
- SIMPSON, F.W. (1982). *Simpson’s flora of Suffolk*. Suffolk Naturalists’ Society, Ipswich.
- STACE, C.A. (2010). *New flora of the British Isles*. (3rd ed.). CUP, Cambridge.
- VAUGHAN, J.G. & GEISSLER, C. (1997). *The new Oxford book of food plants*. OUP, Oxford.

## British trees associated with *Cephalanthera longifolia* (L.) Fritsch

R. HEDLEY, 3 Britten Road, Lee-on-the-Solent, Hampshire, PO13 9JU;  
(richardandjeanhedley@btinternet.com)

Bidartondo and Read (2008) showed that the development of the helleborines *Cephalanthera longifolia* (Narrow-leaved Helleborine) and *Cephalanthera damasonium* (White Helleborine) at Chappett's Copse in the Hampshire Downs depended on *Fagus sylvatica* (Beech). The link between tree and orchid is through ectomycorrhizal fungi feeding on the roots of the Beech. These fungi have a mutualistic relationship with the Beech tree, bringing in nitrogen and phosphorus, and in return receiving photosynthetic metabolites from the tree. The orchid feeds on the Beech root fungi, indirectly drawing food from the Beech tree. It has been shown that there are a very restricted number of species of Beech root fungi that are critical to the seedling stage of the orchid. These species all belong to the crust fungi genus *Tomentella*. One of the three species of *Tomentella* identified by DNA fingerprinting is *T. ramosissima*, which was also shown to be growing on the roots of *Pinus nigra* (Black Pine) at Newborough Warren, Anglesey. All fungi belonging to the genus *Tomentella* are basidiomycetes (club fungi) whose fruiting bodies are found on the underside of fallen dead branches and bark.

It was also found that not every Beech tree in a wood has these critical fungi resident in the soil surrounding the roots. This relationship between Beech tree, specific fungi and orchid goes a long way to explain the geographical distribution of *C. longifolia* in the beech woods of southern England and to explaining why the orchid is not found under or near every Beech tree, or in every Beech wood. It is very probable that there are soil pH and drainage factors involved. *C. longifolia* is not found associated with Beech trees growing on sandy or loamy soils, such as those found in the New Forest.

*C. longifolia* in Britain is not always found associated with Beech or Black Pine trees. Wheeler (1997) carried out a survey to establish the British status of *C. longifolia* for Plantlife. In this survey the woodland trees associated

with the orchid were noted. In Wyre Forest, Worcestershire (v.c.37), five sites were noted which were dominated by *Quercus petraea* (Sessile Oak). Oversley Wood, Warwickshire (v.c.39) had *Quercus robur* (Pedunculate Oak), *Crataegus monogyna* (Hawthorn), *Populus tremula* (Aspen), *Betula pubescens* (Downy Birch), *Corylus avellana* (Hazel) and *Pinus sylvestris* (Scots Pine). Brough, Cumbria (v.c.69) had *Fraxinus excelsior* (Ash), *Corylus avellana*, and *Crataegus monogyna*.

A survey for Plantlife (Dines, 2005), indicated three sites (of four *C. longifolia* sites in Wales) with *Quercus petraea*, *Corylus avellana* and *Sorbus aucuparia* (Rowan) as the most frequent trees. Also one site at Newborough in Anglesey (v.c.52) had *Pinus nigra* and *Pinus contorta* (Lodgepole Pine). It was clear from this evidence that *C. longifolia* is potentially associated with a number of tree species in Britain and that these associations deserve further investigation.

### Method

A survey was carried out in May 2008 in non Beech-dominated woodlands to establish the range of tree species associated with *C. longifolia* and ascertain if there are some clear candidates among the canopy trees, which could be supporting the growth of *C. longifolia*. Surveyors were asked to select ten orchids at least 30m apart, *i.e.*, greater than the spread of the roots of a single canopy tree, and to measure:

1. Distance to the nearest woody perennial
2. Distance to nearest canopy tree (which may also be the nearest woody plant)
3. Distance to nearest Beech tree
4. Distance to the nearest pine tree
5. In each case, record the species involved.

Records for four locations were received: Wyre Forest (R. Winnall, 9<sup>th</sup> June 2008); Aberdovey (T. D. Dines, 13<sup>th</sup> July 2008); Taynish (J. Halliday, 14<sup>th</sup> January 2009); Drimnin, (M. Brambell, 19<sup>th</sup> June 2008); Drimnin (G. Roberts, 23<sup>rd</sup> January 2009)

## Results

Site	Species & number of nearest woody plants	Species & number of nearest canopy trees	Distance to Beech if <30m.	Distance to pine if <30m.
Wyre Forest (v.c.37)	<i>Fagus sylvatica</i> (3) <sup>#</sup> <i>Quercus petraea</i> (7)	<i>F. sylvatica</i> (3) <i>Q. petraea</i> (7)	2, 3 & 8m. 1 at 13m	1 at 29m. 1 at 6m
Aberdovey (v.c.48)	<i>Corylus avellana</i> (4) <i>Ilex aquifolium</i> (Holly) (2) <i>Tilia cordata</i> (Small-leaved Lime) (1) <i>Q. petraea</i> (3)	<i>C. avellana</i> (4) <i>T. cordata</i> (1) <i>Q. petraea</i> (5)		
Taynish * (v.c.102)	<i>Q. petraea</i> (10)	<i>Q. petraea</i> (10)		
Drimnin (v.c.97)	<i>Salix caprea</i> (Goat Willow) (2) <i>T. cordata</i> (1) <i>Fraxinus excelsior</i> (1) <i>C. avellana</i> (7) <i>Aesculus hippocastanum</i> (Horse Chestnut) (1)	<i>Quercus</i> sp. (1) <i>T. cordata</i> (2) <i>F. excelsior</i> (5) <i>Betula</i> sp. (1) <i>Alnus glutinosa</i> (Alder) (2) <i>A. hippocastanum</i> (1)	1 at 28m.	

# The appended number is the recorded number of woody plant or tree species at any one location.

\* The results from Taynish were by email and stated that “there are no Beech trees at the three sites at Taynish, only *Quercus petraea*, but some of these may be hybrids with *Q. robur*”.

## Discussion

Evidence from the account of the Aberdovey site, and from the report on Taynish, indicate that the west coast N.V.C. communities containing *C. longifolia* are either W11: *Quercus petraea* – *Betula pubescens* – *Oxalis acetosella*, at Aberdovey, or W17: *Quercus petraea* – *Betula pubescens* – *Dicranum majus* woodland at Taynish.

Comparing the distribution of *C. longifolia* in the *New atlas of British & Irish flora* (Preston, Pearman & Dines, 2002) with *British plant communities* (Rodwell, ed., 1991), indicates that 16 of the 18 hectads which contain the orchid on the west coast of mainland Britain, also contain either W11 or W17 woodland.

*Q. petraea* dominated woodlands are largely confined to the west coast of Britain, with high rainfall and a large number of rainy days. W11 has >1000mm rainfall a year and <180 -

>120 rainy days a year; W17 has >1600mm a year and >180 rainy days a year.

The rock types of both communities are freely draining, but W11 produces a generally less acid soil (pH 4-5) than W17. W17 woods are generally on sandy rocks with pH <4.

The vegetation of W17 is characterised by *Calluna vulgaris* (Heather) and *Vaccinium myrtillus* (Bilberry), and an abundance of mosses (Rodwell, ed., 1991).

The Wyre Forest has a much lower rainfall, but has very acid rocks with Heather and Bilberry, and seems to be of the W17 type. The Drimnin site has high rainfall, but is on decayed basalt of the Morvern Hills which gives a base-rich soil.

The results indicate that 22 of 42 samples of *C. longifolia* plants had *Q. petraea* as the nearest canopy tree. The second most frequent tree is *Corylus avellana*, with 11/42 as the nearest woody plant and 4/42 as the

nearest canopy tree. It is highly likely that *Q. petraea* and *C. avellana* are host trees for *C. longifolia*, through the mycorrhizae on their roots. *C. avellana* is frequently associated with oak woods in the two identified woodland types, W11 and W17. Further investigation is needed to find out if there are any *C. longifolia*/*C. avellana* locations which are independent of *Q. petraea*, *Fagus sylvatica* or other tree candidates.

There is a strong correlation between the distribution of woodlands dominated by *Q. petraea* and the west British distribution of *C. longifolia*. There must be other factors involved, as *Q. petraea* is not confined to the west British coast. *C. longifolia* is essentially a fringe of woodland or glade species (Hedley, 1998). Looking at the fringe woodland distribution of the orchid at Aberdovey (Dines, 2008), and at Drimnin, it is tempting to suggest that suitable ecotone between woodland and fringe of seashore pasture, roadside or loch is a critical factor and that this relationship does not exist in the mixed *Q. robur*/*Q. petraea* woodlands away from the coast.

### Conclusion

There is strong circumstantial evidence that *C. longifolia* is dependent on the presence of *Q. petraea* in most of its west British locations and that this relationship is principally found in woodlands of the W11 and W17 type. It may be that there is an ectomycorrhizal fungus on the roots of *Q. petraea* that supports the development of the orchid seedlings in the same way that the fungus of the Beech trees of southern England does. This would go a long way to explain the discontinuity between the southern locations and the west coast *Q. petraea* locations.

Further work is desirable, to establish whether *Q. petraea*, *Fagus sylvatica* or *Pinus nigra* dependency are the only tree/*C. longifolia* associations within Britain and whether the same fungi are involved in all tree-orchid associations.

### Acknowledgements:

Thanks to Hampshire and Isle of Wight Wildlife Trust for allowing an extensive period of research on Chappett's Copse Reserve, and to the following for supplying valuable information: Mike Brambell (Drimnin), Graham Roberts (Drimnin), Trevor Dines (Aberdovey), Rosemary Winnall (Forest of Wyre), John Halliday (Taynish), and Martin Bidartondo (Kew).

### References:

- BIDARTONDO, M.I. & READ, D.J. (2008). 'Fungal specificity bottlenecks during orchid germination and development'. *Molecular Ecology*, **17**: 3707-3716.
- DINES, T.D. (2005). 'Plantlife Report, No.2'. In *BSBI Welsh Bulletin* **76**.
- DINES, T.D. (2008). 'The status of *Cephalanthera longifolia* in Merionethshire'. Plantlife Report.
- HEDLEY, C.R.F. (1998). *The flowering and fruiting performance of Cephalanthera longifolia*. Hampshire Wildlife Trust.
- PRESTON, C.D. PEARMAN, D.A. & DINES, T.D. (2002). *New atlas of the British & Irish flora*. OUP, Oxford.
- RODWELL, J.S. (ed.). (1991). *British plant communities*, vol.1: *Woodlands and scrub*. CUP, Cambridge.
- WHEELER, B. (1997). *Cephalanthera longifolia in England*. Plantlife Report, No. 89.

