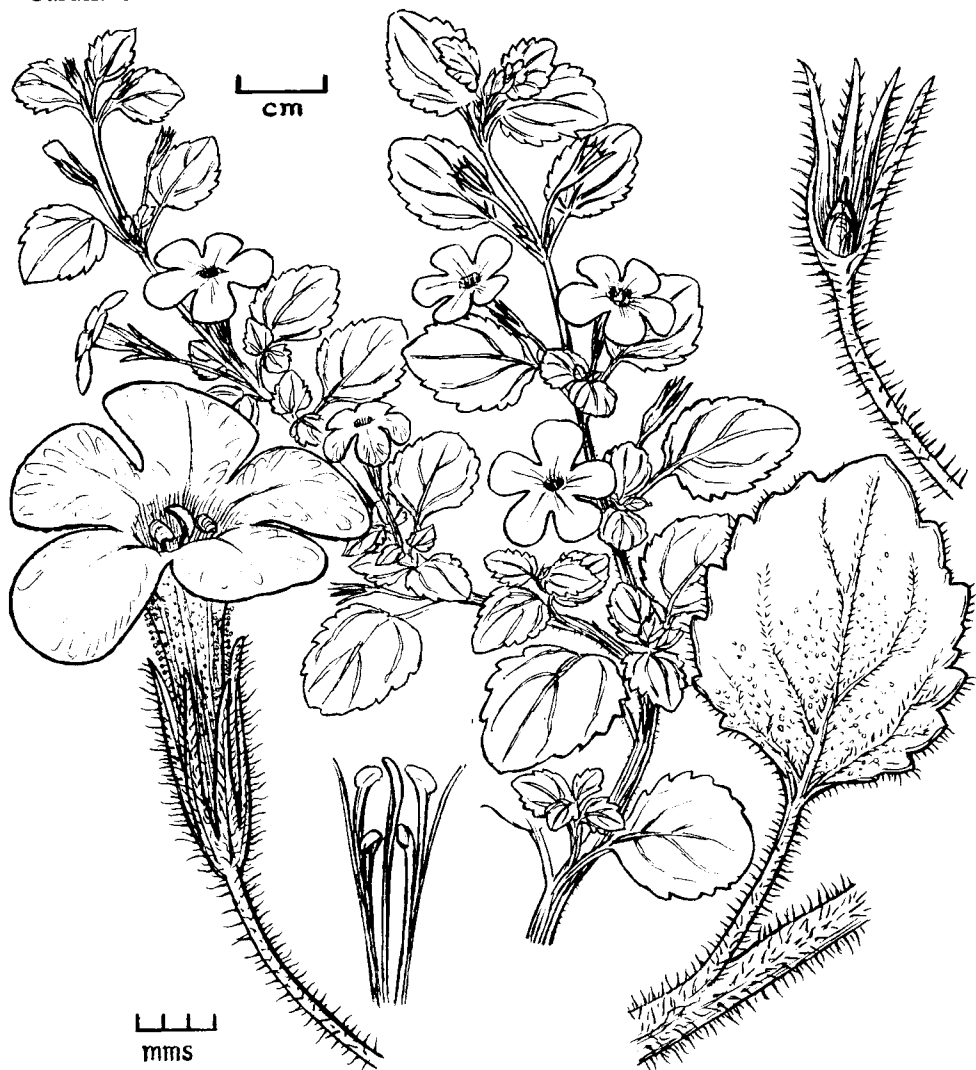


Edited by R. Gwynn Ellis

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CONTRIBUTIONS INTENDED FOR

BSBI NEWS 84

should reach the Editor before

MARCH 1st 2000

IMPORTANT NOTICES

COUNCIL NOMINATIONS

Nominations for vacancies on Council, in writing, signed by two members of the Society and accompanied by the written consent of the candidate to serve, if elected, should be sent to the Hon. General Secretary, at 41 Marlborough Road, Roath, Cardiff, CF23 5BU, to arrive **before February 19th 2000** (see *Year Book 2000* for the list of present Council members May 1999–2000).

Members are reminded that Officers are also elected or re-elected at the AGM, and Committee members are appointed by Council at the meeting following the AGM. The Hon. Gen. Sec. will be pleased to receive nominations for consideration by the Executive Committee which meets next on February 23rd 2000.

Gwynn Ellis, Hon. General Secretary

HONORARY GENERAL SECRETARY

You will all be sorry to hear that Gwynn will not be standing for re-election to the post of Hon. General Secretary of BSBI at next year's AGM. But the good news is that he will continue as Editor of *BSBI News*, and he will be helping also with tasks for the Society on the computer, and with records. So we will not be losing touch with Gwynn, but thank him very sincerely for his good work as Hon. Gen. Sec. in the last 3½ years.

Now, however, we are urgently looking for a volunteer member who would enjoy taking on the duties and responsibilities of Hon. General Secretary.

These involve mainly:

- 1) Calling meetings of council and preparing the Agendas and, with the minuting secretary, the Minutes.
- 2) Arranging that meetings of the 5 Permanent Working Committees (each of which has a Secretary to fix dates and prepare Agenda and Minutes) – are held at least twice a year, and organising their Minutes to be assembled and collated for Council.

At present the task of photocopying, collating and mailing these Minutes is done by Gwynn as HGS, but he tells us that he will be very pleased to continue with this task if it would be a help to his successor.

- 3) To write the Annual Report – each year has its highlights from which to select, in collaboration with the other officers, and the draft is then approved by Council. And to provide the information published in the *Year Book*, with which there is also much assistance: Lists of Members provided by Mike Walpole, List of Vice-county Recorders maintained and provided by David Pearman, List of Referees and Specialists maintained and provided by Mary Clare Sheahan, Calendar and list of Field Meetings prepared and provided by Margaret Lindop.

The Hon. General Secretary is on duty at the AGM and present at the Exhibition Meeting, and if possible attends the meetings of all the Committees. This provides a valuable co-ordinating service throughout the administration of the Society. When possible the Hon. Gen. Sec. can sometimes go to some of the Field, Lecture and Regional meetings also. Apart from dovetailing the meeting dates and synchronising the mailing dates to fit the BSBI commitments through the year, the Hon. Gen. Sec. is also responsible for ensuring that the Society's activities comply with the Rules, which in turn must be in the format as required by the Charity Commissioners. The Rules must also be available to members on request (but are seldom requested!).

Beyond the details of current administration, the Hon. Gen. Sec. has the responsibility of maintaining the traditions of the Society, and tries to ensure that necessary new developments maintain

the balance between the status of the BSBI as a learned scientific society, and the enjoyment of those who join as members.

There is a good deal of assistance with the administration: Mike and Ann Walpole deal with all the subscriptions and membership details – also the membership labels for mailings – through their Tern Data membership service in Loughborough.

Peter Fry gives valuable assistance by replying to all the mail sent to the Society's official address, the Dept. of Botany, Natural History Museum, Cromwell Road, London. These enquiries are almost all from non-members, but comprise a large percentage of the load of correspondence – and also the answer-phone. Peter Thomson takes the Minutes at meetings of Council.

As well as opportunities to meet many of the leading, notable and active figures of the botanical world, the Hon. Gen. Sec. has the pleasure and interest of contact with a high proportion of the 2,700 BSBI *members*, and from my experience this represents a significant aspect of the reward and enjoyment which comes from being Hon. General Secretary of BSBI – and I am sure that Gwynn will agree. Other varied and unpredictable projects come for attention, or delegation, often adding some challenge but much interest.

There are possibilities that help of various kinds could be offered if required to a prospective candidate, and any member wishing to discuss this further please contact Gwynn as soon as possible.

MARY BRIGGS, President, December 3rd 1999

DIARY

N.B. These dates are supplementary to those in the 2000 Calendar in *BSBI Year Book 2000*.

2000

February 26th Course on *Collating and using historical records*, with Tim Rich at National Museum & Gallery, Cardiff (see page 13)

March 9th *Britain and Scandinavia – some botanical links*. A one day meeting at Linnean Society, London (see leaflet with this mailing)

September 3rd - 6th *Biodiversity 2000*, Royal Botanic Garden, Edinburgh, a Conference organised by the Institute of Horticulture (see page 56)

4th - 7th *SER2000*, Liverpool, an International Conference organised by the Society for Ecological Restoration (see page 56)

2001

May 28th - June 3rd *Building bridges with traditional knowledge*, Honolulu, an International Conference organised by the University of Hawaii (see page 57)

EDITOR

EDITORIAL & NOTES

Congratulations to Dr Richard Bateman on his appointment as Keeper of Botany at the Natural History Museum, London.

At present Head of Science Division, Royal Botanic Garden Edinburgh, Richard will have taken up his new post on November 29th. Many members will know him as our co-referee for *Dactylorhiza*, and remember the lecture which he gave with Dr Ian Denholm, on the complexities of *Dactylorhiza* identifications at Liverpool. Dr Bateman hopes to take the Chair at our meeting with the Linnean Society of *British-Nordic Botanical Links*, on March 9th (see separate notice and application form with this mailing) – when he plans to add a few informal words comparing the genetics of Nordic and Scottish dactylorchids. The Keeper of Botany being a BSBI Referee, follows a tradition with John Cannon being our Umbellifer Referee, and earlier still, J.E. Dandy for *Potamogetons*.

And to Prof Peter Crane on his appointment as Director of Royal Botanic Gardens Kew. Peter was previously Director of Field Museum, Chicago. We shall look forward to meeting him when we hold another meeting at the Jodrell Laboratory on a future date.

New post code and telephone dialling code for Editor and Hon. General Secretary: Please note that my postcode has changed **from** CF2 **to** CF23 with immediate effect (the 5BU suffix remains the same) and my telephone dialling code will change on 22 April 2000 **from** 01222 **to** 029 (with 20 inserted before 496042) to become 029-2049-6042. Until the change over next year both dialling codes will work. Six areas in all will have new dialling codes and local number ranges:

Cardiff	(01222) xxx xxx	becomes	(029) 20xx xxxx
Coventry	(01203) xxx xxx	becomes	(024) 76xx xxxx
London	(0171) xxx xxxx	becomes	(020) 7xxx xxxx
London	(0181) xxx xxxx	becomes	(020) 8xxx xxxx
Portsmouth	(01705) xxx xxx	becomes	(023) 92xx xxxx
Southampton	(01703) xxx xxx	becomes	(023) 80xx xxxx
*Belfast	(01232) xx xxxx	becomes	(028) 90xx xxxx

*Belfast is used purely as an example (028) will be the code for the whole of Northern Ireland

Youth Officer – Ailsa Burns informs me that there will be another *Young Botanist* in the spring which will be distributed to all members who have requested to be on the mailing list.

Apologies to Peter Thomas for failing to correct the spelling of the scientific name of a thrip in the last issue, see **Corrigenda Corner** on page 66 for details of this and one other important correction.

Inserts – Among the inserts with this mailing are: *BSBI News*, *BSBI Year Book 2000*, BSBI AGM, Belfast leaflet, Welsh Annual Meeting leaflet, a note about the subscription increase and direct debits, leaflet for the conference on *Britain and Scandinavia*, and two or three leaflets with book offers.

