

## IMPORTANT NOTICES

### RARE PLANT RESEARCHER

The BSBI is seeking to let a contract for a rare plant researcher for the summer of 2001. This will be for a short period of employment or as a consultancy contract, during which time the researcher will be expected to produce a definitive account of the distribution and status of a single rare species. The intention is to demonstrate techniques for the collection and utilisation of data available from the Threatened Plants Database. Through the TPDB and in co-operation with the BRC they will have access to a total resource of more than fifteen million botanical records, although fieldwork is expected to also form a significant part of the project. Depending on the outcome of the initial project, it is hoped that further projects will ensue.

The ideal candidate will have a proven track record of scientific research and, preferably, background knowledge in a suitable subject. Computer skills are essential. For further details, please contact:

ALEX LOCKTON, BSBI Co-ordinator, 66 North Street, Shrewsbury, SY1 2JL, Tel.: 01743 343789,  
email: alex@whild.icom-web.com.

### FIELD MEETINGS AND FOOT-AND-MOUTH DISEASE

Whilst the current restrictions are in place will all members who are intending to attend field meetings please contact the leader to establish the situation in the particular area. Members **MUST** also refrain from carrying out any fieldwork in restricted areas. Our maxim must be '**IF IN DOUBT; DON'T GO OUT**'.

In view of this, a series of **field meetings in urban areas** has been arranged and details should be available in a leaflet distributed with this mailing, **but**, it should be noted that even these may have to be cancelled if the situation continues to worsen. Please do contact the leader beforehand. Also in the leaflet are revised details of **Irish Field Meetings**. Unfortunately there was a slight hiccup in the printing of the details for the ***Alchemilla* identification weekend** and revised details are also included in the leaflet. **Please note** that bookings should be with the leader, Dr Bradshaw, by the end of April as the Field Centre at Malham Tarn needs to know numbers six weeks before the meeting.

MARGARET LINDOP, Field Meetings Secretary.

### AGM 2001

Would members please note that, contrary to the indication in *BSBI Year Book 2001*, there are no field meetings associated with this year's AGM on Sunday May 6th.

EDITOR

### PLANT RECORDS IN WATSONIA

I am planning to publish the first tranche of the backlog of Plant Records (probably for the years 1996-1997) in *Watsonia* **23(4)**, August 2001, with further tranches in succeeding issues. If any member has records that might qualify for publication (see below) they should send them to the appropriate v.c. recorder (see *BSBI Year Book 2001*), who, I hope, will forward them to me.

The records must normally be of species, hybrids or subspecies of native or naturalised plants belonging to one or more of the following categories: 1st or 2nd v.c. record: 1st or 2nd post-1930 v.c. record: only extant v.c. locality, or 2nd such locality; a record of an extension of range by more than

100km. Such records will also be accepted for the major islands in v.cc. 102-104 and 110. Only 1st records can normally be accepted for *Rubus*, *Hieracium*, *Taraxacum* and hybrids. Records for subdivisions of vice-counties will not be treated separately; they must therefore be records for the vice-county as a whole.

When the Vice-comital Census Catalogue is published (see page 67), the above criteria will be altered to conform with that book.

EDITOR

## DIARY

N.B. These dates are supplementary to those in the 2001 Calendar in *BSBI Year Book 2001*.

### 2001

- May                    BSBI Trip to Sicily (see *BSBI News* 84: 52)
- May 28 - June 3    *Building bridges with traditional knowledge*, Honolulu, an International Conference organised by the University of Hawaii (see *BSBI News* 83: 57)
- June                    *Spotlight on Plants*, free course for post-GCSE students at Preston Montford Field Centre (see page 77)
- June 21                Backyard Biodiversity Day (see page 5)
- October 20           *Future Flora – New Directions in British Botany*: Conference (see page 5)
- May 2003             Anglo-French Conference in Cornwall (see page 5)

EDITOR

## EDITORIAL

**Colour in *BSBI News*** – There is another 4 page colour spread comprising the centre pages of this issue (pp. 39-42). Providing there are sufficient good quality colour photographs available, there could be colour in every issue from now on. So, it is up to you to send in your slides or prints (or digital images), together with an accompanying article. I would prefer not to have any ‘orphan’ images without text, but these may be accepted to illustrate previously published notes.

**Apologies** – to my latest grandson, Reuben for spelling his name the botanical way in the last issue, rather than the correct biblical way!

**Inserts** – Among the inserts with this issue are *The Annual Report*, Field Meeting supplement, Flora locale leaflet, *British Wildlife* leaflet, BSBI Books supplement. Overseas members please note that not all inserts are included in their mailing.

**Correction.** To Field Meeting reports, *BSBI News* 86: 69. Hatfield Forest is in N. Essex (v.c. 19) not in nearby Herts. Thanks to Dr Francis Rose for pointing this out.

**My thanks to:** Keith Hyatt for pointing out changes to the entry for the Systematics Association in *BSBI Year Book 2001* (see page 65); and to Tony Marshall for the following fascinating note:

‘It is not, I think, at all well-known that Geoffrey Chaucer (c.1340-1400) was a keen botanist, but a line from his *Anelida and Arcite* is very revealing:

“First folow I Stace, and after him Corinne”.

But who is this Corinne?

EDITOR

## HON. GENERAL SECRETARY'S NOTES

Last month I, together with Lynne Farrell from the Committee for Scotland and several other BSBI members, was privileged to represent the Society at Brian Brookes' Memorial Meeting. This took place high in the hills of Perthshire at Amulree Church, where proper tribute was paid to a remarkable man. We arrived in bright winter sunshine; by the time we left, there was a blizzard. An obituary will appear later.

Younger members and friends are invited to take part in the Backyard Biodiversity Day which is organised by Action for Biology in Education. This takes place this year on 21<sup>st</sup> June and looks like good fun, there are prizes on offer for the best wildlife records made on that day; it is aimed primarily at children of 9-12 years but it has also been adapted for use with nursery school pupils. If you are interested, please get in touch with me and I will supply further details.

I can also supply details of 'Wings, Plants and Paws' which is a set of puppet plays aimed again at interesting the very young in living organisms, including plants.

I have been asked by Council to investigate ways of publicising the Society – are there any members who have marketing or advertising expertise and who would be willing to advise me? If so, I should be most grateful if they would get in touch.

Mike Walpole retires from Council at the AGM. He has been attending Council Meetings for thirty years, twenty six as Honorary Treasurer and four as a Vice-president, he has only missed one meeting during that time – that means he has been at eighty nine Council meetings – a very great deal of time given to the Society's affairs – Thank you, Mike!

Congratulations are also due to Vera Gordon who also retired, in January this year, as secretary of the Liverpool Botanical Society after serving for sixty years!

**Advance Notice:** Future Flora – New Directions in British Botany: This conference is being organised at Ipswich on Saturday October 20<sup>th</sup>, 2001 by Martin Sanford and the Suffolk Naturalists' Society, together with the BSBI and Plantlife. Further details are available from Martin and there will be a flier with the August mailing.

Finally, I would remind members that there is to be no Sunday Field Meeting associated with the AGM, this year; this is because the Anglo-French Conference in Cornwall was to have been held over the following weekend. This conference is now, however, scheduled for May 2003.

AILSA BURNS, Acting Hon. General Secretary

## CO-ORDINATOR'S CORNER

One of the enjoyable things about writing this column is the feedback I receive from readers. After the last issue, several members who happen to be farmers got in touch to say how interested they were in the forthcoming Arable Plants Survey. Luke Gaskell, for instance, has been studying the ecology of arable fields in the Scottish Borders for years, and advised me that the same fields would not necessarily be the best ones for arable weeds every year. Given the effects that different crops will have on the weed flora, the point is well taken, but my general impression from looking at the data is that actually the best sites now were probably still the best sites a hundred or even two hundred years ago. I often find myself pondering old records that say things like 'fields near Cuxton' or 'Cobham Park' and wondering if these refer to the same small site that those rarities now grow in, or whether the arable weeds were much more widespread in the past. I don't imagine there is one rule that can be applied to all species and all parts of the country, but my personal feeling is that arable weeds may be more faithful to sites that one might suppose.

That's an interesting subject to consider, because it suggests that arable weed conservation may have to be very closely targeted to be successful – something that I believe MAFF cannot do at the moment. Contributions to this debate would be greatly welcomed.

### Grid references

Geoffrey Halliday's contribution to the grid reference debate (*BSBI News* 86: 11) was useful in highlighting the extent of the problem. Dr Halliday writes 'how can SD57.1 be more informative than 34/52.76?' The answer, as I hope most readers will be aware, is that the former is unambiguous, whereas the latter describes both the 1km square of the Ordnance Survey national grid and the tetrad (2km × 2km square) of the unique spatial reference system devised for the *Flora of Cumbria*. If a person opens Dr Halliday's otherwise excellent *Flora* without first carefully reading the explanation of the grid references, they are likely to become very confused. If they found themselves with a photocopy of a single page, the chance of successfully interpreting, for example, 66.88s as the grid reference SD68U is very slim.

In fact, it is noticeable that the official grid reference nomenclature actually requires fewer characters than the invented one in this instance. For those who haven't noticed that grid references are explained on every OS map, no punctuation is needed. AB123456 is perfectly acceptable. Ecologists now universally use the DINTY system for numbering tetrads: SD57I, in the example above. I cannot force anyone to adopt these standards if they really don't want to, but the advantage is that any work that does conform to standards will be clearer and less prone to errors, and it will be computer-readable.

### Potlatch

Some people commented on my piece on botanical economics – mostly welcoming the fact that such issues were being aired. One person sent me a very stern email explaining that it would be illegal to sell botanical records in any way, as they remain the intellectual property of the originator. I hasten to add that I am not a proponent of the cash economy in botanical records, but I think that people will need a lot of help if they are to understand anything as complicated as the traditional BSBI potlatch system or the new communism of the NBN. I receive correspondence every day about people stealing other people's intellectual property, and it's very sad, and quite unnecessary. Usually the perpetrators are only trying to make themselves look a bit more competent than they really are, and it doesn't occur to them that their gain is at someone else's expense. Perhaps the future will indeed see some sort of market for botanical records: 1p, perhaps, for a common plant record; £10 for the location of a rarity (the current value is more like £150 in reality, but that's another story). At the moment such exchanges are usually disguised in some way ('we only charge for the time it takes to extract data, not for the data itself.') It was interesting to hear the oil companies making the same argument recently when challenged over their huge profits. 'We don't make any money selling petrol,' they said. 'All our profits come from exploration and drilling.' Who do they think they are they kidding?

### Herbarium on the Web

Perhaps the best bit of feedback this year was from Dick Middleton at the University of Hull, who directed me toward his web site, where all 15,000 sheets from the herbarium there are catalogued and on display in what is by far the best botanical web site I've yet seen. Not only is it quick and helpful, but more importantly it contains some very interesting records. Prof. Ronald Good, who is best known for his work on the flora of Dorset, used to work at Hull, and his collections from Yorkshire are all there. This includes a lot of previously unknown material, including my favourite plant for this column, *Galeopsis angustifolia*, Red Hemp-nettle, collected by Good at yet another apparently non-arable site. Have a look if you are interested <http://www.hull.ac.uk/geog/html/herbarium.html>. This is a potlatch to which everybody is invited, and the vice-county recorders are all busy sticking the records into their collections.

### BSBI Web Site

Our own web site ([www.rbge.org.uk/BSBI](http://www.rbge.org.uk/BSBI)) has been progressing well for the last year, ably managed by Margaret Cole, the 'webmistress'. It has details of all the Society's activities, and has lots of useful information about publications, grants available, field meetings, etc. It generates interest from around

the world, so is an excellent shop front for the society. However, for those who think the Internet is one long advertisement, it also contains a lot of really useful data, including the searchable database of botanical literature that Clive Stace and his team have built up over the last ten years; our own little contribution to potlatch society. You can even download a complete list of the vascular plants of Britain which, if you're really good on computers, you can insert into your spell-checker and save yourself a lifetime of typos.

Margaret will be leaving us at the end of the month, and I would like to thank her for her excellent work on the web site over the last year, and for her valued contribution to the Threatened Plants Database, which she has worked on with unfailing accuracy, skill and dedication. We now have a new web site manager, Alan Hale, who is at present devoting much of his efforts to the perfection of what I believe will be the next generation of biological recording software. In a few years' time, when high speed unmetered access to the Internet is commonplace, I think biological recording programs will largely disappear, to be replaced with on-line databases. My intention is to ensure that the BSBI is in the forefront of these developments. I hope to report more on this in future.

### **Arable Plants Survey 2001**

The recording forms are now printed and will soon be going out to v.c. recorders. Hopefully restrictions from the foot and mouth outbreak will be lifted in time to start work in the spring, but it doesn't look very hopeful as I write this in March. The essence of the Arable Plants Survey is to find a few really good fields – about three in each county – and record all the plants growing there. Thus it is habitat specific and comprehensive, and we hope to get broad geographical coverage.

This will be the first fully ecological survey undertaken by the BSBI as a whole, so we are very nervous about whether people will participate. Here in Shropshire we switched the focus of our Botanical Society from distribution mapping to ecological survey several years ago, and about half the members went off in disgust. But the group has rebounded now, and many members have returned now that they can see the value of the new work we are doing. It just takes a little time to perfect new skills. One problem we will definitely have for the arable plants survey is in finding and surveying fields in the remoter parts of Scotland and Ireland, but please make an effort if you live-in or visit these parts. We desperately need to know about the ecology of arable habitats away from the Southeast of England. The last BSBI arable survey, in the 1980s, almost managed to miss Scotland out completely, because nobody at the time thought to include characteristic northern arable weeds like Purple Ramping-fumitory, *Fumaria purpurea*, in the target list. This time we are depending on you, the membership, for local expertise. The most valuable thing about this survey methodology is that it is applicable to a wide range of habitats. Perhaps next year we should target machair grasslands – that would reverse the north-south divide, for once!

### **Where does the BSBI fit in the larger picture?**

A very welcome item of feedback from an earlier piece (*BSBI News* 85: 14) was an offer from Max Walters of the last dozen or so off-prints from his seminal paper on the future of the BSBI, given in *BSBI Reports* No. 11 (1970). This is still to my mind the closest thing we have to a coherent strategy. Of course it misses out computers and the Internet entirely, so it is in need of an update, but it neatly balances all of the different interests of the Society, from the need to involve beginners to the desire to maintain high standards in our more serious work. To illustrate how far-reaching this article is, Dr Walters even discusses the implications for conservation of the future abandonment of large-scale agriculture, something which very few people are thinking about even now. All the recent problems of animal husbandry just serve to show how unsustainable our food production methods are, but even today you will hear few serious people debating the consequences of a loss of grazing in the wider countryside. We all know that headage payments for sheep that no-one wants are coming to an end, sooner or later, but who is thinking of the consequences?

My feeling is that the BSBI should not itself be involved in direct conservation – nature reserves, political lobbying, those sorts of activities. Nor do we need to preach the conservation message. There are plenty of other people doing these things better than we could. The unique role for the BSBI is in providing impartial, expert advice that can inform conservation decisions. An obvious way we can

achieve that is through precisely the sort of things we have been doing for ages – publishing Atlases and county Floras, and providing scientific information. But I believe we should also broaden the debate about, for instance, reintroduction programmes, which have proliferated in recent years, and which seem to be of fairly dubious value. Do any readers have instances of reintroduction or translocation exercises that have actually worked? I suspect that they are few and far between. It would do no harm to have some open scientific debate about the value of such activities.

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## RECORDERS AND RECORDING

### PANEL OF REFEREES & VICE-COUNTY RECORDERS

Members will receive the current lists with their *Year Book for 2001*, but it may be of assistance to list below the changes since *BSBI News 85*

#### Panel of Referees and Specialists

There are two changes to the Referees address list.

- a) Clive Jermy would now like specimens to be sent to: Godwins House, Staunton-on-Arrow, Leominster, Herefordshire HR6 9LE; email c.jermy@cwcom.net
- b) Keith Ferguson's email address is wrong; it should be k.ferguson@rbgkew.org.uk

MARY CLARE SHEAHAN, 61 Westmoreland Road, Barnes, London SW13 9RZ;  
email m.sheahan@rbgkew.org.uk

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#### Changes in vice-county recorders

##### Resignation

V.c. 3 S. Devon      Mr L.M. Spalton  
Although only the recorder since 1994, Laurie Spalton (with much help from Len Margetts, previously recorder for v.c. 1) has been a model incumbent, doing a great deal of fieldwork and rescuing us from what might well have been a disaster area for Atlas 2000. We are extremely grateful for all the work he has done.

##### Appointment

V.c. 3 S. Devon      Mr R.E.N. Smith  
12 Castlewood Avenue, High Week, Newton Abbot, Devon YQ12 1NX

##### Change of address

v.c. 59 S. Lancs.      D.P. Earl  
The Caretaker's House, 2A Ash Street, Southport, Lancs. PR8 6JH.  
v.c. H13 Co. Carlow      Dr S.L. Parr  
Lough Boora Parklands, Teach Lea, Leabeg, Tullamore, Co. Offaly, Ireland.

DAVID PEARMAN, The Old Rectory, Frome St Quintin, Dorchester, Dorset DT2 0HF

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## TOWARDS A TAXONOMIC REVISION OF THE TELECOMICACEAE?

The recent description of *Pseudopinus telyphonyensis* (Ring) Ring ex H.M. Bowen (syn. *Pseudopinus mobiletelyphonyensis* (Ring) Ring ex E. Pratt, *BSBI News* 81) from southern England (*BSBI News* 80), and the recognition of *Ferromastus defoliatum* [sic] (Br-Br) Mainly British Telecom ex P. Hill-Cottingham (*BSBI News* 82) as an ancestral species, has dramatically increased the size of a little known and hitherto unnamed yet highly conspicuous family of non-flowering pseudophytes, the Telecomicaceae. It is desirable to offer some notes on this artificial family and to draw attention to no fewer than two overlooked genera which tend to link the Telecomicaceae with the Monocotyledons – indeed one species was originally described under *Agave*. Moreover given that *Pseudopinus* and presumably *Ferromastus* have been placed in the Pinopsida, we are almost forced to concede the hitherto unsuspected existence of a ‘missing link’ between the gymnosperms and the angiosperms. No doubt someone will soon produce a cladistic study of the family. Alas, space does not permit an investigation of other possible phonological links between these genera and *Telesonix* Rafinesque.

*Pseudopinus* appears to have evolved very recently, and as Bowen has pointed out, individual specimens, which are free-standing, grow to maturity with astonishing rapidity. Indeed, Bowen (*in litt.* 2000) points out that *Pseudopinus* is still rapidly evolving and he believes that before too long a new genus may have to be established to include individuals that are presently being generated. *Ferromastus* is an older genus, perhaps reaching redundancy. No reproductive structures have yet been found in English specimens, and both genera appears to have a unique, botanically speaking, generative method, being propagated industrially by *Homo sapiens*.

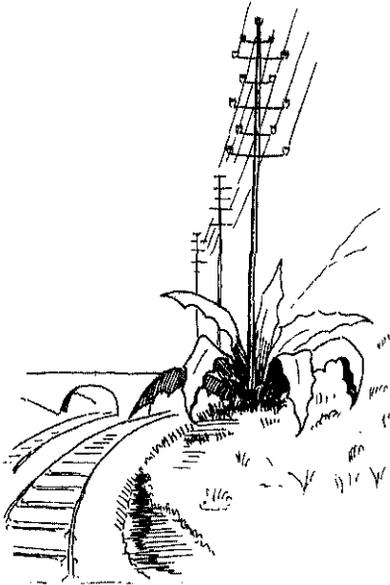


Fig. 1. *Agave telegraphica* H. Jekyll as illustrated in *The Garden* 9 December 1871; iconotype of *Polea telegraphica* (H. Jekyll) E. C. Nelson, *comb. nov.*

What is clearly an even more primitive member of the same family was described as long ago as 9 December 1871 in one of the first issues of *The garden*, a horticultural periodical founded and edited by that irrepressible Irishman, William Robinson, who has attained almost god-like status among certain cliques within the gardening fraternity. The particular pseudophyte was placed in the genus *Agave* due perhaps to the short-sightedness of its original author who believed that the foliage shown at the base of one specimen was directly connected with the erect, wooden stipe. Remarkably, its method of reproduction is identical with that of *Pseudopinus* and *Ferromastus*. The original author, Herbert Jekyll L.R.E. noted that ‘a philanthropic Government [was] actively employed in propagating this rare and deservedly-admired plant.’

Pratt (*BSBI News* 81 as *Pseudopinus telyphonyensis* G. Bell) Ring, *nom. superfl.*) pointed out that this was a ‘prolific cone-bearer: indeed the cones remained on the branches as long as *Pinus radiata*.’

It is desirable to remove this blemish from *Agave* and to assign this Victorian erection to a new genus named *Polea*. A new combination is required, namely *Polea telegraphica* (H. Jekyll) E.C. Nelson. (For etymological reasons I have eschewed the opportunity of publishing the name *Holea* although it would be singularly appropriate as *Polea telegraphica* was brought to notice by the Very Revd S. Reynolds Hole.)

*Polea telegraphica* was (is?) unique in two ways. The species formed linear colonies, especially along railway lines; in this aspect of its ecology, it appears to resemble *Senecio squalidus*, which spread along Irish railways around the same time. Indeed it is evident that the railway lines were used by the philanthropic government to assist in the propagation of the genus. In recent years it seems to have become redundant, and it is now evident that *Polea* is no longer capable of reproduction. Its extinction may be predicted with absolute confidence. Its second remarkable feature was that the individuals in each population are aerially linked by one or more monofilaments.

Dean Hole exclaimed in 1871 that he was perturbed 'by a proposition, emanating from the postal authorities' to erect a colony of *Polea telegraphica* 'upon the road which passes at no great distance in front of my house.' He even suggested that 'this beautiful plant would succeed best in my soil if it were "pegged down and layered" . . .', a sentiment shared vicariously by Bowen and Hill-Cottingham. Unlike these recent authors, Hole was 'thankful to say that it has been so treated.'

I must also draw attention to the similarity, at least conceptually and iconographically, between *Polea telegraphica* and *Bubblia blowpippia* E. Lear. While actual specimens of *Agave telegraphica*, *Ferromastus defoliatum* and *Pseudopinus telephonyensis* are available for study (although no pressed examples have been reported from herbaria), extensive searches have failed so far to reveal any viable specimens of Lear's genus. Be that as it may, it is likely that *Bubblia* is a yet more primitive, pre-electric member of the family, as it could perhaps have been used as a communication device between infantile representative of *Homo sapiens*! In that regard, perhaps it does not differ much from *Pseudomastus telephonyensis* which exists to provide microwave links between handsets that are often seen adpressed to the aural lobes of teenagers.



Fig. 2. The original illustration by Edward Lear (iconotype) of *Bubblia blowpippia*, a putative and perhaps extinct member of Telecomicaceae.

#### Key to Telecomicaceae

- 1a. Individuals erect; main stem solid and wooden, often covered in bitumen; linked by 2 or more monofilament and forming linear colonies *Polea telegraphica* (H. Jekyll) E.C. Nelson
- 1b. Individuals not linked into linear colonies. 2
- 2a. Individuals erect, to 35m tall, main stem metallic and hollow; proliferating rapidly and becoming very numerous on hilltops and other vantage points, thereby spoiling the view  
*Pseudopinus telephonyensis* (Ring) Ring ex H.M. Bowen  
or  
*Ferromastus defoliatum* (Br-Br) Mainly British Telecom ex P. Hill-Cottingham
- 2b. Individuals unknown, possibly nonexistent; probably only less than 1m tall; side-branches perhaps wooden (derived from *Erica arborea*) or possibly clay; producing bubbles when filled with soapy water and blown by infants. *Bubblia blowpippia* E. Lear

## PLANT STATUS

In a recent article in *Watsonia* (Usher 2000) there is the statement that although in the past, criteria have been designed to discriminate between native and non-native species (Webb 1985), Scottish Natural Heritage recognised that these were two of a number of possible categories. The author then proposed what he called a classification of nativeness that would be useful in conservation practice.

The definition of the first of his six categories – **Native species**, i.e. those that are presumed to occur by natural means, is that generally accepted. Similarly, **Formerly native species** are those as above which have become extinct. However, the terms **Locally non-native** and **Locally long established** are confusing and, in practice, it would be difficult to remember the relevant difference.

With regard to the Long-established species, there is already the subdivision of archeophyte and neophyte, the cut off date being 1500 AD (Dickson 1998).

To have a **Recently arrived species** category for those which may have arrived ‘naturally’ is definitely confusing – ones immediate impression would be that of casuals!

Finally, plants in the **Non-native species** category would also include some of those in the Long-established species category.

Although the paper is looking at the subject from a somewhat different angle, we consider it very surprising that it was published without reference to the *Plant Status Nomenclature classification* (Macpherson 1996) approved by the BSBI Council and recommended for use by members.

We have used this classification throughout our recently published *The Changing Flora of Glasgow* (Dickson *et al* 2000), and found it to be very satisfactory in practice. In addition to giving what we consider to be clearly defined and easily remembered categories of aliens in order of status importance, we also give a concise classification of the method of arrival in the study area.

### References:

- Dickson, J.H. 1998. Plant introductions in Scotland, in R. Lambert (ed) *Species History: Introductions Since the Ice Age*, Edinburgh: Scottish Cultural Press, Edinburgh.
- Dickson, J.H., Macpherson, P. & Watson, K.W. 2000. *The Changing Flora of Glasgow*, Edinburgh University Press.
- Macpherson, P., Dickson, J.H., Ellis, R.G., Kent, D.H. & Stace, C.A. 1996. Plant Status Nomenclature. *BSBI News* 72, 13-16.
- Usher, M.B. 2000. The nativeness and non-nativeness of species. *Watsonia* 23: 323-326.

[As a member of the BSBI working group on Plant Status Nomenclature, I fully endorse the above views. Ed.]

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## RECORDING ALIENS IN GARDENS

In a recent article R.M. Payne (2001), raised the question of what constitutes a valid record in a garden, citing spread from front to back and pointing out that this can be a greater distance than spread into an adjacent country lane. This was addressed previously by John Killick (1997) and I subsequently agreed with him (Macpherson 1997) that spread within a garden should be ignored, but indicated that a record could be accepted when the wind, or a bird had deposited seed from elsewhere into a garden. Initially such a record would qualify as a casual, perhaps rising to a higher status if left *in situ*. Eric Clement (2000) has also stated that self-sown plants within a garden do not constitute ‘in the wild’ records.

Mr Payne asks where one should draw the line. I consider that the simplest and most practical answer is to draw the line round the boundary of the garden.

**References:**

- Clement, E.J. 2000. *Euphorbia myrsinitis* established in Cambs (v.c. 29). *BSBI News* 85: 39.  
 Killick, J. 1997. Aliens and introductions in a v.c. 22 garden. *BSBI News* 75: 39-40.  
 Macpherson, P. 1997. Plant Status Nomenclature and Atlas 2000. *BSBI News* 77: 7-8.  
 Payne, R.M. 2001. When should aliens be recorded? *BSBI News* 86: 51.

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## TO DRAW OR NOT TO DRAW A LINE

'Where is the line to be drawn?' asks R.M. Payne (*BSBI News* 86: 51), referring specifically to aliens, but with implications for all plant listing. Should one 'include every plant found in the survey area that had not been planted deliberately in the place where it occurred?'

The problem appears to be essentially semantic, although sometimes grammatical, as I shall attempt to demonstrate before providing my own suggestion. It can lie in geographical conceptions of 'the wild' – as 'wilderness, uncultivated land' (Random House Dictionary . . .), and of wild plants; these may well grow on cultivated land, and some, supplied as 'wildflower' seed mixtures, are deliberately planted. 'A wild animal, plant or other organism is one occurring in the wild' (Bullock *et al.* 1997), although it is not entirely clear whether this refers to an individual plant or is perhaps a generalisation applicable to a taxon in the sense that '*Primula vulgaris* is a wild plant'. We would certainly like to include all wild plants not deliberately planted or seeded (as well as some that have been) in any survey.

Alien species, or even native species in unusual situations, are greeted with some excitement by field botanists; they are listed if they are found, apparently unplanted, anywhere not subjected to horticulture, and speculation on their source and mode of travel is justifiable; this is illustrated in a note by John Swindells (*BSBI News* 86: 50) in which the discovery of *Bupleurum rotundifolium* (Thorow-wax) along a London street (but not in a garden) was regarded as a 'brilliant find'. Had the single (wild?) plant been found in the nearby florist's (possibly uncultivated) back garden rather than in the street the 'find' would have been of not the slightest interest. Place rather than plant has decided whether this record should be made. In the same issue of *BSBI News* Eric Clement records *Rhinanthus rumelicus*, an undoubted alien, from Eastney, Hants, and suggests that a grass and wildflower mix sown after sand/gravel extraction could be its source. If the presence of this plant was a result of translocation, we know the 'recipient site' *sensu* Bullock *et al.* (1997), but where was the 'donor site'?