---

## *Fumaria purpurea* – the Orkney experience

ERIC MEEK, *RSPB*, 12/14 North End Road, Stromness, Orkney, KW16 3AG;  
(eric.meek@rspb.org.uk)

JOHN CROSSLEY, *North Flaws, South Ronaldsay, Orkney, KW17 2RW*;  
(john.crossley@uku.co.uk)

In his paper on cultivating fumitories (*BSBI News* **116**: 30-32), Andrew Shaw suggests that one of the reasons for the marked decline in

*Fumaria purpurea* (Purple Ramping-fumitory) may be that, compared with other species in the genus, it may have a short-lived seed bank that



prevents the species from ‘sitting out’ periods of unfavourable habitat conditions.

In the Orkney Islands, *F. purpurea* is still a widespread species and vies with *F. muralis* ssp. *boraei* (Common Ramping-fumitory) as being the second commonest (after *F. officinalis* ssp. *officinalis*) of Orkney’s six *Fumaria* species. The scarcer species are *F. bastardii* (Tall Ramping-fumitory), *F. capreolata* ssp. *babingtonii* (White Ramping-fumitory) and *F. densiflora* (Dense-flowered Fumitory), the latter being confined to the two islands of Sanday and Stronsay.

Our experience with the longevity of the *F. purpurea* seed bank is very different from that suggested by Shaw. For instance, at one site in Orkney’s West Mainland, on the Brodgar RSPB Reserve, *F. purpurea* appeared when a field was ploughed after 23 years as permanent grass. At another site on the island of Egilsay, on the Onziebust RSPB Reserve, the species flourished after the ploughing of a field that local residents estimated had been under grass for 40 years.

In the Orkney context, at least, *F. purpurea* seems capable of surviving in a dormant state for long periods of time.

### *Ophrys apifera* var. *fulvofusca* in Britain

LESLIE LEWIS, 4 Orchid Meadow, Pwllmeyric, Chepstow, Gwent, NP16 6HP

LORNE EDWARDS, 14 Cromwell Road, Weymouth, Dorset, DT4 0JQ

*Ophrys apifera* Huds. (Bee Orchid) is distributed widely across Europe into the Middle-East and is the most common British *Ophrys*. In its normal form, the labellum is dark or reddish-brown marked with a narrow horse-shoe-shaped speculum surrounded by a yellow or yellowish-white border and with two yellowish spots below. However, *O. apifera* variants are not infrequent and include a number of named varieties. For example, *Orchids of the British Isles* by Foley & Clarke (2005) lists the following varieties: var. *trollii* (Hegetschw.) Rchb. f. (Wasp Orchid); var. *chlorantha* (Hegetschw.) K.Richter; var. *flavescens* Rosbach; var. *bicolor* (O. Nägeli) E.Nelson; var. *friburgensis* Freyhold and var. *belgarum* Turner Ettl.

In an article in *BSBI News* 88 (2001), D.C. Lang reported the discovery of a further variant at Warnham, West Sussex (v.c.13). This variant was described as having a labellum which “lacked any of the normal pattern of markings and was uniformly dark, mahogany brown, a shade paler at the base” and was illustrated by two line drawings and a photograph. He also noted that a similar plant had been found in 1983 by P. Revell at Pitstone Hill, near Tring, Hertfordshire (v.c.20), although it has since been realised that the plant’s actual location was in Buckingham-

shire (v.c.24) (P. Revell, pers. comm., 2011) (see inside front cover photo 1). Lang also reported that “There does not appear to be any description of this variety in published literature.” He therefore suggested the name “*Ophrys apifera* var. *atrofuscus*” for this variant but did not formally name it as such in accordance with requirements of the International Code of Botanical Nomenclature. This varietal name is therefore a *nomen nudum*. Nevertheless, Lang subsequently retained this name in his book *Britain’s orchids* (2004), in which he re-described the variety as “The entire lip is a chocolate-brown, devoid of markings” and illustrated it with the photograph previously used in his 2001 article.

In the January 2011 issue of *BSBI News*, N. Bailey reported the discovery of three abnormal spikes of *Ophrys apifera* at Weymouth, Dorset (v.c.9). She named these plants *O. apifera* var. *atrofuscus* in accordance with Lang’s suggested nomenclature. However, she also commented: “Internet searches revealed several references which use the name *Ophrys apifera* var. *fulvafusca* [sic.] rather than *atrofuscus*, but I have not found this name mentioned in any literature to date. The status of the name *fulvafusca* [sic.] is currently unclear.”

In fact, the status of the name *Ophrys apifera* var. *fulvofusca* is not unclear. The variant in

which the labellum has no pattern was validly named as such by A. Scrugli & M.P. Grasso (1987) following the discovery in 1984 of about 15 examples in the locality ‘Funtana Maore’, Laconi (Nuoro Province), Sardinia. Although the colour of the labellum is described as dark red (hence the etymology of “*fulvofusca*” which means ‘dark red’), it is apparent from the two photographs in the article illustrating the variety that it is in fact reddish-brown. It was clearly necessary to describe the colour of var. *fulvofusca* to distinguish it from var. *bicolor*, which also has no marking on the labellum. Together with several other *O. apifera* variants, var. *fulvofusca* was reduced to the rank of “*forma*” by Delforge (2007), who re-named it *O. apifera* f. *fulvofusca*, but so far this synonym does not appear to have been adopted by other authors. Following its description from Sardinia, var. *fulvofusca* has also been recorded in France and Germany (C.A.J. Kreutz, pers. comm., 2011) as well as in Greece (greekorchids website). However, although Bailey (2011) did mention the name (albeit incorrectly as “var. *fulvafusca*”), no express British record of this variety has been found in the literature.

As is apparent from both the text and two photographs in Scrugli & Grasso (1987), as well as from the photographs on Günter Blaich’s website, the labellum of var. *fulvofusca* is entirely devoid of any marking. Despite the statement that the Warnham plants “lacked any of the normal pattern of markings”, it is apparent from the photograph in Lang (2001, 2004) that the “horse-shoe” marking is still partly visible. This is also the case with Bailey’s 2009 photograph of the Weymouth “*atrofuscus*” in *BSBI News* 116 (2011) and, as observed by the present authors, was again the case when the same plant re-appeared in 2010. As also observed by the present authors, this was also the case with the “second” Weymouth plant mentioned by Bailey (2011). Thus, although these plants almost qualify as var. *fulvofusca*, they are not that variety *sensu stricto*.

In contrast, as pointed out by R.G. Mielcarek (pers. comm., 2010) and can be seen from its photograph (photo 1), the labellum of the 1983 Pitstone Hill plant has no visible marking. As mentioned by Bailey (2011), a “third” abnormal plant was found for the first time at Weymouth in 2010. Again, as can be seen from its photographs (photos 2 & 3), the labellum of this plant also has no visible marking (although the labellum of one of its flowers was slightly damaged). Accordingly, as confirmed by C.A.J. (Karel) Kreutz, the author of a number of books on European orchids who has seen the variety at its *locus classicus* in Sardinia as well as in France and Germany, both of these plants are clearly *Ophrys apifera* var. *fulvofusca*. This variety can therefore be added to the list of Britain’s flora.

#### Acknowledgements:

We are grateful to Karel Kreutz for background information on *Ophrys apifera* var. *fulvofusca* and for confirming the identity of the Pitstone Hill and “third” Weymouth plants as that variety. We are also grateful to Peter Revell for permission to publish his photograph of the Pitstone Hill plant.

#### References:

- BAILEY, N. (2011). ‘The variant *Ophrys apifera* var. *atrofuscus* found in Dorset’. *BSBI News* 116: 35.
- DELFORGE, P. (2007). ‘Nouvelles contributions taxonomiques et nomenclaturales aux Orchidées d’ Europe’. *Natural. Belges* 88 (Orchid. 20): 256.
- FOLEY, M. & CLARKE, S. (2005). *Orchids of the British Isles*. Griffin Press, Cheltenham.
- LANG, D.C. (2001). ‘A new variant of *Ophrys apifera* in Britain’. *BSBI News* 88: 38-40.
- LANG, D.C. (2004). *Britain’s orchids*. WildGuides, Maidenhead.
- SCRUGLI, A. & GRASSO, M.P. (1987). ‘Eine neue Varietät von *Ophrys apifera*: *Ophrys apifera* Huds. var. *fulvofusca* Grasso et Scrugli’. *Die Orchidee* 38: 47-49.

#### Websites:

[http://www.greekorchids.gr/orchids\\_list.htm](http://www.greekorchids.gr/orchids_list.htm)

<http://www.guenther-blaich.de/artseite.php?par=Ophrys+apifera+var.+fulvofusca&abs=artlst>

## Northern Deergrass (*Trichophorum cespitosum*): calciphile or calcifuge?

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

In a recent *BSBI News* (Roberts, 2009), I described the finding of *Trichophorum cespitosum* (Northern Deergrass) growing in M10 vegetation with a suite of arctic-alpine relict species in calcareous seepages on Widdybank Pasture, upper Teesdale (NY8329, etc., v.c.66). (Note I am referring to the Northern Deergrass here and not the common species, now *T. germanicum*.)

During 2010 Dr Margaret Bradshaw has both infilled and extended its known range in Teesdale, significantly finding plants by Red Sike on Widdybank Fell itself (NY8129), at a higher altitude (500m a.s.l.) and two kilometres further west.

My note in 2009 suggested that the plant looked very much ‘at home’ in this calcareous association – and indeed this is true both here and at sites in Scotland: in July 2010 Stephen Hewitt and I saw a good population of it in similar M10 vegetation at Glen Fender Meadows above Blair Atholl (v.c.89; NN9067; 330m a.s.l.).

In 2010 I also saw the species in Northumberland (v.c.67) in two of Prof G.A. Swan’s original sites (Swan, 1999):

- Blackheugh End (NY825915, etc.; 330m a.s.l.): in seepage area on a col within blanket peat moorland, it is abundant in a remarkable collection of calciphiles, including *Eriophorum latifolium* (Broad-leaved Cottongrass).
- Muckle Moss (NY796670, etc.; 220m a.s.l.): as described by Swan, some plants grow by inflow seepages at the margins of a valley mire, but with a much reduced list of associates.