Sincere condolences to Trevor Evans, whose wife Thelma lost her brave fight against a brain tumour in early December.

And finally: As you will have seen from Mary Briggs' notes on page 3, I have reluctantly decided not to seek re-election as Hon. General Secretary at the AGM next May. I have enjoyed my 4-year stint, but with my own indifferent, and my wife's poor, health, I can no longer face the spring and autumn rounds of meetings with the same enthusiasm as previously. I feel it is best to make way for a more active successor and to concentrate my time on *BSBI News*, Plant Records, the TPDB and other computing jobs that I enjoy and can do from home. My thanks to all who have made the first 4 years of my 'retirement' so pleasant and fulfilling. Perhaps I will now find the time to go up into the loft and 'play' with my trains, but somehow I doubt it!

GWYNN ELLIS, Editor & MARY BRIGGS, President

OBITUARY NOTES

With regret we report the death of Dr E.V. Watson*, the most eminent bryologist of this century. Vernon Watson will be remembered by many naturalists to whom he made bryology accessible through his published books, particularly *British mosses and liverworts* and *The structure and life of bryophytes*. Dr Watson was a member of BSBI since 1950, and he also made a very great contribution to the British Bryological Society in many capacities.

Also of Mrs Phyllis White, a BSBI member since 1972. With her late husband Phyl acquired an enthusiasm for recording from John and Chris Dony in earlier years when living in Hertfordshire. After moving to Kent they recorded for the Kent Field Club and with the Sussex Botanical Recording Society for the *Sussex Plant Atlas*. More recently Phyl, who was a meticulous recorder, was a co-author of the *Flora of Ashdown Forest*. Since living in Surrey she recorded with the Surrey Flora Society, for Atlas 2000. We send sympathy to Phyl's son Ian, an entomologist and daughter-in-law Joy, a lichenologist who was in the Dept. of Botany, Natural History Museum, and her grandson.

And of Dr Hugh Lang* of Newtown Stewart, Wigtownshire a member since 1973 who was notable at meetings of the BSBI Committee for Scotland largely for his outstanding botanical photography and his entertaining presentations of reports, with slides, of his botanical adventures.

And very recently, of Mr E G. Burt. Ernie's wife Breda was for many years the v.c. Recorder for East Sussex, and they lived in an old Sussex farmhouse at Playden near Rye. Ernie had been a shepherd, but on retirement he joined in botanical field and lecture meetings and was a great asset to the Sussex recorders. In particular he was the photographer of the Burt partnership. Both Ernie and Breda were sadly missed when they moved to Worcestershire, and now we send our sympathy to Breda and to their family in her loss.

* Obituaries will be published in *Watsonia*.

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

ATLAS 2000

PROGRESS REPORT

October and November have been memorable months for many Vice-county Recorders, and probably ones they won't want to repeat in a hurry. The compilation of records for the Atlas produced a tangible feeling of tension, and many worked furiously to complete submission of data by the November 1st deadline. The vast majority achieved this, with 92% of the data for Britain having been received by that date. There was then an audible sigh of relief across the country, and the joy that Recorders felt in having completed the task was clear in the letters accompanying their records. 'It's time, at last, for the fat lady to sing' and 'I'm free, I'm free!' were some of the comments received.

It really has been a monumental effort and a stunning achievement. No words can possibly express our gratitude to the Vice-county Recorders, and indeed to all those that have contributed records to the project. The individual workload was, in many cases, enormous and the number of voluntary hours that have been put into the project is impossible to calculate. All we can say is thank you and hope that the final product justifies your efforts.

The work is far from over, of course. Once all the records have been added to the database at Monks Wood, we can begin to check for errors, analyse the data, and decide which species will actually be mapped. Captions for these will then have to be edited, checked, and finished in the light of the results. Vice-county Recorders are currently checking their initial data and seeing what additional records are held by Monks Wood (using the Verification and Discrepancy lists) and a final grand examination of all records is being undertaken by in May and June, so the Recorders are certainly being kept busy. All this will have to come together by June, when draft maps and text have to be handed to DETR, and then finally in September, when the final copy is due to be submitted.

Obviously, with all this activity, I have been kept very busy – hence this rather brief report. In future, I hope to bring you more of a flavour of our achievements as we begin to analyse the results. This will be done with draft maps of taxa, examples of statistics (such as coverage in different date classes) and discussion of preliminary results.

The first and most difficult stage of the Atlas 2000 project, the collection of the data, is therefore at an end. The second stage, preparing the material for publication, is now upon us. This promises to be an exciting, demanding and, ultimately, very rewarding period.

Data Received – Britain

On 29th November 1999, the final significant batch of records for the Atlas arrived (and I won't mention any names!). We now have data for 2817 hectads in Britain. This, at 99.2% of the total, leaves only 23 squares for which data has not yet been received (see map p. 8 and also Stop press p. 9). Data for these final squares are either on their way (14 squares) or have not been recorded. These last nine squares are all either very small islands or hectads that include only a small portion of land, generally with very few taxa recorded from them.

With over half our Vice-county Recorders now being computerised, it's not surprising that 56% of the data submitted has come in on disk. This is a major achievement, as it allows a vast number of detailed records to be added to the Monks Wood database easily and efficiently. Much of this data are tetrad-level records resulting from recent county floras, and such detail considerably adds to the value of the final database. The new Atlas is therefore a huge advance over last one, where the compilation of data was done entirely by hand, was mostly at the 10 km square level, and where many Vice-Counties had only a token dot for the less common taxa. In the new Atlas, comparisons with the last will be made one to show the considerable improvement in coverage.

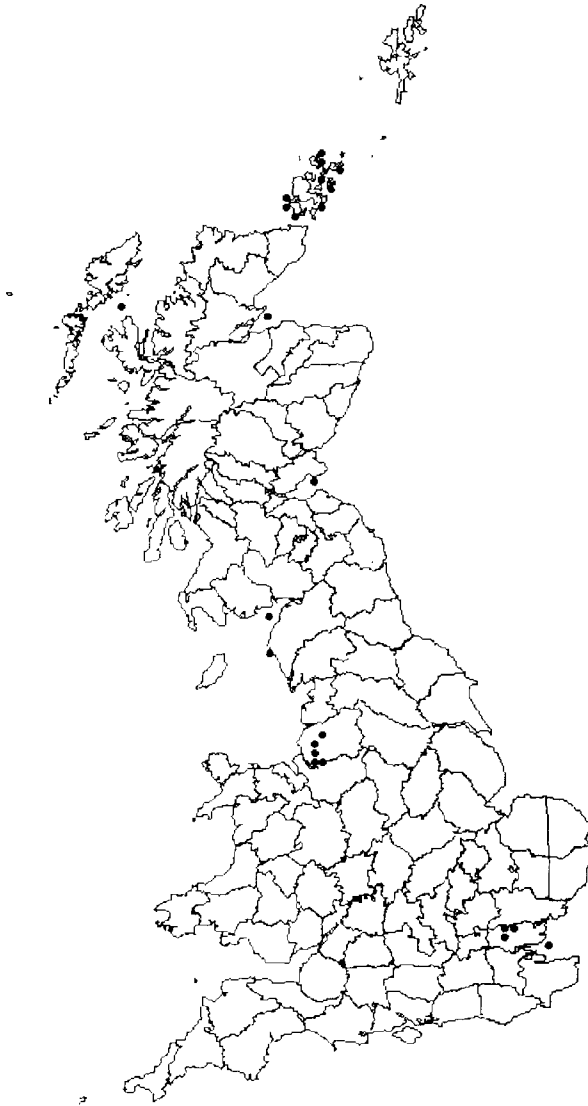
Data Received – Ireland

In Ireland, data for the Republic is now arriving rapidly, and we have currently received data for 560 squares (68% of the Republic total) (see map p. 9). New data is arriving daily, and, although the deadline for submission has passed, we were always aware that more time would be needed for the final data to be processed and submitted by Vice-county Recorders. This is mainly due to the lack of field recorders on the ground, with many counties needing the full final field season to complete their fieldwork. Thanks to the huge recording effort, however, Declan Doogue (Atlas co-ordinator for Ireland) estimates that only 40 hectads may remain unrecorded, and we may be able to get some data for these from other sources.

In Northern Ireland, data from our Vice-county Recorders, and many other sources, is being entered into a Recorder database by Fiona Maitland at CEDaR. Submission of data is expected to begin in December, and their data will account for some 16% of the Irish 10 km squares.

Data Entry at Monks Wood

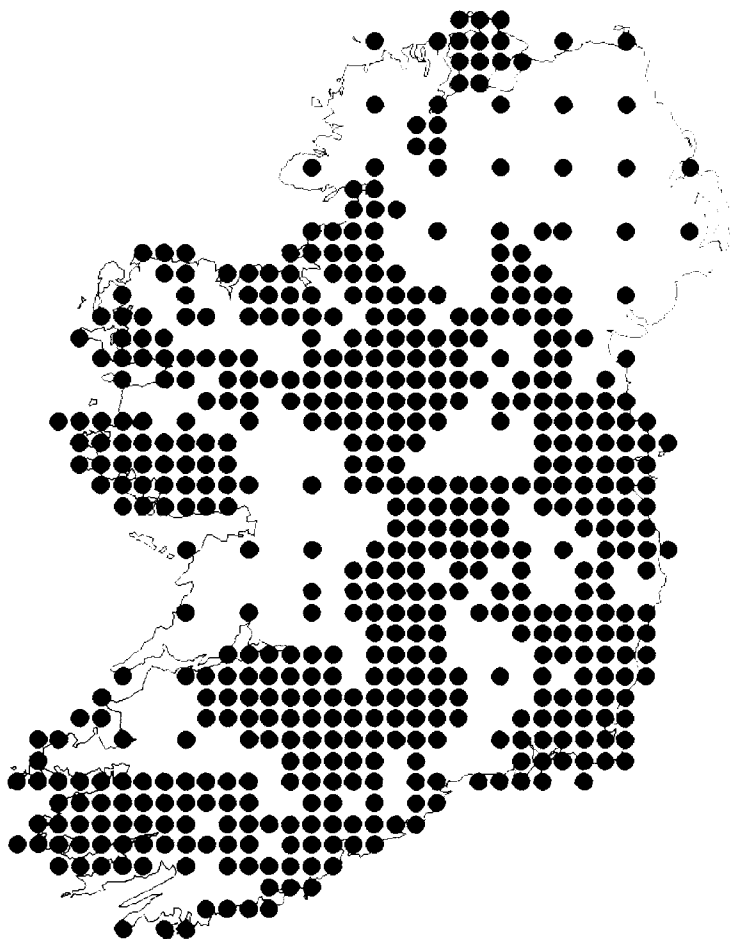
The huge task of data entry at Monks Wood continues unabated. The total number of Atlas 2000 records on the Monks Wood database now stands at an astonishing 3.7 million. The map on page 10 shows the 2382 British squares (84% of the total) and the 243 Irish Republic squares (30% of the total) for which data has now been entered.