In contrast to the geographical definition of the wild is the definition by Bullock *et al.* (1997) which carries the rider that 'the precise definition depends on the species involved', and is stated thus '**Any conditions in which the organism can disperse to other sites or can breed with individuals from other populations**'. The wild here is not a space or even a site but is, or are, 'conditions'. To semantic imprecision has been added grammatical confusion.

If R.M. Payne attempted to apply the criteria of the JNCC Report from which the above definition is taken he might have to decide whether his front and back gardens constitute separate 'sites' and, if not, whether the apparent dispersal in one direction provides sufficient evidence that his *Cotoneaster myrsinites* 'can' (has the ability to) disperse in another direction to 'the verge of a country lane'. Even such presumed ability might be lost if he decided to clip the bush regularly to prevent it flowering – an expedient equivalent in effect to placing it in a 'sealed laboratory or glasshouse[s]' which Bullock *et al.* (1997) regard as the antithesis of the wild.

It may be advisable for botanists to avoid 'the wild' except in the sense in which one may enjoy it. The countryside, our cities, and our gardens are, through translocation – ' . . . the transfer by human agency of any organism(s) from one place to another' (see Bullock *et al.* 1997), in a state of mounting and irreversible floristic chaos (globalisation!). The manner in which this chaos is partly resolved by any author will remain idiosyncratic, but there should be some attempt at internal consistency in any publication. My answer to the original question is: There is no real line to be drawn.

**References**

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**MORE ON GRID REFERENCES**

I seem to have missed Alex Lockton's remarks on grid references in *BSBI News* 85, but have just read Geoffrey Halliday's note on the subject in *BSBI News* 86. As a humble archaeologist rather than a recording botanist, I was mystified. I know what 'SD532761' means but would have been completely nonplussed if faced with '34/532761'. I had no idea such a way of giving grid references existed.

I mentioned this to my husband, a less humble archaeologist, and was told that grid references should now be given in the following format (using the above example): '3532 4761' (sometimes with additional zeros to make the required number of digits, often 10). This is apparently necessary for some numbers-only databases. He added, tongue in cheek, 'Why doesn't the BSBI just use latitude and longitude?' Well, at least I understand that!

I have to say, however, that although I like Alex Lockton's grid references, I part company with him over use of English. There are no such verbs as 'to impact on' or 'to database' (Co-ordinator's Corner, *BSBI News* 86). I know he is by no means the only offender, and, indeed, there is a strong trend at the moment towards making verbs out of nouns, but I don't know why. It is completely unnecessary as a perfectly adequate word for almost every situation already exists in English.

MARGARET A. MASON, Penhyddgan, Boduan, Pwllheli, Gwynedd LL53 8YH

**WEEDY LAWN INITIATIVE**

Now that there exists at least one work extolling the virtues of the weedy lawn for the common man\*, is there a chance that the vast and relatively unexplored field of the weedy lawn could appeal to BSBI members? If so, what steps should be taken to initiate work on a sensible flora and/or set of vegetative keys?

I would welcome comments on the following prototype manifesto for a Weedy Lawn Initiative:

'It is rare for a wildlife initiative to save its supporters both time and money. This is the nature of the weedy lawn initiative. By enjoying the weeds that have found their way onto your lawn, as Nature intended, you avoid the time, expense and worry of trying to rid yourself of them by the use of chemicals.

By allowing such weeds to flower you reduce the amount of time spent mowing – saving fuel – reducing emissions – and encouraging pollinating insects.

The enjoyment of the shades of greens, yellows and browns as the weedy lawn changes through the seasons also implies rejection of those 'evergreen' chemical fertilisers, which have to be paid for, applied, and presumably have repercussions for increased nitrogen run-off. It is perhaps the biggest secret left in British botany – since there has never been a lawn flora – what exactly are the species that exist in British lawns. Many will be known but it is likely that others will only be discovered when more enlightened mowing regimes reveal the full range of flowering plants, and perhaps ferns, mosses, fungi and lichens that are lying, suppressed beneath our feet.'

\* *Appreciating Lawn Weeds*, by Martin Cragg-Barber *et al.* 40 pp. Published by That Plant's Odd, Chippenham. 2001. Price £3.75. ISBN 0-9530388-2-3. Available from the address below.

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## THE FIRST RECORD OF THE ACTUAL NEW MILLENNIUM

Tim Rich's record of *Veronica polita* (Grey Field-speedwell) for January 1<sup>st</sup> 2000 (*BSBI News* 86:40) was not the first record of the new Millennium. Since there was no year zero, 2000 was the last year of the old millennium. The new millennium actually began on January 1<sup>st</sup> 2001, but the celebration was hijacked by world-wide impatience. So what was the first record of the real new millennium?

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## FIRST RECORD OF THE NEW MILLENNIUM

Oh dear! I'm afraid Tim Rich's claim for first record of the New Millennium (*BSBI News* 86: 40) was a little too late. I recorded a self-seeded *Platycladus orientalis* at 01:23, by torchlight, on the 1<sup>st</sup> of January 2000 in the field just behind my garden. And what's more, of my 178 publications (cf *BSBI News* 86: 41), only five did not appear in the BSBI database. Never mind Tim, better luck next time. You can't win 'em all.

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## NOTES AND ARTICLES

### BARTON & RIDDELSDELL'S *RUBUS* TYPES

A note (Allen 1998) has recently appeared attempting to confine the typification of some Barton & Riddelsdell names to one sheet each of *Rubus bakerianus*, *R. furnarius*, *R. newbridgensis* and part of a sheet of *R. pistoris*. This view is based on the stipulation that, after 1 January 1935, 'a specimen' must be delegated as type, and on the assumption that 'a specimen' means one sheet containing one panicle and one or two stem pieces.

This interpretation seems unnecessarily restrictive – indeed in some genera would be impossibly so. Why should not 'a specimen' consist of any number of sheets, providing that all are labelled distinctly (perhaps as Pars 1 - n), or as in Barton & Riddelsdell's case, with the same number.

Barton's notes (BM) make clear his numbering system and his intentions in ascribing the same number to several sheets:- 'Co-types (a personal designation) can bear the same number as the holotype. My experience goes to indicate that the only safe use of this ref. no. is for material gathered from the same root, and if there is any doubt I give a different number with a note if advisable. It is then safe to cite a number of exsiccata . . . these indicate specimens of a plant which the author considers identical with the holotype plant and are valuable as showing the range of variation that he admits.'

The taxonomy of *Rubus* is such that the maximum rather than the minimum evidence is essential to assist in the correct interpretation of microspecies. I suggest that we can have every confidence in the provenance and significance of all the like-numbered material of these taxa, and can retain the holotype designations as published.

#### Reference

Allen, D.E. (1998). Typification of some Barton & Riddelsdell names in *Rubus* L. (Rosaceae). *Watsonia* 22: 181.

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## JOHN HESLOP-HARRISON

In the 'Co-ordinator's Corner' (*BSBI News* 86: 8-9) it is stated that: '...One thing that springs to mind is the confusion that Karl Sabbagh expresses repeatedly in his book *A Rum Affair* at the unwillingness of botanists to expose the dubious activities of John Heslop-Harrison . . .' John Heslop-Harrison did not indulge in any: 'dubious activities'. It was his father, J.W. Heslop Harrison, the subject of Sabbagh's book, that so indulged.

This book was reviewed in *Watsonia* 23: 349 (2000). May I echo the reviewer's comment that it is difficult to put the book down. The ending is also worthy of any first rate detective novel!

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## RADIATION IN *ANTHRISCUS SYLVESTRIS*: FURTHER FINDINGS

In an earlier article (Presland 2000), measurements of the petals of *Anthriscus sylvestris* were reported which were at variance with the claim in the BSBI Umbellifer Handbook (Tutin 1980) and Stace's (1997) flora that the petals of this species do not radiate. To measure the extent of radiation, the following two ratios were used:

- a length ratio calculated by dividing the length of the outermost petal by the length of the shortest inner petal of the same flower;
- a breadth ratio calculated by dividing the breadth of the outermost petal by the breadth of the narrowest inner petal of the same flower.

The data obtained suggested that:

- radiation occurs often enough in *Anthriscus sylvestris* in the British Isles to make Tutin's general statement that the petals do not radiate inaccurate;
- radiation might even be the normal state of petals in *Anthriscus sylvestris*, non-radiating petals perhaps being exceptional, but wider sampling was needed to discover this.

Further data are now available from two sources, both using the measurements and ratios above during the year 2000.

Peter Horn from Kempston, Bedfordshire, whose measurements are shown in Table I, reports as follows:

'I measured three plants at random in Bedfordshire and a plant at random in each of the nearby counties of Buckinghamshire, Northamptonshire, Suffolk, Cambridgeshire and Hertfordshire when I happened to be passing or visiting. In addition to this survey, I looked at a large number of plants in all these counties and radiation seemed to be the normal state of petals. I saw no non-radiating petals, except of course in the flowers at the centre of the umbels where some were so small that it was difficult to detect differences in size.'

Arthur Chater from Cardiganshire, whose measurements are shown in Table II, reports:

'Here are the results of a brief survey of *Anthriscus sylvestris* radiation in Vc 46, covering most of the lowland hectads it occurs in. You will see that I have measured to 0.1 mm as I have such a measuring lens. There seems little doubt that the petals of all plants here are quite strongly radiate – length ratios varying from 1.4-2.3 and breadth ratios from 1.8-3.2. The same was true in the northern half of Ireland, though I didn't do measurements there. All plants inspected in Antrim, Fermanagh, Sligo, Leitrim, Donegal and Meath in May 2000 had strongly radiating corollas, with both petal length and breadth ratios of about 2.'

These new results further support the conclusion in the earlier paper that radiation commonly occurs in this species. It also makes more probable the second hypothesis investigated there – that radiation is the normal state of outer petals in *Anthriscus sylvestris*, non-radiating petals being exceptional (see

photographs on page 18). Three botanists, working in a wide range of locations in the British Isles, have found no healthy plants in which the mature outer petals do not radiate.

How could botanists such as Tutin and Stace apparently have been wrong about a characteristic of one of our most common wild plants? A plausible explanation does suggest itself. When people compile such detailed accounts of groups of plants, it is not surprising if they do not check the accuracy of what they think is already known. Presumably, they would find what was already known by checking other authoritative sources – particularly previous floras and any published research data. In this particular case, it looks as though it has to be other floras. Likely sources are those of Clapham *et al.* (1987 – but the first edition was 1952) and Tutin *et al.* (1968). Both of these sources note the presence of radiation in some species of umbellifer, but neither make any mention of it for *Anthriscus sylvestris*. Since Tutin played a major part in the sections on umbellifers in both these publications, they have perhaps simply repeated what he thought was the case in the 1950s. However, it is strange that ‘no mention’ in these earlier publications becomes ‘not radiating’ in 1980. Did Tutin, perhaps, take his information from some yet earlier source? Perhaps, originally, the absence of mention of radiation for the species was due to an author’s not having enough information to make a definite radiating or not radiating statement. Maybe, somewhere along the line, it came to be assumed that the omission implied that its petals do not radiate.

A partial check on this is to look at other species where petals are shown as radiating in Ross-Craig’s (1958, 1959) drawings and my photographs but described as non-radiating in the BSBI handbook (Presland 1999). There are 7 of these, and no mention is made of radiation for any of them in Clapham *et al.* and only for one of them in Tutin *et al.* This contrasts with the outcomes of a similar analysis for the 17 species described as radiating to some extent by Tutin and compared with the same two independent measurements in the 1999 study, since 14 of them are described as radiating by either Clapham *et al.* or Tutin *et al.* or both. For the range of species in this comparative study, therefore, the pattern of ‘no mention’ turning into ‘not radiating’ is largely repeated. It looks quite possible that Tutin relied heavily on some earlier source and either simply misunderstood what it was saying or forgot, over what was quite a long period, what no mention of radiation originally meant.

Perhaps, when the BSBI Handbook is revised, the words ‘outer petals not radiating’ should be replaced by ‘outer petals usually radiating, often strongly so’ – unless, of course, someone knows something they haven’t yet told me.

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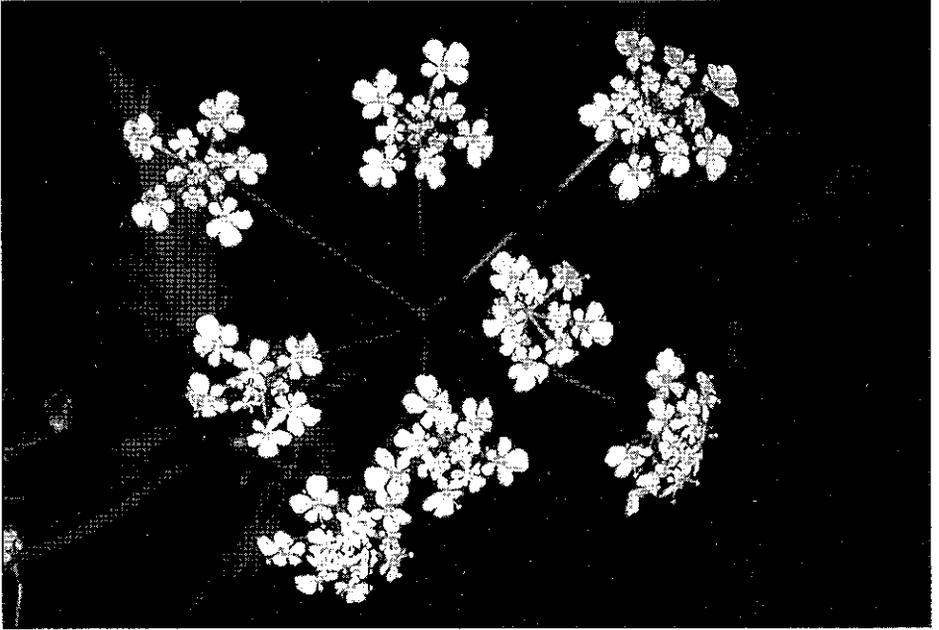
JOHN PRESLAND, 175Cc Ashley Lane, Winsley, Bradford-on-Avon, Wilts. BA15 2HR

Table I: Petal measurements by Peter Horn, May 2000

Habitat and location	Outermost flower of outer umbel						Outermost flower of opposite outer umbel					
	Length outer petal	Length inner petal	Length ratio	Breadth outer petal	Breadth inner petal	Breadth ratio	Length outer petal	Length inner petal	Length ratio	Breadth outer petal	Breadth inner petal	Breadth ratio
Open allotment, Bedford	3	1	3	2.5	1	2.5	2.5	1	2.5	2.5	1	2.5
Hedgerow, Stevington, Beds.	2.5	1.5	1.7	2.5	1	2.5	3.5	2	1.75	2.5	1	2.5
Hedgebank, Kempston, Beds	3	1.5	2	2.5	1	2.5	2.5	1.5	1.7	2.5	1	2.5
Road verge, E. Bucks	2	1	2	1.5	1	1.5	2.5	1	2.5	2	1	2
Road verge, Northampton	2	1	2	2	1	2	2.5	1	2.5	2	1	2
Road verge, nr Bury St Edmunds, Suffolk	3	1.5	2	3	1	3	2.5	1.5	1.7	2.5	1	2.5
Road verge, nr Cambridge	4	1.5	2.7	3	1	3	3.5	1.5	2.3	3	1	3
Shady road verge, Baldock, Herts	3	1.5	2	2.5	1	2.5	2.5	1	2.5	2	1	2

Table II: Arthur Chater's measurements of petals of outermost flowers on plants in Cardiganshire

Habitat and location	Length outer petal	Length inner petal	Length ratio	Breadth outer petal	Breadth inner petal	Breadth ratio
Road verge, nr Newcastle Emlyn	2.6	1.3	2	2.1	1	2.1
Road verge, Plwmp	2.9	1.7	1.7	2.1	1	2.1
Road verge, Tynbwich	2.6	1.5	1.7	2	1.1	1.8
Layby, Clogfryn	3	1.6	1.9	2.5	1.1	2.3
Shaded road verge, Llanarth	2.9	1.8	1.6	2.7	1.1	2.4
Road verge, Wallog	3.1	1.6	1.9	2.4	1.1	2.2
Road verge, Capel Bangor	2.3	1.4	1.6	2.1	0.8	2.6
Edge of carr, Cors Fochno	2.5	1.7	1.5	1.9	1	1.9
Road verge, Lovesgrove	3.5	1.7	2.1	2.7	1	2.7
Slope by road, Cwmyrolchfa	2.8	2	1.4	2	1	2
Road verge, Cilrhylg	3.3	1.8	1.8	2.5	1.2	2.1
Road verge, Cwmclydan	3.1	1.7	1.8	2.6	1.2	2.2
Road verge, Trefilan	2.4	1.2	2	1.9	0.6	3.2
Road verge, Pont Llyfiant	3.1	1.6	1.9	2.2	1.1	2
Roadside bank, Ferwig	2.4	1.1	2.2	1.7	0.8	2.1
Road verge, Castellnadolig	3	1.6	1.9	2.2	1.1	2
Road verge, Blaenannerch	2.8	1.2	2.3	2.1	0.7	3
Roadside bank, Ferwig	2	1.2	1.7	1.7	0.8	2.1
Road verge, Bryn Cynon	2	1.1	1.9	1.8	0.9	2
Roadside bank, Llanwenog	2.5	1.5	1.7	1.5	0.8	1.9
Roadside bank, Cellan	2.2	1.2	1.8	1.8	0.8	2.2
Road verge, Ystrad Meurig	2.4	1.4	1.7	1.8	0.9	2



Inflorescence and flowers of *Anthriscus sylvestris* showing radiation of petals  
Photos © J. Presland, 2000

## FIDGETING ABOUT THE USE OF WORDS

Yes, I know, I know! People who fidget about use of words can be the most unmitigated curse of the earth. In the normal way agreed. **BUT**:

A virus is abroad. True to form, it copies itself as a template. True to form, just like a bacteriophage, it wriggles in and attaches itself to defenceless hosts. It now infects *BSBI News* at a level more august than I dare name.

Consist *of* – OK; Be composed *of* – OK; Comprise *OF?* – \*@/#\*\*!!!

Auden says somewhere (quoting very roughly from memory) that words are things we think with, and that to misuse words leads to fuzzy thinking. To be unclear what a word is doing is the first skid down that slope. Comprise – *comprehendere*, – or, short form, *comprenderere* – *presum* (no need for botanists to shy away from a bit of Latin) – can't you feel it enfolding things without any need for adventitious roots?

'Behold a Nation in a Man comprised'. If anyone would care to tell Dryden he should have put in an 'of' they had best not be too near his tomb without a hard helmet . . .

JAMES ILIFF, Eithin Tewion, Cilycwm, Llandoverly, Caerfyrddin SA20 0TF

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## MURAL RARITIES UNDER THREAT – FROM MURALS

We are familiar with the conspicuous graffiti which adorn so many vertical artifices throughout Great Britain. They are especially characteristic of walls and bridges on residential, industrial and railway land around town.. The psychologies and purposes behind them could fill a hefty volume and doubtless have. From hard politics to soft porn. From messy scrawls to monumental graphics. From inexplicable anger to irrepressible humour. Wit, fantasy, imagination, entertainment, racism, territorialism, exhibitionism; all life is depicted. Many lives are also risked by the dare-devilment of leaving their signatures in soberingly dangerous places.

Self-evidently, most of these places don't present serious botanical interest. However, I want to report on one that does, and suggest that it may not be the only example. A series of long-abandoned Victorian filter-bed pens have recently been incorporated into a municipal recreation ground near here, their massively thick concrete divisions mostly left unaltered. Much cracked and weathered over the years, they have been colonised by over a hundred different bryophytes, lichens and parasitic fungi together with over a hundred species of higher plants. The latter include regionally uncommon taxa like *Galium parisiense* subsp. *anglicum* (Wall Bedstraw), *Asplenium trichomanes* subsp. *quadrivalens* (Maidenhair Spleenwort) and *Ceterach officinarum* (Rustyback). I am not unduly worried about the first two which I found respectively in 1984 and 1998. They prefer obscurer niches less attractive to graffitiophiles and are slowly increasing their range. By contrast, the last one, found in winter 1996, suffered a body blow in summer 2000 when someone grubbed out the original stout specimen, threw it away to wither and die on the footpath and proceeded to garnish both its habitat and its two tiny offspring with a particularly inarticulate lurid orange scribble. Surprisingly those offspring survived the attack. They have since jettisoned their poisoned fronds and produced new ones, refreshed by excessive autumnal rainfall.

A wicked idea teased my brain. I have not pursued it and would not wish to be quoted as making a recommendation. So here goes. Righteously, I also buy a spray can. Virtuously, I march back there with it, under unimpeachable guise of nature conservationist. Proudly, I emulate the cream of my fellow graphic designers by directing vivid jet of exquisite pattern upon receptive wallface. Nay, I rank superior to all by knowing exactly which pieces of vegetation not to touch. Finally, I paint the words 'RUSTY BACK', big and bold, as deliciously enigmatic a statement as so many others in its company. Rival artists, keep out, yeah? This is **my** patch guys!

But is it? No, in fairness to my deeper self, I absolutely do not want to act out any such smug counter-measure. Mural dream remains disarmed by moral decision. To be sure, I was initially annoyed by an unforeseen incident, but I will bear no grudge. Indeed, where there is genuinely imaginative artwork skilfully conceived, my admiration is evoked and I would happily shake hands with its creators; there is space for cheerful outdoor colour in London. But there is also potential for uncommon wall plants to be destroyed by people unaware of their significance and not intending ecological harm. This story moves me.

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### **POPULUS NIGRA SUBSP. BETULIFOLIA – BALSAM SCENTED IN HEREFORDSHIRE?**

Several people have responded to my article which asked if I am the only person able to detect a balsam scent on newly-leaved *Populus nigra* subsp. *betulifolia* from a distance.

Everyone except one person could detect the smell, though in varying degrees. Most people thought that it was weaker than a Balsam-poplar. The lady who was unable to smell it at all was also unable to detect any scent on Balsam-poplar.

Many side issues were raised about other plant smells which I look forward to investigating.

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### **TRICHOPHORUM CESPITOSUM NOTHOSUBSP FOERSTERI G.A. SWAN NOTHOSUBSP NOV.**

Recently I read the article in *Watsonia* 22(3) Feb. 1999 by G. A. Swan. on the two subspecies. (subsp. *germanicum* and subsp. *cespitosum*) and their hybrid (nothosubsp. *foersteri*) in *Trichophorum cespitosum*. This prompted me to look at a specimen I had in my herbarium, from v.c. 64, Gisburn Forest. Tosside – 1996. I determined this plant as – nothosubsp *foersteri*. I sent it to G.A. Swan who confirmed its identity. It would be interesting to test the hypothesis that the hybrid may be widespread and records for subsp. *cespitosum* in particular need checking.

If anyone is recording this year and finds *Trichophorum cespitosum*, please collect, in particular, plants with a small sheath opening, c.2mm or less, (but include 1 stem from those with larger sheath openings – that is, note/collect any *Trichophorum* so as to build up a clearer idea of their distributions), with details, from about mid-late June onwards. Sample about 1 to 3 stems from each plant, to include, (at least) the upper leaf-sheath/blade intact. Collect from as many tetrads or 1km squares as possible, with all the details, (GR, location, recorder, date, habitat, etc.) from anywhere in the British Isles. Sampling numerous plants from each tetrad would be most beneficial, i.e., not just one plant from a whole tetrad, (see *Watsonia* article for details and habitat types). If you would like to send these plants with their details to the address below (SAE) I would be pleased to be able to have a look at them. (You may wish to send any herbarium specimens as well). Send to :

#### **Editor's Note**

Michael Braithwaite is also studying *Trichophorum*. His exhibit at Edinburgh and Derby last autumn was supported by a handout, copies of which are still available from him. He is also leading a field meeting in Berwickshire at which this genus will be studied.

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## OYSTERS IN THE BIN

Apropos of Mr Eric Clement's notes on *Bidens ferulifolia* (*BSBI News* 86: 48-49), I haven't noticed any progeny resulting from the many hanging baskets in my home town, but last autumn a cluster of Oyster mushrooms (*Pleurotus* sp.) grew at the base of a litter-bin container near to the local greengrocer's shop.

Oyster mushrooms are usually available within the shop but are sometimes displayed on a stall on the pavement, so the source was not a mystery but the situation very unusual especially as most *Pleurotus* species are associated with dead or living wood.

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## BROME-GRASSES WITH SMALL LEMMAS

*Bromus lepidus* Holmb. (Slender Soft-brome) is one of five *Bromus* taxa in Britain with lemmas that may be less than 7mm long; the others being *B. pseudosecalinus* (Smith's Brome), *B. hordeaceus* subsp. *ferronii*, *B. hordeaceus* subsp. *thominei* and *B. × pseudothominei* (Lesser Soft-brome).

Comparative lemma lengths are:

<i>lepidus</i>	5-6.8mm	subsp. <i>ferronii</i>	6.5-8mm
<i>pseudosecalinus</i>	5-6mm	× <i>pseudothominei</i>	6.5-8mm
subsp. <i>thominei</i>	6.5-7.5mm	subsp. <i>hordeaceus</i>	7-10.5mm

Spikelet lengths are not listed because in each taxa they are variable, depending on the number of florets that fully develop and this is influenced by the nutrient level of the substrate.

*Bromus lepidus* has been recorded less frequently in recent years but it is probably under-recorded, because it could only be determined by its small lemmas and a mature caryopsis which was longer than the palea and this limited the period when it could be identified. Swedish and German botanists (Holmstrom & Scholz 2000) have now pointed out that the lemma of *B. lepidus* is deeply (c.1mm) notched at the apex where there are two acutely-angled lobes and the awn emerges directly from the base of the notch created and not further back as in most *Bromus* taxa. This was recognised earlier by Holmberg (1924) and Williams (1929) and is illustrated in Smith & Sales (1993) and in Portal (1995).

141 British (mostly herbarium) specimens of *B. lepidus* have now been examined and in each case an apical notch, 0.6-1.2mm deep and 0.2-0.5mm wide, was observed together with an awn that emerged from the base of the notch. This feature was not found in *B. pseudosecalinus* (only 17), *B. hordeaceus* subsp. *thominei* (only 31), *B. hordeaceus* subsp. *ferronii* (only 43), *B. × pseudothominei* (303) and *B. hordeaceus* subsp. *hordeaceus* (1201) where the lemma apex had a shallow notch not deeper than 0.3mm. However, in *B. hordeaceus* subsp. *hordeaceus*, the lemma sometimes splits creating a narrow slit which might be mistaken for a deep notch. But such slits are usually unilateral and a slit is not an apical notch and, in any case, the awn does not emerge from the base of a slit. If there is any doubt about this, pull back the awn and an expanded curved area is revealed at the base of the notch in *B. lepidus* which is where the awn emerged and this expansion does not occur in a slit (Fig. 1).

So the following revised description is proposed for *Bromus lepidus* Holmb:

Culm to 75cm, usually much less. Panicle erect, narrow, rather compact to 8cm, usually much less. Lemmas of papery texture (with protruding veins in dried specimens), 5-6.8mm long with a wide apical notch at least 0.6mm deep with the awn emerging directly from the base of the notch and not below it, glabrous (87%) or pubescent, margin usually conspicuously angled and broadly hyaline. At least some mature caryopsides longer than the palea.

It is recommended that, before dissection, lemmas should be soaked for at least an hour in water to which a wetting agent has been added.

*Bromus pseudosecalinus* P.M. Sm., unlike *B. lepidus*, has leathery lemmas and in dried specimens the veins do not protrude. It has a narrow erect panicle but in fruit the florets are widely divaricate

(photograph, p. 23) and the 5-6mm lemmas wrap round the usually U or V shaped caryopsides making some rachilla segments visible. *B. secalinus* behaves like this in fruit which is why P.M. Smith named this much smaller grass *B. pseudosecalinus*. Smith (1968) concluded that the morphology, cytology ( $2n=14$ ), and serology all supported the separation of *B. pseudosecalinus* from the tetraploid ( $2n=28$ ) *B. secalinus* and Smith (1972) described this resemblance at fruiting as fortuitous. Oja (1998) confirmed this in isozyme analyses when she found that the two taxa had different morphs.

*Bromus lepidus* and *B. pseudosecalinus* are now rather rare, but both are still likely to be found in sparse grassy places, old hay meadows, waysides and waste ground.