At the latter site it was a surprise when my wife Margaret located a cluster of plants of the species, amongst more of the hybrid *T. ×foersteri*, well out on the ‘quaking bog’ in a purely calcifuge community of only four species: *Calluna vulgaris* (Heather), *Erica tetralix* (Cross-leaved Heath), and the two

cottongrasses *Eriophorum angustifolium* (Common Cottongrass) and *E. vaginatum* (Hare’s-tail Cottongrass).

As a resident of Cumbria, I had already looked hard for *T. cespitosum* in several likely-looking calcareous sites in the county (v.c.69/70), but without success. But if it could occur in calcifuge communities – with which Cumbria is well-supplied – that would clearly open up a much wider range of possibilities for adding it to the Cumbrian list.

On 11<sup>th</sup> August 2010 I met with David Clarke at Butterburn Flow, a very large SSSI and SAC on the Cumbrian side of the River Irthing north of Gilsland. Having parked where the road loops around the western end of the Flow, it was astonishing to find *T. cespitosum* within a few minutes, in abundance, and only about 150 metres out into the mire (NY65927603, etc.; 290 m a.s.l.). A looping walk of three kilometres far out onto the western ‘dome’ of deep peat revealed the plant along most of the walk, especially by small runnels and around small pools, on the least-disturbed parts of the mire surface (see photos inside back cover, and a map of the route and the plants, on my website, URL below.).

Based upon the frequency of occurrence, the length of the walk, and the area of similar habitat, it was possible to estimate the Northern Deergrass population on the site very roughly as a minimum of 80,000 plants! This suggests that the newly-unearthed locality of Butterburn Flow has by far the largest population yet discovered for the species in the U.K. There are also perhaps ten times that number of hybrid plants, which become the dominant vegetation over parts of the mire.

Although the fruiting heads of *T. cespitosum* were far from conspicuous, the presence of tiny clusters of a few shiny blackish nuts (typically only 1-4 per head) made the species

easy to tell from the hybrid, with its sterile and hence (at this date) ‘bare-topped’ heads. Samples were kindly confirmed as this species by BSBI referee Michael Braithwaite.

Only two plants of *T. germanicum* were located on the whole walk, detectable in the field by the longer and thicker stems, larger heads of paler matt nuts, and strongly oblique sheath-openings, the identity being confirmed back at base by stem cross-section.

Although the plants were particularly associated with seepage areas, as far as could be determined the source of the water seemed ombrogenous (*i.e.* sourced from rain, without influence of ground-water, and hence with greatly reduced mineral-content). It is hoped in 2011 to test how fully this supposition applies by sampling the water at the roots. Associates were acidophiles such as *Calluna vulgaris*, *Narthecium ossifragum* (Bog Asphodel), *Andromeda polifolia* (Bog Rosemary), *Carex magellanica* (Bog Sedge), *Eriophorum vaginatum*, *Drosera rotundifolia* (Common Sundew), *Empetrum nigrum* (Crowberry), *Erica tetralix* and *Vaccinium oxycoccus* (Cranberry). This collection of associates is so strikingly different from the lists made in Teesdale (see Roberts, 2009, p. 25, or my website, URL below) that I thought this situation needed wider circulation – not least in part to assuage my twinges of guilt that my previous note might very well have left readers with the impression that calcareous flushes were the only places to seek the plant!

Please keep the Northern Deergrass in mind in 2011 when you are looking at mires – especially in the period when fruits ripen in July/August, when the species becomes so much easier to spot, and easier to tell at a glance from the hybrid. Once the characters are known, this is a distinctive little plant, with its slender and flexuous stems. Several observers agree that the term ‘wispy’ might be

applied. The hybrid does tend to fill the morphological space between the two species, but that is always sterile and ‘fruit-less’ by high summer.

A ‘work in progress’ is my website at: [www.edencroft2.demon.co.uk](http://www.edencroft2.demon.co.uk), which has much information on these Northern Deergrass habitats (including a full table of associates), and discussion of separation of the two species and the hybrid, in the field and by stem cross-section. There is also a link on the site to an album of photos of the plant at all these sites, which should give a good impression of ‘what to look for’. Please visit the website – and please also comment!

Having recently joined Michael Braithwaite as a referee for this genus, I would also love to see specimens, especially from new areas (see the ‘minimal’ maps in the *Sedges* BSBI handbook, or on the National Biodiversity Network Gateway under its previous name of *Trichophorum cespitosum* ssp. *cespitosum*.) Particularly valuable would be descriptions of habitat and associates.

#### Acknowledgements:

I am pleased to acknowledge again the support and encouragement of BSBI deergrass referee Michael Braithwaite, and am grateful for his comments on an earlier draft. I have also greatly appreciated the company and contributions in the field of those mentioned above.

#### References:

- ROBERTS, F.J. (2009). ‘The Northern Deergrass (*Trichophorum cespitosum*) in upper Teesdale.’ *BSBI News* **111**: 22-6.
- SWAN, G.A. (1999). ‘Identification, distribution and a new nothosubspecies of *Trichophorum cespitosum* (L.) Hartman (Cyperaceae) in the British Isles and NW Europe’. *Watsonia* **22**: 209-233.

URL: [www.edencroft2.demon.co.uk](http://www.edencroft2.demon.co.uk)

---

## High-level botanising in Scotland

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

JIM MCINTOSH, *c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR*

Members might recall that we have been collecting altitudinal data for some years – something that was popular in Victorian times, but had fallen into abeyance during much of the twentieth century. But altitudinal data has a new relevance as it potentially provides a baseline for monitoring the effects of climate change, and many of the recent records for Scotland are arriving with this information. Nowadays with GPS it is a lot easier to collect data and much more accurate too – many of the Victorian records are in chains or yards!

For some time there has been a rump of relatively common plants that had their historical maxima in the Cairngorms, or even the ‘Scottish Highlands’, dating back to the 19<sup>th</sup> century, with maxima that look suspiciously like approximations, and these had not been verified or bettered despite much recent activity. A Recording Week at Mar Lodge seemed a good opportunity to reach Ben Macdui (v.c.92), the highest summit in the Cairngorms, at 1305m (4296ft) and second highest in the British Isles, to try to record every plant on the very bare summit plateau and then any new plant that we encountered on the way down. Despite the concerns of the elder of us, the path up was tedious rather than insuperable, but unfortunately mist came down at about 700m. Nonetheless our party of four reached the summit (alongside many other hiking groups, with children as young as ten!) (see photo back cover), and, despite the mist and the temperature in early July close to zero, we had an astonishingly successful

session. In a couple of hours we bettered the maxima for five species: *Deschampsia flexuosa* (Wavy Hair-grass), *Scorzoneroides* (formerly *Leontodon*) *autumnalis* (Autumn Hawkbit), *Luzula arcuata* (Curved Wood-rush), *Nardus stricta* (Mat-grass) and *Silene acaulis* (Moss Campion); and equalled (confirmed) earlier records for five more: *Carex bigelowii* (Stiff Sedge), *Gnaphalium supinum* (Dwarf Cudweed), *Huperzia selago* (Fir Clubmoss), *Juncus trifidus* (Three-leaved Rush) and *Luzula spicata* (Spiked Wood-rush).

Some of the new records are surprising to say the least. A stunted bush of *Erica cinerea* (Bell Heather) at 1210m was the highlight (previous highest: 790m in Co Kerry), but others included *Juniperus communis* (Juniper) at 1200m (previous highest: 975m on Braeriach), *Molinia caerulea* (Purple Moor-grass) at 1000m (previous highest: 870m in Glen Doll) and *Eriophorum angustifolium* (Common Cottongrass) at 1230m (previous highest: 1100m on Ben Alder). Another party tackled Beinn a’Bhuird to the east, and they found three new maxima, including a good record for *Trollius europaeus* (Globe-flower).

Many members will know that the Cairngorms contain a number of peaks of much the same height, all quite close together, and we are sure that similar trips and even better weather must yield significant records. Please look at the website:

<http://www.bsbi.org.uk/altitudes.html>  
for the complete schedule or contact us.

## *Salicornia* ‘sorts’ 1: type specimens, voucher specimens, and photographs

DAVID J. HAMBLER, 14 Yew Tree Avenue, Bradford, BD8 0AD

### Visible and invisible characteristics of *Salicornia*

*Salicornia* was described as a taxonomic nightmare by Kadereit *et al.* (2007). Confusion has resulted from misleading specific names and inaccurate illustrations, and type specimens are generally unavailable. However, I hope to show how permanent and recorded links between cryptic characteristics and the visually recognizable whole organism might be made, and our powerful ability for visual discrimination could thereby be usefully exploited.

Stace (1991) attempted a clear taxonomy by lumping all British *Salicornia*, apart from the distinctive *S. pusilla* (One-flowered Glasswort), into two aggregates (*S. europaea* L. and *S. procumbens* Sm.) whilst acknowledging that at least 20–30 ‘sorts’ can be distinguished in SE England. Cryptic characteristics such as chromosome number are appended to the seven species descriptions. The two aggregates recognized fit neatly into this pattern (*S. europaea* L. agg. with  $2n = 18$  chromosomes, and *S. procumbens* Sm. agg. with  $2n = 36$ ). My own observations of plants on the River Medway estuary were made in the 1950s and are totally in agreement with these aggregates.

Unfortunately, members of the first aggregate are at odds with early line illustrations of ‘*europaea* L.’, and some members of the second are erect. The confused literature and the inconsistent and inaccurate illustrations of the time caused my (Hamblar, 1954) ‘*S. europaea*’ chromosome counts ( $2n = 36$ ) to be later, and probably correctly, regarded by Ball & Tutin (1959) as representing a composite of their newly described ‘*fragilis*’, ‘*obscura*’ and ‘*nitens*’. This illustrates the difficulty of linking cryptic characteristics of any sort to specific names or to line illustrations published elsewhere. There appear to be no published records of the unmediated

appearance of *any* of the plants whose chromosomes have been counted. A voucher photograph for one of my counts (*S. dolichostachya* (Long-spiked Glasswort):  $4x = 2n = 36$ ) is shown in Fig. 1 (p. 42), whilst Fig. 2 shows two ‘sorts’ belonging to the *S. europaea* agg. representing my  $2x = 2n = 18$  counts for ‘*S. ramosissima*’). Any reference to chromosome number unsupported by a direct link of the cytological evidence to a representative whole plant must always be speculative.

Despite both diploid and tetraploid records having been presented in the literature for both *S. europaea*, and *S. ramosissima* (Purple Glasswort), the Stace system does firmly separate diploid ( $2n = 18$ ) from (tetraploid ( $2n = 36$ ) plants. Chromosome number is a cryptic character, yet plants in the field may be assigned, according to Dalby (1962), with a fair degree of precision to the two groups (Fig. 2). Further, even dead tide-washed skeletal remains are not always unassignable. The flower spikes of diploid plants generally bear few (<10), somewhat bulging flowering segments, whilst those of tetraploids generally have many more less-bulging segments.