Map showing hectads in Britain for which data has not yet been received

Captions

Captions continue to arrive from the volunteer authors, and most of these are of excellent quality. For those who haven't done so, please get them in as soon as possible. If you have completed your captions and would like to take on more, or would like to volunteer your services for the first time, please get in touch with David Pearman.



Map of Irish Data Received

Acknowledgements

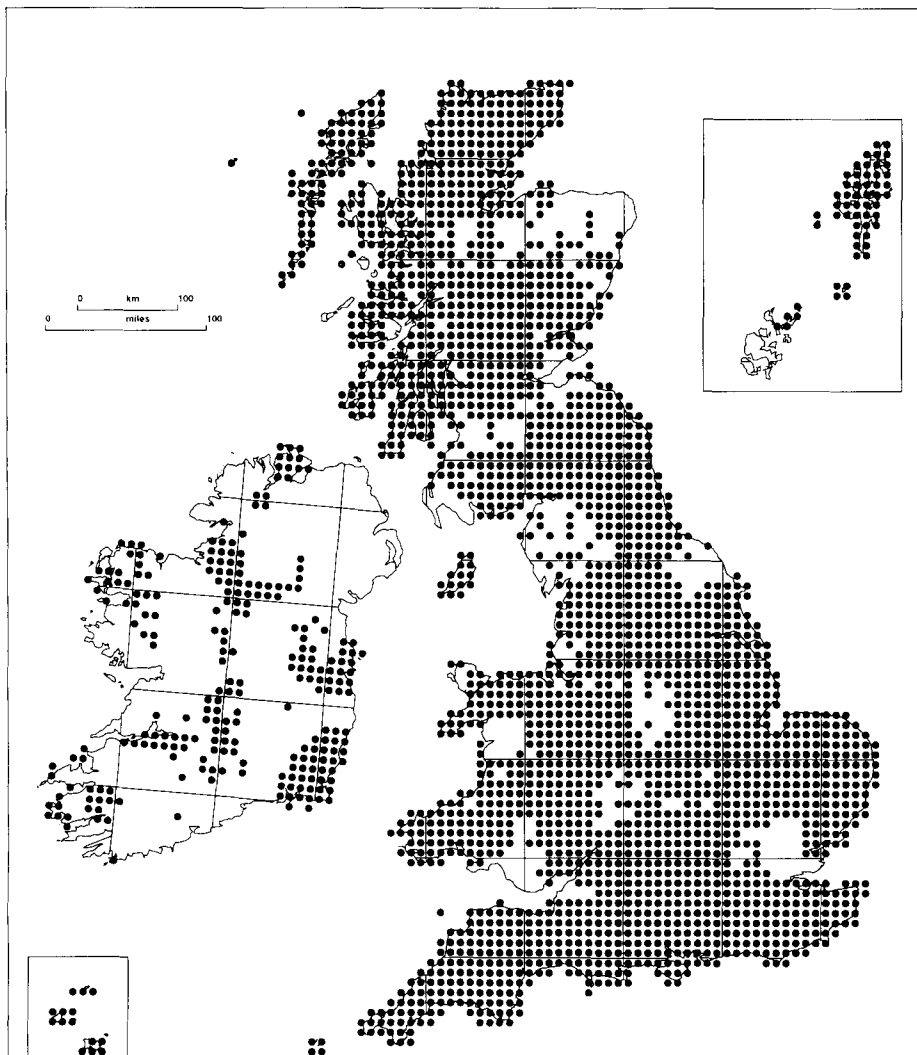
The Atlas 2000 project is funded by the Department of the Environment, Transport and the Regions (in Great Britain) with additional support from the Environment and Heritage Service (Northern Ireland) and the National Parks and Wildlife Service (Republic of Ireland). Additional financial support has come from the numerous other sources, particularly Scottish National Heritage, English Nature, RSPB and the Wild Flower Society. We are grateful to all these bodies for their support.

Stop Press

Most of the odd dots in the map of Britain have now been accounted for! We currently have records for 2826 hectads in Britain, leaving only 14 squares without Atlas data.

TREVOR DINES, Rhyd y Fwch, Bethel, Caernarfon, Gwynedd LL55 3PS. Tel: 01248 670789
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Map of data entered at Monks Wood

Postscript

As the person in charge of the BSBI's side of the Atlas project I can only echo Trevor's words that the response from our vice-county recorder network has been fantastic and even better than my own private and optimistic forecasts. For all sorts of reasons, and from lessons learnt during the Monitoring Scheme and the Scarce Plants project, the v.c. recorders have had much more to do in summarising data before it reached Trevor or BRC. If you then consider that an average v.c. Recorder had to deal with 25 hectads and over 1,200 species, the magnitude of the task can be envisaged (just!). Thank you all very much indeed.

I would like to add my thanks also, at this stage, to Chris Preston and his team at BRC (Jane Croft, Henry Arnold, Val Burton, Bill Meek and Wendy Forrest). As I write they are trying to complete the entry of all data submitted by Christmas but the vast majority has now been entered.

That leads to the next stage where I move from chief expeditor (nagger) to the huge job of helping with production of and commenting on the draft maps, on the completion and editing of the 2,300 captions, one for each species, with decisions on status and the still unresolved discussions on publication. This will occupy us until the end of September 2000, when the final product is to be handed over to DETR.

DAVID PEARMAN, Atlas 2000 project manager

JINGLE

The Atlas 2000 deadline is 1st November 1999. Life will no longer hold the same meaning any more. You may be starting to wonder what to do with yourself as you stare into that lonely, pre-Christmas gloom, facing no more ticking, checking or keying in (except, that is, for those of you still banging away at keyboards for reasons of your own).

Solely with you in mind, {insert idiots name here}, botanists from around the vice-counties have gathered together and crafted a special jingle which they hope will bring you Christmas cheer in the times ahead, when up to now all you've had is Atlas Hells.

Not available in the shops; not even available on three CDs, priced £29.99 including postage and packaging, and absolutely not available in a Peruvian Pan-Pipe version, the lyrics for this tune will be brought direct to your PC, and can be yours simply by clicking on the attachment below. To save download time you are asked to supply the music yourself.

[{CLICK HERE}](#)

NICK MOYES, Derbyshire Biological Records Centre, Derby Museum & Art Gallery, The Strand, Derby, DE1 1BS

CO-ORDINATORS' CORNER

The art of stickling

One of the things I admire most about the BSBI is that it attracts sticklers into its ranks. 'What is stickling?' You might ask. Well, the OED says that a stickler is 'a person who insists on something,' particularly on accuracy. It comes from an obsolete work stickle, 'to be umpire,' and ultimately from the Old English verb 'to set in order.' One wonders if the Old Irish, the Old Welsh and the Old Scots also had such a word, and why it is obsolete. Responses in *News* 84 will be eagerly awaited.

Stickling in the botanical sense is something I believe the modern world has a desperate need for. With an enormous amount of human effort going into ecology and conservation these days, it is surely sensible to try to actually accomplish something worthwhile. And the only way we can do that, experience tells us, is to base decisions on correct facts. It is unlikely that this argument needs any examples to support it, as every BSBI member I have met has their own stories to tell of pointless habitat creation exercises and introductions and translocations gone awry.

This year we – the BSBI – have been busy creating a stickler's database of the British flora. It is called the Threatened Plants Database (TPDB), and is based on the comprehensive database program

Recorder. *Recorder* is a stickler's program, because it holds really thorough information about a record, such as the date of birth of the person who made the record, or the name that particular species was given in the second edition of the London Catalogue. It has a reputation for being too complex and difficult to use but, as I shall show, the facts refute this.

The trouble with stickling is that it is an extremely time-consuming process: you can't evaluate a database just on the number of records it holds, and the speed with which it has been compiled. I would much rather have just one really good record, supported by a voucher specimen and properly refereed, than a thousand poor quality ones. The best people for making these detailed, accurate (correct!) records are the BSBI members. I find that they have a tendency to devote as much time as necessary to a project in order to get it right. Slowness can be a bit of a problem, as my job is to compile this database of rare plants, and there are sticklers out there who would not blanch at the thought of spending several years working on a single species. How does one reconcile the pressure to get results with the desire to get it right?

The only realistic way for anyone to do a really thorough job on botanical records is to concentrate on a fairly small set of data. A single species is ideal, or even a vice-county if you have long enough; and of course the BSBI is full of people who are doing just that. The role of the TPDB is to be the ultimate database for these people, holding everything you can possibly want to know about species, places, documents and people who are associated with rare plants. Each individual person can only concentrate on a tiny data set on their own; but the computer can then merge the lot and perform the complex analyses that we cannot do.

And that is our solution. During the first year of the TPDB project we have established a network of 28 'nodes' in the BSBI network. Each of these nodes computerises small amounts of accurate, 'stickled' data and sends it in to be compiled centrally. Although the emphasis is on quality, not quantity, the system has brought in a staggering 4 million records already, making it one of the largest recording schemes in Britain. We get together for workshops and training sessions, where such treasures as historical sources of data and electronic catalogues of museum collections are exchanged. The intention is to go up to 50 nodes by the end of 2000, and then stick there until the end of the project, because it is obviously not possible to expand to the whole of the BSBI straight away. The 28 current nodes include numerous vice-county recorders, some with local records centres who computerise the botanical records for them; several museums, including the National Museum of Wales and the Natural History Museum; and a variety of others. This gives us a broad range of skills and interests and tests the system to the limit.

The Flora of Cornwall

It is with some pride that we can say that a team of BSBI recorders have set a new standard in biological recording, in Colin French, Rose Murphy and Mary Atkinson's *Flora of Cornwall*. This production heralds a revolution in biological recording as significant as anything in the past.

The problem with a local Flora is the sheer amount of information that can be collected and presented. Some recent county Floras contain more than half a million records, mostly displayed as dot maps. The trouble with them, as anyone who has used one can tell you, is that there is not enough information in the books. They are very fine if you want to see a dot map, but unless you are one of the few people on the recording scheme who is looking to tick a new square, a map is not terribly interesting or informative. The solution, as presented by French *et al.*, is to bring out a complementary CD. If you buy this CD, you can produce your own maps and analyse all the data in the Flora. You can click on a dot and get species lists for a site, or you can click on a species and see where it grows, who found it, and what it looks like (the disk contains hundreds of photos). It is, in fact, a huge leap forward in technology: with the ability to recombine data in different ways, it must be the equivalent of 100 books the size of a typical county flora. This is a stickler's Flora indeed, and the happiest thing about it is that, should you spot a mistake in amongst all those vast files of data, you can e-mail Dr French and he will correct it immediately, for all future sales. Correcting typos after publication must be every writer's dream.

Natural History Museum

Please note we could still use volunteers at the NHM. Three people are working on the rare plants collection at present, but more would be welcome. We can help with travel and expenses. Please contact the co-ordinators if you are interested.

Historical records

Also please note that there are still places on Tim Rich's course on collating and using historical records. It is at the National Museum of Wales in Cardiff, on 26th February 2000 and costs just £15.