*Bromus hordeaceus* subsp. *ferronii* (Mabille) P.M. Sm. and subsp. *thominei* (Hardouin) Braun-Blanquet are coastal ecotypes of *B. hordeaceus* found near to the sea on sandy ground, cliff faces and cliff tops. They have not yet been recorded on the verges of salted inland roads. *B. hordeaceus* subsp. *ferronii* is a robust small erect grass, usually less than 25cm high, with a very compact and very densely pubescent panicle and the 6.5-8mm lemmas have stout awns that sometimes tend to curve outwards at fruiting. *B. hordeaceus* subsp. *thominei* is a slender grass, usually less than 20cm high with a very narrow erect panicle with only a few spikelets. The 6.5-7.5mm lemmas are usually glabrous with very thin awns. These grasses and *B. pseudosecalinus* are still being investigated and more specimens are needed, please. *B. hordeaceus* subsp. *ferronii* and *B. hordeaceus* subsp. *thominei* are also being cultivated in 'normal' soil away from salt-laden winds to assess what differences arise.

*Bromus* × *pseudothominei* P.M. Sm. is widespread in similar habitats to *B. hordeaceus* subsp. *hordeaceus*. A study of 303 specimens of *B. pseudothominei* (46% had glabrous lemmas) has established that the length of the caryopsis is not a reliable character and this taxon can only be determined by the length of the 6.5-8mm lemmas and even then 10.4% of the lemmas were longer than the published length of 8mm. In a separate study of 1201 specimens of *B. hordeaceus* subsp. *hordeaceus* (Spalton, *Watsonia* in press) it was found that 15% of the lemmas measured only 7-7.9mm consequently it was proposed that the published lemma length of *B. hordeaceus* subsp. *hordeaceus* should be 7-10.5mm instead of 8-11mm. Because of this two-way overlap in lemma length, 29% of the specimens of *B. pseudothominei* could not be distinguished from *B. hordeaceus* subsp. *hordeaceus*.

*Bromus de France* by Robert Portal is a useful book that contains good illustrations of 41 Western European *Bromus s.l.* taxa (110 pages in French, 140FFr from the address in the references).

The Curators of CGE, E, HAMU, HCCMS, LTR, NMW, SLBI, TOR, and WARMS are thanked for the generous loan of specimens.

The author will be pleased to determine specimens of all brome-grasses including *Anisantha*, *Bromopsis*, and *Ceratochloa*.

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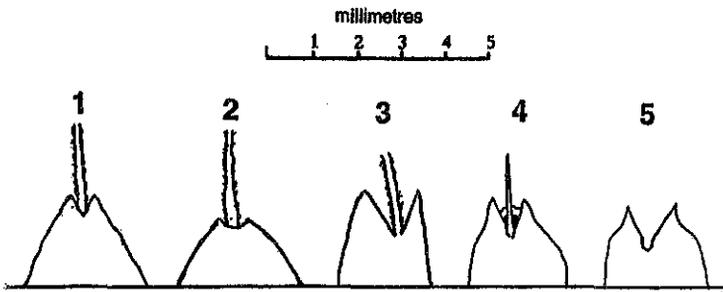
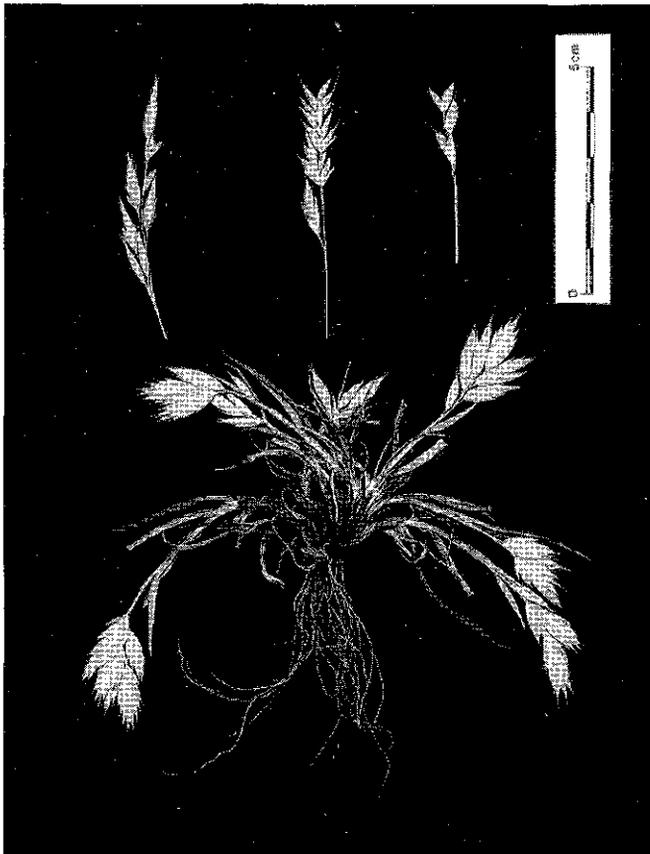


Fig.1 Lemma apices of *Bromus*: 1 & 2 *pseudothominei*, 3, 4 & 5 *lepidus*, 4 with the developing caryopsis visible, and 5 with the awn pulled back and removed, revealing the expanded curved area where the basal awn has emerged.



Photograph of panicles of *Bromus* (actual size): upper left *lepidus*; centre *pseudosecalinus* (beginning to divaricate); right *hordeaceus* subsp. *thominei*; below *hordeaceus* subsp. *ferronii*.

## FESTUCA CAMBRICA (WELSH FESCUE) – A TALE OF TWO GRASSES

**Introduction:** The name *Festuca cambrica* Huds. was applied in the 18<sup>th</sup> C to at least two different grasses. Although one usage is largely of historical interest, the other has included a little-known montane grass. Recent events may help identify this plant.

Shortly after Dr C.E. Hubbard first recognised a hybrid between *Festuca rubra* and *Vulpia fasciculata*, Dr A. Melderis noted much earlier specimens at **BM**: ‘. . . cultivated in Curtis’s Botanic Garden and distributed erroneously under the name *Festuca cambrica* which is a form of *F. rubra*’ (*Proc. BSBI* 1: 390-391 (1955)). *F. cambrica* was first described in William Hudson’s Latin *Flora Anglica* ed. 2 (1778) – the locality being given as mountain tops around Llanberis (Caerns. v.c. 49). This did seem an unlikely habitat for a hybrid where the female parent is exclusively maritime – but my own examination of herbaria turned up yet more hybrid specimens – some labelled *F. cambrica* but with no connection to Curtis, so there clearly was a problem to be solved.

The first description in English in ed. 3 (1796) of William Withering’s ‘*An Arrangement of British Plants*’ cites the same locality, but says that in cultivation the awns are longer, and the glume ratio is 1:3 – so he has two plants before him, one almost certainly the hybrid. Hudson’s own herbarium was destroyed by fire in his lifetime (1730-1793), so I looked for other specimens which could be linked to him. There are specimens at **BM** and **K** of an unusual large floreted *F. rubra* from Snowdonia labelled *Festuca laevigata* (*ined.*), collected by Sir Joseph Banks and the Rev. John Lightfoot, which attracted the interest of Sir J.E. Smith, and much later A.J. Wilmott (**BM**) and Dr C.E. Hubbard (**K**). The Banks specimen (**BM**) is from: ‘Llanberis August 1773 – on the Ledges of Clogwin y Garnedth the highest rock of Snowden’, the Lightfoot (**K**) is from the summits of ‘Snowdon & Glyder’. However identification of them as *F. cambrica* Huds. was done rests on the authority of Smith, who cites the Banks specimen in *Flora Britannica* (1800 vol. 1 p. 116).

**Curtis’s ‘*Festuca cambrica*’:** William Curtis in his ‘*Practical Observations on British Grasses*’ (ed. 2 1790 onwards) says under *F. cambrica* that he has had it in cultivation in his garden(s) but ‘I never could obtain any perfect seed from it. . .’ This seems to confirm Melderis’s comment that Curtis had the sterile ×*Festulia* in cultivation, and places any mix-up of names and plants as pre-1790. I do not know whether Curtis ever had the true *F. cambrica* but it is possible to speculate how he obtained the hybrid, although it is not possible to say whether he received it as living material, as seed from the maternal parent (the *Vulpia*) or if it arose spontaneously in his garden. He did have *V. fasciculata* (as *F. uniglumis*) in cultivation according to a list dated 1798 included in later editions, but oddly not *F. rubra* which was poorly understood by early botanists. However he did have *F. durinuscula* which is probably the same plant.

**The 18th C Collectors:** Dr John Edmondson (**LIV**) pointed out to me that early botanists were avid seed collectors, both to stock botanic gardens and because it was easier to transport than complete plants. Banks and Lightfoot are known to have given plants and seed to Curtis, and they did collect *Vulpia fasciculata* (as *Festuca uniglumis*) at Briton Ferry (Glam. v.c. 41) during their 1773 trip, but Curtis did not open his first garden until c. 1778.

I found another probable source in the correspondence of Sir J.E. Smith (1759-1828) published by his widow in 1832. A letter to Smith dated 25.9.1786 from Samuel Goodenough (who later became Bishop of Carlisle) describes a plant-hunting expedition to the Essex coast, in company with William Curtis and his draughtsmen, and among the finds was *Lolium bromoides* (the name used by Hudson for our *V. fasciculata*). Presumably the same expedition is being referred to in a letter from Goodenough printed in ‘*William Curtis 1746-1799*’ by W.H. Curtis (1941). Headed ‘Harwich. Wed. Sept. 6. 1786:- To Mr. Curtis. Botanic Garden. Lambeth Marsh.’ it reads ‘Dear C.U.R. – If it will save you your cruise to Littlehampton for the *Lolium bromoides*, I can tell you that I have found it today, certain. If my heart did not jump when I saw it blame me.’ Clearly a significant find for him – curiously Goodenough then goes on to ask ‘Why did you not come to Harwich?’ I feel the Essex gathering may have included ‘hybrid’ seed, or that it arose in cultivation in his or Curtis’s garden and was then mislabelled, whether Goodenough ever had the true *F. cambrica* is again not known.

The Rev. Hugh Davies (1739-1821), author of '*Welsh Botany*', vicar of Llandegfan, Anglesey and then Aber, near Bangor, was probably involved as he was a friend of Hudson and also sent plants to Banks and Lightfoot. (Hudson also visited Davies at some point – see Appendix 1). He was in the right area for access to all the plants concerned. A letter to Banks dated 4.10.1773 (Kew B.C. 1.40) asks '... is the inclosed *Festuca* the same which is mentioned in your letter, or which is it? ... I gathered it upon the highest rock of Snowdon.' There is a sheet at **BM** of *V. fasciculata* with the enigmatic comment 'By these specimens as well as by *Festuca cambrica* we may see how plants change their appearance in cultivation. III 1801 H.D.' Another sheet, found by Dr Melderis, has specimens of *Festulipia hubbardii* from 3 herbaria. Those from Davies have labels in his hand: '*Festuca cambrica* Crib y Sisgl July' and 'The longer awned specimens are from Mr Curtis's Botan[ic] Garden but are the same plant. See Wither[ing] p. 155'. Although both sheets seem to be remounts, the fact that Davies did not sense a mistake casts further doubt on the nature of Hudson's grass.

**Hudson's *Festuca cambrica*:** Although no holotype exists, Hudson (*loc. cit.* vol. 2 p.648) says his *F. cambrica* might be similar to the earlier *Festuca glabra* of Lightfoot's *Flora Scotica* (1777), and the Lightfoot herbarium at **K** probably has the type of *F. glabra*. To a sheet labelled '*Festuca gallovidensis* Dr. Walker Ardbiglen' has been added by Smith: '*Festuca glabra* Fl. Scot. 1085 certainly.' and the specimen does agree with Lightfoot's published description. The locality is probably Arbigland, an estate on the coast 18km. S of Dumfries, (but in v.c. 73, Kirkcudbrightshire.) However the specimen has lemmas only 2/3 the size of the Snowdon plant and it looks a fairly typical *F. rubra*, which would not conflict with Hudson who says his plant occurs abundantly. I am unsure whether any of these plants fit the boreal taxon *F. rubra* subsp. *scotica*, apparently unrecorded for Wales.

I found a later sheet at **BM** which does appear to be similar to the Snowdon plant, placed in the folder with the Banks specimen. It was collected 23.7.1926 by T.J. Foggitt from 'Ben Lawyers, Perthshire' (v.c. 88) – another montane area known for its base-rich rocks. A brief description of both plants is given in Appendix 3. Discussion of these specimens with Dr Hubbard at **K** in 1968 prompted him to remark that a field party should examine the top of Snowdon and find out what does grow there in *Festuca*, *Poa* and *Agrostis*, as little is known about it! Many years later I found that on learning his successor, Derek Clayton, was going to North Wales for a family holiday Dr Hubbard asked him to look out for large flowered fescues – but as Derek ruefully remarked 'It was difficult to find anything the sheep had not got to.'

**A Botanical time capsule?** Recent developments would seem to offer an opportunity to clarify some of the problems associated with these old records. *The Liverpool Daily Post* of 11th. Nov. 2000, in the item '*Flocks Away*', said that agreement has been reached with sheep farmers to cease grazing in Cwm Idwal. (See Appendix 2.) Clayton and Renvoize in *Genera Graminum* (1986 p.9) refer to work by Harberd which found the largest colonies of fescues may be 400-1000 years old. Clearly if grazing has restricted flowering, and therefore sexual reproduction, there is the possibility of genotypes existing which predate the widespread introduction of allied species or varieties.

The current foot-and-mouth disease outbreak may also result in a reduction in grazing pressure elsewhere in Snowdonia, some hill sheep are overwintered on Anglesey and may not be able to return.

**Appendix 1:** H.A. Hyde (*J. Bot.* **LXV** 1927 p.128) drew attention to two copies of a route across Snowdon at **NMW** which '... afford sufficient proof that William Hudson visited N. Wales, a fact hitherto in doubt.' Unfortunately they are undated. One reads:

'Route with Mr Hudson – Cwm glas; Cwm cennog; Rhiwiau'r gwartheg; Llyn y ffynnon frêch; cwm y ffynnon felan; Llyn y ffynnon felan; by cwm y ffynnon felan to crib y ddisgl; Bwlch côch; pyllau gloywen, dined; by Cwm y ffynnon lās to clogwyn y garnedd; by bwlch glas to cefn y wyddfa; clogwyn dŷ'r Arddu; by gallt y llan to Llanberis – Hugh Davies'

Dewi Jones in '*The Botanists and Guides of Snowdonia*' (1996 p.81), notes that Cwm glas is the old name for the lower (NW) part of the Llanberis Pass. The Cwm Glas Mawr of the O.S. maps is Cwm cennog here (*viz.* contains the Afon Gennog). Llyn y ffynnon frech and felan will be the two tarns in upper Cwm Glas Mawr. Bwlch coch is a dip in the Crib Goch ridge at SH622552, and Jones says

Cwm y ffynnon las is the old name for the spectacular corrie which holds Glaslyn. Enough of the remaining names appear on modern maps to understand the general route, parts of which would be quite taxing.

**Appendix 2:** The Countryside Council for Wales (CCW) is responsible for the management of Cwm Idwal, and the Snowdon NNR, which includes Clogwyn y Garnedd. Collecting permits are needed, and application should be made to CCW at Bangor, tel. 01248 385500. Fescues readily grow from individual shoots, so large quantities of living material are not needed.

**Appendix 3:** The following description of '*F. laevigata*' is based on photographs of the limited herbarium material available: A creeping, possibly mat-forming form of *F. rubra*, the involute leaves short, glabrous, sometimes stiffly curved over, 1mm or less in diam. Culms scattered, 14-27cms high with a compact spike-like inflorescence of 12 or less conspicuous spikelets. The spikelets pale olive-green to straw coloured, with up to 5 florets, the glumes and lower florets often splayed out which accentuates the size of the spikelets. Upper glume  $\frac{1}{2}$ - $\frac{2}{3}$  length of adjacent lemma, both glumes very narrow to subulate. The lower lemmas 9-10mm including a short awn, glabrous and somewhat shiny.

**Acknowledgements:** I am grateful to BM, K, LIV and NMW for access to their collections and to their staff for their interest and help. Thanks are also due to Dr D.M. Parker for help, and information on the role of CCW; and to Dr H.A. McAllister for the loan of Scottish specimens.

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## DOES *SESELI LIBANOTIS* GENERALLY HAVE DENSE FIBROUS REMAINS AT ITS BASE?

On 20 August 2000 I visited Cherry Hinton West Pit, an SSSI and local nature reserve well-known as a site for *Seseli libanotis* (Moon Carrot). The nature reserve lies in an old chalk pit and is largely overgrown with scrub and trees, but contains a small area of open chalk grassland. There is a considerable quantity of *Daucus carota* (Wild Carrot) in this area, making distinguishing *Seseli* more difficult.

At first glance, *Seseli* and *Daucus* can appear very similar, however the smooth stems, hairy (not spiny) fruit, and linear (not pinnatisect) bracts are very distinctive in *Seseli*. In particular, the hairy, scarcely compressed, broadly ridged fruit clearly identify *Seseli* amongst all the British umbellifers. The character that all the Floras concentrate on for *Seseli*, and which is used in the keys, is the dense mass of fibrous petiole remains at the base of the stem. The lack of this character would cause mis-keying using *Umbellifers of the British Isles* (Tutin, 1980) and confusion when using *New Flora of the British Isles* (Stace, 1997).

During a brief survey of the nature reserve I examined 140 plants of *Seseli libanotis*, and only two of them showed any sign of fibrous remains at the base. This included plants growing in complete isolation on bare chalk and also plants in turf. All plants observed were either flowering or fruiting. I have not visited any of the other sites in Britain for *Seseli libanotis*, neither have I visited the Cherry Hinton site at any other time of year. Therefore I have not determined whether this site is unusual, or whether the fibres were present at an earlier stage of the year.

It is vital that anyone surveying in, or around, *Seseli* sites should be aware that the fibrous remains need not (in this instance less than 1% of plants had any!) be present. Has anyone else observed this character?

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## BOTANY IN LITERATURE - A NOTE ON PARADISE

In *BSBI News* 79: 29-30 (1998) I included an extract from *A history of the Caliph Vathek* by William Beckford. In the glossal note I postulated that Samarah was a fictional place, derived from a combination of the Samara of East Russia in East Europe and the Samhah of Socotra in Northeast Tropical Africa.

Recent Beckford scholarship has shown that Beckford made notes to accompany his story (also entitled *Vathek, an Arabian tale*, 1786) which reveal that the 'whole city of Samarah' was 'A city of the Babylonian Irak' founded by a prince Motassem and that the elevation where he built his palace was made by an accumulation of sacks of earth carried, under order, to a designated place in the plain of Catoul, by the one hundred and thirty thousand pied horses reputed to be in the princes' stables.

As with the migration and modification of peoples (for example the crossing of the Red Sea from Sheba in South Arabia to what is today northern Ethiopia and Eritrea by the Sabeans, a powerful Semitic tribe, who founded there a simulacral Sheba) so with the migration and modification of place names. Thus, in Ethiopia (like Socotra it is in Northeast Tropical Africa) there is a place called Amhara. In Ethiopia also, arising from the plains, are flat-topped, sheer-sided mountains, which are fingers and thumbs of rock known as 'ambas', three of which (Debra Damo, Amba Geshen, and Amba Wehni) are important in Ethiopian (Abyssinian) history, as for two hundred years their summits were used as prisons for Ethiopian princes in line to the throne as a convenient means of preventing usurpation.

In Samuel Johnson's *The history of Rasselas, Prince of Abissinia* (1759) the aforementioned Ethiopian princes are imprisoned not on an amba but in a valley (known as the Happy Valley). The setting is Amhara, but it can be seen without too much difficulty where Beckford, who had read Johnson, derived at least some of his inspiration for his description of the mountain in Samarah from:

The place which the wisdom or policy of antiquity had destined for the residence of the Abyssinian princes was a spacious valley in the Kingdom of Amhara, surrounded on every side by mountains . . .

The sides of the mountains were covered with trees, the banks of the brooks were diversified with flowers; every blast shook spices from the rocks, and every month dropped fruit upon the ground . . . All the diversities of the world were brought together, the blessings of nature were collected, and its evils extracted and excluded. (pp. 39-40, Penguin).

In other words, Paradise. (Or, as Milton would have it:

Nor where Abassin Kings their issue guard,  
Mount Amara, though this by some supposed  
True Paradise, under the Ethiop line  
By Nilus' head, enclosed with shining rock,  
A whole day's journey nigh . . .

(*Paradise Lost*, iv 280-84))

In Thomas Pakenham's *The mountains of Rasselas* (Weidenfeld & Nicolson 1959, 1998) there are in his descriptions of the third amba (Wehni), further intimations of this paradise:

The Mountain, invisible behind the ring of junipers, lay directly ahead . . .

It was an hour before sunset. The declining rays of the sun were directly behind us as we stepped out of the church's juniper grove, lighting up the scene with a yellow theatrical glare. The valley lay at our feet, a cascade of trees and flowering shrubs . . . (p. 51).

Both Dr. Jäger and I, already in an emotional frame of mind because of our situation, were sincerely moved by his [the Governor's] speech. I was endeavouring to reply when a boy of about twelve came shyly up to me and offered first me, and then Dr. Jäger, a small posy of Alpine flowers, marigolds and crocuses, and a spray of wild thyme

and rosemary. This entirely unmanned me. We had blundered like schoolboys into his private paradise; we had failed to arrive on the appointed day, got ourselves stranded and then sent a messenger peremptorily asking for rescue; hot foot he had come and this was our reward – not recriminations but flowers culled from the Happy Valley. (No other valley, I well knew, could have yielded such fertile treasure). (p. 94).

Beckford, although not given to sprawling on the ground with hand lens to investigate plants (neither, by all accounts, was Johnson, otherwise he would have had the inquisitive Rasselas stay put in the Happy Valley and take up botany!), had, nonetheless, a keen eye for them, an artist's eye in fact. His writing is peppered with mentions of the flora he encountered; for example, 'some liquid dew which was gathered in the ample flower of a large aloe' (*The vision*, p. 7; all page references are to Beckford's *Vathek and other stories*, Penguin, 1995), 'Imagination had procured herself a tent on the mountains of Sanaa,<sup>2</sup> covered with coffee-trees in bloom' (*Dreams, waking thoughts and incidents*, Letter III, p. 198), 'to the right and left, broad masses of luxuriant foliage, chestnut, bay, and ilex, that shelter the ruins of columbariums<sup>3</sup> and sepulchral chambers, . . .' (*ibid.* Letter XXIII, p. 209), 'the celandine which carpets the floor . . .', 'Elysian fields trembling with poplars . . .', and lilies and poppies: *Et circum irriguo surgebant lilia prato / Candida purpureis mista papaveribus* (Propertius 1.20.37-8; *ibid.*, *op. cit.*, p. 210), 'oleanders, heliotropes, and geraniums' (*The Portuguese journal*, 1787, p. 227), 'a labyrinth of myrtle and laurels', 'a wild thicket of pine and bay trees, several orchards of lemon and orange, and two or three parterres, more filled with weeds than flowers . . .' (*ibid.*, p. 232), while at the Cork Convent at Sintra he finds in the shrubbery a gurgling rill 'between bushes of lavender and rosemary of the tenderest green' (*Italy with sketches of Spain and Portugal*, 1787: Letter XXVIII, p. 250), 'arbutus, bay, myrtle' (*ibid.*, p. 252), 'chestnut copses', 'self-sown bays and citron bushes' which 'drop their fruit and blossoms into the stream' (*ibid.* Letter XXXI, p. 261), [endless perspectives of] 'flowery thickets between the stems of poplar and walnut' (*ibid.*, *op. cit.*, p. 262), and 'catalpas and orange trees' (*Recollections of an excursion to the monasteries of Alcobaça and Batalha*, 1835, p. 291).

Everywhere, as the observant reader will note, Beckford's perception is, as it is with his description of Samarah, one of richness and beauty, and, like the life of the Caliph Vathek, one punctuated by little floristic paradises. Rasselas should have stayed put.

#### NOTES

1. ' . . . of the Babylonian Irak': There is also a city in Iraq called Samarra situated on the River Tigris north of Bagdad, but whether this is Beckford's Samarah has not been ascertained. There was formerly a place called Samara in Belgica (northern France). And as any botanist will know a samara is a dry, indehiscent, usually one-seeded winged fruit. *Samara* in Latin means elm-seed.
2. *Sanaa*: the capital of Yemen and originally called Uzal.
3. *columbariums*: dovescots (from Columbidae, the pigeon and dove family); also niches for sepulchral urns.

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## VALERIANELLA CARINATA ON THE INCREASE

Mike Rowe in his article (*BSBI News* 86: 35) appears to have missed the most important feature of the apparent increase in the abundance of *Valerianella carinata*. Having looked at 26 recent county floras, Rowe quotes a few in which the data support the view that the species is on the increase, but surprisingly does not quote those which do not support the view.

A closer look at recent floras indicates a more interesting situation than is indicated by Rowe. An analysis of information from other recent floras, presents a rather different picture. Swan in *The Flora of Northumberland* (1993) quotes a single doubtful record. Wynne, in the *Flora of Flintshire* (1993) has one record only from 1987 (and one in 1885). Wade, Kay and Ellis, in the *Flora of Glamorgan* (1994) state that it is 'apparently rare, with few recent records; perhaps overlooked in some sites'. The species is recorded as 'rare' in *The Wiltshire Flora* (Gillam 1993). *The Flora of Montgomeryshire* (Trueman, Morton & Wainwright 1995) states that it is 'rarely recorded'. Woods (1993) in *Flora of Radnorshire*, gives two records only. *The West Yorkshire Plant Atlas* (Lavin & Wilmore lists *V. carinata* as one of its 'losses since the Lees Flora, 1888'. Hackney, in *Stewart & Corry's Flora of the North-East of Ireland* (1992) states that it is 'very rare' and gives no records later than 1953. Sinker *et al.* (1985): *Ecological Flora of the Shropshire Region* indicate a decline in the species. In *The Flora of Northamptonshire* (Gent & Wilson 1995) it is recorded as 'extinct'. *The Flora of Leicestershire* (Primavesi and Evans 1988) gives two records only, the same number as in Horwood & Gainsborough (1933). This latter Flora gives two records for Rutland, but Messenger (1971) stated that there was no recent record. *The Flora of the London area* (Burton 1983) lists seven tetrads, compared with four noted by Kent & Lousley (1957) but notes that it was 'almost all on the southern fringe of our area though it used to be seen occasionally in other parts'. In Surrey there appears to have been no increase from the 1930s to 1976 (Lousley 1976).

*The Flora of Oxfordshire* (Killick, Perry & Woodell 1998) has five records between 1973 and 1993 and the species is recorded as rare. It was 'rare' in Druce (1927) As well as John Killick's experience (*BSBI News* 85: 22). Ted Adnams found *V. carinata* in Eynsham in 2000. It remains to be seen whether this apparent increase in Oxfordshire is maintained in future years. Finally, the most recent flora, *The Flora of Dorset* (Bowen 2000), states: that *V. carinata* is 'locally frequent in warm, bare, dry places; on new verges, old walls, in gardens and waste ground. 115 + (7) Good gave only five localities, so it is increasing'.

The 'possibly increasing' statement in *A Flora of Norfolk* (Beckett, Bull & Stevenson 1999) is not backed up by numerical data, so we are left with apparently significant increases only in Sussex, Hampshire, Dorset, Somerset and Cornwall. Rowe (2001) had found it in Hampshire and the Isle of Wight. It is difficult to ascertain whether it has become more common in Devon (Ivimey-Cook 1984). The earlier Flora by Martin & Fraser, though it lists plenty of localities, cannot be compared in terms of tetrad numbers. The situation in Kent is less clear. It was formerly recorded as 'very rare, unless confounded with the last (*V. locusta*) which it closely resembles' (Hanbury & Marshall (1899). it was recorded in 36 tetrads by Philp (1982), while *V. locusta* was in 72. However the records from the other southern coastal counties are indicative of a real increase, while elsewhere the species appears to be static. Maybe a gradual warming of the climate might favour the species, whose main range is central and southern Europe and North Africa. If a warming of the climate continues, and if climatic warming is responsible for the increase in the southern counties, then *V. carinata* would be expected to spread northwards. It should be looked for.

A word of caution is necessary. The authors of some floras suggest that the species may be confounded with *V. locusta*. Others have suggested that it is under-recorded. Now that *V. carinata* has been spotted in abundance in two areas, away from the south coast, botanists will be looking for it. It is possible that it has been overlooked in the past. If it now turns up in other places, can we be sure that it is really on the increase, or has it been there all along?