The distinctiveness of at least some haploids and diploids has been further confirmed by phylogenetic analysis based on ITS DNA sequences (Papini *et al.*, 2004). Even within the *S. europaea* L. aggregate of diploids, chemical (isozyme) patterns differ between populations at different levels on a single salt-marsh (Jefferies & Gottlieb, 2000).

### *Salicornia* specimens: the value of photographs

All of these cryptic features are inaccessible to the field botanist and ecologist, and none may be causally related, at present, to either the macroscopic, morphological attributes of the plants or to putatively adaptive characteristics. In order to appreciate such micro- and molecular-level work non specialist readers need to

know what the plants referred to *looked like*. Such a visual aid to comprehension is not always (? never) provided in publications.

Francis Rose suggested in *BSBI News* that good photographs form perhaps the only satisfactory method of permanent record. Photographs Figs. 1a & 2 are monochrome images made some 60 years ago by means of a 2¼ × 3¼ inch plate camera. Together they illustrate that pressed specimens and photographs are both useful to record the main morphological features of a plant: features that allow subjective recognition, but are difficult to put into words. Shadowless images are desirable. The monochrome prints presented here were taken outdoors of specimens resting on a glass sheet suspended over a grey background. Photographic recording, in colour, is now easy and may be recommended. In a further note I hope to demonstrate the usefulness of this method.

Whilst photographs of isolated plants, even of pressed specimens, may be informative, photographs of plants growing in the field could also help readers visualize the sorts of *Salicornia* being reduced to their chemical or cytological components in the recent scientific literature.

#### ***Salicornia* specimens: in defence of pressing.**

Rose (1989) also asserted the impossibility of producing satisfactory specimens for the herbarium. But I found, in the 1950s, that herbarium specimens could be made which faithfully recorded the appearance of living specimens. Specimens were prepared by blanching in boiling water, followed by repeated washing in tap water, then rapid drying with increasing pressure and very frequent changes of warm blotting paper. The apparatus used was extremely simple involving a modified trouser press, and heat from sunshine (when available), and a domestic gas cooker. Photographs of pressed *S. dolichostachya* specimens and of one live counterpart (Fig. 1) demonstrate that habit and shape may be so recorded, whilst a close-up photograph shows that details of the flowering segments

may also be preserved by pressing. Such photographs and herbarium specimens could (or should?) be kept as ‘vouchers’ for much of the work published on the genus, with the former accompanying any texts involving specific identity. A text on ecological sorting based on my 1950s observations on the River Medway glassworts and some recent experimental observations of material from the vicinity of Southampton will be presented in a future note.

#### **References:**

- BALL, P.W. & TUTIN, T.G. (1959). ‘Notes on annual species of *Salicornia* in Britain’. *Watsonia* **4**: 193-205.
- DALBY, D.H. (1962). ‘Chromosome number, morphology and breeding behaviour in the British *Salicorniae*’ *Watsonia* **5(3)**: 150-162.
- JEFFERIES, R.L. & GOTTLIEB, L.D. (2000). ‘Genetic differentiation of the microspecies of *Salicornia europaea* L. (*sensu stricto*) and *S. ramosissima* J. Woods’. *New Phytologist* **92(1)**: 123-129.
- HAMBLER, D. J. (1954) ‘Chromosome numbers in British *Salicornia*’. *Nature* **173**: 547.
- KADEREIT, G., BALL, P., BEER, P., LADISLAV, M., DMITRY, S., TEEGE, P., YAPRAK, A.E. & FREITAG, H. (2007). ‘A taxonomic nightmare comes true: phylogeny and biogeography of glassworts (*Salicornia* L., Chenopodiaceae)’. *Taxon* **56(4)**: 1143-1170.
- PAPINI, A., TRIPPANERA, G.B., MAGGINI, F., FILIGHEDDU, R. & BIONDI, E. (2004). ‘New insights in *Salicornia* L. and allied genera (Chenopodiaceae) inferred from nrDNA sequence data’. *Plant Biosystems* **138(3)**: 215-223.
- ROSE, F. (1989). ‘Key to annual *Salicornia* species of South England and North France (modified from a key by Prof Géhu)’. *BSBI News* **53**: 12-16.
- STACE, C.A. (1991) *New flora of the British Isles*. CUP, Cambridge.



Fig. 1. *Salicornia dolichostachya* Moss (Long-spiked Glasswort). (a) a living specimen; (b) the same specimen pressed; (c) another of the same ‘sort’: both plants from mud flats by the River Medway. Both exhibit the frequently observed quadruple branching, in a single plane, at the node below the apical spike of any luxuriant *Salicornia* with long flowering spikes.

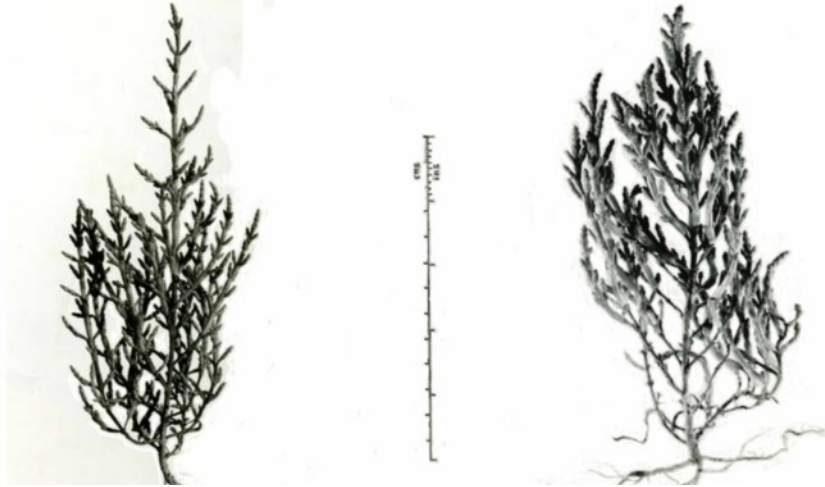
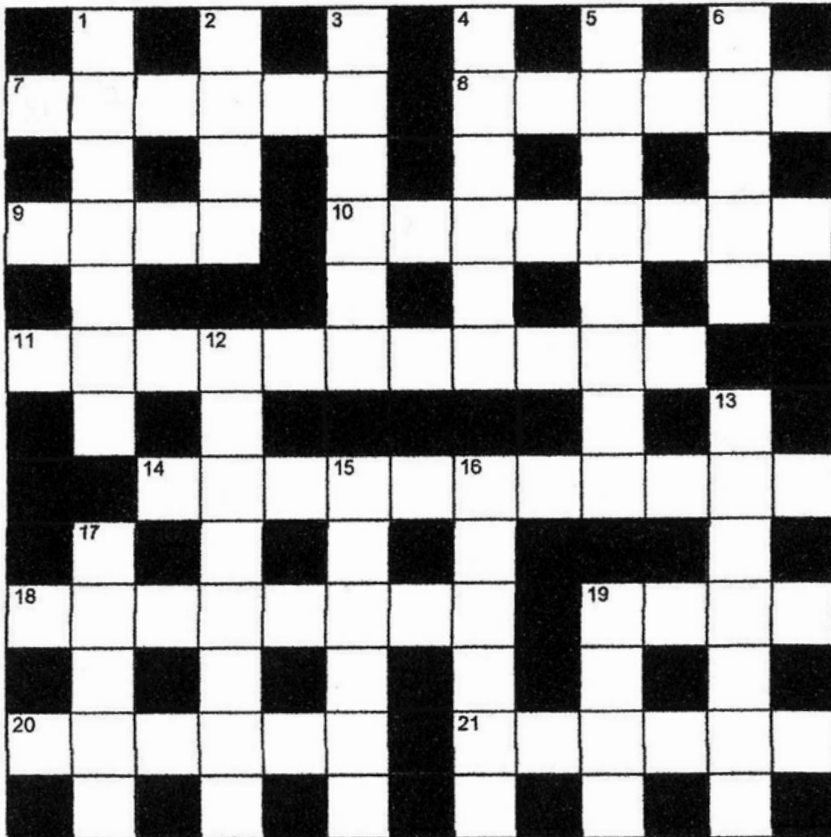


Fig. 2. Two distinctive living specimens of diploid *Salicornia* photographed in 1951. The Purple Glasswort (c.f. *S. ramosissima* Woods) on the left bore red flowers and became suffused with red coloration: the Common Glasswort (c.f. *S. europaea* L.) on the right remained green. Specimens from Whitewall Creek (TQ7969) and Twinney (TQ8568) photographed on 23.08.1951 and 11.09.1951 respectively. All photos © D.J. Hambler



## Botanical Crossword 15

By *Cruciada*



**ACROSS**

- 7. One not splitting plum, possibly, with hesitation (6)
- 8. Plum trees - trim us, they say (6)
- 9. Begin, but don't end, to substantiate 18 (4)
- 10. As trees and keys may be (8)
- 11. Flowering plants damaged passing Rome (11)
- 14. Flog a drink, it's said, to girl in club by Stirling (11)
- 18. Radiant girl takes note (8)
- 19. Some hear apology from Pteropsida character (4)
- 20. I tag on almost behind lady's finger (6)
- 21. Brief reference to bear's breeches (6)

- 2. Provoke outgrowth (4)
- 3. Spirited horse bears a cross (6)
- 4. Reportedly 'ave to wish 'e consumed poppy seed (6)
- 5. Original guff (like some herbal remedies?) heaped up yet hollow (8)
- 6. Flowers first employed to be joined at base, perhaps (5)
- 12. Mesembryanthemum in the freezer? (8)
- 13. Flowers arranged for last seven in chapel of rest (7)
- 15. An accountant encounters intelligence bureau under a tree (6)
- 16. Root emetic prepared at ice cap (6)
- 17. Computers, central heating, something unknown or nettles may make you this (5)
- 19. From beginning to end, more than one vehicle leaves mark on tree (4)

**DOWN**

- 1. Surround a bud, for example, and offer inferior care? (7)

---



---

## ALIENS

---

### The problem of invasive alien plant species

ANTONY JARVIS, *The Gamehouse, Doddington Hall, Lincoln, LN6 4RU;*  
(info@doddingtonhall.com)

Trips made to the west coast of the Republic of Ireland in the last two years have brought home to the writer that there is a large and inescapable problem with several species of alien plants there. The most widespread and well established of these is, of course, *Rhododendron ponticum* (Rhododendron), and it is a well-known problem on both sides of the Irish Sea, although not one that is being tackled in a concerted and effective way. In some parts of the west of Ireland it has increased to the point where it is difficult to imagine a campaign of eradication that would succeed. That *Rhododendron ponticum* is therefore probably here to stay is a sobering thought. It will not stand still in its invasion, and there are plenty of sites where 100% takeover has already been achieved. In Ireland the grazing of marginal land provides some restraint. Stock do not seem to suffer ill effects from what is a poisonous plant. But a minor change in E.U. agricultural support policy could easily make marginal land grazing uneconomic, and we would see a sudden and disastrous increase in the rate of spread as grazing was abandoned.