ALEX LOCKTON, 66 North Street, Shrewsbury, SY1 2JL. 01743 343789. alex@whild.icom-web.com

COMPUTERISATION POLICY

A few people have asked for clarification of the BSBI's computerisation policy over the last few months. The situation is as follows. Several years ago a committee looked at a variety of programs to decide which were suitable for botanical recording. It recommended three software packages as being publicly available and appropriate to use, particularly with the Atlas 2000 project in mind. All three of these were promoted by the then co-ordinator, Cameron Crook, and supplied (along with computers) to v.c. recorders and others involved in recording for the BSBI. Partly as a result of this, and partly as a result of individual initiative by others, a great number of records were successfully computerised. In total, some 15 programs were in use by the end of 1997, with Dmap, BioRecs and Erica being particularly significant in addition to the 'approved' packages, Aditsite, Biobase and Recorder. All function satisfactorily for the purposes of the Atlas, and we are very pleased with progress made by the BSBI during that period.

In 1998 Alex Lockton and Sarah Whild took over as co-ordinators, with a new contract and a new role within the Society. With Atlas 2000 well under way, there was little need – and no funding – to continue the policy of supporting computerisation generally. Instead, the priority was to design and build the Threatened Plants Database. A decision was taken that Recorder was the most appropriate software for this, and as a consequence most of the work by the co-ordinators has focused on building up the network of Recorder users. This does not mean that other programs are 'banned'. In fact, the number and variety of software packages in use has increased during the last two years, with several GIS (Geographical Information Systems) and museums cataloguing packages now actively contributing data. Many of our v.c. recorders have successfully sent in their Atlas records from programs other than Recorder, and the Atlas Co-ordinator, Trevor Dines, has been available to support this work.

With Recorder 2000 and the NBN data transfer standard just around the corner, the BSBI will be reconsidering its computerisation policy once we have a clear idea of the use – and the ease of use – of the new software. The greatest benefit to the Society would be achieved when all members would ultimately use software that was compatible and worked to similar standards; but within realistic constraints we shall of course continue to have numerous programs in use by various members of the Society. Alex Lockton is responsible for the development of information technology within the BSBI, and he reports to the Records Committee on this matter. Anyone with suggestions or recommendations to make should please contact him to discuss this matter, and he is available to provide advice to v.c. recorders and others involved in the work of the TPDB. Regrettably, we do not currently offer any direct support to ordinary members on computerisation, but Alex can offer practical advice.

DAVID PEARMAN, Chairman of Records Committee

RECORDERS AND RECORDING

PANEL OF REFEREES AND SPECIALISTS

There are several changes in the *Year Book 2000*. Ron Payne is retiring from refereeing the *Bromus* group, and Dick Roberts from *Mimulus* and *Polypodium* (which he has been determining for members for 35 years). Megan Lyall will no longer be able to continue with v.c. boundaries because she is moving away from London. Our thanks to these for all their help.

We welcome Pat Acock, who will be second referee for *Equisetum*, and Fiona Cooper who is taking on Black Poplar. John Akeroyd will add *Chenopodium* to his list, and Clive Jermy is adding *Diphasiastrum* and *Eriophorum*, and also helping with the *Dryopteris filix-mas* group. Rosemarie Rees at the Natural History Museum is taking over v.c. Boundaries (except Scotland), and Tom Cope, the general referee for grasses, is prepared to take over *Bromus*.

Some referees now have e-mail addresses listed after their postal addresses. It would be useful to know if other referees have e-mail addresses which they would like included, so that for example members could contact them in advance to find out when would be a convenient time to send specimens. Please let me know.

Important note: There is one change to a referee's address that arrived, as luck would have it, a day after *Year Book 2000* had gone to press. Andrew Dudman, one of our *Taraxacum* referees has moved and his new address is 13 Longhurst Lane, Marple Bridge, Stockport, Cheshire, SK6 5AE, e-mail: andrew@dudman97.fsnet.co.uk

Please replace the entry for *Taraxacum* on page 22 of *Year Book 2000* with the following:

Taraxacum: Mr A.A. Dudman & Dr A.J. Richards, flowers, fruits. Please send specimens to Dr Richards in the first instance. Mr Dudman will be looking after *Taraxacum* records and these should be sent to him at his new address.

MARY CLARE SHEAHAN, 61 Westmoreland Road, Barnes, London SW13 9RZ
tel.: 020 8748 4365, e-mail m.sheahan@rbgkew.org.uk

CHANGES IN VICE-COUNTY RECORDERS

Members will receive the current list with their *Year Book for 2000*, but it may be of assistance to list the changes since *BSBI News 82*

Appointments

V.c.	11 (S. Hants)	Mr P.J. Selby
	12 (N. Hants)	Mr A.R.G. Mundell
	17 (Surrey)	Mr B.W. Phillips
	98 (Argyll)	Mr G.P. Rothero
	106 (E. Ross)	Ms R. Scott to be joint recorder but all correspondence to Mr Wortham
	H38 (Co. Down)	Mr G.V. Day

Change of address

V.c. 5 (S. Somerset) Mr P. Green to Coombegate Cottage, St Ive, Liskeard, Cornwall PL14 3LZ

Resignations

V.c. 12 (N. Hants) Lady Anne Brewis. Lady Anne has been our recorder since 1973 and during that period has contributed a vast amount to British botany in general and Hampshire in particular. She was the senior author of the recent and excellent *Flora of Hampshire*.

V.c. 17 (Surrey) Mrs Joyce Smith. Our recorder since 1979 and a model of a recorder who not only had her finger on the plants of her county but who made certain that the information was made available for **all** conservation issues.

V.c. 98 (Argyll) Mr Bernard Thompson. Our recorder since 1984, he transformed our knowledge of this very large county which had always been very much of a Cinderella amongst Scottish vice-counties, to a state where it is now one of the best-covered.

V.c. H38 (Co. Down) Mr Paul Hackney. Paul has combined v.c. recordership with his museum post since 1970, and during that period has produced the latest (and essentially new) Flora of the North-East of Ireland

We thank all these recorders for their efforts over so many years.

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

BIOLOGICAL RECORDING AND SPECIES IDENTIFICATION WITH THE UNIVERSITY OF BIRMINGHAM

For the past three years we have been running a series of courses with the Field Studies Council, based at a number of their centres around the country. Students can study a range of identification modules for both higher and lower plants (and also invertebrates), National Vegetation Classification and computer courses covering Recorder and Dmap. Several students have completed enough credits to gain the Post-experience Certificate in Biological Recording and Species Identification, which includes a core module on how to record and how to use biological records. Next year we are offering an even wider range of identification modules including Charophytes with Nick Stewart, Pondweeds with Chris Preston, Conifers with Cameron Crook and Yellow Composites with Franklyn Perring. There are over fifty of these individual courses within the programme, and each one leads to the accumulation of university credits through a series of informal assessments including identification tests, constructing keys, short essays and field reports.

From September 2000 we are hoping to expand this programme with a full suite of postgraduate programmes (still subject to the last stages of approval), from a Postgraduate Certificate and Diploma up to a Masters Degree in Biological Recording: Collection and Management. These programmes are designed for recorders who work actively at a record centre or perform an integral part of a recording scheme. The essence of the programme is to provide a good grounding in the philosophy of biological recording and at the end of the course the student should be able to make reliable records and design sound and scientific recording schemes for a range of taxa and regions.

If you are interested in any aspect of these programmes, please contact me at the address below for a brochure and enrolment form.

SARAH WHILD, The University of Birmingham, The Gateway, Chester Street, Shrewsbury SY1 1NB,
e-mail: S.J.Whild@bham.ac.uk; tel.: 01743 355137

WHAT SHALL WE DO THIS MILLENNIUM?

I have recently been asked several times about worthwhile post-*Atlas 2000* botanical recording projects. Apart from the response 'two years complete rest', I have outlined some thoughts below with examples.

One of the recommendations from the BSBI Monitoring Scheme, still to be implemented, was that a national plan for recording should be drawn up so that local work could dovetail into the wider picture. I therefore suggest that the next fifteen years should be spent doing local projects including three for a Red Data Book 2010, and then begin work for an Atlas 2015-2025 with standardised recording. To start with, then, anyone who has not thought of keeping post-Millennium records separate from pre-Millennium records should seriously consider doing so.

1. County and local floras

I am sure that county floras will continue to be a focus for recording activity. Obvious priorities are those counties for which floras are not already available, especially in Scotland and Ireland (c.f. *British Wildlife* 10: 373, 1999), and some others which are due for updating after 25 years or so. For many counties repeating recent atlases will simply not be worth the effort in the short term, and detailed studies of smaller areas may be more appropriate (e.g. parishes, cities, national parks, etc.). A number of these projects can be carried out in each county simultaneously by different botanists, and they are achievable in the short term.

The conservation agencies have long wanted the BSBI to do more site-specific work rather than being so obsessed with grid squares. Anyone doubting the value of site surveys only has to look at the mega-declines in heath species noted in the Pearman and Byfield repeat survey of Good's *Flora of Dorset*. I doubt it will be long before someone undertakes a full-scale site-based flora; it is already being done for some parishes.

If floras are to be written, I ask that more standardisation in sampling is carried out and full records kept of the work done (c.f. our *Flora of Ashdown Forest*). It is so difficult to get anything statistically reliable from the current *ad hoc* recording methods.

2. Surveys of specific habitats

Len and Pat Livermore carried out several detailed surveys of specific habitats in Lancashire (e.g. the coast, canals), which were enormously valuable in finding good new sites, showing some plants were more frequent than had been realised, and provided hard data for conservation, etc. In Cardiff, we surveyed all the ponds and found 141 wetland species (c.43% of the wetland flora of Britain), 25% of which only occurred in one or two ponds. Such surveys are relatively simple and are achievable in a few years, and are a very good way to start for the less experienced.

3. Historical records

I am still surprised at the lack of knowledge of the huge amount of historical information available, including amazing books such as N.D. Simpsons' *Bibliographical Index of the British flora*, and the wealth of information in herbaria (especially local herbaria – I suspect there are as many discoveries to be made in herbaria as there are in the field). Computerising all our historical literature ought to be achievable for all counties now; it only needs to be done once, makes interesting work for the winter, and the BSBI database will help for the literature back to 1958. Computerising the herbaria is more complex and slower but is being done. Anyone wanting advice on how to go about tracing and compiling historical records is welcome to come on my course on 26 February (see page 13).

Once the historical records are sorted, are the plants still there? One of the fascinating things about finding W.H. Coleman's *Flora of East Grinstead* (1836) was seeing just how many plants were still present during our Ashdown Forest flora work, and it was equally fun finding out how many had gone and guessing at why. It gave a completely new perspective to some sites.

4. Species surveys

We now have botanical Red Data Books or Red Lists published or in preparation for about 20 counties; compilation of these should be another priority.

Detailed surveys of rare or scarce species at a national level are also practical, and should fit in with the threatened Plants Database (TPDB) which may be able to help provide historical records to check.

I have had much fun chasing round species such as *Cardamine bulbifera*, *Sorbus lancestricensis*, *Thlaspi perfoliatum* and others. I also find annual monitoring of rare species enormously instructive, especially in relation to variations in climate and management (e.g. *Filago pyramidata*, *Edinburgh Journal of Botany* **56**: 61-73, 1999) and wish this was carried out much more widely.