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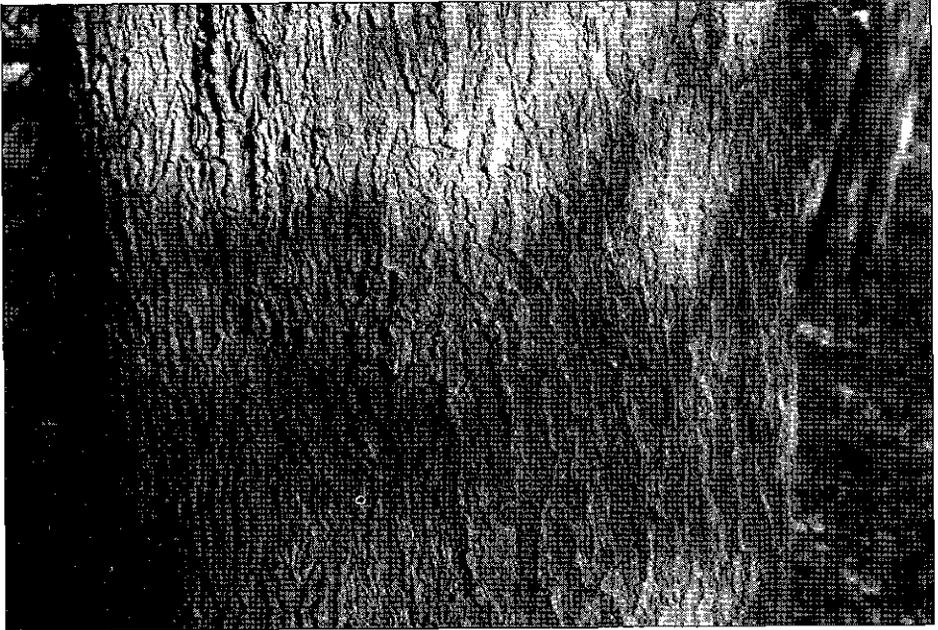
## **FAGUS SYLVATICA – IS ROUGH BARK CAUSED BY COCCUS INFESTATION?**

When I recently noticed a rough barked *Fagus sylvatica* in a woodland I was surveying, I remembered the article written by Jack Oliver and Joan Davies which mentioned similar trees in Savernake Forest (*BSBI News* 85: 26) and was motivated to investigate further. A younger tree nearby was infested with Felted Beech Scale *Cryptococcus fagisuga* (rather like a mealy bug) and the *Cryptococcus* was confined to cracks in the bark. At another site I again noticed a rough barked *Fagus* and again *Cryptococcus* was present on some of the trees.

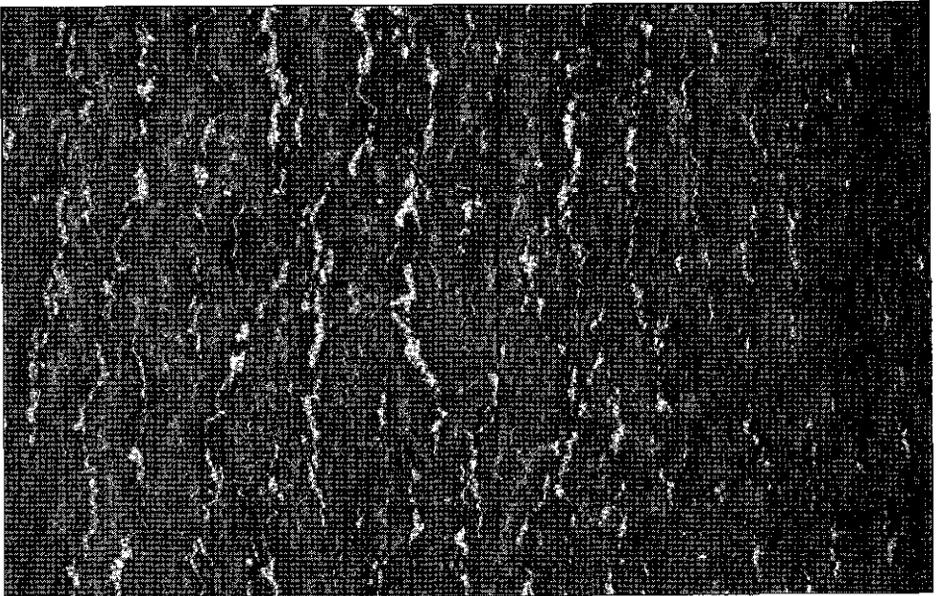
Enquiries at Alice Holt yielded the information that *Cryptococcus* infestation is known to be associated with fissured bark. The question is of course, does the *Cryptococcus* cause the cracks or do they occupy cracks which have already appeared? As the *Cryptococcus* needs to feed through the bark and were much less evident on the rough barked trees I would venture to suggest that they are the cause of the cracks.

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A middle-aged *Fagus sylvatica* with rough bark. Photo © Jean Wynne-Jones, 2000



Close-up of a younger *Fagus sylvatica* with 'Coccus' infestation showing up white. Photo © Jean Wynne-Jones, 2000

## VASCULAR EPIPHYTES ON SAVERNAKE FOREST OAKS

Four hundred and thirty of the larger veteran oaks (girths 3.5-11m) in Savernake Forest were tagged, investigated and measured in 1999 and 2000 (Oliver & Davies 2001). During this work, it was noted that a number carried on their trunks and branches a variety of fern and angiosperm epiphytes, some species of which regularly produced spores, or flowers and seed, from their perches. This did not apply to the plantation oaks. 47 epiphytic species were noted (Table 1, p. 34), and 15 of these, perhaps 17 taxa, recurred and reproduced as epiphytes (Table 2, p. 35). One *Polypodium* species (*P. interjectum* not *P. vulgare*) was common, obvious at all times of year. *Dryopteris dilatata* (Broad Buckler-fern), *Rubus* sp. (Bramble) and *Oxalis acetosella* (Wood-sorrel) each occurred on about 1 in every 15 veterans, the last two inconspicuous in winter, and none of the three likely to be as common as a number of epiphytic moss species such as *Hypnum cupressiforme* var. *resupinatum* or var. *filiforme*, which are conspicuous in any season unless very dry.

In demarcating true epiphytes, the following points were considered.

1. **Sporing or seeding in situ** This is the single most important defining consideration, applying to all 15 species in Table 2, and 32 in Table 1. No tree (apart from *Sambucus nigra* (Elder)) seeded from its epiphytic perch.
2. **Chance** Some of the 47 species in Table 1 were either 'Once-only', or evanescent transients, or scatters of short-lived seedlings (e.g. *Fraxinus excelsior* (Ash), *Acer pseudoplatanus* (Sycamore) and *Acer platanoides* (Norway Maple).
3. **'Plant-pot epiphytes'** Fractured boughs and other holes, crotches and ledges could accumulate humus and debris. All the Table 2 species, and most in Table 1, could grow on oak bark directly.
4. **Coppicing, Pollarding** No epiphytic species were wholly dependent on these ancient managements, except perhaps for some weed annuals from the A346 road reaching the road-edge pyramidal trunk of the 'Big-belly Oak' (Oliver & Davies 2001), and the creeping perennial *Glechoma hederacea* (Ground-ivy) reaching some coppice ledges to seed thereon.
5. **Transience, persistence, seasonality and life cycles** High-up epiphytic fern fronds are visible in winter, but may suffer frost-softening and droop. Epiphytic brambles and raspberries, which may be very high, lose their leaves in winter. The 'Queen Oak' has hosted *Rubus idaeus* – (Raspberry) plants in the same niche for at least 6 years. Two other oaks had bramble epiphytes at 3 and 4.5m which subsequently colonised the ground by rooting stem tips hanging from epiphytic perches on horizontal boughs. Winter *Epilobium* (Willowherb) rosettes and their residual dead infructescences are hard to see when high up. *Oxalis acetosella* (Wood-sorrel) leaves on trunks are visible in spring and summer, but disappear from view under tall or epiphytic *Urtica dioica* (Common Nettle) in summer and autumn. *Geranium robertianum* (Herb-Robert) plants seemed to persist as biennials or perennials as epiphytes, but a high plant could create epiphytic colonies below it on trunk or boughs by seeding. The two Hemp-nettle species (*Galeopsis tetrahit* and *G. bifida*) rely entirely on seeding anew each spring, but can be high up. The only trees epiphytic on oaks which I have seen progressing well beyond the seedling stage are *Sambucus nigra* (Elder) (Table 2), *Sorbus aucuparia* (Rowan), *Fagus sylvatica* (Beech), *Crataegus monogyna* (Hawthorn) and *Fraxinus excelsior* (Ash), the first three occasionally attaining lengths or spreads of 1.5 to 3m, even when 12m up. Few of these angiosperms are easily spotted as epiphytes in winter, and can be concealed by greenery in summer, only the ferns being conspicuous in all seasons.
6. **Height** Wood-sorrel was highlighted as a common vascular epiphyte on oak, both by Steele (1974) and Rose (1974) but was not impressive in Savernake Forest, as it was almost entirely confined to the trunks below waist height. The highest epiphytes, reaching 10m or higher, were ferns, and bird-sown plants with succulent fruits: from Table 2, Bramble, Raspberry, Elder and Honeysuckle (*Lonicera periclymenum*); and plants from the middle section of Table 1, including Rowan, Hawthorn, *Ribes uva-crispa* (Gooseberry), *Rosa canina* (Dog-rose) and *Solanum dulcamara* (Bittersweet).

7. **Abundance per tree** Any one of the top 7 in Table 2 could festoon trunk and branches, but *Polypodium interjectum* (Intermediate Polypody) with its rhizomatous spread and satellite colonies from spore dispersal was the most successful of all, the species most likely to be seen as an epiphyte, especially in winter (see photo, p. 39).
8. **Light and air turbulence** The pattern of colonisation of the 'Big-belly Oak' (see 4 above) by roadside weeds such as *Taraxacum* spp. (Dandelion), *Dactylis glomerata* (Cock's-foot), *Poa annua* (Annual Meadow-grass), *Veronica hederifolia* (Ivy-leaved Speedwell), *Galium aparine* (Cleavers), *Alliaria petiolata* (Garlic Mustard), etc. (Oliver & Davies 2001) was clearly different from the prevalent epiphytes tolerant of the deeper shade of the forest-depth oaks. However some epiphytic species (Common Nettle, Hemp-nettles, Willowherbs, Herb-Robert, brambles) were happy in light or shade.
9. **Epiphytic preference** The polypodies were only occasionally found on the ground, and then usually on fallen branches. By contrast, Bracken (*Pteridium aquilinum*) fronds were at least 100 times as prevalent as ground greenery in Savernake Forest as all other fern species together and reached canopy heights of 1.4-2.4m. *Giant sporing fronds attained 4.78m*, (nearly 16 feet) in the area of the 'King of Limbs Oak'! (Oliver & Davies 2001). Only one bracken frond was found as an epiphyte, then only at 40cm and yellowing; yet there were numbers of examples of oaks festooned with polypody and broad buckler-ferns, but surrounded by seas of bracken in all directions on the ground.

#### Comparisons with other studies

Intermediate Polypody (*Polypodium interjectum*) (see photo, page 39) is the dominant epiphyte on Savernake Forest Oaks, often with luxuriant fronds longer than the 60 cm maxima given in the floras. This is in sharp contrast with the dominance of Common Polypody (*P. vulgare*) on oaks reported by Steele (1974, Wistman's Wood, Devon) and by Rose (1974) who uses the term '*sensu stricto*', and is therefore indicating *P. vulgare* rather than the aggregate. However, Page (1982) refers to luxuriant Intermediate Polypody on oaks in stream valleys, and Hill-Cottingham (1989) also writes of Intermediate Polypody being epiphytic on rough-barked trees, such as oak, in Somerset. Broad Buckler-fern is reported as a common oak epiphyte by Steele (1974) and Rose (1974), and comes 2nd equal in this study (see Table 2, p. 35). There is also general agreement that Wood-sorrel is a common oak epiphyte; but in Savernake Forest it is unambitious and confined to trunk bases.

The second big difference between the oak vascular epiphyte flora in Savernake Forest, and that reported for other oak woods or forests, is the success of bird-sown seedlings from succulent-fruited woody-based species such as Bramble, Elder and raspberry, which can reproduce from their epiphytic perches on occasion. Unlike Wood-sorrel, these can be high, on trunk or branches (see Table 2), sometimes above 10m. It is not appropriate to add totals from the right hand column of Table 2, as there could be two or more such species on the same tree (*i.e.* Bramble and Raspberry); but almost as many oaks carried a woody-based succulent-fruited epiphyte as carried Polypody, although never in such quantity, and very much harder to distinguish at greater heights in all seasons. Only Rowan was easily distinguished above 10m if spotted through the oak foliage in summer or early autumn.

The final main difference between vascular epiphytes on Savernake Oaks, and those reported from other studies were the epiphytic Common Nettles and Hemp Nettles. Neither were confined to trunk bases, and could be high, but the former were usually 'Plant-pot Epiphytes'. Seeds of these species can be passed, fertile, through the guts of birds and animals (Grime *et al.* 1988), accounting for the occasional high epiphytic positions.

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### Acknowledgements

My thanks to Dick Roberts for authentication of early *Polypodium interjectum* specimens; to Joan Davies for her photography of trees and epiphytes; and to Joy Newton for her notes on some of the epiphytes.

TABLE 1

	Rooted	At 1-3 ft	At 3-6 ft	At 6-40 ft	All
<b>Fern species</b>	On 3 or more Oaks	3	3	3	}6
	On 1 or 2 Oaks	1	-	2	}
<b>Herbaceous species</b>	On 3 or more Oaks	8	6	4	}17
	On 1 or 2 Oaks	9	3	1	}
<b>Woody plants, Shrubs, Woody Scramblers &amp; Climbers (all with succulent fruits spread by birds)</b>	On 3 or more Oaks	5	4	4	}9
	On 1 or 2 Oaks	-	2	2	}
<b>Tree species (mostly found as seedlings, for 7 of the 10 species)</b>	On 3 or more Oaks	3	3	3	}10
	On 1 or 2 Oaks	4	1	2	}
<b>Grass species</b>	On 3 or more Oaks	1	1	2	}5
	On 1 or 2 Oaks	1	3	1	}
<b>All species</b>		35	26	24	}47

Categories of plants found as epiphytes on Oaks. The numbers represent numbers of species (some species were found at different levels on the same Oak)

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TABLE 2

	Rooted	At 1-3 ft	At 3-6 ft	At 6-40 ft	All
<b>Ferns</b>					
<i>Polypodium interjectum</i>	Sporing	3	5	55+	}63+
	Non-sporing	2	4	Many	}
<i>Polypodium vulgare</i> (probably including <i>P. × mantoniae</i> )	Sporing	-	2	4	}6
	Non-sporing	-	2	1+	}
<i>Dryopteris dilatata</i>	Sporing	6	6	15	}30
	Non-sporing	3	2	2+	}
<b>Herbaceous Species</b>					
<i>Oxalis acetosella</i>	Fls & Fruits	15	3	-	}
	Leaves only	11	1	-	}29
	Seedlings	3	-	-	}
<i>Geranium robertianum</i>	Fls & Fruits	5	2	2	}11
	Leaves only	2	1	2	}
<i>Galeopsis bifida</i> (usual) & <i>G. tetrahit</i> (occasional)	Fls & Fruits	5	3	4	}
	Leaves only	8	3	2	}19
	Seedlings	5	3	1	}
<i>Urtica dioica</i>	Fls & Fruits	4	2	1	}15
	Leaves only	10	1	-	}
<i>Epilobium obscurum</i>	Fls & Fruits	1	3	1	4
<b>Woody-based Species</b>					
<i>Rubus fruticosus</i> agg.	Fls & Fruits	2	2	5	}30
	Leaves only	13	5	5	}
<i>Rubus idaeus</i>	Fls & Fruits	1	4	5	}17
	Leaves only	4	2	2	}
<i>Lonicera periclymenum</i>	Fls & Fruits	1	1	1	}7
	Leaves only	2	1	3	}
<i>Sambucus nigra</i>	Fls & Fruits	-	1	1 (large)	}11
	Leaves only	1	2	7 (4 large)	}
<b>Grasses</b>					
<i>Poa trivialis</i>	Seeding	-	-	1	}3
	Leaves only	1	1	-	}
<i>Dactylis glomerata</i>	Seeding	-	1	1	}3
	Leaves only	-	1	-	}

Colonisation (of at least 3 Oaks) by species capable of producing spores, or flowers and seed, as epiphytes. The numbers represent the numbers of Oaks (out of 430 veterans), on which the species in question was found. (Some species were sometimes found at different levels on the same Oak, so column numbers may not total to the right. Also, 2 or more different epiphytic species could be found on the same Oak).

## HAY-SCENTED BUCKLER-FERN, TUNBRIDGE FILMY-FERN AND THE KILLARNEY FERN

The way it goes is if you want to find the Killarney Fern (*Trichomanes speciosum*), you have to first find the Hay-scented Buckler-fern (*Dryopteris aemula*), followed by the Tunbridge Filmy-fern (*Hymenophyllum tunbrigense*) and then there is the very slightest of chances you may come lucky and find the Killarney Fern. This is what by twin brother Paul says any way!

When I was with him in Co. Waterford in late February, he decided we should see if we could rediscover the Killarney Fern in one of its very old sites where it was last seen about 165 years ago.

We arrived at the wooded glen to find plenty of the Hay-scented Buckler-fern. At the top of the steep wooded glen we came across three extremely small patches of the Tunbridge Filmy-fern on a rock outcrop. I can remember him saying at this point, 'it has to be here somewhere'. About 20 minutes later I heard my name being called by a very excited voice, I knew the lucky blighter had found it. There were two small patches next to a stream.

So always listen to the sayings of the wish, they do work sometimes.

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## BRADFORD MILLENNIUM ELM SURVEY

Last year the Bradford Urban Wildlife Group (BUWG) asked the authors for help in their work on the national Biodiversity Action Plan (BAP) for the White Letter Hairstreak Butterfly. This insect is under threat due to its dependence on mature elms, and as a consequence of Dutch elm disease, as everyone knows, elm trees are now very rare, if they exist at all in many areas of the country. We decided that an elm survey for Bradford would be a useful contribution to the BAP, and be an interesting project to undertake in the 'year of the millennium'.

We started our work when the elms were in full leaf, and so missed the easiest time to spot elms, just before the leaves emerge when the bunches of fruits can be clearly seen. But any trees we missed because of this were more than made-up for by the help given by fellow members of the Bradford Botany Group (BBG). We revisited sites of elms known to us for some years and those new to us from the BUWG 1997 elm survey, as well as every site listed for elms in 1953 by Frank Peverett (Peverett, 1953). We scoured Bradford jointly and singly specifically looking for elms, fully exploring most of Bradford's many green spaces on foot and all the fringe areas to the roads and pathways we travelled on in the area as we could safely manage. River and canal areas were also included.

Initially all elm growth seen was recorded, but we were overwhelmed by the extent and quantity of regenerative wych elm sucker growth as well as seedlings in some places, so in the end juvenile growth was only noted if it was clearly **NOT** wych elm. Only healthy trees free of Dutch elm disease were recorded and the very brief summary of our findings below include all we considered to be mature, by which we mean with a trunk diameter of over 25cm at 1.5m and with a crown over 9-10m high, except for weeping elms when the criteria for inclusion is trunk diameter alone.

Stace (1997) was used for almost all the identifications.

### Wych Elm (*Ulmus glabra*)

This is the only elm native to Bradford, and in places is regenerating prolifically. No really large, old and substantial trees were seen, but stumps of such relics were too frequently encountered. 35 *mature and healthy wych elms were found* in our survey, many of these were planted ornamental trees and all but one are located to the south or east of the city centre which is intriguing. 2 of these 35 were top grafted weeping elms and included on trunk dimension alone.

### Huntingdon Elm (*Ulmus × vegeta*)

Huntingdon elms are mainly street trees in Bradford and include all our biggest and best elms. We found 14 *Huntingdon elms*, all excellent trees.

**Dutch Elm (*Ulmus* × *hollandica*)**

Only one Dutch elm was found in the grounds of a church and alongside a wych elm in its last throes with Dutch elm disease, although the Dutch elm was still healthy.

**English Elm (*Ulmus procera*)**

Only one English elm was found in a park. Of the two main sites for this elm in Peverett (ref 1) in 1953, not a trace could be found at one, but the other had pure hedgerows of it, illustrating the regeneration and die back with Dutch elm disease at about 4m tall.

**Small-leaved Elms (*Ulmus minor*)**

Our survey found a flourishing thicket of at least one of these elms and four healthy trees of which only two are big enough to qualify for inclusion here.

One *Ulmus minor* subsp. *minor* in a park and one *Ulmus minor* subsp. *angustifolia* var. *goodyeri* (Goodyer's Elm), a particularly pleasing find and perhaps the high point of our survey as this must be nationally rare now (?) and our specimen is a splendid tree even though the crown is thin, entirely due to its situation, we think. A little outside our area we know of two good Jersey or Wheatley Elms the survivors of a line of six on the Leeds ring road.

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**TRIGLOCHIN PALUSTRE AS A ROADSIDE 'HALOPHYTE' IN MORAY**

I was interested in the article in *BSBI News* 86 by Roderick Corner on *Triglochin palustre* (Marsh Arrowgrass) as a roadside plant. In Moray (v.c. 95) I came across it in July 1999, growing out of gravel on the edge of the A940 between Forres and Grantown on Spey (NJ004403), at an altitude of 290m. Here it was growing with *Puccinellia distans* (Reflexed Saltmarsh-grass) and *Spergularia marina* (Lesser Sea-spurrey). Both these two species are very common on roadsides in Moray. It makes you wonder how many other roadsides this species grows along as a 'halophyte'.

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**HAZELS THAT DON'T KNOW ABOUT WINTER**

We planted several hazels, *Corylus avellana*, in our policies here a dozen years ago and most colour up in the autumn. Two, however, behave differently. They remain green in the autumn when the leading shoot on each branch continues to grow strongly. When the frosts come the leading shoots are killed but their dead young leaves remain on the bushes all winter. Side shoots grow winter buds that grow on in the spring, so the branch as a whole survives but develops in a somewhat zigzag pattern over the years. Rather belatedly, one of the errant bushes now develops catkins, but on a few branches only. These branches form winter buds even on the leading shoots, and suffer no die-back, so these branches seem, in a sense, to have learned about winter. Interestingly the catkins on the errant bush open a week, or more, earlier than those on the normal bushes.

In passing through Shropshire this winter I observed what appeared to be the same phenomenon on a few bushes in the hedges there. Have other members had any similar experiences, please?

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## COCHLEARIA DANICA IN THE BRADFORD METROPOLITAN AREA

A survey was carried out into the distribution of *Cochlearia danica* (Danish Scurvygrass) in the Bradford Metropolitan Area, (BMA) – see map for distribution, (MW – 2000). This coastal plant was first noted in this area on Manchester Road some years ago, (B.A. Tregale) where it still occurs. It would seem that *Cochlearia danica*. (Danish Scurvygrass) largely occurs on the main arterial roads, particularly in some abundance on the bypass from Marley to the Keighley roundabout and on the main Skipton bypass to the edge of the BMA boundary (and beyond).

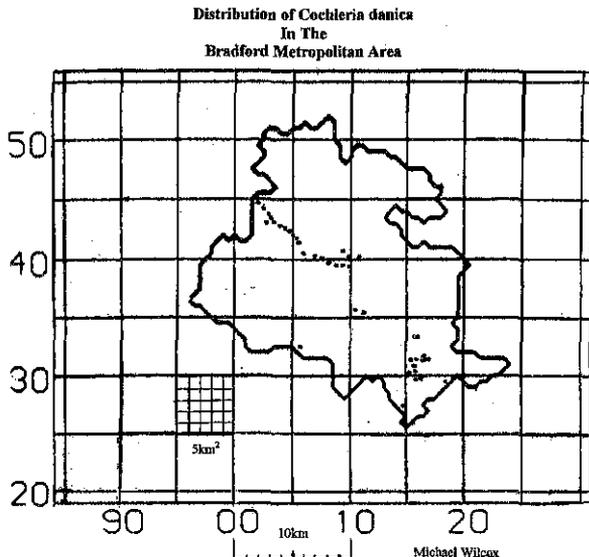
*Cochlearia danica* occurs where the soil is of a fine gritty sand-like quality most likely built up by the continual deposition of the salted grit used by the area council, which originates from the salt-mines of Cheshire.

It best survives where the management is minimal and competition from other plants is reduced by the more barren conditions. It has difficulty in surviving where the soil is already a rich brown soil. The continual cutting of the grass by council mowers, which shave off most of even the lowest plants at critical periods in the growth cycle, also adds to the difficulty of surviving – particularly in urban areas where chemical spraying is unfortunately carried out on a regular basis, (a poor management strategy period!).

Of particular interest on the survey was a small stretch of bypass approximately SE069418 to SE071415, (Riddlesden roundabout to Keighley roundabout) where a few other interesting plants were found.

Two other coastal plants were found there in association with *Cochlearia danica*: *Catapodium marinum* (Sea Fern-grass) and *Cerastium diffusum* (Sea Mouse-ear). Also found there were *Phleum bertolonii* (Smaller Cat's-tail), *Picris hieracioides* (Hawkweed Oxtongue) and *Apera spica-venti* (Loose Silky-bent). In other places a regular associate was *Erophila verna* var. *verna* (Common Whitlowgrass).

The situation will always be a changing one but it seems that the long stretches of roads such as the bypasses will remain the stronghold for this more-or-less permanent coastal plant. The map shows a fairly accurate distribution at present, (the relevant grid references have been sent to the v.c. recorder rather than being repeated here). ]



## LESS HASTE MORE SPEEDWELL?

When we first started gardening at Green Acre in the spring of 1994 it was a bonus to find we had four arable Veronicas in the kitchen garden, *V. agrestis* (Green Field-speedwell), *V. hederifolia* (Ivy-leaved Speedwell), *V. persica* (Common Field-speedwell) and *V. polita* (Grey Field-speedwell). Later we realised we had a blue lawn of *V. filiformis* (Slender Speedwell) – and elsewhere, in what is a relict piece of grassland on limestone, *V. arvensis* (Wall Speedwell) and *V. chamaedrys* (Germander Speedwell). None of these seven species is unusual though good to find them all in our less than an acre. What was unusual was the unexplained appearance about three years ago of a small patch of *V. beccabunga* (Brooklime) beneath the black currants. We left it alone expecting that such a marsh and stream plant could hardly survive for long – we were wrong! After this wettest of winters we found a mat several square metres in extent and decided it had to be ‘controlled’. But this is not proving easy: it roots at every node and breaks into small pieces each capable of developing into another large patch so that it could spread vegetatively in the kitchen garden as efficiently as *V. filiformis* in the lawn. Be warned.

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## BRACKEN HEIGHT RECORD?

In parts of Savernake Forest, the bracken (*Pteridium aquilinum*) canopy can sometimes average 1.4-2.4m high. In 1875 the author Richard Jefferies said of part of Marlborough (Savernake) Forest ‘More bracken. What a strong fern. So thick the cover that a thousand archers might be hid in it easily.’

In September 2000 I found some fronds measuring 3.56-4.06m (11ft 8 ins to 13ft 4ins) in several parts of the Forest, especially near Great Lodge Bottom (West) and NW of Holt Pound (East part of Forest), sometimes supported by birch or hawthorn. However in September 1999, in the dense sea of bracken around the veteran King of Limbs Oak, there were even taller fronds, some sporing, above 4.5m. The tallest frond found was growing through a young Douglas Fir (*Pseudotsuga menziesii*). It measured 4.83m (15ft 10ins), confirmed at the Wiltshire Biological Records Centre (WBRC).

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## THOMAS WOODHEAD OF HUDDERSFIELD

I was delighted to read in *BSBI News* 86: 29, Pat Newton's memoir of Thomas Woodhead, one of my heroes. Some time ago I wrote the following note for a local newspaper but it was never used.

One of Huddersfield's past heroes was Thomas W. Woodhead F.L.S. (1863-1940), one of the founders of the science of ecology. In December 1904 a small group of botanists formed the British Vegetation Committee to initiate an early attempt at mapping the British flora. Woodhead surveyed 66 square miles of the countryside around his native Huddersfield, paying particular attention to a number of woodland sites in the district. He put an enormous amount of effort into Birk's Wood near Farnley Tyas and, for this pioneering work, he was awarded a Ph.D. by the University of Zurich in 1907. He later received the accolade only presented to the very top botanists, election to fellowship of the Linnaean Society.

It is evident from his writings that during his research he fell in love with the plant which is arguably Britain's favourite wild flower, and now the emblem of Huddersfield [and BSBI]: bluebell

(*Hyacinthoides non-scripta*). His important publication, *Notes on the bluebell*, which appeared in *The Naturalist* in 1904, begins:

'In studying the vegetation of the woods in the Huddersfield district, and especially the distribution of the dominant types, the bluebell formed a subject for special consideration. Probably no plant of the undergrowth appeals so strongly to one and all as this spring flower. It is especially characteristic of the oak and sycamore woods of the coal measures, presenting extensive sheets of blue, a sight quite unequalled by any other plant of our local flora.'

Despite international renown, Woodhead stayed in Huddersfield, teaching botany (one suspects with infectious enthusiasm) at the Huddersfield Mechanics' Institute, now the Technical College (?) where he held post for 30 years.