In some ways even more worrying than *Rhododendron ponticum* is the huge, slightly tender herbaceous plant *Gunnera tinctoria* (Giant-rhubarb) from S. America. This is naturalised in several of the western coastal regions of the British Isles. In the Irish counties of Sligo and Mayo, and particularly around Achill Island, the species has made something of a quantum leap. Introduced as a spectacular waterside garden plant, it has broken out of that setting and no longer relies on open water or boggy ground to thrive. Maybe the very high rainfall of this region creates wet enough conditions in any location, and the species now appears to be spreading randomly, taking over hedges, ditches, the

roadside verges, whole paddocks up to 0.5ha or more and open hillsides. On the Sheefry Hills in Mayo it can be seen at 350m altitude on freely draining slopes from which a conifer crop was removed a few years ago. In the eastern parts of Achill Island the species is entirely out of control, creating thickets 3m high of jagged leaves on spiny petioles, with a ground layer of massive rhizomes. No other green plants can compete, and there are no signs of attack by vertebrates or invertebrates.

An outbreak of *Gunnera tinctoria* on the local offshore Clare Island was recently dealt with. On the mainland and on inshore islands like Achill Island nothing is being done beyond keeping road verges clear. Local opinion believes that seed distribution is by water, but that does not accord with the widespread and often remote uphill distribution that is going on. Much more likely is that autumnal migrants of the thrush family distribute the seeds whilst feeding on the very numerous orange berries. The accompanying photograph (see colour section plate 3) gives a particularly vivid impression of the vigour of this plant. Where *Rhododendron ponticum* and *Gunnera tinctoria* are both present, it is clear that the latter is moving much faster, taking over where, to date, *Rhododendron ponticum* only grew in field margins and corners. In drier areas, however, *Gunnera tinctoria* will lose this dominance.

The third alien species of this note is the common hardy herbaceous garden perennial *Centranthus ruber* (Red Valerian). This was seen naturalised over perhaps 1ha or more of the Carboniferous limestone north escarpment of the Burren, west of the village of Cregg and overlooking Ballyvaughan Bay. In June the whole affected area was tinged pink at a distance by the plant's flowers. There was no visible boundary that might check the spread

of this species, and, knowing how it will grow in any garden wall, makes it very hard to imagine how it might be eradicated. *Centranthus ruber* has very light windblown seeds, and any part of the Burren can easily be reached by these from its present site, on a gale from the N-E, N or N-W.

Many alien species in the British Isles have settled to become balanced elements in the wild flora. The three described in this note, however, show no signs of ever reaching equilibrium within their chosen environments. They serve as good examples of an increas-

ingly common problem. There are many more invasive species that are equally out of control, and if the problem they pose is ignored, it will not go away, neither will the alien species stop their spread. What is needed is first the commitment to take the problem in hand. Then research on the extent of the problem and the means to resolve it for each problem species. Finally the money to put a plan into action. Standing by while habitat is destroyed by alien plants seems no more acceptable than allowing the same habitat to be destroyed by industrial development.

### ***Taraxacum subericinum* Hagendijk, Soest & Zevenb. (sect. *Hamata*) new to the British Isles**

T.C.G. RICH, *National Museum of Wales, Cardiff, CF10 3NP*

A.J. RICHARDS, *High Trees, South Park, Hexham, NE46 1BT*

In 2007, TCGR decided he had better take up *Taraxacum* again to keep himself occupied during spring holidays. Amongst the first nine specimens collected near Torrington, v.c.4 North Devon, was one puzzling plant initially regarded by AJR as a highly distinctive member of section *Celtica* related to *T. porteri* C.C. Haw. Further targeted collections from North Devon in 2009 and 2010 enabled this plant to be determined as *T. subericinum* Hagendijk, Soest & Zevenb. of section *Hamata*, new to the British Isles. The details of the records are as follows (with NMW vouchers):

Berry Cross, hedgebank, SS484162, 7<sup>th</sup> April 2007, T.C.G. Rich (V.2007.1.254).

Berry Cross, hedgebank at turning to Thorne, SS474.147, 13<sup>th</sup> April 2009, T.C.G. Rich (T303, V.2009.1.155).

Homer, lane-side hedgebank near, SS510163, 13<sup>th</sup> April 2009, T.C.G. Rich (T310 and 311, V.2009.1.153 and 154).

Langtree, bank by church, SS451156, 28<sup>th</sup> March 2010, T.C.G. Rich (T522, V.2010.1.446).

Undercleave, south-facing hedgebank, SS512165, 13<sup>th</sup> April 2009, T.C.G. Rich (T314, V.2009.1.156).

Winswell, bank above farm, SS493131, 29<sup>th</sup> March 2010, T.C.G., H.M. & J.C. Rich (T525, V.2010.1.447).

Its habitat is *Taraxacum*-rich (especially sects. *Hamata* and *Celtica*), south-facing sides of hedgebanks along minor lanes in open vegetation on mildly acidic to neutral soils (see colour section plate 1, photo 1) and, like many sect. *Hamata*, is relatively early-flowering. It may be scattered over a relatively wide area of North Devon and was not hard to find once the habitat had been learned.

*Taraxacum subericinum* is distinctive in having hairy leaves with strong red petioles, recurved lobes with many strong narrow teeth, long narrow apical lobes, spreading bordered bracts and discoloured stigmas (photos 2-4). It is similar to *T. marklundii* Palmgren (which is frequent in the same area) but is larger, more brightly coloured, has longer bordered bracts and yellow stigmas. It is also similar to *T. porteri* (sect. *Celtica*, rare in North Devon) differing in having more abruptly-ended leaf lobes with larger teeth and smaller spreading bracts.

A full description of *T. subericinum* is as follows:

A medium-sized plant with spreading leaves 10-25 (-30) cm. Leaves mid green, without spots or interlobe blotches, midrib hairy, deep pink to red or purple to apex, *usually with red*

veining to leaf; lateral lobes 4-6(-7), regular, patent to weakly hamate, triangular to deltoid with acute to acuminate apex, distal margin with few to many small filiform teeth and larger triangular teeth; interlobes entire or with a few filiform teeth or sometimes a larger tooth; terminal lobe acute to *distinctly elongate*; petiole narrowly to broadly winged, pinkish-white to reddish; petiole and midrib predominantly red or reddish purple with sparse interwoven green stripes. Scapes usually equalling leaves. Exterior bracts spreading to recurved (to reflexed), sometimes twisted, 12-15 × 3-4 mm, with distinct *whitish border*, usually ciliate towards apex, pale

green on upper surface, olive green and not pruinose on lower surface. Capitulum deep yellow, 45-48mm in diameter, ligules *reddish-brown or brown* striped outside, styles exerted, discoloured; pollen present. Achenes straw-coloured; body 3.5-4.0 mm, cone 0.5-1.0 mm.

Although described from the Netherlands and rare in Belgium and Denmark, *T. subericinum* is most common in Poland and the Czech Republic. It is probably native in Eastern Europe. Its occurrence in 'good' habitat in Devon does not make it an immediately apparent introduction.

---

## A Co. Dublin comfrey renamed after 32 years – a new county record

PAUL GREEN, *Yoletown, Ballycullane, Co. Wexford*; (paulnewross@eircom.net)

I was asked to take a look at the photos for a book Zoë Devlin is putting together on her own records of Irish wild flowers. All photos seemed grand, but one jumped out at me as the wrong identification. This was '*Symphytum officinale* (Common Comfrey)' (see photos inside back cover); the flowers were just too white. They were a pure white instead of the dirty/cream white of Common Comfrey. Zoë sent me several more photos and I told her I was 99.9% sure it was *S. orientale* (Soft Comfrey). Then the clue that I needed came. Zoë said when the council cleared the

brambles it had gone. Certainly something that would not happen to Common Comfrey, seeing how tough a plant it is to eradicate. On the 21<sup>st</sup> February 2011 Zoë took me to the site at Sorrento Park, Dalkey, Co. Dublin (v.c.H21). We thought we were out of luck until we noticed one plant on the other side of the path and several metres away from the original site. Sure enough it was Soft Comfrey. After knowing the species at the site for 32 years Zoë has a new county record for Dublin.

---



---

## REQUESTS

---

### *Juncus compressus* – BSBI Threatened Plants Project

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

*Juncus compressus* (Round-fruited Rush) has been included in the list of species for the BSBI Threatened Plants Project (TPP) for 2011/2012. This note is to encourage any survey of sites. A voucher (1-2 stems) would be beneficial for all sites, even if not surveyed using the TPP forms, and specifically a voucher must be provided if it is considered to

be coastal. It would also be useful to include a voucher of any plants thought to be *J. gerardii* (Saltmarsh Rush) from inland sites only.

Please visit the BSBI website (www.bsbi.org.uk/) for information on the TPP in general and species you may wish to survey. Vouchers and forms (for the *Juncus*) can be sent to the above address.

## Cyperaceae Handbook amendments offered and taxa wanted

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

In several previous issues of *BSBI News* I have asked for material of sedges (without much success). I have a keen interest in ‘sedges’. Two species which are of interest, especially relating to their vegetative characters, are *Carex acutiformis* and *C. riparia*. I find that there are some sheath characters that seem to work well rather than the aerenchyma mentioned in the ‘Sedge’ handbook. I would welcome any vegetative material with some sheaths intact, especially from any areas where there are known colonies that do not seem to produce fruiting spikes and the identity has been assigned to one or the other on presently known characters.

I am also especially keen to see and if possible have living material of any hybrid Cyperaceae. I believe it is important that some of these (or all) should be in cultivation in some way, in part so they can be studied further. I would also welcome seeds of any of the rarer sedges and if anyone has any growing

in their garden and can spare some live material all the better. I would also like to try and get a leaf or two – of course I would like some of the living plant – of *C. diandra* × *C. paniculata*; the reason being that one of these spp. has a character that no other British sedge has and it may occur in the hybrid to help confirm its identity. It is said to occur in SE Yorkshire (v.c.61), Loch Lochton (v.c.75), two sites in Main Argyll (v.c.98) and in mid Cork (H4). If anyone can supply even one leaf I would be very grateful not to mention excited!