Other county specialities may also be worth surveying, even if not rare. For instance, Sarah Richardson searched all the Wealden sites for *Hymenophyllum tunbrigense* and found it had gone from eight sites, and in six of the remaining twelve only one patch was present (*Fern Gazette* **15**: 51-64, 1995).

These surveys may then also lead on to ecological work, such as measuring soil pHs, assessing how well the plants grow, looking at pollination, seed dispersal, etc. Sarah also measured the size of every *Hymenophyllum* patch, and assuming size was related to age we traced the onset of the decline to the late 1950s/early 1960s, not to the Great Storm of 1987. There is a huge amount of simple observation to do, and it is possible to really get to know a species very well by detailed work.

5. Surveys of critical species

There is an urgent need for more botanists to take up one or more critical groups. Admittedly, getting to grips with *Taraxacum* or *Rubus* takes a lot of time and effort and requires a reference collection, but can be very rewarding with discovery of new species, many new records, etc. There is also an urgent need for data to provide information for their conservation; four of the five *Hieracium* endemics I have surveyed in the last two years are only known now in one site, and I suspect lowland grassland *Taraxacums* are even more desperately threatened.

6. Local monitoring projects

Some of the work coming out of Holland and Scandinavia is proving very interesting, providing statistically reliable estimates of change (if set up properly; ask advice). For example, Alf Oredsson (*Svensk Botanisk Tidskrift* **84**: 293-311, 1990) recorded all species present in small plots covering a range of habitats in 1964 and repeated it 25 years later, and found marked change. This type of project would be suitable to many counties, covering ponds, road verges, etc.

Whatever you decide to do, enjoy it. I've had an enormous amount of pleasure and made many botanical friends doing such projects, and I hope this will continue for many years to come.

TIM RICH, BioSyB, National Museum & Gallery, Cardiff CF10 3NP

A BOTANICAL SURVEY OF KITTERLAND

Introduction

The first ever survey (as far as is known) of the flowering plants of Kitterland Islet, SC/171.665, Rushen, Isle of Man was carried out with the assistance of a helicopter flown by Mr C D. Pemberton on 7th September 1998. The helicopter was needed because landings from the sea are so difficult that even the young and agile find them barely possible – the *Manx Bird Atlas* observers swam ashore in wet suits!

My project was commissioned by Manx National Heritage and partly funded by a Manx Airlines Environmental Project 2000 award and I was accompanied Mr Geoff Mitchell of Manx National Heritage. My visit formed part of the research for the BSBI Atlas 2000 project and means that v.c. 71 was fully covered (thanks to all concerned).

The Islet

Kitterland is an islet of Manx Slate set in the sluicing tides of the Sound which separates the Calf of Man from the Manx mainland. It would appear that 'the Parade' area there, SC/174.666, was created as a deltaic fan by water running off the retreating ice into water dammed against the rock by ice during the closing stages of the last Ice Age. Kitterland is thus of some antiquity as an island. It was acquired by the Manx National Trust (an IOM government body) now subsumed in Manx National Heritage) as

a supplement to its main holding in the area, the Calf of Man island. This had been held by the National Trust for England and Wales since 1937 and passed to the Manx body in 1986.

The visit on 8th September, 1998

A helicopter landing was made on the eastern, grassy, portion of the islet. According to the acreage book for the 1869 25 in O.S. Plan this was formerly pasture and is 3.197 acres in area, while its rocky apron and the western portion extend to a further 6.326 acres. It was divided into two holdings. When last used for grazing (before 1930) some six sheep were put ashore for the summer months by only one user. The impression on landing was that the grassy patch was now little more than one acre in area. This was studied fairly intensively.

It had an approximately 0.8 m deep layer of fibrous soil deeply gullied by run-off channels away from the small rock outcrops. It seems to be bounded by a man-made bank which may be a relic of Dark Age occupation, or use as a defensive site during the time of the Norse Kingdom of Mann and the Isles.

Flowering Plants

The vegetation was a mosaic of Common Bent*, (*Agrostis capillaris*) grassland, with Common Sorrel (*Rumex acetosa*) growing luxuriantly in the gullies, together with some Common Orache (*Atriplex parula*). Sea Campion (*Silene uniflora*) sometimes formed rounded hummocks. Sea Mayweed (*Tripleurospermum maritimum*) and a second grass, Yorkshire-fog (*Holcus lanatus*) were also present. The last is also on the Calf, particularly where the bracken was treated with herbicide, as above Jane's House Thrift (*Armeria maritima*), English Stonecrop (*Sedum anglicum*) and Rock Sea-spurrey (*Spergularia rupicola*) were growing on the rocky exposures. A pale form of Smooth Sow-thistle (*Sonchus oleraceus*) was scattered towards the tidemark, together with a very little Knotgrass (*Polygonum aviculare*). A seedling Scurvygrass *Cochlearia* sp. was found in the bottom of one gully.

Somewhat surprisingly no plantains were found and ferns were also absent. Thus it seems that the Flora consists of a mere twelve species. Nevertheless, Kitterland **was** covered for *Atlas 2000*.

*Bent is used in the Isle of Man as the name for Marram Grass (*Ammophila arenaria*).

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A RULE OF THUMB FOR BOTANISTS: THE 1 IN 20 RULE

There have apparently been instances in the past where well-meaning botanists have destroyed plant populations through over zealous collecting. The case most familiar to me concerns one of the world's rarest ferns, the pumice grape-fern, *Botrychium pumicola*. A student searching for new sites found two individuals of this species on Oregon's Tumalo Mountain in 1954 which he collected to make herbarium specimens. In the late 1970s I searched the top of Tumalo Mountain with friends. We were experienced fern hunters, but we found no *Botrychium*. I strongly suspect that the two plants removed in 1954 eliminated the population at this location. Today we would hope that botanists finding only one or two plants at a site would document their discovery with photographs and notes. Good photographs and careful field notes are increasingly acceptable for recording plant discoveries.

Nevertheless, from time to time, a field worker may encounter a small population of a plant and feel it is necessary to collect a bit of it for positive identification and documentation. The Native Plant Society of Oregon's Guidelines and Ethical Codes for botanists urges that a collector use good judgement and rules of thumb when deciding whether or not to collect. But in this case, what is a good rule of thumb? During the past 10 years, I have been using what I call the '1-in-20 Rule'.

The 1-in-20 Rule dictates that a botanist never collect more than one out of twenty plants. It means **NOT** collecting **ONE** plant **UNTIL** you have found at least **TWENTY**. Only if twenty are found should you consider collecting one plant. And forty should be present before two are taken, and so on.

The rule applies to parts of plants, also remove no more than 5% (one-twentieth) of a shrub, one fern frond from a clump of twenty, 5% of a patch of moss, 5% of seeds from a plant. I use the 1-in-20 Rule whether I am collecting voucher specimens for the herbarium, doing rare plant work, or gathering common species for classroom use.

The 1-in-20 Rule does not obviate the need for good judgement. Only when a botanist has the knowledge to assess whether collecting is both ecologically justified and legally permitted should a specimen be taken. Any pertinent factor relating to the survival of a population needs to be superimposed on the 1-in-20 Rule. The main value of this rule of thumb is to provide a clear point of reference from which to begin assessing a situation. It helps a botanist determine how much time should be spent inventorying before sampling is appropriate. I suggest the 1-in-20 Rule as a minimal criterion to be met before any taking of a plant be considered.

There is at least a modicum of scientific logic behind this rule. Statistically, a population sample of nineteen is not significantly different from a sample of twenty. One population geneticist I consulted advised me that contemporary statistical theory would support the 1-in-20 Rule. Another pointed out, however, that repeated collecting would tend to reduce every population to nineteen individuals. This caution serves to emphasise that the 1-in-20 Rule is a rule of thumb, not a license to ravage.

An interesting line of argument in support of the 1-in-20 rule has developed since I first published the idea in the *Bulletin of the Native Plant Society of Oregon* in 1991. First, I received a letter from James Grimes of the New York Botanical Garden querying whether or not I had picked up the idea from a similar article he and others had published in the newsletter of the Idaho Native Plant Society a few years before. I honestly cannot recall seeing their note. Then, last year, four botanists from Australia and New Zealand published an article in the international journal, *Taxon*, which made essentially the same recommendation. Thus, three botanists or groups of botanists, deliberating independently, have arrived at the same standard. I submit that this concurrence from three separate sources speaks strongly for the sensibility of the 1-in-20 Rule.

[This paper was originally published in the *Oregon Flora On-Line Newsletter* **1(3)**, Oregon State University, July 1995. I am grateful to the author for permission to reprint it here and to Mike Grant of RHS who sent me the paper and contacted the author. Ed.]

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NOTES AND ARTICLES

COVER DESIGNS

Last August I received the latest issue of *Systematic Botany* (about seven months late I might add) published by the American Society of Plant Taxonomists – with its redesigned front cover. Flattery, Sincerest, Imitation, are words that spring to mind. It's the spitting image of the new *Watsonia* design – same colour, same title layout, same black and white drawings inside a white panel – even the size of the illustration is the same. Apparently we can still teach the Americans a thing or two!

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A PREVIOUSLY UNRECOGNISED *BROMUS*

Since the note in *BSBI News* (1999 **81**: 14) entitled 'A New *Bromus*?' was published in April it has been found that *Bromus hordeaceus* '*longipedicellatus*' n.p. is widespread in England and Wales. So far it has been confirmed in four islands of the Scillies, in E. and W. Cornwall, in S. and N. Devon, in Dorset, in S. and N. Somerset, in S. and N. Wiltshire, in Monmouthshire, in Glamorgan, in Carmarthenshire, in Cardiganshire, in Montgomeryshire, in Merionethshire, in Cheshire, in W. Lancashire, in S.W., mid-W., and S.E. Yorkshire, in N. Lincolnshire, in E. Suffolk, in S. Essex, in E. and W. Kent, in E. Sussex, in Surrey and in Berkshire. (Middle England, Scotland and Ireland please note).

Bromus hordeaceus '*longipedicellatus*' is common. Those botanists who went out after April 1999 to deliberately assess populations of *Bromus* have reported that in the areas studied *B. hordeaceus* '*longipedicellatus*' is as common as *B. hordeaceus* subsp. *hordeaceus*. **Many more similar surveys are needed this year, please**

Bromus hordeaceus '*longipedicellatus*' is one of the earliest grasses to flower in Britain. It germinates in late summer, and is wintergreen with most growth occurring in the autumn and in the spring. In Southern Britain it begins to flower in late April, just before *Anthoxanthum odoratum* (Sweet Vernal-grass), and about 3 weeks before *Bromus hordeaceus* subsp. *hordeaceus* (Soft-brome) (mid-May), and about 7 weeks before *B. commutatus* (Meadow Brome) (mid-June) when *B. hordeaceus* '*longipedicellatus*' will already be disarticulating and shedding fruit. *B. hordeaceus* '*longipedicellatus*' is usually quite robust and specimens in flower with culms exceeding 100 cm have been collected from road verges in early May, where it is soon cut, which is perhaps why it has not been noticed before.