If you read the reference list in any modern research report on bluebell, it is bound to include citations of the highly original work carried out by Woodhead in the beautiful woods around Huddersfield in the days before ecology was fully accepted as a science.

When presenting a talk to the Huddersfield Naturalists' some years ago, one elderly lady responded with a gasp to my slide showing the great man from whom she had learned her botany. She confirmed what I suspected from his photograph, that he was a really friendly, enthusiastic and generous teacher. How I wish that I could have been around at the right time to exchange ideas with the man who knew more than any other about the bluebell.

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## NORMANDY AND THE BLACK FOREST 2000

On July 15th Michael Troy, Dr Paul Bartlett and I set sail on the Poole to Cherbourg ferry for a short visit to France looking for *Spiranthes aestivalis* (Summer Lady's-tresses). Confusion reigned at Poole as we only just caught the ferry because Paul got stuck on a train, and it continued in Normandy as we arrived in the middle of a three-day holiday for Bastille Day, with no pre-booked accommodation. After much hunting we eventually found a retired Englishman and his wife who gave up their guest room for us for three nights.

The small town of Lessay is about 50km south of Cherbourg and south of the town is a large area of coniferous forest and in a wide firebreak about 1.5km long we found *Spiranthes aestivalis* in profusion, well in excess of one thousand plants and most in very good condition. Later in the trip we visited the north coast around Omaha Beach, Caen and the sand dunes on the western coast of the Cotentin peninsula. Other plants recorded included *Himantoglossum hircinum* (Lizard Orchid) growing in great numbers on the dunes, waste places, etc., *Dianthus deltoides* (Maiden Pink), *Bupleurum baldense* (Small Hare's-ear), *Lobelia urens* (Heath Lobelia), *Centaureum scilloides* (Perennial Centaury), *Centaureum tenuiflorum* (Slender Centaury), *Teucrium scordium* (Water Germander) growing in damp dune slacks and nearby many plants of *Veronica spicata* (Spiked Speedwell). One of the commonest grasses on the dunes was *Lagurus ovatus* (Hare's-tail). During our short trip we also encountered *Scorzonera humilis* (Viper's-grass), *Wahlenbergia hederacea* (Ivy-leaved Bellflower), *Carum verticillatum* (Whorled Caraway), *Gentiana pneumonanthe* (Marsh Gentian), *Eryngium campestre* (Field Eryngo), *Silene conica* (Sand Catchfly), *Althaea officinalis* (Marsh-mallow), *Frankenia laevis* (Sea-heath), *Pulmonaria officinalis* (Lungwort), *Phyteuma spicatum* (Spiked Rampion), *Monotropa hypopitys* (Yellow Bird's-nest), *Orobanche rapum-genistae* (Greater Broomrape), *Scilla autumnalis* (Autumn Squill) and *Dipsacus pilosus* (Small Teasel).

On 8th August, Michael Troy and I flew to Zurich from Dublin, hired a car and went in search of *Epipogium aphyllum* (Ghost Orchid). We travelled north into southern Germany where we had booked accommodation in a small village called Mundelfingen in Baden-Württemberg in the southern part of the Black Forest. The area is a mixture of open fields with grazing and arable and an area of

forest, mainly Norway Spruce and other conifers. In one of these areas called Hufingen Wold we found our orchid, in heavy shade under Norway Spruce trees in very difficult light for photography without flash. The Ghost Orchids were in small or large groups and over an area of approximately 56 hectares there were certainly several hundred plants, possibly nearly one thousand. While in Hufingen Wold we met two German botanists, Heini and Margot Wagner who were also interested in orchids. After showing us *Epipactis muelleri* (Muellers Helleborine), *Epipactis helleborine* (Broad-leaved Helleborine), which we had found to be quite common, and *Epipactis atrorubens* (Dark-red Helleborine), not yet in flower, our German friends invited us to Tübingen, where they live, to see *Epipactis purpurata* (Violet Helleborine) and we found several plants in good condition.

In and around Hufingen Wold we saw a feast of other plants which included *Crocus nudiflorus* (Autumn Crocus) and *Gentiana cruciata* (Cross Gentian), both growing in an adjacent field, *Cirsium eristhales* (Yellow Thistle), *Monotropa hypopitys*, *Senecio nemorensis* (Wood Ragwort), *Campanula persicifolia* (Peach-leaved Bellflower), *Campanula rapunculoides* (Creeping Bellflower), *Prenanthes purpurea* (Purple Lettuce), *Impatiens noli-tangere* (Touch-me-not Balsam), *Atropa belladonna* (Deadly Nightshade), *Prunella grandiflora* (Large Seifheal), *Chondrilla juncea* (Skeletonweed), *Geranium pyrenaicum* (Hedgerow Crane's-bill), *Aconitum napellus* (Monk's-hood), *Aconitum lycoc-tonum* subsp. *vulparia* (Wolf's-bane), *Equisetum hyemale* (Rough Horsetail), *Lonicera xylosteum* (Fly Honeysuckle), *Actaea spicata* (Baneberry), *Arctium lappa* (Greater Burdock), *Carduus crispus* (Welded Thistle) and *Centaurea scabiosa* (Greater Knapweed).

For botanists living with the 'impoverished flora' of Ireland this made the year 2000 one to remember botanically.

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## PINHEAD GROWTH FORM OF *LEMNA MINUTA*

Populations of Least Duckweed (*Lemna minuta*) in the River Kennet in Wiltshire and in certain ponds, water troughs and parts of the Kennet & Avon Canal, consist of tiny circular fronds mostly 0.5×0.5mm in diameter or less. In the river where flows are faster, the fronds can be tiny and rootless, looking like algal specks, but in stagnant water they can be seen to divide rapidly to form dense masses with tangles of the single rootlets. For some populations the fronds remain tiny throughout the summer months, never achieving the more normal frond size and shape (1.5×2mm to 2.5×4mm, or thereabouts), over 6 years to date. Despite the pinhead size, the very small fronds divide healthily, and can out-compete Common & Greater Duckweed (*Lemna minor* and *Spirodela polyrhiza*).

Prof. Elias Landolt of Zurich has kindly cultivated some of these minute Marlborough fronds under aseptic conditions, when they have at last achieved normal frond size. The residue of the original population sent to him, grown on under normal conditions in Zurich, remains with minute fronds; he cannot say why.

Incidentally, for the past six years, Least Duckweed has been far more common than Common Duckweed in this part of Wiltshire (Marlborough area). This applies to rivers, the Kennet's & Avon Canal, most ponds, most ditches, and water containers.

**Acknowledgement:** Appreciation is given to Prof. em. Dr Elias Landolt of Zurich for his help.

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# CONSERVATION NEWS AND VIEWS

## NEW LAWS TO PROTECT WILD PLANTS

People will soon have the right to explore some four million acres of countryside for the first time – the ‘right to roam’ – but plants also win new rights through the Countryside and Rights of Way Act.

The Act contains the most significant changes in conservation law in England and Wales for decades, which have been in force since 30<sup>th</sup> January 2001. The rights for walkers are yet to be brought into force. Greater protection is given to plants by the Act’s provision for the conservation of biological diversity, improved protection for Sites of Special Scientific Interest (SSSIs) and increased penalties for plant crime.

### **Biodiversity**

We now have a statutory framework for the conservation of biodiversity. This is a totally new direction in conservation law, enhancing the existing site-based system.

Biodiversity is about preserving variety – we all know that many hedgerows have become dominated by a few species like *Anthriscus sylvestris* (Cow Parsley) which have resisted the selective herbicides applied over the years. The hope for our wild plants is that we can now reverse this trend. Plantlife is a lead partner in the UK biodiversity plan, implemented to comply with the UN Convention on Biodiversity signed at the Rio Earth Summit in 1992. A need for local biodiversity plans has been highlighted and the new laws will ensure that these are formulated and put into practice.

Until now, concepts such as governments commitment to promoting biodiversity were merely part of government policy. Government departments now have a statutory duty to, for example, publish lists of the most important species and habitat types for conservation and take steps to further the conservation of the habitats listed. Public bodies (including local authorities) have a duty to take reasonable steps to further the conservation and enhancement of SSSIs.

These laws, combined with other proposed changes in environmental law coming from Europe, will put conservation groups in a stronger lobbying position than ever before.

### **Plant crime**

Jail sentences of up to six months for plant crime offences (for example, offences of picking plants protected under schedule 8 of the Wildlife and Countryside Act 1981) have been introduced in addition to the current fines – although I would have liked to see the maximum fines in the lower (Magistrates) courts increased from £5000 to £20,000, in line with the new fines for damage to SSSIs and other environmental offences like water pollution. The deliberate release of non-native and certain other species could now result in a prison sentence of up to two years.

### **Improving SSSI protection**

Many commentators have been very critical of the SSSI system. In a 1993 SSSI case, Lord Mustill said ‘It needs only a moment to see that this regime is toothless . . .’.

English Nature and the Countryside Council for Wales have new powers to refuse consent for damaging activities, to impose management schemes on SSSI owners and to compulsory purchase sites if management schemes are breached, balanced by appeal rights for the site’s owner.

There is a new criminal offence of reckless disturbance and increased penalties for deliberate damage (by both the owner or any other person) to SSSIs of up to £20,000 in the Magistrates Court and an unlimited fine in the Crown Court, and a new court power to order site restoration, where this is practicable.

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## ILL WIND FOR LEITRIM BOGLAND

Irish Peatland Conservation Council (IPCC) were shocked at the recent An Bord Pleanála decision to approve the windfarm development proposed for Corry Hill, County Leitrim.

The site on which the development of six wind turbines is to take place is on an area of pristine bogland on top of Corry Hill. The IPCC objected to the development on the basis that the site is an intact area of upland blanket bog, now a very rare and important habitat in Ireland and Western Europe. Less than 10% of the habitat type is being protected for conservation in County Leitrim. The rare orchid *Listera cordata* (Lesser Twayblade) is present on the site which indicates a very high conservation value.

In addition, the site is listed as a proposed Special Area of Conservation on the recently published NGO shadow list.

Mr Patrick Crushell, Conservation Officer with IPCC said 'it is a disgrace in this day and age that such important wildlife sites are not offered the full protection afforded by the European Habitats Directive'.

Dúchas, the state agency responsible for nature conservation did not object to this development despite the fact that they are obliged to protect what remains of this habitat type in Ireland and are currently being taken to the European court on the grounds of non-compliance with EU conservation directives. Until such time as Dúchas carry out a national survey of upland sites in Ireland and designate them appropriately this type of unsuitable development will continue, and result in further loss of upland blanket bog.

There is, one small victory as a result of the IPCC objection, the developer was forced to carry out a detailed survey of the habitat and draw up a best practice management plan whereby, minimal damage will be caused by the development. The Bord insisted that the developer must follow this plan and carry out regular monitoring of the wildlife on the site for a five year period, IPCC will be ensuring that the developer fully complies with these conditions.

It is hoped that future developments of this type will take account of such considerations in the contents of Environmental Impact Statements (EIS).

'IPCC are of course in favour of renewable energy sources such as wind power but upland sites are a limited resource in Ireland that need to be surveyed in order to identify which sites are most suitable for wind energy and which should be protected.' says Mr Crushell.

For further information please contact:

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## GARDENERS – GO PEAT FREE !

Make this the year you go PEAT FREE in your garden – that's the message from the Irish Peatland Conservation Council to gardeners as they start to emerge from hibernation and get their fingers dirty in the garden.

In its ongoing campaign to save bogs in Ireland, IPCC want to persuade more gardeners to switch from using peat which destroys wild boglands, to using a variety of peat free soil improvers, seed and potting compost and mulches which are available in garden centre and DIY outlets. By gardening without peat the wild plants and animals which depend on bogs can be saved.

'One of the main issues raised by gardeners is availability of products then comes the matter of price' says Dr Peter Foss, Chairman of IPCC. 'Peat free alternatives are now much more widely available in garden centres and the larger DIY stores – and when you consider the environmental benefits of using a recycled waste product in the garden rather than peat which comes from a destroyed

peatland – peat free is the way to go for “green” gardeners. It’s a similar argument as whether or not you eat organic food, or use sustainably produced timber – the price is a little higher, but only as long as you ignore the damage peat mining does to the environment’.

A full list of the peat-free suppliers and their products is available on the IPCC web site at [www.ipcc.ie](http://www.ipcc.ie) and in a newly updated peat free gardening leaflet available from IPCC. These sources list products ranging from Irish Earthworm Technology’s worm cast compost, to recycled wood chips produced by Connaught Timber Products, and Brewers Barley Mulch.

In addition to promoting a range of products produced by Irish suppliers the IPCC sells its own peat free compost - the Gro-Bric, a natural and renewable product.

Grow Brics are made from 100% recycled coconut fibres. Each bric, which is just half the size of a shoe box, makes 10 litres (a bucket full) of compost simply by adding water. Gro-Brics are made from coir waste left over from the coconut industry and are ideal as a peat free compost substitute.

Coir makes an excellent seed germination medium and is ideal (when mixed with well rotted compost) as a growing medium for container plants and hanging baskets. Use it in hanging baskets, window boxes, and for potted plants.

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## **CAN’T SEE THE WOOD FOR THE TREES? PLANTLIFE OFFERS A NEW PERSPECTIVE**

Forests are made up of more than just trees. Other plants, such as flowers, shrubs, ferns, mosses, mushrooms, toadstools and lichens are also vital parts of the forest system, but they are easily overlooked by forest managers. That is all about to change in Scotland, with the launch of *Flowers of the Forest: Managing Woodlands for Wild Plant Biodiversity*, a colourful new publication from the wild-plant conservation charity, Plantlife.

The 30-page soft-backed book is inspired by the Millennium Forest for Scotland. It is Plantlife’s contribution to taking forward this enlightened approach to woodland management. Until recently, most of Scotland’s forests were managed primarily for timber production. Today, however, as shown by the new Scottish Forestry Strategy, the emphasis has shifted, and there is positive encouragement to restore woodlands with natural tree species and to manage them for their biodiversity as well as their social and economic benefits.

*Flowers of the Forest: Managing Woodlands for Wild Plant Biodiversity* – which is part-funded by the Millennium Forest for Scotland Trust and the Forestry Commission – is designed to help foresters manage woodlands for native wild plants, not just trees. It is packed with technical advice and guidance applicable to all types of woods, from small community woodlands to more expansive commercial forests. Techniques for introducing native plants to existing woodland and how to establish new plant-rich woodlands for amenity purposes are also described.

Michael Scott, Plantlife’s Scottish Officer who co-wrote the booklet said: ‘Trees give the forest structure; it is all the other green plants of the forest which bring it to life. The best foresters already manage their woods to ensure that wild plants flourish alongside the trees, and we’ve drawn on their expertise in compiling this booklet’.

*Flowers of the Forest: Managing Woodlands for Wild Plant Biodiversity* is available at a cost of £5 per copy from Plantlife Book Store, Summerfield Books, Main Street, Brough, Cumbria CA17 4AX.

LYNNE FRANKLAND, Plantlife, 21 Elizabeth Street, London, SW1W 9RP Tel: 020 7808 0109

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# ALIENS

## CONFUSION OVER THE CIRCUMSCRIPTION OF *SEDUM HISPANICUM* L.

*Sedum hispanicum* L. (Spanish Stonecrop) has not been well understood since it was wrongly described 250 years ago as coming from Spain – it is still unknown there, even as an alien. Modern books continue to provide several contradicting statements, and are even at variance over which of three specific names should be used for the British adventive. I deduce, as explained below, that Stace's *New Flora*: 313 (ed. 2, 1997) is, indeed, probably correct, and I confirm that his key works convincingly. The plant is oddly absent from Clapham, Tutin & Warburg's *Flora* (ed. 2, 1962), although it was well-known to earlier botanists like G.C. Druce. Stace gives its status as 'rare', but it is recorded as a garden escape in at least v.cc. 14, 21, 22, 26, 29, 37, 57, 64 and 73; it is undoubtedly under-recorded.

Stace's description of the section *Epeteium* that contains this species, and also *S. villosum* (Hairy Stonecrop), mildly conflicts with the species description below – e.g. 'petals pink' / 'forming no to few sterile shoots' is always / often untrue, respectively, of *S. hispanicum*. One problem is the variability within the species over its range from SE Europe to the Caucasus. And even within one colony there can be individuals that behave as annual, biennial or perennial, according to the season and micro-habitat – hence Stace says 'usually perennial', whereas *Flora Europaea* 1: 436 (ed. 2, 1993) says 'usually annual'.

Incidentally, Stace (p. 988) defines 'monocarpic' as 'living for *more* than one year, flowering and fruiting, and then dying', not unreasonable, but this disagrees with all those books that I regularly use, e.g. G.D. Rowley's *Name that Succulent* (1980), where the term is defined more literally as 'flowering once and then dying'; this contrasts nicely with 'pleiocarpic' (not in Stace) defined as 'flowering more than once'. I regard this as the more useful definition. Clearly *S. hispanicum* is monocarpic (non *sensu* Stace) – i.e. it produces flowers in its first, second or later years and then dies. Stace expresses this, rather clumsily, as '± monocarpic (or annual)' under his sectional description.

The 'perennial form' in Stace has traditionally been called *S. bithynicum* Boiss., as supported by *European Garden Flora* 4: 199 (1995). Mike Grant (MG), botanist at RHS Gardens, Wisley, feels unable to agree with this view, and I tend to concur. The type description by Boissier does indeed say it is perennial, but makes it clear that it has only 5-merous flowers and erecto-patent carpels (not usually 6- or 7-merous flowers with stellate-patent follicles, as in typical *S. hispanicum*). *Flora Turkey* 4: 242-243 (1972) observed this fact and hence treated it, as a variety, under *S. pallidum* Bieb., the 3rd specific name that one could use! Gardeners often call it *S. hispanicum* var. *minus* Praeger.

A good line drawing of what we usually record as *S. hispanicum* is not easily found in the literature – hence the great value of Graham Easy's (GMSE) fine cover illustration. He found the plant growing in profusion in June 2000 on the road edge of a field (formerly a Race Course) at Horseheath (v.c. 29, Cambs.). Its trailing stems were spreading from the verge across the tarmac. Note that this colony has 6- or 7-merous flowers (both are drawn by GMSE) that are anisomerous (i.e. with the petals not strictly regular and symmetrical); it has 12 or 14 stamens (not 10 as claimed in *Flora of Turkey*), glabrous leaves (not glandular-hairy as in *loc. cit.*) and appears to be a short-lived monocarpic species. The glandular-hairy inflorescence separates it from *S. album* L.

Much more confusing is the *S. hispanicum* variant found by Irene Weston in July 1998 on an old runway at the derelict Waltham Aerodrome, near Grimsby (v.c. 54, N. Lincs.), TA283020. There were 8 colonies of it, totalling some 1000+ plants, growing with *Sedum acre*, *S. album* and *S. rupestre*. Virtually every flower was 5-merous with widely spreading petals at anthesis, and the carpels were ± erecto-patent. A root sent to me proved monocarpic, and it died seemingly without forming mature follicles, and no progeny ever appeared (I hope you smiled at the malapropism in *BSBI News* 86: 48 (2001) where prodigy was used in error! [Whoops!! Ed.]) It needs more careful study, but in *Flora of Turkey* it keys out to *S. pallidum* Bieb. var. *bithynicum* (Boiss.) Chamberlain. The same taxon (I

think!) was found in July 1999, by Julie Clarke and Anna White, in a lay-by formed by road alteration below Cardoness Castle, Gatehouse-on-Fleet (v.c. 73, Kirkcudbrights), 83/586554. (It was growing with another mystery *Sedum*, section *Aizoon*, that seemed to be closest to *S. ellacombianum* Praeger). Other records might belong here, but at present, I will refer to it as *S. hispanicum* 5-merous form, as approved by MG – it is a pragmatic decision, maybe.

True *Sedum pallidum* Bieb. var. *pallidum* is obviously closely related, and was sunk into *S. hispanicum* by at least two earlier authors. Details are conflictory (again!), but it is usually deemed to be an invariant annual always possessing 5-merous flowers with pink, suberect petals, and with follicles also suberect: it does not sound garden-worthy.

At the base of each carpel in almost every species in the family of Crassulaceae there is a squamella, normally referred to as a nectary (gland/scale) or as a hypogynous scale; it is unmentioned by Stace, but its size, shape and colour characteristics are normally regarded as constant and diagnostic characters. The generic key in Bramwell's *Wild Flowers of the Canary Islands*: 134 (1974) depends upon looking at/for them. They are relatively easy to see with a  $\times 20$  lens when the plant is fresh, by first stripping away the protective sepals and petals to reveal them. On pressed material one cannot usually see them – and for this reason they tend to be poorly documented: there is a useful project, here, for someone! It then came as a shock to learn, at the 12th hour, from *Flora USSR* 9: 71-74 (1971) that *S. hispanicum* has these minute scales 'yellow, subternate, narrower at the base' and that *S. pallidum* has them 'oblong, longer than broad, uneven at the summit'; furthermore, *Flora Palaestina* 2: t. 9 & t. 11 (1972) corroborates this fact (but showing a bifid to trifid variation in the former). Back in 1998 I did make a brief sketch of a nectary from the Grimsby colony – and it matches *S. pallidum*! Can someone solve this enigma for me? I am clearly in no position to name any specimen in this group with confidence! – I will revert to a Continental practice and simply call them all *Sedum* gr. *hispanicum* L. Help!!

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## CUSCUTA CAMPESTRIS – IN HEREFORDSHIRE

Last summer (2000) my neighbour, knowing that I liked weeds, asked me to look at a strange plant which had strangled her Petunias and was now moving on to her Asters *Callistephus chinensis*. She was greatly puzzled as it appeared to have no roots and sure enough it didn't. I had never seen anything like it before; bright orange strands sticking onto the Aster stems at intervals rather like that stuff which is expelled from party poppers by exuberant teenagers. The flowers were superficially like *Helichrysum* (Curry plant) and there were no leaves. Actually I thought it was more attractive than the Asters.

Using Clive Stace's *New Flora of the British Isles* it keyed out to *Cuscuta campestris* – a first record for Herefordshire. I could find no-one locally who had ever seen the plant but in conversation with others began to fear that my identification may have been a little hasty. My neighbour was most co-operative in allowing the plant to survive to give me time to investigate further. It eventually killed the Asters and then moved on to Stocks, Michaelmas-daisies and Scabious whilst I sent bits off in the post and friends came to view it. Eventually the plant was confirmed by Eric Clement and Brian Wurzell. I am grateful to them and also to Mary Sheahan and Clive Stace. (See photos, p. 42)

A description is given in Stace to which I would add that the seeds are about 1mm and minutely papillose. The stems seem to me to be rather more orange than yellow.

Eric Clement has drawn my attention to pre 1977 records in *BSBI News*. Brian Wurzell recalls seeing it more than 20 year ago on *Daucus* and Arthur Chater saw it on *Godetia* and Stock in a garden in Aberystwyth in 1987. It would be interesting to know if any other BSBI members have seen the plant this past year.

How it arrived in my neighbour's garden is a bit of a mystery as the local nursery which supplied the Petunias has not heard of any other occurrences.

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## **ERODIUM × VARIABLE ON THE ISLE OF WIGHT (V.C. 10)**

On 15<sup>th</sup> October 2000, whilst conducting an Isle of Wight Natural History Society botanical meeting at Ventnor on the island, one of us (CP) noticed a small plant which was actively colonising an area of close-mown grass at Ventnor Cascade (SZ563774) just above the sea-front. Closer examination showed that this was a non-native stork's-bill (*Erodium* sp.) which had spread from the adjoining unmaintained rockery. There were two patches, each of some 0.5 × 0.5m together with some smaller clumps. The plant was growing flush with the grass and it appeared as though it was being vegetatively spread by propagules mown off and taking root. Two or three open flowers were found, despite the lateness of the season, which were c.1.6cm across, the white petals being veined with deep pink. Each peduncle bore 1(-2) flowers or incipient fruits. Ventnor Cascade has many plants of former cultivation which have become well established on the rocky ground. Growing with the *Erodium* in the mown grass were *Erigeron glaucus* (Seaside Daisy), native *Salvia verbenaca* (Clary), *Bellis perennis* (Daisy), and *Festuca rubra* (Red Fescue).

Material, now preserved in **herb. EJC**, was collected and sent to EJC who identified the plant as *Erodium* × *variable* Leslie, a hybrid between *E. corsicum* Léman (from Corsica and Sardinia) and *E. reichardii* (Murray) DC. (from Balearic Islands – Mallorca and Menorca); it currently has no English name. This tenacious rock-garden plant is widely cultivated, and has now mostly supplanted its pure parents that are much more difficult to please. It is usually grown under an incorrect name; the earliest reference to it in English gardens may be in C. Elliott's *Rock Garden Plants* (1935), where it is listed as *G. hybridum roseum*.

Surprisingly, this is not the first record for v.c. 10 (Wight); it was found by A.C. Leslie as a weed in pavement cracks at Ryde in September 1970. Again, the petals were white veined with rose (**herb. EJC**). And there is one further British record: the late George Forster found it in Guernsey in 1992, but no locality was ever published. Both of these earlier finds were misdetermined as *E. reichardii* and are referenced on p. 214 of Clement & Foster's *Alien plants of the British Isles* (1994).

There is an exceptionally fine account by Dr A.C. Leslie of this hybrid and its two parents in *The Plantsman* **2(2)**: 117-126 (1980), with diagnostic line illustrations of the leaves of all three taxa. Therein is the type description, a line drawing of the type, and a table showing the 14 major differences. Leaf shape is the most obvious, but nectary shape ('wider than long without lateral horns') is also diagnostic. Reduced pollen fertility of 0-70%, instead of the 90% of both parents, is the most faithful character. The hybrid does rarely set some seed, adding to the considerable variability of the taxon, whereas flowers occur 'throughout the spring, summer and early autumn – one couldn't wish for better value!', as ACL put it. He also exposes (p. 125) a series of errors occurring in the account of this group in *Flora Europaea* **2**: 199-204 (1964) and also in Kunth's monograph in *Das Pflanzenreich* (1912).

It is very apt that this hybrid should establish itself on islands off our southern shore, since both parents come from Mediterranean islands where they occur as rock plants never far from the sea.

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## **AMBROSIA ARTEMISIIFOLIA – IN HEREFORDSHIRE**

*Ambrosia artemisiifolia* occurred in the summer of 2000 in a garden in Kington (v.c. 36) for the second time, the first time being some 3 years ago. Both places coincided with bird feeding stations.

I am grateful to Brian Wurzell for enthusiastically determining the plant in spite of it having resided on my friends compost heap for two weeks. I had tentatively suggested that the plant might be an *Artemisia* and so was half right but as a friend pointed out it was the wrong half.

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## LUDWIGIA GRANDIFLORA ESTABLISHED AT BARTON-ON-SEA (V.C. 11, S. HANTS)

Whilst playing golf at Barton-on-sea golf course at the beginning of October 1999, Margaret Burnhill (MB) encountered two ponds completely covered with a yellow-flowered aquatic plant. A *Mimulus* or *Lysimachia* sp. was her first reaction, but on approaching closer the flower showed more resemblance to an *Oenothera* sp. (Onagraceae). The golfers referred to it as 'Chinese weed', and no one had any idea as to how it arrived in the first place. The Club Secretary explained that he knew of it in 3 ponds to which they are trying to confine it – even to kill it. One nearby pond is totally free of it.

In 2000, it was independently discovered alongside the public footpath by Bruce Halliday. Geoffrey Field (GDF) confirmed that it was, indeed, Onagraceae, but much more closely resembled *Jussiaea* spp. that he used to find in the swamps of W. Africa. GDF visited this spot (SZ25935.93086) in September 2000, just to the east of the 3rd tee. The pond had been totally dry for the latter part of the summer and was only now refilling, but the plant covered the area of the pond, rooting very firmly at the nodes (a single tug will not dislodge the roots!) and it has scrambled up the bank quite happily onto dry land. Virtually the only other vegetation in the pond is a ring of *Typha* around the edge, so that the whole area was largely a sea of yellow – delightful to look at, but a possible, indeed, probable, future menace to palustrine habitats elsewhere in Britain.