Lastly, I noted that there appear to be several (minor) errors/typos etc. in the latest edition of the BSBI handbook for Cyperaceae. If anyone would like a copy of the ones I have noted (there may be a few others) please contact me at the above address. Only email copies are available. I am always interested and happy to hear from anyone (and to help if I can) even if it is not on sedges!

---

## A request for giant hogweed seeds

JAMES ARMITAGE, *RHS Garden Wisley, Woking, Surrey, GU23 6QB*

The Royal Horticultural Society is undertaking a research project to investigate the number and identity of species of giant *Heracleum* presently at large in the U.K. It would be of great assistance if BSBI members in possession of seeds of giant hogweeds could spare a sample for morphometric analysis. Samples need to be received by the end of

July 2011 and would be especially useful if accompanied by details of provenance and/or photographs of the parent plant. Observations concerning variation in naturalised populations of giant hogweed are also welcome.

Samples should be sent to me at the address above.

---

## BSBI News 104 & 111 wanted

GWYNN ELLIS, *41 Marlborough Road, Roath, Cardiff, CF23 5BU*

I normally try to keep in stock a few copies of every issue of *BSBI News* in case I get a request from a new member trying to build up a collection or an existing member who has mislaid a copy. In the past, when *News* was A5 in size and mainly black & white, it was a relatively simple matter to photocopy any

issues which ran out of stock. With the new size and more colour, issues 101 onwards are difficult to photocopy successfully. I am now out of issue 111 and have very few of 104. If any member has either of these that they don't mind getting rid of I would be very pleased to have them. Post will be refunded if requested.

---

## OFFERS

---

### **Long *Watsonia* run available**

ALAN OUTEN, 14 *Fairfax Close, Clifton, Shefford, Beds., SG17 5RH;*  
(alanouten@virginmedia.com)

I have a continuous run of *Watsonia* from 1979 (vol. 12, part 4) to the present for disposal. If anyone is interested, please contact me to arrange collection, etc.

---

### ***Wiltshire Botany* articles free**

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

Issue 12 of *Wiltshire Botanical Society's* journal *Wiltshire Botany* has now been published. It focuses on biodiversity. It begins with examples of auditing the resources we have, with Richard Aisbitt's article on Calstone and Cherhill Downs and the contribution by Pat Woodruffe, Ann Appleyard and Sue Fitzpatrick on Wylde and Church Downs, which describe surveys into the condition and constitution of two areas of chalk grassland, Sites of Special Scientific Interest (SSSIs). Neil Punchard deals with an aquatic environment - the Hampshire Avon winterbournes in Wiltshire. George Else's look at a single species – *Onobrychis vicifolia* (Sainfoin) – is summarised in a "Wiltshire Botany Elsewhere" section. Jack Oliver takes a different line, cataloguing the great variety of trees, both native and introduced, in a variety of woodlands round Marlborough, illustrating the point that biodiversity isn't just about natives - we need to think globally, particularly with climate change threatening. John Presland looks at what can be done locally by considering what a Parish Council could do, using the village of Winsley as an example. Finally, there is a selection from the

2009 records and help with identifying vice-county boundaries.

Contributions to the journal are welcome on any aspect of Wiltshire botany. Articles should be submitted to John Presland, 175c Ashley Lane, Winsley, Bradford-on-Avon, BA15 2HR, who will also be pleased to discuss proposed articles informally (Tel.: 01225 865125). A leaflet is also available offering guidance to authors on the most helpful forms in which to submit articles.

Copies of No. 12 and some earlier issues are available from Rosemary Duckett, 50A The Butts, Westbury, Wiltshire, BA13 3EX (Tel.: 01373 858296; rosemary.duckett@virgin.net). The cost is £5.00 post free. Cheques should be made out to 'Wiltshire Botanical Society'.

However, all articles from all issues can now be downloaded free from Windows Live Skydrive. There is a list of all the articles on the site and an index to locate articles on particular subjects. To find out how to do it, log on to the Society's website:

[www.communigate.co.uk/wilts/wiltshirebotanicalsociety](http://www.communigate.co.uk/wilts/wiltshirebotanicalsociety), and choose the "Download Wiltshire Botany" option for full instructions.

---

### ***Flora of Hertfordshire* update available**

TREVOR J. JAMES, 56 *Back Street, Ashwell, Baldock, Herts., SG7 5PE;*  
(trevorjjames@btinternet.com)

For anybody who may be interested in the flora of Hertfordshire, or who has obtained a copy of my recently published *Flora of Hertfordshire* (2009), they may be interested

in getting hold of a copy of 'The *Flora of Hertfordshire* – first update with new county records and corrections', *The Hertfordshire*

*Naturalist – Transactions of the Hertfordshire Natural History Society*, **42 (1)**: 49-53 (2010).

I have made this available as a separate PDF, which can be supplied to interested parties by

emailing me at the above address. If anyone wants a printed copy, I can also supply this, but would appreciate a large stamped addressed envelope in which to send it.

## BOOK NOTES

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

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

*Flora of Cardiganshire*. Arthur O. Chater. Published by the author, 2010. ISBN 978 0 9565750 0 5. £40.00 h/b.

\**Flowers of the forest: plants and people in the New Forest National Park*. Clive Chatters. WildGuides, 2009. ISBN 978 1 903657 19 5. £24.95 p/b. Not just a flora of the New Forest, this guide provides detailed information on the habitats and landscapes of the area along with the history of botanical discoveries. Conservation projects on

rare species are also highlighted, and the book is well illustrated with colour photographs.

*A new atlas of the Kent flora*. Eric G. Philp. Kent Field Club, 2010. ISBN 978 0 956192 62 2. £39.50 h/b.

A panel of advisers has now been established for book reviews. Books for review should continue to be sent to me as reviews editor (details are in the *Yearbook 2011*), so that bibliographic details and cover images can be copied, but I hope that this will help the process of reviewer selection as well as attracting a wider range of titles for review to reflect the broader scope of the journal.

## OBITUARY NOTES

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

\* An obituary will be published in *BSBI Yearbook 2012*.

Since *BSBI News 116*, we regret to report that news of the deaths of the following members has reached us:

Following a stroke and short illness **Mrs S. Thomson\*** from Hereford. Stephanie had been a member since 1957, and since 1976 was v.c. Recorder for Herefordshire. In that time she had completed several of the *BSBI* Recording Projects. With her late husband Peter, Stephanie joined many BSBI meetings, field meetings and holiday excursions and their enthusiasm and good humour will be remembered by many members.

We are also sad to report the death of the **Rev. A.L. Primavesi\***. A member since 1959, Tony was one of our *Rosa* referees and joint author

with Rev. Gordon Graham of the BSBI Handbook *Roses of Great Britain and Ireland 1993*. Tony led many field meetings through the years and replied to many hundreds of postal queries, so was known to many members.

**Dr J.G.D. Lamb\*** known informally as Keith, was a leading horticultural botanist in Ireland. He was also BSBI Recorder for Co. Offaly from 1970 to 1996 and was quoted in the *Irish Times* as “an active recorder for Co. Offaly of the venerable Botanical Society of the British Isles”.

As we go to press we hear of the sudden loss of **Comd. J.M.W. Topp RN\***, a member since 1974, and following his retirement John had been a member of BSBI Meetings Committee and organised an excursion to Ibiza in 1999. He was also deeply concerned with conservation especially of coral caves in the Indian Ocean on Chagos.

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

**Mr J. Cotton** of Thamesmead, London (1965); **Dr P.A. Ellis** of Moreton, Essex (1976); **Mrs D. Freeman** of Taunton, Somerset (1998); **Mr R. Galt** of Edinburgh (1997); **Mr T.J. Holzer** of Chandlers Ford, Hants. (1999); **Miss M.M. Kingston** of Walsall, Staffs (1977); **Mr K.G. Payne** of

Selby, North Yorks (1991); **Prof W.W. Schwabe** of Ashford, Kent (1978); **Mr R.J. Skerrett** of Great Barr, Birmingham (1965); **Mr C.F. Steeden** of Lytham St Annes, Lancashire (1972) and **Mrs J. Stewart** of Wimborne, Dorset (1985).

We send regrets and sympathies to all the families.

## Memories of Ann Conolly

KEN THOMPSON, *Department of Animal and Plant Sciences, University of Sheffield, S10 2TN*

Ann taught me botany when I was a young undergraduate at the University of Leicester in the early 1970s, and I undoubtedly absorbed some of my enthusiasm for plants from her. I particularly remember traipsing through a wood to look at one of the most easterly sites in Britain for *Umbilicus rupestris* (Navelwort), on the distant wall of a flooded quarry. Seeing someone so genuinely thrilled by a plant that could only be seen through binoculars clearly made a deep impression on me.

No trip out with Ann was dull. Her fondness for looking at plants in the verge while driving, rather than at the road, made any car journey exciting. But my favourite Ann Conolly memory comes from a student field course on the Lleyn peninsula in 1972. Ann always claimed to be accumulating data for a Flora of west Lleyn, but the Flora itself was never completed. The chief work involved was ‘square-bashing’, *i.e.* noting the presence of the various plants in the tetrads that make up the area. For this purpose we students were an ideal source of free labour. Of course, Ann knew that we couldn’t really be trusted, but on balance she was prepared to tolerate our incompetence, imposing her own quality control on our records later.

Pairs of students, equipped with sandwiches, thermos and CTW, were dropped at one corner of a square and told to make our way to the other corner, where we would be collected at the end of the day. Our task was to identify anything with flowers that we didn’t recognise as we went along. Since few of us at that stage recognised anything, this meant identifying

*everything*. David Lindley and I were allocated a coastal square and spent a very pleasant day meandering along it, identifying everything in sight. That evening, over dinner back at the hotel, Ann enquired if any of us had found anything interesting. We all referred to our notebooks and mentioned a few things, none of which provoked any reaction until David and I got to *Viola lactea* (Pale Dog-violet). Ann, on first-name terms with every species known to grow on the Lleyn, knew immediately that *Viola lactea* had never previously been recorded in v.c.49, and the effect was like one of those H.M. Bateman cartoons, you know ‘The man who lit his cigar before the Royal toast’, and so on. Dinner was forgotten, and David and I were subjected separately to a botanical identity-parade, using the line drawings of violets in Stella Ross-Craig’s *Drawings of British plants*, with the names covered up. We both passed, correctly identifying *V. lactea* as the plant we had seen. The next day, straight after breakfast (I’m sure it would have been *before* breakfast if we hadn’t insisted), we headed out to where we had made our discovery and Ann was able to confirm that it really was *Viola lactea*, and thus a new vice-county record. The lesson, I suppose, is that you never know what you will find if you just make sure to identify everything you come across. The episode confirmed me in Ann’s eyes as a competent botanist, but of course the trick is knowing on sight that something is unusual and worth investigating, which is not a skill I ever developed to any great degree.