Bromus hordeaceus '*longipedicellatus*' has a much looser panicle than *B. hordeaceus* subsp. *hordeaceus* and thus can resemble *B. commutatus*. But *B. hordeaceus* '*longipedicellatus*' has papery and not leathery lemmas and it has much longer 2.0-3.5 mm anthers. Anthers of this length are also found in *B. racemosus* (Smooth Brome). The lemmas of that species are leathery and glabrous; those of *B. commutatus* are leathery and glabrous but hairy in *B. commutatus* var. *pubeus*; and those of *B. hordeaceus* '*longipedicellatus*' are papery and hairy. This is illustrated in the diagram on the next page.

Only intact (not dehiscent) anthers from the lower florets of the larger spikelets should be measured. Atypically short (cleistogamous?) anthers occur in the upper florets, and in small spikelets, and in all florets when the caryopsis begins to develop. These shorter anthers should be ignored.

It is good practice before measuring anthers to re-moisten them by soaking one or more spikelets for a few hours in water to which a little wetting agent has been added. This also facilitates dissection and aids the blunt needle prodding test used to determine whether the lemmas are papery or leathery.

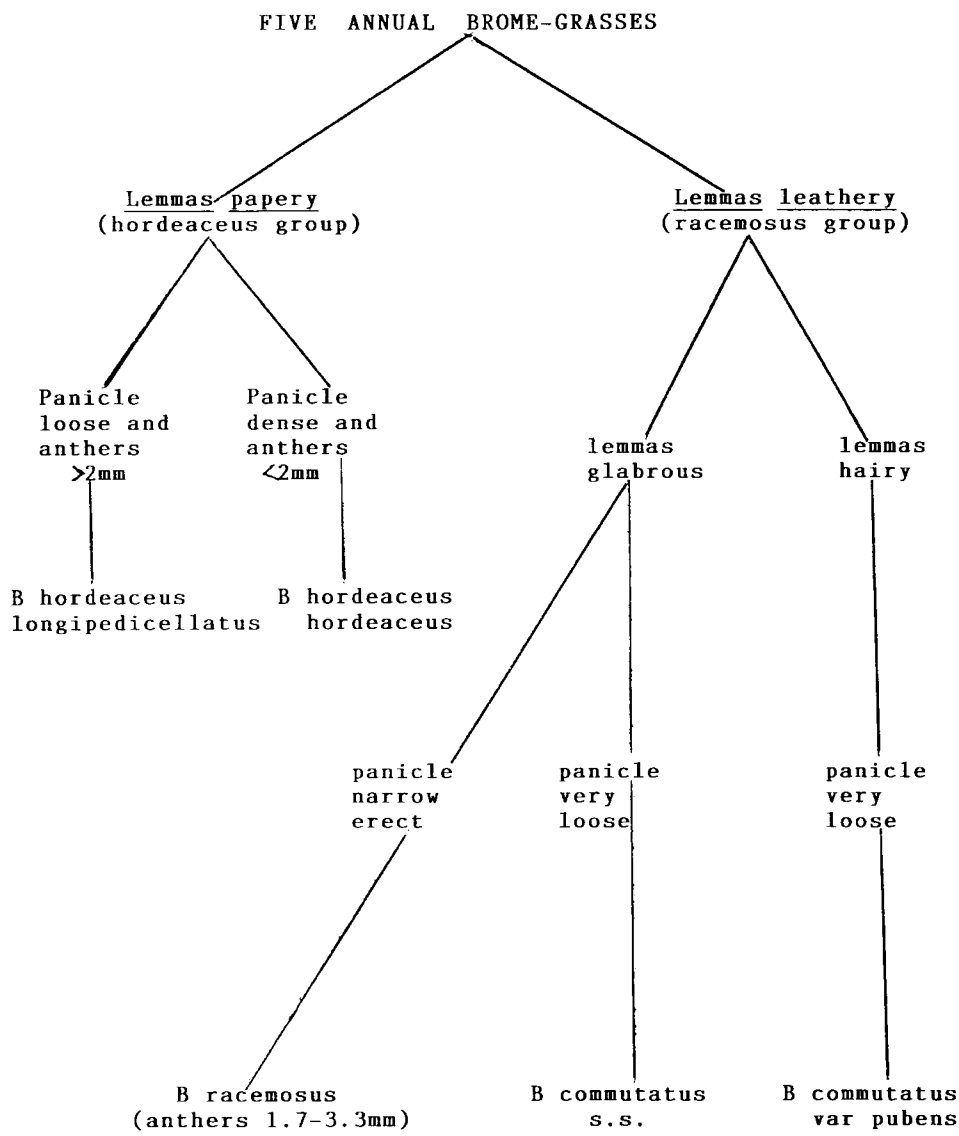
Determining the texture of the lemmas is not easy but it is fundamental. To begin with lemmas from known specimens of *Bromus hordeaceus* and of *B. commutatus* can be used as comparative controls. When prodded with a blunt needle papery lemmas appear, under a microscope or good lens, to be thin and fragile. Leathery lemmas resist the needle pressure more and when they eventually give under pressure it is over a wider area (flexibility). When the caryopsis has developed it becomes bonded to the lemma thus apparently hardening the lemma, so prodding to determine lemma texture can only then be done at the apex and on the margins which are not reinforced in this way.

The other character used to assess lemma texture, whether the veins of the lemmas are prominent or rather obscure, is useful in herbarium specimens but is not reliable in fresh material.

So *Bromus hordeaceus* '*longipedicellatus*' is determined by its papery and hairy lemmas, plus a **combination** of a looser panicle with longer pedicels, or peduncles than in *B. hordeaceus* subsp. *hordeaceus* and at least some intact anthers measuring more than 2 mm.

The status of *B. hordeaceus* '*longipedicellatus*' has not yet been established and more work needs to be done, hence the need for more specimens. However it does appear that it may have arisen from a *B. hordeaceus* and *B. racemosus* gene transfer. The cytology is being investigated.

The writer is eager to examine more specimens. He would also welcome more information on the relative frequency of *B. hordeaceus* '*longipedicellatus*' and *B. hordeaceus* subsp. *hordeaceus*.



EDMUND PITT (1613-1688) AND *SORBUS DOMESTICA* IN WYRE FOREST

A single specimen of the Service-tree, *Sorbus domestica* L., grew in the Wyre Forest apparently from ancient times until it was burned down in 1862 (Lees 1867). It was the only British specimen known to be growing in the wild. This tree has recently received attention from Hampton and Kay (1995) and Peter Marren (1999) in his new book *Britain's rare flowers*. Hampton and Kay (1995) state that it was first described in 1678 and Marren (1999) that this description was made by '... a local alderman ...'. I have recently had occasion to trace this alderman. My findings may be of interest.

In the *Philosophical Transactions* of the Royal Society for 1678 an extract of a letter from '... Mr. Edmund Pitt, Alderman of Worcester, a very knowing Botanist, concerning the *Sorbus Pyriformis*' appears. That Pitt was 'a very knowing Botanist, ...' was presumably the opinion of the editor. Desmond (1977) mentions this letter. The extract is of sufficient interest to be worth reproducing in full:

'Last year I found a Rarity growing wild in a Forest of this County of Worcester. It is described by L'Obelius under the name of *Sorbus Pyriformis*: as also by Mathiolus upon Dioscorides. And by Bauhinus [sic], under the name of *Sorbus Procera*. And they agree, that in France, Germany, and Italy they are commonly found. But neither These, nor any of our own Country-men, as Gerard, Parkinson, Johnson, How, nor those Learned Authors Merrett or Ray, have taken notice of its being a Native of England. Nor have any of our English Writers so much as mention'd it. Saving, that Mr. Lyte, in his Translation of *Dodonaeus*, describes it under the name of the *Sorb-Apple*. But saith no more of the place, but that it groweth in Dutch-Land.

It resembles the *Ornus* or *Quicken Tree*; only the *Ornus* bears the Flowers and Fruit at the end, This, on the sides of the branch. Next the Sun, the Fruit hath a dark-red blush: and is about the bigness of a small *Junetina* Pear. In September, so rough, as to be ready to strangle one. But being then gather'd, and kept till October, they eat as well as any Medlar.'

The editor has added a query to the extract:

'Whether a Verjuice made of this Fruit, either ground with Crabs, or Grapes, or if plentiful, alone, would not, being kept for some time, prove one of the best acid-astringent Sawces, that Nature affords.'

Pitt seems to be under some misunderstanding about '... our *English Writers* ...'. Nash (1781) states that: '... the common people in the neighbourhood, among whom this tree had been esteemed a curiosity for upwards of an hundred years, call it not improperly the quicken pear-tree ...'. Anon. (1911) concludes that: '... the existence of the tree was not generally known before Pitt's time and that its fame arose in consequence of his having drawn attention to its rarity.' As a result of the publication of this extract in *Philosophical Transactions* Thomas Lawson of Great Strickland in Westmorland apparently wrote to Pitt for a cutting of *S. domestica* which Pitt duly sent ([Newton], [21689]). Lawson was the first Quaker botanist and a correspondent of John Ray.

Sorbus domestica also found its way into the Oxford Botanic Garden. How did it get there? In 1706 or 1707 Christian Heinrich Erndtel (1711, cited in Vines and Druce, 1914) a Saxon physician, visited the Garden. He wrote a letter to a friend in Dresden in which he made the following observations about the Garden (translated from the Latin):

(p. 49) 'Beside the Library I frequently visited the Physick Garden, where M^r Bobart, who is an Eminent Botanist, and one of great Civility, is the Keeper and Professor, ... This Garden is famous for scarce Plants & Exoticks of all kinds, the choicest of which M^r Bobart shewed me. The first was the *Sorbum Verum*, the Sorb or Quicken Tree, which bears the same Flower and Leaves with the *Sorbus Aucuparia*, but the Fruit is different, and more like a Pear, being fleshy, and of the Medlar kind. This tree only grows in one woody Place in England, and that is in Worcestershire, from whence this Species was propagated ...'

There can be little doubt that Pitt was involved here. If Pitt searched through the botanical literature himself for references to what we now know as *S. domestica* then he was indeed a '... very knowing botanist.' Lees (1867) states that he appears to have been the 'first botanical writer connected with Worcestershire ...'. So who was he?