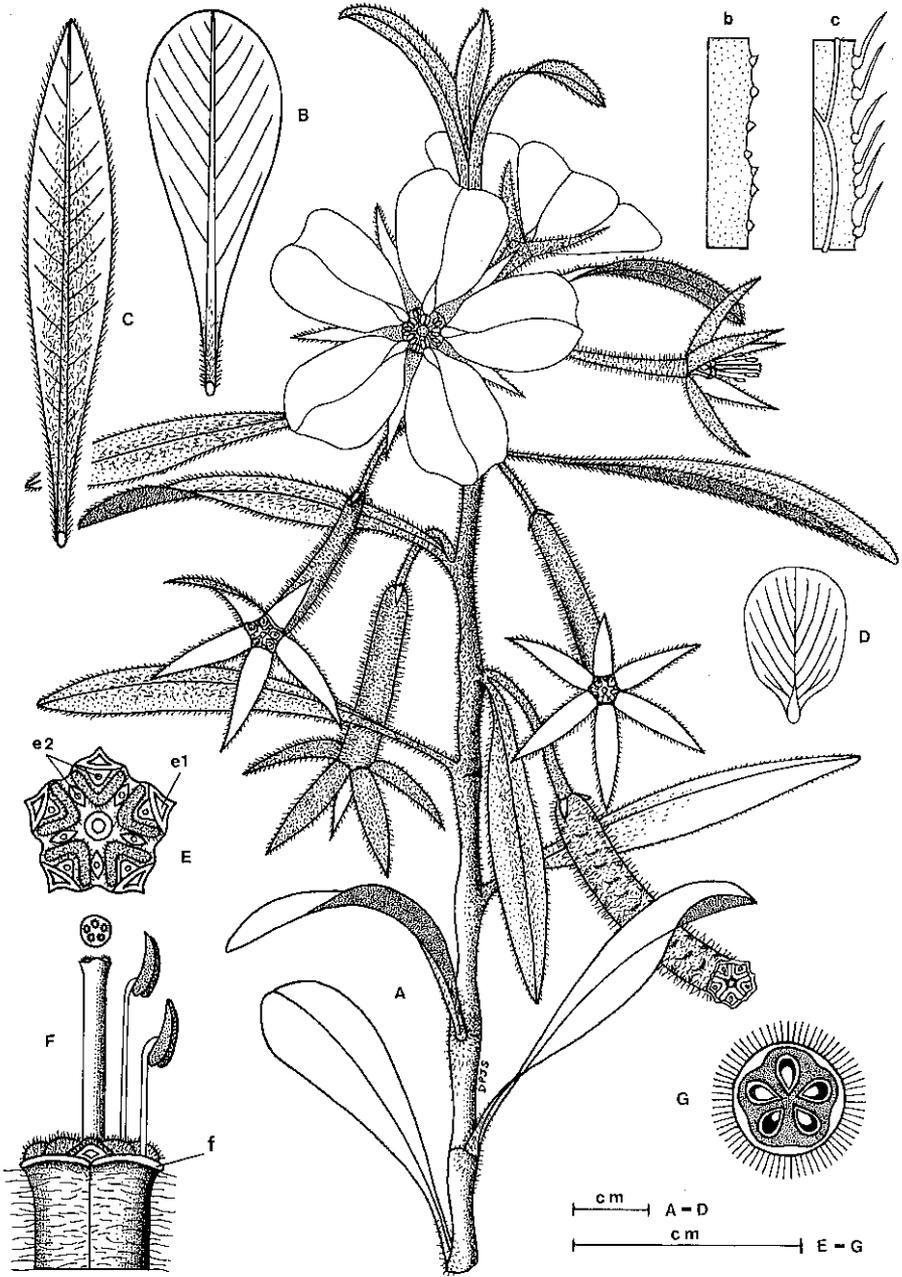
This species was appropriately predicted for Britain, together with a key for its identification, by Clement in *Watsonia* 23: 167-172 (2000) – and it was found whilst this paper was in press! It appears therein as *Ludwigia grandiflora* (Michx.) W. Greuter & Burdet, but the USDA Plants Database at <http://plants.usda.gov/plants> of 'accepted names' lists it, like *Flora Europaea* 2: 308 (1968), as *L. uruguayensis*, treating *L. hexapetala* as a synonym also. (Accessed for me by Mike Grant on 11 Oct. 2000). The common name is given as Uruguayan Primrose-yellow, but Stace (ed. 3, unpublished) will predictably change this to Uruguayan Hampshire-purslane.

Once again, Delf Smith (DPJS) has provided us with a stunning portrayal of the species (page 53); it was grown from a dirty bit of old stolon collected by MB in November 1999 and grown in an equally dirty bucket (supplied by EJC); it shows:

- |                          |   |
|--------------------------|---|
| A Inflorescence          | E End view of top of capsule                            |
| B Middle stem leaf       | e1 Petal scars (5 in number)                            |
| b Detail of leaf margin  | e2 Filament scars (5 inner & 5 outer)                   |
| C Bract                  | F Side view of top of capsule showing style & 2 stamens |
| c Detail of bract margin | f Sepal scars (5 in number)                             |
| D Petal                  | G Cross-section through capsule showing ovules          |

DPJS points out that in the same inflorescence flowers can be 5- or 6-merous. He depicts the floral parts as 5-merous (with  $2 \times 5$  stamens in all), but one young fruit is shown as 6-merous. In contrast, the flowers of *L. palustris* and *L. × kentiana* are always 4-merous. Leaf morphology varies dramatically with position on the stems, vigour and degree of habitat wetness. Preliminary shoots usually have the stems and leaves glabrous with high subtund leaves, but all parts in the inflorescence arena are pubescent. The flowers are initially suberect and deflex as they mature into fruits. The capsule, as observed by DPJS, drops off entire and floats around opening up very tardily (not yet seen by DPJS!), ?similarly to *L. palustris*. Seed-set appears to be fertile and abundant, and each vegetative bit has the potential to root at nodes. Petals measured by EJC were in the range 22-31mm (1mm less after being individually pressed). Clement's range of 15-24mm (*loc. cit.*) clearly refers to less luxuriant, poorly pressed herbarium specimens. Excellent voucher material is now preserved in **herb. P.J. Selby** (v.c. 11 recorder) and **herb. EJC**.

The first, and only other, British appearance was excellently written up by R.M. Burton in *London Naturalist* 78: 199-200 (1999). It appeared as a patch of about 4 square metres in 1998 in one of the shallow lagoons in the western half of the Barn Elms site of the Wildfowl and Wetlands Trust (v.c. 17, Surrey). It seems that this species and the dreaded *Hydrocotyle ranunculoides* (Floating Pennywort)



*Ludwigia grandiflora* del. D.P.J. Smith © 2000

were both accidentally introduced with other aquatic plants. The WWT has attempted to eliminate them both, but the *Ludwigia* could still be seen there in 2000, 'looking at a distance rather like *Nymphoides peltata* (Fringed Water-lily) with big yellow petals' as Elizabeth Norman described it.

Mike Grant, botanist at RHS Garden, Wisley, Surrey, tells me that the *Ludwigia* has been grown at Wisley since 1994 as *L. hexapetala* (from which *L. grandiflora* differs primarily by being a hexaploid species!), its best known site being a shallow and rather crowded pond in the centre of the Wild Garden. In 2000, it was introduced to other ponds at the base of the Rock Garden. The floating stems (?stolons) bore leaf rosettes every 30cm or so, and quickly took off across the pond surface extending to 3m or so in one season. Flowering appears to be restricted to the pond margins where the substrate supports the aerial stems. It puts on a good display and has yet to become a nuisance. The RHS *Plant Finder 2000-2001*: 403 (2000) lists 3 suppliers; one of these, SWyc (at Odiham, Hook, Hants) 'found it in their ditch, with source and name unknown', and is the origin of the Wisley stock. Elizabeth Young tells me that Romsey Water Gardens (at Romsey Hants) also grow it.

One nomenclatural point, the citation given in *The New RHS Dictionary of Gardening* 3: 129 (1992) as *L. grandiflora* (Michx.) E.M. Zardini, H.Y. Gu & P.H. Raven (1991) is invalid and should not be used – why are 3 authors necessary to make an elementary transfer of the epithet from the now defunct genus *Jussiaea* to *Ludwigia*? – since this was a superfluous combination which had already been validated four years earlier by Greuter & Burdet (1987). The generic description of *Ludwigia* on p. 449 of Stace's *New Flora* (ed. 2, 1997) must now be enlarged to encompass this old *Jussiaea* sp. A chromosome count is also desirable on the British material to confirm the specific identity.

This pantropical and subtropical weed originating in C & S America seems oddly out-of-range in Britain. Will a severe winter eliminate it? – I predict in the negative. We have a spectacular, but dangerous, plant invader here. It could become another pest to rival *Crassula helmsii* (New Zealand Pigmyweed) and its progress should be monitored carefully.

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### **LIMNANTHES DOUGLASII ESTABLISHED AT NEWTON COVE CO. WATERFORD (H6)**

Stace (1997) says that *Limnanthus douglasii* (Meadow-foam) is rarely briefly persisting. I think it could be counted as being established at Newtown Cove as it has now been there for 29 years. *Limnanthus douglasii* was first reported from this small, damp, wooded valley in 1972 by R. Young and again in 1981 (recorder not known). While visiting the site in February 2001, I found some 200 rosettes alongside the cliff path.

#### **References:**

- Stace, C.A., 1997. *New Flora of the British Isles*, 2nd edn, p. 487. CUP, Cambridge  
 Wyse Jackson, M.B., 1995. Annotated records for rare, critical or under-recorded vascular plant taxa from Ireland, *Irish Naturalists' Journal* 25: 50.

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## SEDUM TELEPHIUM AND ITS ALLIES IN BRITAIN

Remarkably little has been written about *Sedum telephium* L. (Orpine) as it occurs wild in the British Isles. The extraordinary variation within garden material is usefully, but not comprehensively, covered by Dr A.C. Leslie in *The Garden* 117(10): 476-478 (1992). It is illustrated by a fine coloured plate of var. *borderei* (Jordan & Fourreau) Rouy & Camus (originally spelt as *borderi*, but the name commemorates the French botanist Monsieur Bordère), one of c.50 varieties that are described and keyed out in their *Flore de France* 7: 95-105 (1901), and one that J.R. Palmer recorded growing with abundant *S. sedifforme*, on a grassy bank at Eltham (v.c. 16, W. Kent) back in August 1985.

In Britain, we currently struggle, rather unsuccessfully, with just two 'splits' (subspecies), as contained in Stace's *New Flora*: 312 (ed. 2, 1997). But even the latest *Flora of Hampshire* (1996), written by three top-flight field botanists, failed to decide which taxon (or taxa) occurs therein! The principal character appears to be whether or not each follicle has grooves on its back.

Unable to find any wild specimens locally (but see below!), I asked Paul Green in late October 2000 to send me some material from Liskeard (v.c. 2, E. Cornwall) where this species is locally common and even occurs in his own garden, and I was amazed to discover that it was apparently totally sterile – no follicles had properly developed. He admitted to having never seen a seedling. This suggests it is a triploid, with  $2n = 36$ , whereas Stace lists only  $2n = 24, 26$ : but this **does** agree with the plant naturalised, from Europe, in NE North America, where it is claimed as a triploid 'seldom setting seed' in Gleason & Cronquist's *Manual of vascular plants of northeastern United States and adjacent Canada* (ed. 2, 1991). At the same time Ian Green, with brotherly assistance, sent me a small piece from Cheddar Gorge (v.c. 6, N. Somerset); the denser infructescence had better developed follicles, but 'good' seeds seemed to be very few. On neither plant was the carpel/follicle grooved, and the leaves tapered to a cuneate base – hence both seem closest to subsp. *fabaria*. *Flora Europaea* 1: 431 (ed. 2, 1993) tells us that subsp. *telephium* occurs 'chiefly in C. & E. Europe' so any occurrence in Britain I would assume to be of alien origin. It ? inaptly describes **both** subspecies as having the leaves 'not glaucous' and the flowers 'purplish-red or lilac'. In contrast, *Atlas Florae Europaeae* 12: 72-73 (1999), which is a very critical work, merges both subspecies together and calls the result *Hylotelephium telephium* (L.) Ohba.

I have yet to see from the British Isles convincing subsp. *telephium*. R.L. Praeger, who wrote the *Sedum* monograph in *J. Royal Hort. Soc.* 46: 1-314 (1921) came to the same decision, but with the qualifier (on p. 85) that 'there are many plants which one hesitates to refer to one form or to the other – whether this is due to crossing or not I cannot offer an opinion.' Praeger then reveals a startling fact, suppressed/overlooked by succeeding botanists, that the wild British plant that he received for study from 'one of the ablest of English botanists . . . as a native *Telephium* form from woods in Sussex' was the Japanese *S. alboroseum* Baker. Who can open up the archives and reveal *who* the botanist was and *where* the locality still may be? It is a first British record, overlooked by Clement & Foster (1994), that needs investigation. Praeger illustrates it and tells us (pp. 88-90) that it is a very late flowerer (latter half of September), with leaves usually opposite, with wide-spreading, greenish white petals and pink carpels.

Praeger insists (p. 88) that *S. alboroseum* is distinct from *S. erythrostictum* Miq., described at an earlier date, quoting a Russian reference, but the *European Garden Flora* 4: 195 (1995) sinks them together. Gleason & Cronquist (1991) follow suite, but then add considerably to the confusion by claiming that it is a hybrid, *S. × erythrostictum*, with parentage of 'perhaps *S. spectabile* Boreau × *S. viridescens* Nakai'. Their description is oddly at variance, describing it as having 'stamens 0-10, carpels 0-5, pink; infertile triploid.' Ohwi's *Flora of Japan*: 493-498 (1965) tells us that this taxon is unknown as a wild plant anywhere in the world, and has leaves obsoletely toothed and stamens as long as the petals; it also states that *S. spectabile* is purely cultivated in Japan, and is native to only Korea and Manchuria (cf. Stace, etc.).

Brian Wurzell, in *BSBI News* 64: 40 (1993), predicted that *S.* 'Autumn Joy' would occur as a garden outcast in Britain, and he drew therein a picture of the typical middle cauline leaf. This taxon is

also described as having stamens absent, but at least some ?sports sold as it, have diminutive stamens (c.1.5mm long), hidden behind the sepals that are presumably non-functional. Again, no seed is ever set. *The Plantsman* 8(1): 4 (1986) tells us that *S. 'Herbstfreude'* is the original and correct name (it should *not* be translated from the German into English!): it was introduced into horticulture by Arends in 1955 and originated from a *S. telephium* (female) × *S. spectabile* (male) cross. The 1986 description (in full) reads:

Leaves dark glaucous green. Height of vegetative plant c.45cm, in flower c.60cm.  
Flowering Aug.-Sept., very abundant. Petals semi-erect, cream to light pink, carpels darker pink very fleshy and longer than the petals, hence dominating the flower colour.  
Flower diam. 5mm.

I believe that the *S. telephium* parent cannot be the *S. telephium* subsp. *telephium* of Stace, but is one of the several segregate species now recognised.

The origin(s) of the unisexual-flower gene defeats me (and Praeger, too) who knew of one such curiosity at Glasnevin Botanic Garden, and he left it unnamed and described it simply as *S. telephium* subsp. *telephium* forma, adjusting his nomenclature to fit Stace's. A similar oddity is known in cultivation in USSR as *S. parvistamineum* V. Petrov. (1927), 'sometimes unisexual, stamens subsessile and flowers usually 4-merous' – characters that misleadingly suggest section *Rhodiola* (of *Sedum*) rather than section *Telephium*. The latter section is treated as a separate genus of 28 spp. in *The New RHS Dictionary of Gardening* 2: 615 (1992) and is called *Hylotelephium* H. Ohba, a view currently favoured by all Asian botanists living in its centre of diversity. The generic character of 'one ovule per locule' therein should read 'c.10 ovules per loculus' – it is the ovary that is unilocular. I cannot trace any exact ovule counts: conceivably this could separate some taxa.

Eventually, I took a closer look at some 'wild' *S. telephium* specimens collected in England and Scotland. To my utter astonishment several showed much reduced (or absent) stamens, which I hereafter refer to, informally, as a cultivar group. I now summarise my current understanding of British plants with a provisional key:

Leaves all or mostly opposite on each stem

Stamens not exceeding petals

Petals suberect at anthesis

1. *S. maximum*

Petals spreading at anthesis

2. *S. roseoalbum*

Stamens much exceeding petals

3. *S. spectabile*

Leaves all or mostly alternate on each stem

Stamens c. 5mm, ± equalling spreading petals; flowers late June-Aug. 4. *S. telephium*

Stamens 0-2mm; petals suberect; flowers Aug.-Sept.

5. *S. 'Herbstfreude'* Group

The *S. 'Herbstfreude'* Group is a collection of similar plants (clones) for which I cannot yet trace a scientific hybrid epithet. They all have rather insignificant petals, the sterile carpels yield a long-persisting deep pink colour for gardeners delight, but butterflies and bees knowingly do not favour it (contrary to the other taxa). I currently know of the following five British localities for it, all (except v.c. 58) for which I possess vouchers in **herb. EJC**:

v.c. 11 (S. Hants). Milton Common, Portsmouth. P. Selby *et al.*, Oct. 2000. One established clump, on 'made' ground. *Lavatera olbia* × *L. thuringiaca* prospering close by. Stamens very short.

v.c. 16 (W. Kent). Chalk grassland, Kemsing. J.R. Palmer, Oct. 1988. Stamens absent. ?1st British record.

v.c. 17 (Surrey). On hedgebank of lane, Papercourt Gravel Pit, near Send. B. Phillips *et al.*, Sept. 2000. Long known from here, as *S. telephium*. Stamens very short.

v.c. 58 (Cheshire). Published without locality, in *Wild Flower Magazine* 443: 25 (1998). Julie Clarke, 1997.

v.c. 77 (Lanarks). Rough grassland (locality not noted). Dr P. Macpherson, Oct. 2000. Presumably originating from fly tipping. Stamens absent.

I can trace only four British records for *S. maximum* (L.) Suter, or *S. telephium* subsp. *maximum* (L.) Krocker, which is quite popular in gardens. It occurred as an escape on Hambledon Heath (v.c. 17, Surrey) in 1912, and as a casual at three refuse tips in v.c. 21, Middlesex, in 1962, 1964 and 1966. Typically it has its drab leaves opposite, decussate, with long gaps between the leaf pairs, the flowers are creamy to greenish white, and it is usually one of selected forms with a dark purple suffusion throughout. *S. stepposum* Boriss. is a synonym, which is grossly misrepresented (p. 125) in Clement & Foster (1994).

I hope this article will encourage members to look at their local '*S. telephium*' and record carefully what they observe. Much more study is required to ascertain how many taxa can be distinguished. Man has carried various samples of this plant about for millennia, bemused by its power to stay alive for weeks after picking and hence bestowing magical powers and medical qualities upon it. What does Ireland possess? – where *none* are considered to be native.

I am indebted to Debbie Allan and Ian Paxton for some of the references contained herein.

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### **IRIS LAEVIGATA ESTABLISHED IN THE NEW FOREST S. HANTS. (V.C. 10)**

There are currently four sites for *Iris laevigata* in the New Forest. It has been known in Wootton Coppice Inclosure (SZ2499) since the early 1990s. At sites in Latchmoor Pond near Brockenhurst (SU2900) and in a drainage ditch on The Old Racecourse at Lyndhurst (SU2908) it was first noticed in flower in 1999. At these last two sites, judging from the size of the plants, they had probably been established for several years prior to this. In September 2000 a further site was found on Yew Tree Heath (SU3706) between Beaulieu Road Station and Ipley Crossroads. All these localities are remote from any house or garden and growing amongst entirely native vegetation.

At the Wootton site most of the plants have white flowers but a few have flowers heavily marked with purple-blue. These are *I. laevigata* var. *purpurea* Baker. At Latchmoor and Lyndhurst all the flowers are white. At Yew Tree Heath the plants were not in flower when found; The large flowers appear in June-July and sometimes again in the autumn.

The leaves are the crucial feature in identifying *I. laevigata*. These are yellowish-green, 1.5-4cm wide and smooth with no obvious midrib. The closely related *I. ensata* (Japanese Iris), with which *I. laevigata* might be confused, has narrower darker green leaves, 4-12cm wide with a midrib which is very pronounced on the underside of the leaf.

It has been suggested that seeds transported accidentally by birds might be the origin of these plants, or, perhaps a more likely explanation, they have been planted deliberately.

Surprisingly, this appears to be the first published record for this species anywhere in the wild in Britain. A good description and close-up colour photograph (pl. 18) of the species can be found in Matthew (1981), but no popular English name has been located. It is a native of marshy habitats across much of northern E. Asia, including Japan and Korea.

My thanks to Dr P. Green (Kew) for his help in identification and to E.J. Clement for information and encouraging me to write this note.

#### **Reference**

Matthew, B. (1981) *The Iris*. B.T. Batsford Ltd., London.

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## A COUPLE OF *CHENOPODIUMS*

Two unusual *Chenopodium* species were found in North Hampshire, v.c. 12, in 2000. Quinoa (*C. quinoa*) was found by Alida A. Butcher at Bighton (SU619357), and had obviously arisen from seed sown as pheasant food. It constituted perhaps 5% of a very mixed planting which included *Fagopyrum esculentum* (Buckwheat) and *Chenopodium polyspermum* (Many-seeded Goosefoot). John Akeroyd, who determined the specimen, points out that Quinoa comes from the Andes, especially Peru, where it is an ancient staple food crop. The seeds can be bought at whole-food shops, and at the 1989 BSBI Exhibition Meeting, Mike Mullin was offering cooked Quinoa for tasting (Mullin 1990). ARGM recalls being unimpressed!

In fact on two previous occasions Alida Butcher had noticed Quinoa grown as pheasant food in a narrow strip at the edge of fields. She found it at Farringdon (SU710355) in 1997, and near Old Alresford (SU587351) in 1999. As it is being deliberately planted many would abstain from recording it, but clearly we need to keep an eye on such activities in case one or two of the mixed alien species being sown become established in our countryside.

Much more interesting was a single plant of Strawberry-blite (*Chenopodium capitatum*), also determined by John Akeroyd. This was seen by one of us (CIC) growing on a large mound of soil in a public park at Lady Place, Alton (SU715392). John Sadler, one of Alton Town Council groundsmen, first brought the existence of this plant to CIC's attention. This was in early August when the plant was showing its spectacular red fruit (see photo, p. 39). It comes as a surprise that a *Chenopodium* can be so attractive but there are a couple of similar species in S. Europe (and ARGM photographed one of them, *C. foliosum*, in Kazakhstan, Asia, in July 2000).

I am not sure whether *C. capitatum* has any culinary value, although in a covering letter with the determination John Akeroyd wrote: 'I read somewhere that in parts of the former Soviet Union they use the red "berries" to colour and flavour wine!'. It does seem to be occasionally grown as a garden curiosity (Reynolds 1994). It was formerly grown in quantity at the Glasshouse Crops Research Institute, near Littlehampton, Sussex for plant virus research (Hollings 1994). There have been relatively few records for it in Britain but reports of its discovery in v.c. 13 (Matcham & Sturt 1994) prompted details in subsequent issues of *BSBI News* of a few earlier records from other sites in England and Ireland (Storer 1994; Reynolds 1994; Dony 1994).

The site where it was recently found growing in Alton, v.c. 12, had been cleared of an overgrown shrub cover some three months previously and the soil had been scraped up by machine into a large steep mound some 3m high and 10m across, awaiting removal. No 'new' soil was deliberately added to the site. The machine used was brought in by Hoare's of Selborne and could possibly have brought the seed with soil particles from elsewhere. Alternatively, the seed may have been dormant in the mound, which had not been disturbed by cultivation for many years. There were no other alien plants growing on the mound.

Lady Anne Brewis and Betsy Allan subsequently saw the plant in fruit on 24 August 2000. After contacting the Alton Town Council, permission was given to collect voucher plant material. This was done by CIC and Betsy Allan on 12 Sept. 2000, by which time the fruiting heads had turned black and were shedding seed. Following the recent plea by Lockton (2000) to deposit pressed specimens in national herbaria, the main specimen has been deposited at **RNG** (where there are substantial holdings of Polygonaceae). Small duplicate specimens have been kept for the v.c. 12 Herbarium currently held by ARGM, and some seed has been retained by several people to cultivate.

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## CONFUSION WITH *SOLANUM VILLOSUM* HIDES UNRECORDED *SOLANUM*

An offer of seed of alien plants in *BSBI News* 83: 54 (2000) contained a number of *Solanum* spp. which were kindly supplied following my request. Of particular interest were the plants that appeared from the sowing of seed supplied as *S. villosum* (Red Nightshade). They differed from that well known alien by almost glabrous leaves and stem, larger calyx segments and most noticeably, a conspicuous dark purple stripe along the midrib of each corolla segment. Thus it was immediately apparent that this was not *S. villosum* but a member of an Afro-arabian group of species from *Solanum* section *Solanum* (formerly section *Morella*). The exact name of this taxon is still a matter of research, however an outcome is anticipated in the not too distant future now that the world authority on this section, Jennifer Edmonds, has taken up preparation of the Solanaceae account at Kew for the almost complete *Flora of tropical east Africa* (Edmonds, 2000). Her most recent publication (Edmonds & Cheweya, 1997) provisionally uses the name *S. retroflexum* Dunal, but points out the similarity to *S. sinaicum* Boiss. which has nomenclatural date priority and with which it may well be conspecific. *Solanum grossidentatum* A. Rich. is another closely related taxon, which nomenclaturally also has priority over *S. retroflexum*.

The source of the alien seed is most likely to be a garden escape as this taxon is also cultivated for its fruit, which are edible when ripe, under the synonym *S. burbankii* Bitter (sometimes written *S. × burbankii*, in the mistaken belief that it was a hybrid between *S. sarachoides* (Leafy-fruited Nightshade) and *S. guineense* [this latter name a synonym of *S. scabrum* Miller]). For an entertaining account of '*S. × burbankii*' see Heiser, 1969).

For the benefit of those who wish to check the identity of any *S. 'villosum'* the following note and references to illustrations are provided (see also colour photos on page 41). Both *S. villosum* and *S. retroflexum* have orange-red berries, which is the likely cause of confusion between the two taxa, since most European and British Floras use the fruit colour to distinguish *S. villosum* from the other purple-black fruited taxa in section *Solanum*. Hence *S. retroflexum* would key out as *S. villosum* and, since *S. villosum* also occurs in an almost glabrous form called subsp. *miniatum* the lack of indumentum may not strike the observer as significant. There are more subtle differences between the two species in leaf texture, shape, marginal teeth and trichome structure however; certainly the best spot character is the dark purple midrib of the corolla lobes. Another possible source of confusion with this character is the way it is delineated in different illustrations. For example, the illustration of *S. villosum* in Edmonds & Cheweya (1997) p. 43, which is reproduced from Symon (1981), depicts an emphasised dark midrib to the corolla lobes, so causing the flower to look like *S. retroflexum*. Whereas the illustration of *S. retroflexum* in Edmonds & Cheweya (1997) p. 36, also reproduced from Symon (1981), shows an apparently uniformly white corolla with no obvious midrib, thus appearing like the flower of *S. villosum*. The best illustration which I have seen of *S. retroflexum* is a water colour of great sensitivity by Susanna Stuart-Smith that is reproduced on p. 273 of Miller & Morris, *Plants of Dhofar* (1988), but under the name *S. nigrum*! A colour photograph of *S. grossidentatum* appears in Collenette, *Flowers of Saudi Arabia* (1985) p. 464. It is perhaps significant that in her later *Checklist of Botanical species in Saudi Arabia* (1998), some collections listed in 1985 as *S. grossidentatum* have been redetermined as *S. villosum*. Further colour photographs captioned *S. retroflexum* are reproduced along with brief descriptions (flower white!) in Braam van Wyk & Malan, *Field guide to the wild flowers of the Witwatersrand and Pretoria region* (1988) p. 89, and Pooley, *Field guide to the wild flowers of Kwazulu-natal and the*

eastern region (1998) p. 189. Further to these is the entry in the unillustrated *Plants of the northern provinces of South Africa: keys and diagnostic characters* by Retief and Herman (1997), published as *Strelitzia* 6, where an attempt is made to distinguish *S. burbankii* and *S. retroflexum*, both of which are regarded as native. There may be more than one taxon involved here.

*Solanum sinaicum* is delineated along with *S. villosum* (captioned *S. luteum* Miller) in Feinbrun-Dothan, *Flora Palaestina* (1977) 3: t.274, t.273 respectively. Anyone referring to this *Flora* should note the revised key and notes to *Solanum* appearing in the appendix on p. 451 of the text volume (1978). Of course, the most detailed descriptions of both taxa appear in Edmonds & Chweya (1977).

Possibly there is an unrecorded alien *Solanum* as discussed above, occurring somewhere in the British Isles, so one looks forward to someone turning up with the record.

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## OENOTHERA (EVENING-PRIMROSES) IN BRITAIN: THE EFFECTS OF ESSENTIAL CLONALISM AND HYBRIDISATION

*Oenothera* are essentially clonal. In Britain this is apparent in *O. stricta* (Fragrant Evening-primrose) of subsect. *Raimannia*. No hybrids are known in Britain and while plants vary according to growing conditions, they are as identical as clones. In contrast, our three species of sub-sect. *Oenothera* have the same potential but they hybridise whenever they meet and plants are very variable.