---



---

## RECORDERS AND RECORDING

---

### Panel of Referees and Specialists

MARY CLARE SHEAHAN, *61 Westmoreland Road, Barnes, London, SW13 9RZ;*  
([mc\\_sheahan@kew.org](mailto:mc_sheahan@kew.org))

Stephen Jury is retiring from identifying plants from Spain and Morocco, and we thank him warmly for the help he has given members over many years.

Our referee for *Cochlearia*, Dr Peter Wyse Jackson, has taken up a position as President of the Missouri Botanical Garden in the USA and members are asked to contact MCS before submitting specimens.

There are two changes of address:

Geoffrey Kitchener's is now: Cromlix, Otford Lane, Halstead, Sevenoaks, Kent, TN14 7EB; ([geoffreykitchener@yahoo.com](mailto:geoffreykitchener@yahoo.com))

Hugh Dawson's is now: c/o Freshwater Biological Association, River Laboratory, Church Lane, East Stoke, Wareham, Dorset, BH20 6BB; ([fhd@ceh.ac.uk](mailto:fhd@ceh.ac.uk))

---

### Panel of Vice-county Recorders

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

#### New appointments

V.c.14 (W. Sussex). Dr. Mike Shaw, The Walnuts, 118 Manor Way, Aldwick Bay, Bognor Regis, W. Sussex PO21 4HN.

V.c.56 (Notts.). Mark Woods to become joint recorder (with David Wood, (correspondence to Mr Wood as before))

#### Changes of address or other details

V.c.113 (Jersey). Mrs M. L. Long, Ozarda, Les Hamonnets, St John [not St Joan!], Jersey, Channel Islands, JE3 4FP.

I must apologise both to Mrs Long for putting (almost) the right address but the wrong name, and to Mrs Banks, for including her after she had stepped down.

V.cc.7 & 8 (Wiltshire).

Sharon Pilkington to 66 Newtown, Westbury, Wiltshire, BA13 3EF

V.cc.15 & 16 (Kent)

Geoffrey Kitchener to Cromlix, Otford Lane, Halstead, Sevenoaks, Kent TN14 7EB.

V.c.H2 (N. Kerry)

Peter Wyse Jackson has moved to USA, so all correspondence to his brother Michael.

V.c.H6 (Co Waterford) & H12 (Co Wexford)

Paul Green to Yoletown, Ballycullane, New Ross, Co Wexford.

V.c.H20 (Co Wicklow)

Ms C. Brady to 74 Station Court, The Avenue, Gorey, Co. Wexford.

---



---

## NOTES FROM THE OFFICERS

---

### From the Hon. General Secretary – *LYNNE FARRELL*

*41 High Street, Hemingford Grey, Cambs., PE28 9BJ*  
(Tel.: 01480 462728; farrell104@btinternet.com)

#### Updates of Committees

There is only one change in the chairmen/women and secretaries of the various committees:

John Swindells is standing down as Secretary to the Executive Committee, and is replaced by Jane Squirrell from July 2011.

There are some retirements and new members of other committees, for which I have the following information to date:

Database Committee: no changes.

Science & Research Committee: no changes.

Training & Education Committee: no changes.

Records Committee: new members – Paul Smith and Quentin Groom.

Publications Committee: no changes.

Meetings Committee: retirements – David Allen; new members – Jonathan Shanklin, Neil Crossman.

---

### From the Scottish Officer – *JIM MCINTOSH*

*c/o Royal Botanic Garden, 20A Inverleith Row, Edinburgh, EH3 5LR;*  
(Tel: 0131 2482894 or 0791 7152580; j.mcintosh@rbge.ac.uk)

#### The use of sampling in vice-county recording

In the recently published *Recording the British and Irish flora 2010-2020* we set out our plans for the next decade. The main aim is a comprehensive update of hectads in the period 2000-2019, in preparation for a third atlas. An ambitious aim, especially at tetrad or better resolution and with all the other things we ask recorders to do! (Not to mention recorders' own interests and projects.)

It is essential that recorders have their own local recording plan to achieve that comprehensive update of hectads in their vice-counties, and still leave time for other things, whether related to botany or not! Only the very smallest vice-counties, or those with great densities of botanists can hope to achieve 100% coverage at monad or tetrad level in ten years. Of course it can be done if you allow yourself longer, say 20 or 30 years, but by the time your data is published some of it will be out of date.

A much better approach is to select and survey a *sample* of squares. Various sampling approaches are considered in forthcoming

guidance that Quentin Groom, Kevin Walker and I (but mainly Quentin) have been working on. The guidance will be published shortly as Annex 1 to the recording plan once it has been reviewed by the Science & Research Committee and ratified by the Records Committee. However I can give you a preview of the most interesting and important points now!

Perhaps the most critical point is that any sampling approach must be *enjoyable*. If not recorders will simply fall by the wayside and the task will not be completed. A key decision is what resolution of recording to adopt. It is not necessarily true that if you have a big county you should opt for a larger grid square (e.g. tetrad). Given you only have a finite amount of time for recording you are generally not going to cover more ground if you choose tetrads over monads. It is probably still worth stating, even if obvious, that it is much better to have a few very thoroughly botanised squares than many that have only been poorly covered.

Another major decision is how to select squares for survey. Should the selection be random or systematic or a combination of the two? A systematic approach was used for the Monitoring Scheme (e.g. AJW tetrads). Or should the selection be entirely subjective – for example by only choosing the richest squares? Each has its advantages and disadvantages. Unbiased surveys are fantastic for recording common plants and habitats, but they miss more localised species and can be less interesting to record. On the other hand, targeted surveys are better at locating rarer species, but are less suitable for analysing change because the results are likely to be biased. Quentin did some work which shows that, as a rule of thumb, sampling just three randomly selected tetrads in a hectad will find 50% of the species present in the hectad. If you choose the richest three tetrads the figure rises to 70%. Of course the law of diminishing

returns applies and recording 6 random squares won't find 100% of the species! However it does demonstrate the usefulness of sampling for reducing workloads to manageable levels.

Each Recorder must decide which mix of strategies is most suitable for them and their vice-county, based on geography and circumstance. One of the key issues is the number, availability and expertise of contributing botanists. A clear local recording plan will help to encourage and focus effort by recorders and contributors. It also provides, rather importantly, a means of measuring progress.

Even if you already have a local recording plan, I believe that there is much that will be of interest in this sampling guidance. We would welcome feedback – but can't promise to reflect every point!

**Solution to Botanical Crossword 15**

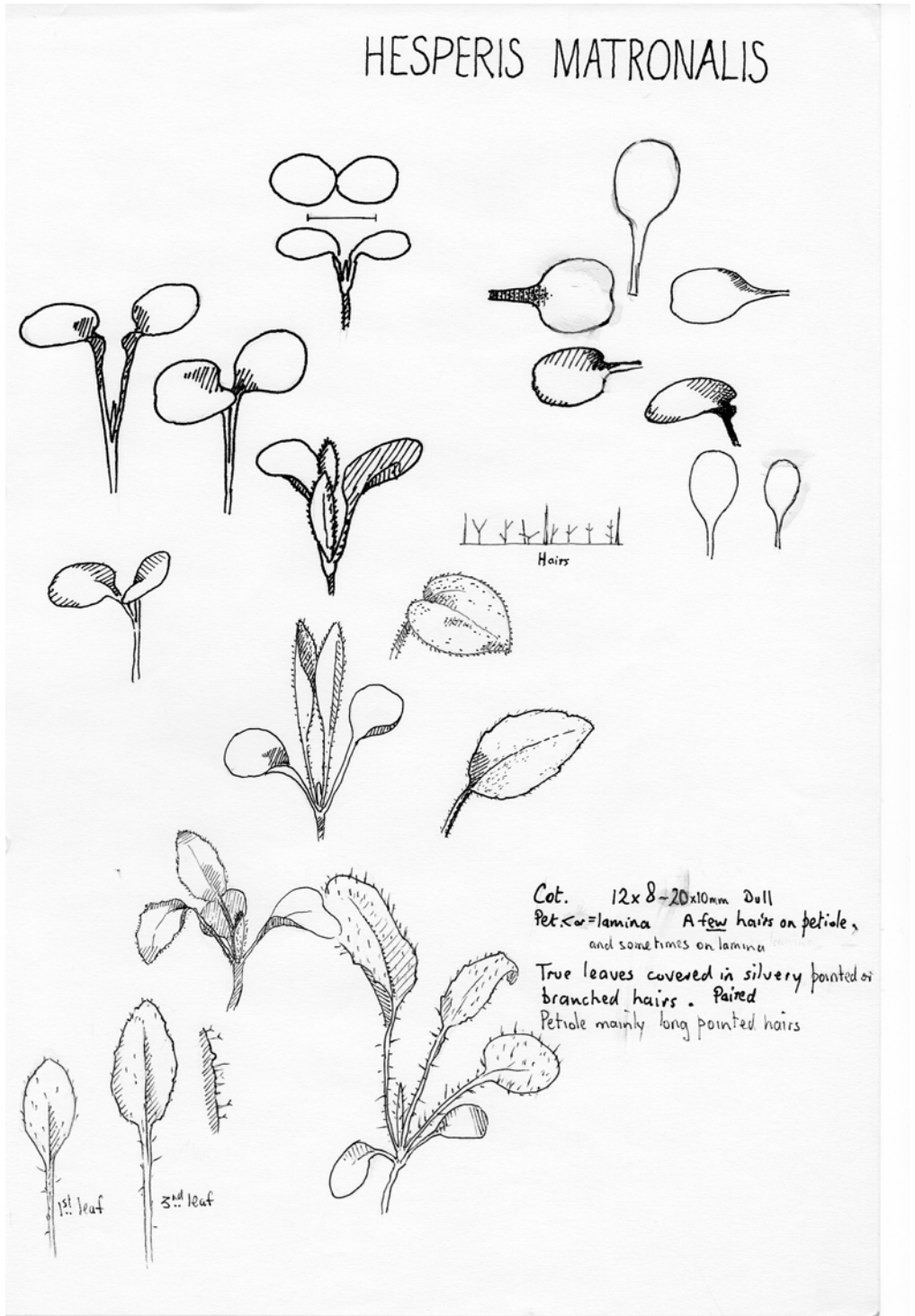
DOWN  
 1. SUBTEND 2. SPUR 3. ARABIS  
 4. OPIATE 5. BUNCOMBE 6. FUSED  
 12. ICEPLANT 13. FLORETS  
 15. ACACIA 16. IPECAC 17. ITCHY  
 19. SCAR