He was born in 1613 and died in 1688 (Meekings *et al.*, 1983). An Edmund Pitt was baptised at Colwall some ten miles south-west of Worcester near the Herefordshire / Worcestershire border on 20 May, 1614 (M. Lawley, pers. comm.). William How's personal, interleaved copy of his *Phytologia Britannica*, published in 1650, is in the Old Library at Magdalen College, Oxford, being part of the John Goodyer bequest of 1664. How has annotated it in preparation for a second edition. These annotations are printed in Gunther (1922). His death in 1656 meant that he never saw it through. On folios two and three there is a block of sixteen annotated records which I believe were submitted by Pitt, in the period 1650 to 1656. My reasons for coming to this conclusion are as follows. The site for one record is given as '... neere Kiddermaster Pitts.' Kidderminster is near the Wyre Forest. In this enquiry I have come across the surname Pitt as Pitts, Pytt, Pytts, Pett and even, I believe, Pink (in Merrett's *Pinax* of 1666). Other sites mentioned are 'red Morley' (Redmarley D'Abitot), 'Lydberry' (Ledbury), Yatton, 'Alchurch' (Alvechurch), and Worcester. The first three places are not far from Colwall. Alvechurch is not far west of Kidderminster. So Pitt may have taken up botanising near his home as a boy. He became an apothecary (Meekings *et al.*, 1983). Indeed, he became a 'well-to-do city apothecary', in Worcester (Hughes, 1990). In 1660 he lived at 6 Mealcheapen Street, Worcester, a large house of some historical interest (Hughes, 1990). In his will he is described as a gentleman. He became a Worcester City councillor in 1646, served as mayor in 1656-57 and was made a permanent alderman in 1670 (Meekings *et al.*, 1983). J.G.L. Burnby (pers. comm.) points out that as Pitt was a mayor in 1656: '... he was probably a "good" Parliamentarian.' Pitt died on 15 September, 1688, aged 75 (Bond, 1974), and was buried at St Martin's Church, Worcester, on 21 September, 1688 (C. J. Parry, pers. comm.).

This short biography reveals two particular points of interest. Firstly, he was interested in botany and became an apothecary. At this time the medicine practised by apothecaries was inextricably bound up with plant simples. To become an apothecary his parents must have been able to afford to have him apprenticed. Secondly, Pitt was a Parliamentarian botanist. Was botany mainly the preserve of the generally better-off Royalists? Thomas Johnson, William How, Walter Stonehouse and John Tradescant the elder and younger were all Royalists. There can be little doubt that the sympathies of John Parkinson and Christopher Merrett also lay in this direction. There is some doubt about John Goodyer (D.E. Allen, in press). However, although Pitt was a Parliamentarian, he was 'well-to-do'. Thomas Willisel was one of Cromwell's foot soldiers when he took up botany and he was certainly not well-off. However, it is not known if he was a convinced Parliamentarian.

I should like to thank Mark Lawley and Colin Parry for help with this article.

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OENOTHERA AND ATLAS 2000

Introduction

In response to my article 'Oenothera (Evening-primroses) – The Way Forward' (Bowra 1999), Professor K. Rostanski has agreed that the *Oenothera* situation in Great Britain is:

'... a peculiar one. Thanks [to] hybridizations it is difficult to find true species, which we can distinguish in other parts of Europe and East Asia, especially there, where are growing true populations without other invaders' (pers. comm. June 1999).

His professional support is very welcome; I sent him many of my early specimens.

The genetic peculiarities

Oenothera are essentially clonal. This rare true-breeding behaviour is described by P.H. Raven in *Flora Europaea* (1968), mentioned by A.R. Clapham in the *Flora of the British Isles* 3rd ed. (1987) but not at all in the *New Flora* (Stace 1991 & 1997). Yet with our present taxonomy, this genetic fact is the key to correct identification: essentially clonal plants vary according to growing conditions but not at all in their taxonomic characters. It follows that all *Oenothera* with mixed taxonomic characters are hybrids.

The species: identification

Oenothera biennis (Common Evening-primrose), *O. glazioviana* (Large-flowered Evening-primrose) and *O. cambrica* (Small-flowered Evening-primrose) are recognised in Britain as separate entities but usually if not always hybridise when they meet. (*O. stricta* (Fragrant Evening-primrose) also grows in Britain but no hybrids are known).

Correct identification needs close scrutiny seldom possible in the field. 'Pure' plants can only safely be identified from mature specimens which show all relevant taxonomic characters (*Plant Crib* (Bowra 1998)) but there can still be doubts because of overlapping characters, e.g. both *O. biennis* and *O. cambrica* have green sepals. Identification of hybrids, however, can often be made from incomplete material: a species' presence can be shown by only one good taxonomic character, in fact triple hybrids can quite often be very easy to identify. As in *Epilobium*, the indumentum is important, in quality but also in quantity.

The recent American taxonomic revision includes *O. cambrica* in a variable *O. biennis* and, if adopted in Britain, would much simplify identification (Bowra 1999).

Present distribution

Oenothera biennis can still be found in isolated old gardens, nurseries and the like (but seldom if ever frequent); *O. glazioviana* in a few isolated colonies and as garden escapes; and *O. cambrica* (despite appearances) only occasionally in Wales, perhaps in Jersey, and rarely in England mostly alongside railways.

For very many years our large population has consisted of annually back-crossing hybrid swarms; and each of the multitude of hybrids, if isolated, would breed as true as a clone no different in substance from our existing three species.

It is logical that hybrid swarms began when the species first met. Indeed, among 14 specimens between 1832 and 1900 from the Liverpool and Manchester herbaria, all were hybrids: ten *O. biennis* ×

O. cambrica while four later specimens included *O. glazioviana* (Bowra 1997). The many hybrid swarms have apparently never been recognised as such.

During this long period, the true genetic nature of *Oenothera* was either unknown or, recently, disregarded. Moreover, the creation of new hybrid swarms became rare events, seldom witnessed, but at Emscote, between 1980 and 1988, all c.90% of 'pure' plants in a new three species colony of several thousand disappeared into an annually back-crossing hybrid swarm within eight years (Bowra 1992).

Conclusions

Most British botanists are unaware of the taxonomic complexities of *Oenothera*. Professional publicity is needed to make more widely known the natural behaviour of these very unusual plants. The complete absence of such knowledge from the popular British Floras makes it inevitable that 'pure' species will have been much over-recorded for Atlas 2000. If accuracy is to be achieved, a way should be found to take into account the real long-standing British situation.

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BOTANICAL AIDES-MEMOIRES

On account of feebleness of memory, I often find myself in the situation of knowing what character to examine to distinguish a plant from a close relative, but not knowing which way round the result indicates. For example, I know that one can distinguish between *Melilotus officinalis* (Ribbed Melilot) and *M. altissimus* (Tall Melilot) by whether the fruit is black, brown, pubescent or glabrous, but I cannot remember which is which!

In this situation an aide-memoire is invaluable and here are three examples I have come across.

- **ALPS** – this stands for *arvense* long, *palustre* short, i.e. in *Equisetum arvense* (Field Horsetail) the lowest sheath on the branches is longer than the sheath on the main stem, but shorter in *E. palustre* (Marsh Horsetail) (usually!).
- **Rubra** round, **Ovina** open (or overlapping) which refers to the leaf-sheaths of *Festuca rubra* (Red Fescue) and *F. ovina* (Sheep's-fescue) being closed and open respectively.
- **Wood** has one – an alliterative reference to the number of tubercles on the valves of *Rumex sanguineus* (Wood Dock), whereas Clustered Dock (*R. conglomeratus*) has to have 3 tubercles in order to have a cluster.

These have all been acquired by chance from fellow botanists in the field and I have found them so invaluable that I am launching a plea for members to send me more before the strain on my memory becomes too much. I would then put them together and publish the result in *BSBI News* for the salvation of all. So please do not hesitate, but send me your pearls of wisdom now and ensure that Atlas 2050 is even better than Atlas 2000 will be!

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SAXIFRAGA HYPNOIDES IN GOWER (v.c. 41)

Since 1992 I have been observing a small colony of *Saxifraga hypnoides* (Mossy Saxifrage) covering several square metres, growing on the Carboniferous Limestone sea cliffs of south Gower, at least 500 m from the nearest habitation.

Dr Quentin Kay is, I know, of the opinion that if it was native there it would have spread further, but it appears that it is inhibited by *Corylus avellana* (Hazel) and *Prunus spinosa* (Blackthorn) scrub which is itself wind-pruned by the prevailing salt-laden wind. The small ledges on which it grows are suitably damp, due in part at least to seepage. I have also found the odd plant on the lower, exposed cliffs nearer the sea but it does not persist there because of summer desiccation.

The south Gower cliffs hold a number of refuge species (*Helianthemum oelandicum* subsp. *incanum* (Hoary Rock-rose), *Hippocrepis comosa* (Horseshoe Vetch) and *Veronica spicata* (Spiked Speedwell) for instance) and it might be logical to view the Gower saxifrage in that light, but this would require scientific study to determine. It is not of course the most southerly site, the Cheddar Gorge population has been known since the eighteenth century. Incidentally, I note that Stace (1997) gives dunes as one of its habitats so it is clearly no stranger to coastal situations.

Reference

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CYPRIPEDIUM IN HAMPSHIRE???

The nature diaries of Sir Edward Grey and his first wife, Dorothy, privately printed in 1909 in a very limited edition have recently been rediscovered and published with added illustrations.

The diaries cover the years from 1894 to 1905 when the Greys had a cottage at Itchen Abbas near Winchester and spent most weekends and other free time there studying nature and recording their observations in a joint diary. As well as being an MP for many years, Sir Edward was also a well known field naturalist and celebrated author.

An entry for June 1902 records:

'We trailed to the lady's slipper place on Sunday evening and found it in full flower its lazy scent rose round us as we walked.'

The accompanying illustration is of *Cypripedium* sp. but as the paintings were specially commissioned for the new publication it is probable that they were done to suit the text and can be ignored. The location, described as 'a very choice place' was revealed as 'to the north of Itchen Wood.'

The question remains, what plant could the Greys have seen which they referred to as 'lady's slipper' (no mention of orchid)? It is most unlikely that *Cypripedium calceolus* was present in Hampshire, unless planted. Another case of vernacular confusion or perhaps a local name used in Hampshire for some other species. A vernacular name peculiar to the county is most unlikely because the Greys were both native Northumbrians. Their main residence being Fallodon in Northumberland.

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A NEW SITE FOR *PARENTUCELLIA VISCOSA* IN Co. DOWN (V.C. H38)

Whilst recording in Co. Down for the Atlas 2000 project on 31st July 1999, I discovered a group of some 10-12 plants of Yellow Bartsia (*Parentucellia viscosa*). They were growing by a track on the bank of a pond (former dam?) alongside Cunningburn Road on the Ards peninsula, some in grassy cover but others on quite worn ground.

The only previous Co. Down site for the species appears to be the shore area of Lough Neagh near Shan Port (Hackney 1992 ex Harron 1986) some 47 km from this new locality, which indicates a considerable extension of its range.

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A MYSTERY IN MINIATURE UNRAVELLED: *SAGINA PROCUMBENS* var. *DAVIESII* (DRUCE) DRUCE

Faith Anstey's petalomaniac pearlwort (*BSBI News* 82: 50) is by no means a unique occurrence, and a plant turned up a few years ago in my vegetable patch at Halstead, where it failed to over-winter. I do not expect to see any more there: as a true double flowered plant, it is totally sterile.

Druce named it as *Sagina procumbens* var. *daviesii* after the Rev. H. Davies, who found it near Beaumaris in Anglesey. That was in 1817, according to Druce (1913), although it appears some of the material was gathered earlier in 1815. Various finders have attempted to count the minute petals, with totals of 27 to 32, 44 and 48. W.B. Turrill (1912) described a form from Leith Hill with a long receptacle carrying up to 12 more or less alternate whorls of four small white petals, almost to the apex.