The photograph (page 42) was taken by John R. Roberts on 27 August 1980 of part of a colony of c.1400 at Emscote, Warwick, introduced in the early 1950s with sand from dunes near Margam in South Wales used to smother a coal dump fire. As is apparent, all plants had almost identical leaves and stance that fitted the description of *O. cambrica* (Small-flowered Evening-primrose) (Rostanski 1982) giving a strong impression of a pure colony.

But most if not all plants also had inconspicuous characters of *O. biennis* (Common Evening-primrose) including capsules with glandular hairs and hairs with green instead of red bulbous bases. In 1977, Dr (now Professor) K. Rostanski found similar plants in South Wales and named them *O. cambrica* var. *impunctata* (Rostanski 1982) – thus creating a ‘variety’ of plants which breed true like clones. He subsequently agreed that both the Emscote and South Wales plants were hybrids with *O. biennis*.

Very different were the variable leaves of a nearby larger colony on the site of a power station dismantled in 1974 that also included *O. glazioviana* (Large-flowered Evening-primrose). Between 1979 and 1988 this young three species colony of mostly pure plants more than trebled in size and became a hybrid swarm of c.4300 with pure plants eliminated (Bowra 1992).

The leaves and stance of the plants in the photograph show not only the clonalish potential of *Oenothera* but also how characters (e.g. *O. biennis* leaves) can become permanently recessive (Bowra 1997). This behaviour is best seen when a few plants invade a large colony: *O. biennis* leaves were occasionally found on the fringes but did not survive in later generations. Access is now much restricted but in 1997 the uniform appearance of the then smaller colony had not changed.

*O. biennis* probably came to Britain from continental Europe in the 17th century and small apparently pure colonies can still be found in old gardens and similar isolated places. *O. cambrica* probably

came from Canada to South Wales in the 18th century. It would have prospered on sand dunes and hybridised with garden escapes of *O. biennis* and the later *O. glazioviana* that was probably introduced from Europe in the mid-19th century as a garden flower.

As demonstrated at Emscote, annually back-crossing hybrids would have spread rapidly and widely. *O. biennis* is now probably present in all Welsh plants while hybrids with *O. glazioviana* are also widespread but in fewer colonies. Isolated pure *O. cambrica* colonies may exist: more likely the true plant disappeared many years ago but remained apparent in its original habitats because of the dominant leaves and stance. Elsewhere *O. cambrica* hybrids have spread often along railways over much of England and the Channel Islands. In the north-west, outnumbered by a resident population, no plants close to *O. cambrica* have been found and the South Wales pattern is more or less reversed. A specimen of *O. biennis* × *O. cambrica* from 1832 is described in *BSBI News* 76 (Bowra 1995).

All hybrids have the potential, if isolated, to replicate and create large pure populations but except for *O. stricta*, almost the entire British *Oenothera* population consists of back-crosses each with a life span of just one year. Identification can never be certain: there are overlapping characters (e.g. two species have green sepals) and there may be permanently recessive characters. The recent American revision of the genus recognises the unusual genetic and behavioural realities and includes *O. cambrica* in a new variable *O. biennis*. *O. glazioviana* is also accorded specific status. The hybrid is designated *O. biennis* × *O. glazioviana* but 'hybrids that are very close to one of the parental phenotypes are usually included under the taxon that they most closely resemble' (Bowra 1998). When this revision of an inherently difficult group is adopted in Britain (as the late Duggie Kent intended (Bowra 1999)), the present taxonomic confusion will be much reduced.

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## PURE HASH?

A recent radio chat show featured an eminent solicitor answering listeners' legal queries. One caller complained that the British Government had refused him a licence to grow *Cannabis* and could he do anything about it. As a genuine botanist, he protested no interest whatsoever in the drug but was eager instead to conduct scientific research into one of its parasites, a plant called *Orobancha ramosa* (Branched Broomrape).

The verdict came swift and decisive. 'Thank goodness,' retorted the expert, 'that the authorities are protecting us from people like you!'

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## CONYZA BILBAOANA IS ON ITS WAY TO YOU

Recent notes in *BSBI News* (e.g. Wurzell 1994; Palmer 1993; Crawley 1995) and in *Watsonia* (Wurzell 1988; McClintock & Marshall 1988) have referred to the spread of *Conyza sumatrensis* (Guernsey Fleabane) in England. There is a distinct species, *C. bilbaoana* E. J. Rémy, that now promises to be even more invasive.

In England the South American *Conyza bilbaoana* was first noticed in 1992 in Southampton, v.c. 11, and was reported with an initial description and illustration by Stanley (1996). Sylvia Reynolds had also noticed an unidentified *Conyza* in 1992 in some quantity at Rosbercon, Ireland, and this was subsequently confirmed to be the same species. She (Reynolds 1997) provided a further and detailed description of it, including how it differs from *C. canadensis* and *C. sumatrensis*.

After plants suspected to be *C. bilbaoana* were first found in Surrey, v.c. 17, Barry Phillips noticed that this species was included in '*A Flora of San Francisco, California*' (1958); 139-140. So he sent Surrey specimens to the herbarium at San Francisco, where Dr Frank Almeda confirmed them (Phillips 1997).

*Conyza bilbaoana* is rapidly spreading and even promises to become another one of the genre of invasive aliens that threaten our native plants. Look out for it because it is certainly heading your way!

The presence of both *C. bilbaoana* and *C. sumatrensis* near my home town in Fleet, v.c. 12, was brought to my attention this year by Chris Hall, and specimens were determined by Eric Clement. On a day in September 2000, spent botanising with Barry Phillips, Eric Clement, Paul Stanley and Ken Page, I was amazed at the quantity of *C. bilbaoana* at numerous locations and habitats in NW Surrey. Possibly it has spread up the M3 and along the M25. Paul tells me that it has also reached Dorset, Middlesex and Buckinghamshire. *C. bilbaoana* also occurs adventitiously in New Zealand where, due to an early identification error, it is known as Canadian Fleabane. In his review of the *Flora of New Zealand*, Vol. IV, D.H. Kent (1991) wrote that in New Zealand:

'*C. canadensis* is part of a complex, the true species being rare, and the most widespread being the S. American *C. bilbaoana* E. J. Rémy, which differs in its inconspicuous ligules, and narrow triangular inner involucre bracts . . . Do we perhaps need to re-examine our British populations of *C. canadensis*?' – prophetic words!

The boundaries of *Conyza* species are notoriously difficult to define, but after one is familiar with *C. bilbaoana*, *C. sumatrensis*, and *C. canadensis* they are clearly distinct taxa, and can even be confidently identified from a distance. However, as *C. bilbaoana* is still not well known and barely gets a mention in our current bible (Stace 1997), I suspect that some of the former records charting the spread of *C. sumatrensis* are confused by the inclusion of *C. bilbaoana*.

Brian Wurzell (1988) has provided a key to segregate *C. sumatrensis* from *C. canadensis* and *C. bonariensis*, and these three species (plus a hybrid) were illustrated by Wurzell (1994). The last species does not concern us here, as it clearly does not currently have the capacity to become a widespread weed here. It is essentially an ephemeral thermophilus wool alien that demands very hot sun-baked conditions to prosper. *C. sumatrensis* is also thermophilus to some degree, and Wurzell predicted that its spread northwards from London was likely to be limited by its preference for warm, dry conditions. In contrast, *C. bilbaoana* can compete in much wetter, cooler conditions (as prevail in much of New Zealand). I have even seen it growing 1.5m high amongst *Phragmites australis* at a pond edge at Papercourt gravel pits in Surrey.

*C. canadensis* and *C. sumatrensis* are typically found on wasteland, roadsides or other sun-baked habitats. *C. bilbaoana* is also happy in such places, but it has the added capability to compete in closed grassland where it can occur in large numbers. Eric Clement tells me that its seed escaped from his herbarium and it is now well established in his lawn; persisting strongly in spite of regular lawn mowing. Clearly it can withstand grazing! Because of its wide tolerance to habitat and environmental conditions, I predict that it will rapidly spread, even to the cooler, wetter areas of the country where *C. canadensis* is less frequent. A solitary plant of *C. bilbaoana* will set good seed; i.e. the plant is self-compatible, like so many successful weeds.

To distinguish them, the most obvious character unique to *C. sumatrensis* is that the upper and lower leaf surfaces are densely and uniformly clothed in uncountable numbers of tiny appressed hairs. Ignoring the hairs on the leaf margins, and any hairs on the underside leaf veins, there can be sparsely scattered hairs on the leaf surfaces of the other two species, but they are in countable numbers and do not make the leaf look uniformly pubescent. Eric Clement claims that a blind man could readily distinguish *C. sumatrensis* from the other two simply by feeling the relatively soft leaves. Also *C. sumatrensis* has considerably larger capitula than the other two taxa.

The pubescence on the leaves and inflorescence of *C. sumatrensis* often gives it a relatively pale green colour (see Fig 1, p. 40). *C. bilbaoana* has a different jizz because its leaves are a very dark green and the inflorescence tends to be wider (see Fig. 2, p. 40) and made up of smaller, virtually glabrous, capitula (see Fig. 3, p. 40). When the plant is stressed the leaves can go a very bright yellow, starting at the leaf tips. The leaves feel rough and the lower stem hairs are more stiffly hairy than the other two species. This led Paul Stanley to suggest an English name **Hispid Fleabane**. Rather than being an obligate annual, it appears to behave more like a biennial or a short-lived perennial, often forming a large basal rosette of dark green toothed leaves (see Fig. 4, p. 40), up to 20cm across in autumn, which will presumably flower the following year. Damage to the leading shoot can also cause such a large rosette to sprout from the base. Recent searching yielded a few similar, but smaller, autumnal rosettes that, from their pale colour and sparse patent hairs all around the leaf margins, must be *C. canadensis*. I have also seen such rosettes with *C. sumatrensis* (which confusingly are not always particularly pubescent). However, this behaviour is much commoner in *C. bilbaoana* and the ground can be locally studded with its large rosettes in autumn.

I have attempted to summarise some of the distinguishing characters in the table below (p. 64), but for further details see Stanley (1996) and Reynolds (1997).

No doubt some of the characters given in the table are more reliable than others. Stace (1997) and Wurzell (1988) key out *C. sumatrensis* from *C. canadensis* using the number of corolla lobes on the tubular disc flowers, but like Sylvia Reynolds, I have found exceptions. As I have only examined a relatively limited number of specimens closely, and *Conyzas* are known to be very variable, I will leave it to others to decide which are the most reliable key characters.

Together with Barry Phillips, I examined the neotype specimen of *C. sumatrensis* at **K**, designated by McClintock and Marshall (1988), from a collection in Sumatra by Ridley in 1921. This shows the densely pubescent leaves and other characters consistent with the table. Whilst at Kew we also examined many other specimens of *C. sumatrensis*, *C. canadensis*, *C. bilbaoana* and *C. bonariensis* (plus other *Conyza* species) from various world-wide locations. Although there is considerable variation, they do seem to be separate taxa, but whether they all deserve specific rank is another question! It was amusing to be studying Kew's *C. sumatrensis* specimens after noting that it grew plentifully along many roads at Kew and even immediately beside the Herbarium building itself.

Barry and I spent the rest of the day searching unsuccessfully for *C. bilbaoana* in East London, walking from Stratford Underground Station to Mile End, deliberately selecting the cooler, moister habitats along the River Lee Navigation, beside the Hertford Union Canal and the Grand Union Canal. *C. sumatrensis* was positively abundant everywhere along our route (and incidentally *Hydrocotyle ranunculoides* was noted in alarming huge patches, e.g. at TQ372844).

Although *C. sumatrensis* was first named from Sumatra, it is thought to be a native of S. America (D. McClintock & J. B. Marshall 1988), like *C. bilbaoana*, which was first described from Chile. Eric Clement has suggested that although they may not meet in their native homes, now that they grow beside each other in England they are likely to interbreed with each other or with *C. canadensis*, complicating identification. In Britain we may shortly be faced with a continuous range of intermediates between *C. bilbaoana* and *C. sumatrensis* that scarcely deserve specific rank.

	<i>C. canadensis</i> (Canadian Fleabane)	<i>C. sumatrensis</i> (Guernsey Fleabane)	<i>C. bilbaoana</i> (Hispid Fleabane)
<b>Growth habit</b>	Relatively delicate and slender, usually <0.6m in flower. Separate pale green autumnal rosettes are infrequent	Often robust to 1.6m but much smaller plants also flower. Separate pale green autumnal rosettes are moderately frequent	Often robust to 1.5m but much smaller plants also flower. Separate dark green autumnal rosettes frequent
<b>Inflorescence shape</b>	Profile cylindrical, maintaining roughly same width	Profile narrowly rhombic, often widest near or below the inflorescence middle, branching at an angle of <35°. Longest branch is usually the lowest	Profile widely rhombic, often widest above the inflorescence middle, branching at an angle of >35°. Longest branch usually 3 <sup>rd</sup> up
<b>Leaf and stem colour</b>	Pale yellowish green	Pale to mid green	Very dark green
<b>Leaf surfaces (excluding margins)</b>	Glabrous or sparsely hairy, not 'felty' to touch	Usually densely and uniformly pubescent, and 'felty' to touch. Sometimes with somewhat hispid hairs, but if so, still in dense 'uncountable' numbers	Some hispid hairs, in readily 'countable' numbers. Rough to touch, especially if rubbed towards leaf base
<b>Shape of lowest leaves</b>	Usually entire or with a few quite sharp teeth	Edges with many rather large rounded (but often apiculate) teeth	Often with a few small sharp teeth
<b>Leaf edge hairs</b>	Sparse long ciliate patent hairs starting at leaf base and continuing along at least a third of edge, often further (hairs towards leaf tip often smaller and curved)	Curved hairs densely appressed along most of edge (sometimes a few ciliate hairs near leaf base)	Thick-based curved hispid hairs along most of edge (sometimes a few ciliate hairs near leaf base)
<b>Stem within inflorescence</b>	Some patent hairs but not hispid	Many fine long and short patent hairs	Many coarse hispid patent hairs
<b>Lower half of stem</b>	Hairy but hardly hispid. Not brittle - folds when bent, not breaking fibres. Green, scarcely ridged.	Pubescent to hairy but hardly hispid. Relatively brittle - snaps when bent, breaking at least some fibres. Green, distinctly ridged.	Very hispid. Hairs with bulbous base. Relatively brittle - snaps when bent, breaking at least some fibres. Green or red, distinctly ridged.
<b>Mature capitula (before opening)</b>	c.2-4mm at widest part, c.4-6mm long	c.5-6mm at widest part, c.5-7mm long, U-shaped or with slight neck	c.2-4mm at widest part, c.3-6mm long, flask shaped with distinct neck
<b>Mature fully open capitula</b>	5-9mm diam.	7-12mm diam.	5-8mm diam.
<b>Outer involucre bracts</b>	Glabrous or subglabrous	Pubescent	Glabrous or subglabrous
<b>Inner involucre bracts</b>	Nearly linear or widest near middle	Very narrowly triangular, so widest at or near base	Very narrowly triangular, so widest at or near base
<b>Disc florets</b>	c.10-14, mostly 4 lobed but some with 5	c.6-13, mostly 5 lobed but some with 4	c.4-6, mostly 5 lobed but some with 4
<b>Ray florets</b>	Conspicuous white or pinkish ligules c.1mm long, clearly projecting beyond bracts	Ligules absent or <0.5mm, with white or occasionally maroon tipped teeth, barely projecting beyond bracts, but with obviously projecting white branched stigmas	Ligules absent or <0.5mm, often with maroon tipped teeth, barely projecting beyond bracts. Stigmas not obviously projecting

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### **RHINANTHUS RUMELICUS – SITE DETAILS**

I expect I saw but did not notice the colony of *Rhinanthus rumelicus* discovered by Delf Smith and identified through Eric Clement's persistence. It is only 2km from my home in 1978-97, and in a tetrad I recorded for Atlas 2000! Congratulations to both of them (*BSBI News* 86).

However, I can add something about the site, which Eric assumed to have been sown with a wildflower mix. In 1978 it had already been vacant M.o.D. land for some time, and was being colonised mostly by native species. But around 1990 this vegetation was destroyed when it became the site where a new long sewage outfall was prepared and connected. A vast pipeline was assembled to carry Portsmouth's waste several kilometres out to sea. I do not know where the pipe sections were made, nor from where the equipment came – SE Europe perhaps??

Some of us put in a request that on completion, the area should not be reseeded but allowed to regenerate naturally, and that request was granted. This does not solve the problem of the provenance of the *Rhinanthus*, but adds history and possible clues. Of course it may have been there before the pipeline construction – *Hirschfeldia incana* certainly was.

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

## **CHANGES TO BSBI YEAR BOOK 2001**

**Calendar of Meetings, p. 6:** Would members please note that, contrary to the indication in the *BSBI Year Book 2001*, there are no field meetings associated with this year's AGM on Sunday May 6th.

**National Committees Hon. Secretary – Ireland, p. 9:** Since publication of the *Year Book* Dr Sharon L. Parr has moved to Lough Boora Parklands, Teach Lea, Leabeg, Tullamore, Co. Offaly, Ireland.

**Useful addresses, p. 38:** The contact names and addresses of **The Systematics Association** are incorrect. The Secretary is now Dr Zofia Lawrence, Secretary, The Systematics Association, c/o CABI Bioscience UK Centre, Bakeham Lane, Egham, Surrey TW20 9TY and the Membership Secretary is Dr Geraldine Reid, c/o Dept. of Botany, Natural History Museum, Cromwell Road, London SW7 5BD

**List of Members, p. 46:** Mrs Carol M. Bennett lives at **Ainthorpe**, Danby, Yorks. not 'Rinthorpe'

EDITOR

# OFFERS

## YEAR 2000 SEEDS FROM MY WARE GARDEN

Small labelled packets and a stamped addresses envelope will bring you some parts of foreign fields to grow at your leisure.

- |  |  |
|--|--|
| <p><i>Aconitum carmichaelii</i> (cult.)<br/> <i>Agrimonia procera</i> (Surrey)<br/> <i>Amaranthus blitoides</i> (Majorca)<br/> <i>Amaranthus blitum</i> (Herts.)<br/> <i>Amaranthus caudatus</i> (USA)<br/> <i>Amaranthus viridis</i> (Chile)<br/> <i>Ambrosia artemisiifolia</i> (birdseed)<br/> <i>Anagallis arvensis</i> – blue (birdseed)<br/> <i>Angelica pachycarpa</i> (Guernsey)<br/> <i>Arabis glabra</i> (Herts.)<br/> <i>Artemisia annua</i> (USSR)<br/> <i>Atriplex halimus</i> (Israel)<br/> <i>Centaurea rhenana</i> (Yorks.)<br/> <i>Centaureum spicatum</i> (Majorca)<br/> <i>Calceolaria biflora</i> (Chile)<br/> <i>Chenopodium foetidum</i> (cult.)<br/> <i>Chenopodium foliosum</i> (Tibet)<br/> <i>Chenopodium giganteum</i> (wool alien)<br/> <i>Chenopodium urticum</i> (Essex)<br/> <i>Conyza bonariensis</i> (Chile)<br/> <i>Cotoneaster affinis</i> (cult.)<br/> <i>Cotoneaster hummeli</i> (cult.)<br/> <i>Cotoneaster monopyrenus</i> (cult.)<br/> <i>Cotoneaster obscurus</i> (cult.)<br/> <i>Cotoneaster parkeri</i> (cult.)<br/> <i>Cotoneaster pekinensis</i> (cult.)<br/> <i>Cotoneaster rotundifolius</i> (cult.)<br/> <i>Cotoneaster sikangensis</i> (cult.)<br/> <i>Cotoneaster splendens</i> (cult.)<br/> <i>Cotoneaster veitchii</i> (Herts.)<br/> <i>Cotoneaster zabelii</i> (cult.)<br/> <i>Cotula coronopifolia</i> (Chile)<br/> <i>Datura quercifolia</i> (Chile)<br/> <i>Digitaria ternata</i> (S. Africa)<br/> <i>Dracunculus vulgaris</i> (Crete)<br/> <i>Eclipta prostrata</i> (Sri Lanka)<br/> <i>Eremopoa capillaris</i> (Turkey)<br/> <i>Erodium cicutarium</i> (wool alien)<br/> <i>Erodium cygnorum</i> (wool alien)<br/> <i>Erodium malachoides</i> (Majorca)<br/> <i>Eryngium tripartitum</i> (cult.)<br/> <i>Euphorbia heterophylla</i> (Israel)<br/> <i>Gaura lindheimeri</i> (France)<br/> <i>Helianthemum salicifolium</i> (Cyprus)<br/> <i>Hieracium acuminatum</i> (Middx.)</p> | <p><i>Hieracium leyi</i> (Durham)<br/> <i>Hieracium schmidtii</i> (cult.)<br/> <i>Hieracium sublepidoides</i> (Surrey)<br/> <i>Hieracium trichocaulon</i> (cult.)<br/> <i>Horminium pyrenaicum</i> (Pyrenees)<br/> <i>Hyoscyamus aureus</i> (Israel)<br/> <i>Impatiens balsamina</i> (cult.)<br/> <i>Impatiens scabrada</i> (Himalayas)<br/> <i>Lactuca ludoviciana</i> (USA)<br/> <i>Lepidium graminifolium</i> (Majorca)<br/> <i>Lupinus angustifolius</i> (Israel)<br/> <i>Mirabilis jalapa</i> (Devon)<br/> <i>Mirabilis nyctaginea</i> (USA)<br/> <i>Nonea lutea</i> (cult.)<br/> <i>Pavonia urens</i> (wool alien)<br/> <i>Pennisetum villosum</i> (Majorca)<br/> <i>Persicaria capitata</i> (Beds.)<br/> <i>Physalis angulata</i> (Soya bean alien)<br/> <i>Phytolacca rugosa</i> (cult.)<br/> <i>Pimpinella rhodantha</i> (cult.)<br/> <i>Poa imbecilla</i> (Herts.)<br/> <i>Portulaca oleracea</i> (Israel)<br/> <i>Potentilla argentea</i> (cult.)<br/> <i>Potentilla recta</i> (USA)<br/> <i>Rudbeckia hirta</i> (USA)<br/> <i>Ruellia brittonia</i> (Jamaica)<br/> <i>Rumex bucephalophorus</i> (Corsica)<br/> <i>Salvia canariensis</i> (Gran Canaria)<br/> <i>Salvia forsskaolii</i> (cult.)<br/> <i>Salvia verbenaca</i> (Cyprus)<br/> <i>Scabiosa ochroleuca</i> (USSR)<br/> <i>Scrophularia trifoliata</i> (Corsica)<br/> <i>Setaria intermedia</i> (Sri Lanka)<br/> <i>Sida rhombifolia</i> (Soya bean alien)<br/> <i>Solanum americanum</i> (Soya bean alien)<br/> <i>Solanum nigrum</i> subsp. <i>schultesii</i> (Essex)<br/> <i>Solanum physalifolium</i> (wool alien)<br/> <i>Solanum scabrum</i> (Herts.)<br/> <i>Thapsia villosa</i> (Greece)<br/> <i>Tripleurospermum decipiens</i> (Turkey)<br/> <i>Triticum spelta</i> (cult.)<br/> <i>Urospermum dalechampii</i> (Corsica)<br/> <i>Verbascum arcturus</i> (Cyprus)<br/> <i>Verbascum pulverulentum</i> (Norfolk)<br/> <i>Vicia oroboides</i> (cult.)</p> |
|--|--|

## FLORA OF THE BRITISH ISLES ANNOTATED BY T.G. TUTIN

I have in my possession, a copy of Clapham, Tutin and Warburg's *Flora of the British Isles*, 2 vols., 1952 edition, with pencilled marginal notations by T.G. Tutin. This would appear to be of historical interest but I have no heirs who would appreciate it; perhaps a member would?

JEANETTE KINSELLA, 39 Bronwen Court, Grove End Road, London NW8 9RX Tel.: 020 7286 0577

## NOTICES (BSBI)

### THE VICE-COMITAL CENSUS CATALOGUE – FINAL PROGRESS REPORT

The VCCC, covering the 113 vice-counties of Britain, the Isle of Man and the Channel Islands and started in 1989, is now nearing completion. The provisional lists of records for each vice-county compiled by the working party (phase 1) have now all been updated by the vice-county recorders (phase 2). (In the case of a handful of vice-counties effectively without recorders other means of updating were used). In addition *Rubus* records have been incorporated from the Newton/Randall database, *Hieracium* records from the McCosh database, and *Taraxacum* records from the Richards/Dudman database.

Some time ago we embarked on stage 3, the final editing of the dataset and keeping it up to date by incorporating records that become available from various sources, including the Atlas 2000 records. We anticipate that we shall have completed our project in about one year's time, i.e. 13 years after commencement. We wish to correct the false impression apparently held by some that the 'final deadline' has passed. This misconception probably arises from the fact that we set many deadlines for various stages of the project over the years, and of course these have now all passed. However, we can still incorporate records from any sources, and shall be able to do so until about the end of 2001. We therefore urge all v.c. recorders to continue sending us records throughout 2001 so that their v.c. list continues to be as up to date as possible. It is easier for us if we receive a series of short lists at intervals rather than one long list at the end of the year. Even after our project is completed the VCCC will be kept up to date via Plant Records, which will be recommenced in *Watsonia* this year.

It is planned to publish the VCCC in book form, similar to the censuses produced by the British Bryological Society, and to make it available in an interactive form in the BSBI Database on the www. The published book should be available by autumn 2002.

Please continue (or recommence) sending your records to me; I shall also be glad to answer general queries and to provide specific information from the VCCC. Data obtained from the VCCC should not, however, be published until after publication of the printed Census Catalogue.

CLIVE A. STACE, Department of Biology, University of Leicester, Leicester LE1 7RH

## NOTICES (NON BSBI)

### FALKLAND ISLANDS NATIONAL HERBARIUM

The Falkland Islands are an archipelago of over 700 islands situated in the South West Atlantic. We have a relatively poor flora of 168 natives, but the Islands are home to 13 endemics, and the flora is supplemented by a further 170 alien taxa. Some of our flora, such as Tussac-grass (*Poa flabellata*) that grows to 3m tall, is uniquely Southern Hemisphere. However there is much that a UK botanist would

find familiar. We have extensive *Empetrum* heathlands with *Cerastium arvense* (Field Mouse-ear) and *Deschampsia flexuosa* (Wavy Hair-grass), whilst our shoreline flora includes such species as *Polygonum maritimum* (Sea Knotgrass), *Armeria maritima* (Thrift) and *Isolepis cernua* (Slender Club-rush). We also have close relatives of numerous familiar British Plants including species of *Liottrella*, *Primula*, *Ophioglossum*, *Anagallis* and *Euphrasia*.

A project led by the charity Falklands Conservation is currently underway to establish a National Herbarium for the Falklands. This will provide a much-needed reference collection in the Islands, and will play a major role as an educational tool allowing the development of local botanical expertise. Only with adequate local expertise can we hope to successfully monitor and protect the flora of the Falkland Islands. We are currently seeking funding to purchase fireproof cabinets to ensure that this important collection is safeguarded for the long-term future. Any donations towards this would be gratefully received.

ANN BROWN, Falklands Conservation, 1 Princes Avenue, Finchley, London N3 2DA; Tel/Fax: 020 8343 0831; email: ann@falklands-nature.demon.co.uk; www.falklands-nature.demon.co.uk

## REQUESTS

### ALIEN SEEDS

The Millennium Seed Bank at Wakehurst Place has, over the past four years, collected seeds from the UK's native vascular plants in collaboration with the BSBI and others. We now have around 93% of our native flora stored in the Bank, and are looking to collect the remaining species, where possible, in the coming seasons.

In discussion with English Nature and others, it has been suggested that there may be some benefit in widening our remit to include non-native species. Collections of alien plants would provide a genetic baseline against which subsequent adaptation could be judged – useful if one of the species held turns out to be the next Japanese Knotweed.

If anyone is interested in collecting seeds of alien species, please do get in touch. Collecting equipment and Freepost labels are available on request.

STEVE ALTON, UK Co-ordinator – Millennium Seed Bank Project, Royal Botanic Gardens, Kew, Wakehurst Place, Ardingly, W Sussex RH17 6TN; Tel: 01444 894119; Fax: 01444 894110; E-mail: s.alton@rbgkew.org.uk

### **BROMUS COMMUTATUS AND B. RACEMOSUS**

Please, does anyone know of a site where *Bromus commutatus* and *B. racemosus* grow together or did do so recently? At present only three sites are known to me and I wish to investigate specimens of (?) *B. commutatus* × *B. racemosus* that may be there. An early response would be appreciated so that the sites could be visited in early July this year, if foot-and-mouth restrictions allow.

LAURIE SPALTON, 6 Marine Parade, Budleigh Salterton, Devon, EX9 6NS, Tel (01395) 445813

### **CAMPANULA RAPUNCULUS**

I am researching the *Campanula rapunculus* (Biennial Rampion), from a genus in which I have long been interested. On various parts of the Continent where it is native and has been introduced, it has been cultivated as a vegetable for its roots, like a carrot. One can imagine in such areas clones would be selected which gave bigger, better, tastier roots, but it would appear that such selected clones have been lost to cultivation; a contrast to the better-known and -grown carrot, though these species would be more or less syndemic.