ACROSS  
 7. LUMPER 8. PRUNUS 9. STAR  
 10. BRANCHED 11. ANGIOSPERMS  
 14. SELAGINELLA 18. STELLATE  
 19. SORI 20. BHINDI 21. ACANTH

**Crib**

DOWN  
 1. SUB - inferior, TEND - care 2. double  
 definition 3. ARABIS 4. "(H)ope (h)  
 ate" 5. Origin of 'bunkum'; BUN +  
 COMBE ('herbal remedies' keeps it botani-  
 call) 6. F + USED 12. A freezer could  
 be described as an ice-plant 13. anag of last  
 seven letters of (chape)L OF REST 15. A  
 CA + CIA 16. anag ICE CAP 17. IT +  
 CH + Y 19. CARS has first letter of SCAR  
 moved to the end; leaves mark on tree i.e.  
 leaf scar

ACROSS  
 7. anag PLUM+ER 8. "prune us" 9. noun  
 from 'stellate' = STAR(T) 10. self-explan-  
 atory (once you know the answer!)  
 11. anag PASSING ROME 14. "sell a gin  
 (to) Ella"; club + (Stirling) Moss 18. Stella  
 + te (softa note) 19. "sorry" (but not every-  
 one pronounces it thus) 20. B(E)HIND +1  
 21. Vernacular name of Acanthus



*Hesperis matronalis* (Dame’s-violet) seedlings del. S. Evans © 2003  
See *BSBI News* **83**: 68 (Jan 2002) or **108**: 73 (April 2008) for more details about these drawings

---



---

## STOP PRESS

---

### BSBI Member George Steele, the First Recipient of the George Band Award for Exceptional Voluntary Contribution

George Steele, a BSBI member for 26 years, who has helped behind the scenes in the introduction of some of the most important safety measures in modern climbing has been honoured with a new national award.

Now seventy years old, George who lives in Rochdale is the first recipient of the *George Band Award for Exceptional Voluntary Contribution* for his 40 years service on the *British Mountaineering Council's* Technical Committee. He is a retired senior civil servant and has been a climber, part-time instructor and photographer over a period exceeding 50 years and is a member of the *Alpine Club*, the *Fell & Rock Climbing Club of the Lake District* and the *Yorkshire Mountaineering Club*. He is also a Fellow of the Royal Geographical Society and for many years was

a leader of mountain walking and alpine flower holidays in the Alps.

His voluntary work extends to other fields and he is currently President of *Bury Photographic Society* and gives photographic lectures and judges photographic competitions across the North of England.

The Award was presented by George Band at the *British Mountaineering Council* Annual Dinner on 16 April 2011.

*George Christopher Band OBE* was, at 24 years old, the youngest climber on the 1953 Everest expedition when Edmund Hillary and Tenzing Norgay made the first ascent of the mountain. Two years later, in 1955, he and Joe Brown became the first climbers to ascend Kangchenjunga, the third highest mountain in the world.

**CONTRIBUTIONS INTENDED FOR  
*BSBI NEWS* 118 should reach the Receiving Editor before  
 August 1st**

The General Editor Gwynn Ellis can be contacted by answerphone or fax on 02920 496042  
 email: rgellis@ntlworld.com

The Receiving Editor Trevor James can be contacted by phone on 01462 742684 or  
 email trevorjames@btinternet.com

All text and illustrations appearing in *BSBI News* and its Supplements are copyright and no reproduction in any form may be made without written permission from the General Editor. Offers and special terms apply only to members of the Society and copies are not available on an exchange basis.

*BSBI News* (ISSN 0309-930X) is published by the Botanical Society of the British Isles. Enquiries concerning the Society's activities and membership should be addressed to: The Hon. General Secretary, c/o Dept. of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD Tel: 0207 942 5002.

Camera ready copy produced by Gwynn Ellis and printed by J. & P. Davison, 3 James Place, Treforest, Pontypridd, Mid Glamorgan CF37 1SQ (Tel. 01443-400585;  
 email: davison.litho@talktalkbusiness.net)

---

---

# ADMINISTRATION and IMPORTANT ADDRESSES

---

- PRESIDENT** (to June 2011) **Mr Michael Braithwaite**  
Clarilaw Farmhouse, Clarilaw, Hawick, Roxburghshire, TD9 8PT  
Tel. 01450 372129
- PRESIDENT** (from June 2011) **Mr Ian R. Bonner**  
Cae Trefor, Tyn y Gongl, Anglesey, LL74 8SD  
Tel.: 01248 852651; BSBI@caetrefor.co.uk
- HON. GENERAL SECRETARY** (General Enquiries) **Miss Lynne Farrell**  
41 High St, Hemingford Grey, Cambs, PE28 9BJ  
Tel.: 01480 462728; farrell104@btinternet.com
- ACTING HON. TREASURER** until further notice (All financial matters **except Membership**) **Mr Terry Swainbank**  
c/o Synergis Technologies Ltd, 7th Floor, 23 Buckingham Gate, London, SW1E 6LB  
Tel.: 07710 491589; terry.swainbank@btinternet.com
- MEMBERSHIP SECRETARY** (Payment of Subs and changes of address) **Mr Gwynn Ellis**  
41 Marlborough Road, Roath, Cardiff, CF23 5BU  
(Please quote membership number on all correspondence; see address label on post,  
or Members List 2011) Answerphone: 02920 496042; rgellis@ntlworld.com
- HON. FIELD SECRETARY** (Including enquiries about Field Meetings) **Dr Jill Sutcliffe**  
Ingrams Farm, Fittleworth Road, Wisborough Green, Nr Billingshurst, West Sussex RH14 0JA  
Tel.: 01403 700395; jillsutcliffe1@gmail.com
- HON. ASSISTANT SECRETARY** (General enquiries) **c/o Roy Vickery**  
c/o Dept. of Botany, The Natural History Museum, Cromwell Road, London, SW7 5BD  
Answerphone only: 0207 942 5002
- BSBI PROJECT MANAGER & VICE-COUNTY RECORDERS** (Comments and/or changes of address) **Mr David Pearman**  
Algiers, Feock, Truro, Cornwall, TR3 6RA  
Tel.: 01872 863388; DPearman4@aol.com
- PANEL OF REFEREES & SPECIALISTS** (Comments and/or changes of address) **Dr Mary Clare Sheahan**  
61 Westmoreland Road, Barnes, London, SW13 9RZ  
Tel.: 020 8748 4365; m.sheahan@kew.org
- NEW JOURNAL OF BOTANY** RECEIVING EDITOR **Dr Richard Gornall**  
Botany Dept., University of Leicester, Leicester, LE1 7RH  
Tel. 0116-252-3394; rjg@leicester.ac.uk
- BOOK REVIEWS EDITOR** **Dr John Edmondson**  
243 Pensby Road, Heswall, Wirral, CH61 5UA  
Tel: 0151 342 8287; a.books@mac.com
- BSBI NEWS** RECEIVING EDITOR **Mr Trevor J James**  
56 Back Street, Ashwell, Baldock, Herts., SG7 5PE  
Tel.: 01462 742684; trevorjames@btinternet.com
- BSBI NEWS** GENERAL EDITOR **Mr Gwynn Ellis**  
41 Marlborough Road, Roath, Cardiff, CF23 5BU  
Answerphone: 02920 496042; rgellis@ntlworld.com
- BSBI HEAD OF RESEARCH & DEVELOPMENT** **Dr Kevin J Walker**  
97 Dragon Parade, Harrogate, North Yorkshire, HG1 5DG  
Tel 01423 790139 ext. 1799 (Mon-Weds); 01904 328805 (Thurs-Fri); kevinwalker@bsbi.org.uk
- BSBI COORDINATOR** **Mr Alex Lockton**  
66 North Street, Shrewsbury, Shropshire, SY1 2JL  
Tel. & Fax: 01743 343789; coordinator@bsbi.org.uk
- BSBI VOLUNTEERS OFFICER** **Mr Bob Ellis**  
11 Havelock Road, Norwich, NR2 3HQ  
Tel.: 01603 662260; bob@elymus.demon.co.uk
- BSBI SCOTTISH OFFICER** **Mr Jim McIntosh**  
c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR  
Tel. 0131 248 2894 (w); 0791 7152580 (mob); j.mcintosh@rbge.ac.uk
- RESEARCH FUND APPLICATIONS** **Mr Alex Lockton**  
66 North Street, Shrewsbury, Shropshire, SY1 2JL  
Tel. & Fax: 01743 343789; coordinator@bsbi.org.uk
- BSBI PUBLICATIONS** **Mr Paul O'Hara**  
Summerfield Books 2007 Ltd, 3 Phoenix Park, Skelton, Penrith, Cumbria, CA11 9SD  
Tel.: 01768 484910; Fax: 01768 484909; info@summerfieldbooks.com
- BSBI WEB SITE ADDRESS** [www.bsbi.org.uk](http://www.bsbi.org.uk)

*Registered Charity Number in England & Wales: 212560 and in Scotland: SC038675*



*Symphytum orientale*, Serrento Park, Dalkey, (v.c **H21**). Whole plant (l) and close-up of inflorescence (r ). Photos Z. Devlin © 2008 (see p. 46)



*Trichophorum cespitosum* in sphagnum pools on summit of blanket peat dome and tuft of *Trichophorum cespitosum* showing fruiting spikelets (inset)  
Both photos taken at Butterburn Flow (v.c.**70**) by F.J. Roberts © August 2010 (see p. 37)



BSBI Recording Party from Mar Lodge (l to r: S. Edwards, DP, R. Payne, JM), on Ben Macdui (v.c.92). Photo J. McIntosh © 2010 (see p. 39)



BSBI Council members March 2011

Seated from left to right: Ian Bonner, Peter Gateley, Sylvia Reynolds, Richard Carter, Mark Kitchen, Chris Metherall, Jane Croft

Standing from l to r: Lynne Farrell, Richard Robinson, Jill Sutcliffe, Ian Denholm, Terry Swainbank, David Peaman, David Broughton, Michael Braithwaite, Gwynn Ellis, Chris Miles, Arthur Chater, Brenda Harold, Richard Pryce, Trevor James, Chris Boon, Sharon Pilkington, Fred Rumsey, Helena Crouch. Photo Jane Squirrel © 2011 (see p. 2)