Does anyone have specialist or *ad hoc* knowledge or experience of this species in Britain or elsewhere, either in the wild or in cultivation? I have grown it in the garden, and it has self-seeded (mostly in crevices in paving, where it had little chance of producing worthwhile roots), but this last year or two it has been lost. I can find some replacement seed-sources, but would like to cast the net as far as possible, both for seed and for any information (botanical, horticultural, culinary, nutritional, whatever!) which might be relevant. Every reply, preferably to my e-mail address, would receive a grateful response.

PETER LEWIS, Padlock Croft, West Wrattling, Cambridge, CB1 5LS; Tel.: 01223 290 383;  
e-mail: padlockcroft@cwcom.net

### BOOK WANTED

Does anybody have a copy of 'Manton, I., 1950. *Problems of cytology and evolution in the Pteridophyta*' that I could buy? Condition is unimportant.

CARL ASHCROFT, University of Nottingham, University Park, Nottingham NG7 2RD;  
e-mail: carl.ashcroft@nottingham.ac.uk

### BOOK NOTES

Those that will not be reviewed in *Watsonia* are marked with an asterisk (\*). Unattributed comments in square brackets are mine.

*The Changing Flora of Glasgow*. J.H. Dickson, P. Macpherson & K. Watson. Pp. xiv + 402. Edinburgh University Press. 2000. Price £30 (ISBN 0-7486-1397-8).

*The Flora of Dorset*. H. Bowen. Pp. viii + 373. Pisces Publications, Newbury. 2000. Price £45 (ISBN 1-874357-16-1).

*The Flora of the Bristol Region*. I.P. Green, R.J. Higgins, M.A.R. Kitchen & C. Kitchen. Pp. vi + 276. Pisces Publications, Newbury. 2000. Price £27.50 (ISBN 1-874357-18-8).

*Plants and Plant Lore in Ancient Greece*. J.E. Raven. Pp. xxvii + 106. Leopard's Head Press, Oxford. 2000. £25 (ISBN 0-904920-40-2).

*Grazing Ecology and Forest History*. F.W.M. Vera. Pp. 528. CABI Publishing, Wallingford. 2000. £55 (ISBN 0-85199-442-3).

*The Cambridge Illustrated Glossary of Botanical Terms*. M. Hickey & C. King. Pp. xii + 208. Cambridge University Press. 2000. Price £52.50 (hbk) (SBN 0-521-79080-8) £18.95 (pbk) (ISBN 0-521-79401-3).

Other publications of interest.

*An Atlas of the Vascular Plants of Herefordshire*. Herefordshire Botanical Society. Pp. 200. 2nd ed. 2001. Price £11 (available from Summerfield Books).

[Consisting of a short introduction, 148pp of tetrad maps (at nine to a page), and an interesting essay on the Bygone Botanists of Herefordshire. The Herefordshire recording scheme, initiated by Mrs S. Thomson, has been running for nearly 25 years, and the compilers say this publication should be seen as an interim account.]

*Handbook on the UK Status of the EC Habitats Directive Features*, D.L. Jackson & C.R. McLeod (eds). Pp. 182. JNCC Report No. 312. JNCC, Peterborough. 2000. Price £17, incl. p. & p. (ISSN 0963-8091).

[A provisional gathering of the distribution in the UK of habitats (ex Annex I) and species (ex Annex II) listed in the Habitats Directive. A very useful overview, particularly of the habitats for which we have special responsibility. The species, particularly the higher plants of which there are nine, always seem to me to be a rather eclectic selection. This report can also be viewed at [www.jncc.gov.uk/species/report312/contents.htm](http://www.jncc.gov.uk/species/report312/contents.htm)]

*Stephen Bishop's 'New Flora of Gloucestershire'*. Part 1, in *The Gloucestershire Naturalist* No. 13, pp.322. 2000. Price, ISSN and address of publisher unknown.

[A first part comprising tetrad distribution maps and full species accounts up to the start of Brassicaceae. Part 2, with the remainder of the distribution maps and the habitat studies, will follow in due course.]

The Flora is the result of 15 years of recording, largely by Mr Bishop, before his untimely death in 1997. The county was fairly well covered, other than in the south, towards the Bristol area.]

*Flora Iberica Vol. VII (II) LEGUMINOSAE* (partim). S. Castroviejo (ed). Real Jardín Botánico. CSIC, Madrid. 2000. Price c.£25 (ISBN 84-00-07882-9).

[I only mention this because this is the publication of a favourite family, and to remind members of the existence of this *Flora*. This volume contains about 500 pages with 108 full page line drawings and the customary appendices which seem to come with each volume. *Flora Iberica* takes a very narrow species concept, but that in no way detracts from the achievement of this ambitious and incredibly inexpensive *Flora*. This is the 9th volume of a projected 22 – I am designing a special trunk for Iberian visits!]

*Review of the Coverage of the National Vegetation Classification*. J.S. Rodwell *et al.* Pp. 92. JNCC Report No. 302. JNCC Peterborough. 2000. Price £12.00, incl. p. & p. (ISSN 0963-8091).

[A review of the current coverage of the NVC. This report identifies the known and likely gaps in the plant community descriptions and places these new types into the phytosociological scheme of the NVC. This publication is a necessary addition for those who possess the five volumes. There is an appendix of the fit of rarer Vascular Plants into the NVC which I feel is less successful – although a worthy try!]

*Checklist of the Fauna and Flora of Wicken Fen*. L. Friday & B. Harley (comp. & ed.) Pp. 128. Harley Books, Colchester. 2000. Price £12.50 (pbk) (ISBN 0-946589-61-5).

[A straight listing of *all* the groups recorded at this very long-established nature reserve, intended, *inter alia*, as a companion to '*Wicken Fen – the making of a wetland nature reserve*' ed by L. Friday. Harley Books, 1997.]

*Bildatlas der Farn- und Blütenpflanzen Deutschlands*. Henning Haeupler and Thomas Muer. Pp. 760. Verlag Eugen Ulmer, Stuttgart, Germany. 2000. Price DM 148 (ISBN 3-8001-3364-4).

[Superb colour plates and brief descriptions of over 3900 native and introduced species of vascular plants in Germany. Especially valuable for critical groups – e.g. *Alchemilla*, *Rubus*, *Hieracium* where the microspecies are all illustrated. Some groups, e.g. *Callitriche* and *Potamogeton*, have additional line drawings. Worth every pfennig. F.H. Perring]

Does anybody read these laboriously compiled notes and profit from them? I inherited them from my predecessors and continued them because I used to read them, but I have never, ever, heard from any member as to their use or interest. For all I know they are either treasured for reference or skipped over to the heady delights of field meetings *et al.* Unless I hear from, say, 20 members, I shall cease, and use my time for other pleasures.

DAVID PEARMAN, The Old Rectory, Frome St Quintin, Dorchester, Dorset DT2 0HF

## CAMBRIDGESHIRE FLORA RECORDS SINCE 1538

The first part of a catalogue of the plant records for v.c. 29 will be published on the Internet shortly ([www.MNLG.com/gc](http://www.MNLG.com/gc)). The records consist of a transcription of published records since 1538, including those from William Turner, John Gerarde and all the Floras of the county. In addition all the records from the herbaria at Cambridge, Saffron Walden, Reigate, Wisbech and York have been catalogued from the original sheets, together with the Red Data Book species in the Natural History Museum and Kew. Wherever possible, transcriptions of manuscript material previously unpublished in our Floras have been transcribed from the originals.

The Catalogue consists of:

1. Introduction and acknowledgements;
2. Plan of the Catalogue;
3. Map of v.c. 29;
4. Gazetteer of less well-known localities;
5. Abbreviations;
6. The Catalogue for 380 species;

The records for Cambridgeshire are so numerous that it seems unlikely that all of them can ever be published and the Internet seems to be the only way of making this information freely available. In addition the catalogue will be available in CD-ROM and 5 copies will be printed and deposited in libraries.

However, the aim is not only to make this enormous archive of records available, so that it can be used by anyone in any manner they wish, but also to ask for corrections and additions so that the catalogue can be corrected and kept up to date.

I would like to take this opportunity to thank Max Walters and David Allen for all their help with sources of new material, to Derek Wells my co-recorder, for allowing me to use records in his Recorder database, and lastly, I am immensely grateful for the generous and invaluable expert help given by Bill Walston and Martin Hodge, without whose kindness these records would be still locked in my computer.

GIGI CROMPTON, 103 Commercial End, Swaffham Bulbeck, Cambridge, CB5 0ND.

e-mail: [gigi.crompton@virgin.net](mailto:gigi.crompton@virgin.net)

## WILTSHIRE BOTANY

Issue No. 4 of *Wiltshire Botany*, Wiltshire Botanical Society's journal, is now published. It contains:

- an account of survey work for the Wiltshire Fungus Flora in Great Wood in North Wiltshire by Dave Shorten, one of the organisers of the project;
- guidance and keys by John Presland for identifying the yellow- and cream-flowered members of the Cruciferae (Brassicaceae) which have been found in Wiltshire;
- Barbara Last's analysis of the contents of her Flora of Berwick St James (Issue No. 3) by type of habitat;
- what is, in effect, the first Bramble Flora of Wiltshire by Rob Randall;
- new findings on the genus *Brachypodium* in Wiltshire by Jack Oliver;
- a selection of the Society's plant records for 1999, and some v.c. 8 updates for 1995-1998.

Copies are available from Jean Wall at Withybeds, Dark Lane, Malmesbury, Wilts SN16 0BB (Tel: 01666 823865). The cost is £2.50 post free. Cheques should be made out to Wiltshire Botanical Society.

JOHN PRESLAND, By-the-Way, 175c Ashley Lane, Winsley, Bradford-on-Avon, BA15 2HR

## A HANDBOOK FOR BIOLOGICAL RECORDERS

A manual for recording plants, animals and their habitats in Cornwall and the Isles of Scilly, edited by Mary Atkinson, Ian Bennallick, David Holyoak, Derek Lord & Paul McCartney

*The Handbook for Biological Recorders* is a new publication resulting from a collaboration between the Cornwall and Isles of Scilly Federation of Biological Recorders (CISFBR) and the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS). The aim of this *Handbook* is to promote and assist biological recording in Cornwall and the Isles of Scilly, by stimulating recording; passing on existing experience of surveying techniques; and to encourage standardised record gathering for the various taxonomic groups. It begins with some introductory sections about recording, introducing the reader to the general standards that are expected in recording. For example, there are sections on what and how to record, and what you should do with records once you have collected them.

The majority of the *Handbook* deals with individual plant and animal groups, with each section having been written by a relevant expert. The species groups covered include vascular plants, lichens, bryophytes, fish, birds and mammals, along with a wide range of invertebrates. The last seven sections deal with various aspects of marine recording covering such groups as sponges, molluscs, marine fish, cetaceans and seals.

It has been designed as a loose-leaf format held within an A4 folder, to allow for the possibility of inserting section updates or new sections.

The *Handbook* is available from the Environmental Records Centre for Cornwall and the Isles of Scilly at £12.00 each (plus £4.70 postage and packing) or £10.00 to CISFBR members (again plus postage and packing).

SARAH MYLES, ERCCIS Manager, Five Acres, Allet, Truro, Cornwall TR4 9DJ. Tel.: 01872 273939; Fax: 01872 225476; email: [cornwt@cix.compulink.co.uk](mailto:cornwt@cix.compulink.co.uk)

## OBITUARY NOTE

### NORAH MANSBRIDGE 1913-2000

Norah lived at Leigh-on-Sea for many years and was one of the principal contributors of records from the Southend area for the 1974 *Flora of Essex*.

When she and her husband retired to Herefordshire in 1973 she lost no time in joining the local natural history Societies and we in turn admired her meticulous recording of plants as she contributed to our projected *Atlas of Herefordshire plants*.

She gave excellent talks on flowering plants and fungi as well as Victorian letter boxes, and in spite of increasing disability her interest never flagged. She was always proud of her close relationship to Albert Mansbridge, the founder of the Workers Education Association. We miss her quiet, unassuming presence.

RON PAYNE & STEPHANIE THOMSON

# ANNUAL EXHIBITION MEETING 2000 – ABSTRACTS

The reports that follow have been edited for publication by Ailsa Burns.

## THE PLANT DETECTIVES

on the trail of von Siebold's most notorious introduction

A rather light-hearted presentation with a serious intent! The Knotweed Detectives, better known as John Bailey, Ann Conolly and Catherine Pashley are pictured in various permutations examining the Siebold connections in Nagasaki and Leiden.

Siebold (the original importer of Japanese Knotweed) was based in Nagasaki in the 1820s and later established his nursery garden in Leiden.

The trail starts with a record from Kew recording the arrival of Japanese Knotweed from von Siebold in 1850. Illustrations from an early von Siebold catalogue and an 1856 RBG Edinburgh Accessions book relating to the plant were also displayed. Our quest was to try and make live collections of the plant from Siebold's gardens in Nagasaki (unsuccessful) and Leiden (successful). Live material is needed to confirm the Sieboldian origin of the plant. The role of the Royal Botanic Gardens in the spread of this plant was also raised.

Dr J.P. BAILEY, Miss C. PASHLEY & Miss A.P. CONOLLY

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## LUTON HERBARIUM - PHOTOGRAPHS OF EIGHTEENTH AND NINETEENTH CENTURY SHEETS

The main herbarium for Bedfordshire (v.c. 30, Beds) is housed at Luton Museum (LTN). Much of the early material, some 2,500 sheets from the late 18<sup>th</sup> and the 19<sup>th</sup> Centuries are contained in bound volumes and include the herbaria of Charles Abbot (1761-1817), William Crouch (1814-46), John McLaren (1815-88) and James Saunders (1839-1925). This year I have begun the process of computerising the Herbarium and, whilst the volumes were in my possession, it seemed a good opportunity to photograph the more interesting sheets. The general criteria for inclusion were for the species to be extinct in the county or to be in the local or national Red Data or Scarce lists. The sheets were photographed in natural diffuse light, but with some difficulty as the binding of some volumes is rather tight and pages would not lie flat. This is an ongoing project.

Mr C.R. BOON

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## TAXA WITHIN *TRICHOPHORUM CESPITOSUM* (DEERGRASS)

Using the descriptions in G.A. Swann's recent paper (*Watsonia* 22: 209-233), subspecies *cespitosum* and nothosubspecies *foersteri* as well as the common subspecies *germanicum* had been found in v.c. 81, Berwickshire, together with one plant of the back-cross between subsp. *cespitosum* and nothosubsp. *foersteri*. These were illustrated and hints for fieldwork were distributed based on the experience gained.

Mr M.E. BRAITHWAITE

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## THREATENED PLANT SITE RECORDING

An illustrated report was presented of a field meeting held in Berwickshire in June 2000 where a provisional Threatened Plant Recording Form had been field tested. The form had been found to be too complicated to use without specific training. The site had been revisited later by MEB to try out a technique using a hand held Global Positioning System (GPS) to plot a detailed plan of the *Dianthus deltoides*, Maiden Pink, colony present. The successful results were illustrated.

Mr M.E. BRAITHWAITE

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## ISOLEPIS CERNUA (SLENDER CLUB-RUSH) – NEW RECORDS FROM THE INNER HEBRIDES, V.C. 104

A brief report was made on the discovery of sites for *Isolepis cernua* on the islands of Coll, Tiree and Muck in June – September 2000.

Distribution maps were presented, together with drawings illustrating the characteristics of *I. cernua* and *I. setacea*, Bristle Club-rush.

Mrs P.F. BRAITHWAITE

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## TOR-GRASS IS NOT BRACHYPODIUM PINNATUM !

As first realised by Dr M.A. Khan in 1981, and confirmed by Dr U. Schippmann in 1991, plants formerly known in Britain as *Brachypodium pinnatum* (L.) P. Beauv., actually represent both that species and *B. rupestre* (Host) Roemer & Schultes.

The differences are mostly quantitative and overlapping (*B. pinnatum* has wider, less readily inrolled leaves, more pubescent vegetative and reproductive parts, longer awns, and longer ligules on the second culm-leaf), but there are constant microscopic epidermal characters, notably the presence in *B. pinnatum* (absence in *B. rupestre*) of prickles-hairs in the intercostal regions of the abaxial epidermis. It is not yet clear whether specific or subspecific status would be more appropriate for these two taxa. Superficially, *B. pinnatum* is somewhat intermediate between *B. sylvaticum* and *B. rupestre*, and plants formerly identified as *B. pinnatum* × *B. sylvaticum* are probably all the true *B. pinnatum*. *B. rupestre* and *B. pinnatum* both have  $2n=28$  and are strongly rhizomatous outbreeders, whereas *B. sylvaticum* has very weak rhizomes and is a self fertile plant with  $2n=18$ .

The common plant known as Tor-grass, typical of dry open limestone grassland, is *B. rupestre*. *B. pinnatum* is a plant of marginal habitats, often in semi-shade and on heavy clay soils. The relative distributions are not yet known, but *B. rupestre*, although at its northern limits in Britain, is much the commoner species here.

Mr M.A. CHAPMAN & Prof. C.A. STACE

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## JAPANESE KNOTWEEDS IN AUSTRALIA

In 1997, I realised that specimens of Japanese Knotweed seen in the Canberra Herbarium were not *Fallopia japonica* as labelled, but *Fallopia* × *bohemica*; a hybrid not known previously to occur in Australia.

In May this year, a visit was made to the locality cited, a suburb of Sydney, New South Wales – accompanied by Dr Karen Wilson, the '*Polygonum*' expert at the National Herbarium of NSW, Sydney, who had collected the material seen in 1997. Photographs were shown of the site, (a railway

embankment), of the stand of plants and of shoot and leaf detail. A dug up 'root' later gave a chromosome count of  $2n=66$  – typical of this hybrid between *F. japonica* subsp. *japonica* and *F. sachalinensis*. A map indicated this locality and that of a further (just determined) hybrid as well as locations of the other Japanese Knotweed taxa known from Australia – i.e. *F. sachalinensis* (in Victoria and NSW), *F. japonica* subsp. *japonica* and subsp. *compacta*.

Miss A.P. CONOLLY

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## IDENTIFICATION OF BRITISH *CALLITRICHE* SPECIES BY MEANS OF ISOZYMES

Reproductive features are essential for the identification of *Callitriche* species and vegetative material often proves to be impossible to name.

Examination of isozymes patterns in authentic material of the British species has shown that it is possible to distinguish all but *C. hamulata* and *C. brutta*, which are extremely similar to each other. Evidence of fixed heterozygosity at three loci (PGD2, MDH2 and GPI2) was found in the polyploid *C. platycarpa* ( $2n=20$ ), and *C. stagnalis* was identified as one of the likely parents.

Mr B.O.L. DEMARS & Dr R.J. GORNALL

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## SOME PLANTS OF NORTHERN CYPRUS, 1998 & *GALIAM* × *POMERANICUM* FROM V.C. 35 (MONS.)

Herbarium sheets to show some of the plants seen on Dr F.H. Perring's 1998 BSBI Excursion were displayed.

A sheet, from v.c. 35, Mons, showed *Galium* × *pomeranicum* with its parents *G. verum* (Lady's Bedstraw) and *G. mollugo* (Hedge Bedstraw). The best place to find this hybrid is to look for colonies of both parents growing very close together. The hybrid has cream coloured flowers; this character is obvious when displayed between the yellow of Lady's Bedstraw and the white of Hedge Bedstraw. In the whorls of leaves of Lady's Bedstraw the individual leaves are long and narrow and all more or less the same width and length; in Hedge Bedstraw they are short, broad and the same length; in the hybrid the leaves are long and narrow but can vary slightly in width and length.

Mr T.G. EVANS

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## *SALVIA VENERIS* HEDGE (*S. CRASSIFOLIA* SIBTH. & SM.) IN CYPRUS

*Salvia veneris* (*Salvia crassifolia*) was discovered by the party led by the Englishman, John Sibthorp, during their tour of the eastern Mediterranean in 1787. It is an attractive Cyprus endemic of very narrow geographical range, restricted to an area of a few square kilometres near Kythrea. Since the party's journey around the island did not include the limited area from which the plant is now known, doubt has been expressed as to just where, and by whom, it was originally found. Largely based on circumstantial evidence the exhibit summarised the various options concluding that it was probably not Sibthorp but his Austrian artist, Ferdinand Bauer, who found the plant when straying from the main party. A reproduction of Bauer's original water colour painting and colour photographs were shown along with those of two other associate species, *Wiedemannia orientalis* and *Hedysarum cyprium*.

The taxonomic relationship between *S. veneris* and close relatives is being examined.

Dr M.J.Y. FOLEY

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## A CALAMAGROSTIS POPULATION IN THE SCOTTISH BORDERS

At Clearburn (Selkirkshire, v.c. 79) there is an usual population of *Calamagrostis* (Small-reed), which may be of hybrid origin. This was examined in Autumn 2000 and was found to show some similarity to *C. purpurea* (Scandinavian Small-reed), and also to plants described by Crackles, *Watsonia*, 1994, 1997, thought to be of *C. stricta* × *C. canescens* origin. The Clearburn plant, however, occurs in an isolated, but uniform stand, with both putative parents absent from the immediate vicinity. The habitat is an extremely wet valley-bottom *Caricetum*.

The exhibit consisted of photographs and data which demonstrated the differences between this Clearburn plant and *C. purpurea*, *C. stricta* × *C. canescens* and the putative parents, especially as exemplified by glume and lemma morphology. Due to the lateness of the season, other important characters could not be evaluated. This evaluation and an examination by molecular techniques will be carried out in the future.

Dr M. Y. J. FOLEY & Mr M. S. PORTER

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## PROGRESS WITH 'A NEW FLORA OF STAFFORDSHIRE'

The last Flora of v.c. 39, written by E.S. Eedes, was published in 1972. I.J. Hopkins produced '*Staffordshire Flowering Plants and Ferns: A Revised Checklist*' in 1985.

In June 1998, a committee was formed. Data was to be collected for the period 1995-2008, followed by the publication of a fully illustrated tetrad flora, both in book form and as a CD ROM. By November 2000 about 63,000 tetrad records had been entered into the Recorder database, with a further 66,000 site records on the database yet to be allocated to tetrads. There are 70 recorder volunteers; field meetings are arranged to assist the less experienced, a newsletter is produced and there is an Annual General Meeting of the Group.

A progress map was displayed and mention made of recent discoveries including *Conyza sumatrensis* (Guernsey Fleabane), *Sibthorpia europaea* (Cornish Moneywort) and × *Asplenophyllitis confluens*, the hybrid between *Asplenium trichomanes* (Maidenhair Spleenwort) and *Phyllitis scolopendrium* (Hart's-tongue).

Mr J.E. HAWKSFORD

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## WHAT IS THE EXTENT OF HYBRIDISATION BETWEEN *HERACLEUM MANTEGAZZIANUM* & *H. SPHONDYLIIUM*?

Hybridisation between *Heracleum mantegazzianum* and *H. sphondylium* can occur in the wild, however, there appears to be little information on the natural rate of such hybridisation and consequently on the distribution of the hybrid. Is it an unimportant phenomenon limited to a small number of sites or is it a real problem that should be addressed?

The distinguishing characteristics of hybrid plants as described in the literature are quite vague and it is possible that there has been misidentification of plants in the past. Hybridisation has been shown to take place with *H. sphondylium* as the maternal parent, thus genes from *H. mantegazzianum* are introgressing with a native plant. As *H. mantegazzianum* contains compounds that are phototoxic this is a serious concern (as it could lead to increased phototoxicity of *H. sphondylium*). We are interested in discovering the extent of hybridisation throughout the British Isles and would welcome observations, information and samples of seed from *H. mantegazzianum*, *H. sphondylium* and potential hybrids.

Miss L.C. MASKELL, Mr P.M. SCARLETT and Dr F.H. DAWSON

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## THE BSBI EDUCATION INITIATIVE

The exhibit posed the problem of where the next generation of field botanists is to come from and showed how it is being tackled by the Society in four ways.

1. \*By collaborating with the Field Studies Council and Birmingham University in providing Accredited Botanical Courses aimed particularly at young professionals.
2. \*By running a FREE course, Spotlight on Plants, for post-GCSE students at Preston Montford Field Centre in June 2001, intended to inspire successful applicants to become professional taxonomists/field botanists.
3. \*Developing a Trees and Shrubs Website in collaboration with Science and Plants for Schools (SAPS), including a key to 75 native and naturalised species based on leaf shape with a 'fact page' for each.
4. Promoting Local (County/Regional) Education networks. Progress has been made in Northamptonshire, co-ordinating courses provided by University, Field Centres, the Wildlife Trust and BSBI and promoting them with a combined leaflet.

\* Details available on the SAPS Website ([www-saps.plantsci.cam.ac.uk](http://www-saps.plantsci.cam.ac.uk)) or under Learning Resources on the BSBI Website ([www.rbge.org.uk/BSBI](http://www.rbge.org.uk/BSBI)).

Dr F.H. PERRING & Dr S.J. WHILD

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## THE UK FLORA PROGRAMME OF THE MILLENNIUM SEED BANK PROJECT

The Millennium Seed Bank, located at Wakehurst Place in West Sussex, is the world's largest and most diverse seed bank devoted to wild species conservation. Seeds are dried and then stored at -20°C; under these conditions the vast majority will remain viable for centuries. *Ex situ* storage of seeds in this way is now seen as an important part of an integrated conservation approach, complementing *in situ* techniques.

The new Wellcome Trust Millennium Building, recently opened at Wakehurst Place, houses the Seed Bank and provides interpretative facilities for the public, accommodation for visiting scientists and laboratories for research.

As a result of collaborative collecting work over the last four years, involving many members of the BSBI, the Seed Bank now holds accessions of around 93% of the native higher plant flora. A list of the species still being sought is available on request. Seeds of non-native species are also welcomed.

Miss H. PROCTOR and Mr S. ALTON

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## CARDAMINE BULBIFERA IN EAST SUSSEX

Known sites of *Cardamine bulbifera* (Coralroot), in hectads TQ52, 62 & 72 were visited between March and May, 2000 and population estimates made. During this survey, several new sites were found in addition to those recorded since 1989.

Maps showing old and new localities compared with habitat and geology were exhibited. Maps showing the UK distribution and the gradual increase in the number of tetrads where the plant has been found in East Sussex (v.c. 14) were also presented. There was a coloured photograph of a small colony of *Cardamine* and a detailed drawing of the plant and its parts.

Dr A.J. SHOWLER, Dr T.G.C. RICH & Mrs R.A. NICHOLSON

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## RECENT RECORDS FROM SARK

A recently discovered herbarium sheet has two specimens of *Ophioglossum* collected in Brecqhou in 1957. These have been determined as *O. vulgatum* (Adder's-tongue) and *O. azoricum* (Small Adder's-tongue). This is the only confirmed evidence that the former has occurred in Sark.

Thirteen taxa new to Sark were exhibited, most with photographs: *Eschscholzia californica* (Californian Poppy), *Cannabis sativa* (Hemp), *Abutilon vitifolium*, *Prunus cerasifera* (Cherry Plum), *Malus tschonoskii* (Pillar Crab), *Geranium* × *oxonianum* (Druce's Crane's-bill), *Geranium sanguineum* (Bloody Crane's-bill), *Melissa officinalis* (Balm), *Callitriche brutia* (Pedunculate Water-starwort), *Solidago gigantea* (Early Goldenrod), *Osteospermum* cf. *jucundum* (Cape Daisy), *Bromus hordeaceus* var. *longipedicillata* (Soft-brome), and *Agapanthus praecox* subsp. *orientalis* (African Lily).

Two species which had not been reported since 1957 were shown: *Ranunculus baudotii* (Brackish Water-crowfoot) and *Lythrum portula* (Water-purslane).

Dr R.M. VEALL

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The following also exhibited

Miss A. Burns – HM The Queen Mother, our Royal Patron's 100th Birthday Parade  
 Mr M. Cragg-Barber – Some recent Aberrations  
 Derbyshire Wildlife Trust  
 Dr T.D. Dines – Atlas 2000 Progress and Maps  
 Dr T.D. Dines & Mr I.R. Bonner – A new hybrid *Equisetum*  
 Mr S. Karley & Mrs A. Karley – 'Help', Galls  
 Mr N. Moyes & Dr A.J. Willmot – Derbyshire Flora 2000  
 Mrs V.M. Oxley for the Sheffield Botanical Artists – Wild Flowers of the Peak District  
 Mrs V. Purchon – Backyard Biodiversity Day  
 The Ray Society – D.H. Kent's *Flora of Middlesex*  
 Mr P. Rye – Kentish Autumnal flora  
 Summerfield Books.

AILSAS BURNS, Hon. General Secretary

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