An illustration of this taxon accompanies an account by Elliston Wright (1948), and shows a mat covered with conspicuous white flowers, notable for the compactness of the numerous petals.

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A MYSTERY IN MINIATURE REVISITED

Faith Anstey's account of *flore pleno Sagina procumbens* (Procumbent Pearlwort) in *BSBI News* 82 reminds me of seeing it when I was at school at Bradfield College in Berkshire (v.c. 22) in about 1950. It grew in some quantity on a playing field on the north-west side of the River Pang (SU/602.727), and in order to relieve the intolerable boredom of compulsory cricket I used to map its distribution on the pitch. As I was not only bored but incompetent, I would be placed at longstop in the most distant part of the outfield (I may have the terminology wrong) where I could do least harm, but this had the advantage that at the end of each over I was able to walk over most of the pitch. I no longer have the

results, but my recollection is that there were a dozen or more patches quite widely distributed. I do not remember having seen it anywhere since, but its existence is noted in M.T. Masters, *Vegetable Teratology* (1869).

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ARMERIA MARITIMA ON INLAND ROADSIDES, V.C. 54, N. Lincs.

Two years ago I was told of a patch of *Armeria maritima* (Thrift) on the A158 near Wragby in Lincs. Since then another has 'appeared' on the same roadside the other side of Wragby Town (TF/154.773 & TF/104.779). These two clumps have flourished in 1999 and appear very stable. *Cochlearia danica* (Danish Scurvygrass) and *Atriplex prostrata* (Spear-leaved Orache) are also present intermittently along the A158 both sides of Wragby. Has there been any other incidence of thrift on road verges? We also have *Atriplex littoralis* (Grass-leaved Orache) on the A15 north of Lincoln.

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MORE ON VERBASCUM VIRGATUM IN OXFORDSHIRE

I think I can help David McClintock, who called for comments on the *Verbascum*(s) he found at Milton, Oxon in 1930 (*BSBI News* 82: 26-27).

Our *Flora of Oxfordshire* master card for tetrad 4434 in which Milton lies, contains nothing about either *Verbascum blattaria* or *V. virgatum*.

However the 6th list and the final print-out of the Scarce Plants survey sent to me in 1991-2, and the survey's draft map of *V. virgatum*, show this plant for tetrad 4434, and this 1930 record is attributed to recorder 94 (D McClintock) and determiner 55 (H J Riddelsdell). *Verbascum virgatum* duly has a cross (as an introduced species) in hectad SP/4.3 in the final, published, version.

I don't know how the record got there but can only surmise that Riddelsdell passed it on.

Reference

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WHAT IS A BULLACE?

Grace Corne, who writes an 'In the Countryside' column for one week in four, in the *Eastern Daily Press*, and also edits and distributes an excellent quarterly periodical locally, *Flora Facts and Fables*, wrote on September 24th about wild fruits that she remembered in the Norfolk countryside in her childhood, and especially the wild bullaces.

'The little plums were sharp, and over-indulgence could have repercussions, but somehow the small, 2 cm+ greeny yellow fruits were irresistible. The Bullace hunts always took place in north Norfolk, but when I moved to south Norfolk there were no Bullaces to be seen.'

She went on to say that she saw bullaces listed in a plant catalogue, so she bought a little bush which fruited after 3 years, and she was very taken aback when it produced tiny dark purple plums. What went wrong?

Brought up in Suffolk where greeny-yellow bullaces were quite frequent in the hedgerows, I too was taken aback when visiting relatives in north Essex a few years ago, to be confronted with a purple bullace, looking for all the world like an oversized sloe. In practice, the blue bullace has much the same properties as its yellow cousin, though jam made from blue bullaces is perhaps not quite as 'tangy' as from the yellow variety. This may lie in the fact that bullaces which were due to be used for whatever purpose would stay on the tree until after the first frost, be that not until early November, and it was generally accepted that they were not fit for use until after the first frost. The blue ones drop sooner.

Searching the literature, having discussed the matter with Mrs Corne, I find that Stace does not mention fruit colour at all, and dodges the issue rather by stating that 'the three subspecies of *Prunus domestica* have been so much hybridised that character correlation has partly broken down and the subsp. are often scarcely discernible.'

C.T.W (1962) states 'fruit . . . usually blue-black and pruinose, or purple. More thoroughly naturalised than the other subsp., and often found remote from houses, often considered native.'

L.J.F. Brimble (*Trees in Britain* 1946) says 'In most cases this plant is probably a garden escape, which is not surprising since the cultivated form is the well known Damson.' A statement which seems to muddy the already turgid waters. Going back to the 1947 reprint of Bentham and Hooker's Handbook 'British Flora' I find a much more attractive proposition. Under *Prunus spinosa* it is stated:

'The Bullace, *Prunus insititia* L. is a variety of somewhat taller growth and less thorny . . . with the fruit rather larger and globose, black or yellow and less acrid. It is more abundant and more marked in south east Europe and Central Asia than with us. The Damson and the numerous varieties of Plum of our gardens, although growing into thornless trees, are believed to be varieties of *Prunus spinosa* produced by long cultivation . . . Some botanists distinguish these varieties as a species under the name *Prunus domestica* L. Other authorities regard *P. insititia* with globose pale fruit as the origin of all the Plums, and *Prunus spinosa*, with blue black ovoid fruit, as that of the Damson.'

If Stace is right, then nobody knows where any of the above arose, or how they came to be where they are. By this, it is implied that, in this part of the UK at least, we have blackthorn and bullaces (yellow ones), and also considerable quantities of *Prunus cerasifera* (Cherry Plum) which was much planted as a hedging plant at sometime in the not too distant past, as well as occasional trees of what might be regarded as damsons, though these are almost never away from sites of former habitation. Several questions deserve to be answered, if anyone knows the answers.

- Is Bullace a native tree, and if not, where does it come from?
- Are blue-black- or purple- real bullaces or are they hybrids between yellow bullace and damson or blackthorn?
- If the yellow bullace was introduced, when and how did it arrive and why was it so widely planted where no habitation has ever been? Though it will sucker, it only rarely appears to grow from seed, though, like Small-leaved Lime (*Tilia cordata*) I suppose that it may have done if it was here in the remote past when the climate may have suited it better. Blackthorn also spreads rapidly by suckers but rarely by seed so there may be a correlation there.
- Is the yellow bullace confined to East Anglia or is it widespread throughout the country? The entries (above) under Brimble and C.T.W. might seem to imply that this could be so.
- If it is more widespread, is there any history of former usage, other than for jam or wine making?

CONVERSATIONS WITH PLANTS

Have you ever tried talking to plants? Here are some of the answers you might get.

Talking to brambles: 'You're a prickly lot, aren't you?'

Reply: 'Only if you *Rubus* up the wrong way.'

Talking to Field Scabious: 'Do you think the pronunciation of Latin names should be anglicised?'

Reply: 'I don't mind, so long as you don't call me *naughtier* or *nausea*.'

Talking to Yew: 'You're poisonous.'

Reply: Don't *Taxus* with that.'

Talking to Water Lily: 'You're very wet.'

Reply: 'E-*Nuphar* that, if you please.'

Talking to Tree Mallow: 'Where did you get your generic name from?'

Reply: 'Not from where you think.'

Talking to Wintercress: 'You haven't got much hair.'

Reply: 'That's because there's always a *Barbarea*.'

After calling a Milk Thistle by name:

Reply: '*Silybum* yourself. Don't be rude.'

Talking to Plum trees: 'You're all rather straggly.'

Reply: 'That's because no-one has bothered to *Prunus*.'

Talking to Sweet Flag: 'Do you sing?'

Reply: 'Only in *Acorus*.'

Talking to rushes: 'You're rather rubbishy plants.'

Reply: 'Not such *Juncus* all that.'

After doing Wood Millet a favour:

Reply: 'Thanks a *Milium*.'

Talking to Black Bryony: 'You're wild!'

Reply: 'Yes. No-one can *Tamus*.'

[I don't know if I dare ask if members can come up with some others, but why not – it is the new Millennium, and I might even publish the best suggestions! Ed.]

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PTERIDIUM AQUILINUM AS A GARDEN PLANT

Having read Catherine Geldart's article entitled 'Garden Management' in the September issue of *BSBI News* I agree wholeheartedly with her views that the general public should be encouraged to share their gardens with wild plants. Indeed, in my own locality *Digitalis purpurea* (Foxglove), *Geranium lucidum*, (Shining Crane's-bill), *Geranium robertianum* (Herb-Robert), *Cymbalaria muralis* (Ivy-leaved Toadflax) and *Umbilicus rupestris* (Pennywort) to name but a few, thrive in many a garden. But who decides if a plant is garden worthy? Most gardeners would, I suspect, rely on the expertise and advice of their local garden centre. Readers might be interested therefore, in a plant being offered for sale in our local Garden Centre. As Landscape Gardeners, my husband and I had gone to purchase a selection of ferns for one of our customers. We found a good range on offer but it was immediately apparent that all except *Polypodium vulgare* were labelled incorrectly and to our amazement there were a row of pots containing non other than common Bracken. These were well established, though somewhat stunted plants and to our dismay were labelled *Polystichum setiferum*. The real *Polystichum* were labelled *Pteridium aquilinum*. Even more disturbing was the fact that the name prominently

displayed on the label was the botanical one. Only in small print – and in four languages – did the common name appear, with the English name being given as ‘Adderspit’. Anyone not conversant with botanical names and this little known common name would have no idea they were purchasing Bracken.

Am I missing something here? Has Bracken been renamed or is this a clever sales ploy to sell a common and not particularly desirable plant at a profit? And how many people do know Bracken by this name? If it is a local name where does it have its origins? None of my wild flower books nor even Mabey or Grigson refers to Bracken as Adderspit, though in *The Englishman's Flora* Grigson does list Adderspit as the local Cornish name for *Stellaria holostea* (Greater Stitchwort). Can anyone give me the answer?

In fairness to the garden centre it was not their fault. The plants had been bought in from a wholesaler already labelled and when the mix-up was pointed out, they attempted to ‘rearrange’ the labels appropriately. But even they did not realise that Adderspit was Bracken. I wonder how many other garden centres are offering *Pteridium aquilinum* for sale – and how many unsuspecting gardeners are introducing this troublesome wild plant into their domain.

The label conservatively described the plant as growing to 125 cm, preferring full sun or half-shade and suitable for a mixed border. Living in Wales where the ‘almost out of control’ spread of Bracken is giving rise to some concern amongst farmers, landowners and the National Parks, it seems inconceivable than anyone would want to introduce it into their garden. I would hardly describe Bracken as ‘garden worthy’ and wonder – is it just a matter of time before I can purchase a container grown *Urtica dioica* labelled as Hoky-Poky?

SHIRLEY RIPPIN, Upper House, Fforest Coalpit, Abergavenny, NP7 7LU

PARAPHOLIS STRIGOSA ON VERGES OF MINOR ROADS IN V.C. 61 – HOW WIDESPREAD?

Over the last five years we have seen *Atriplex prostrata*, *A. littoralis*, *Spergularia marina*, *Cochlearia danica*, *Aster tripolium* and *Puccinellia distans* appear on the verges of ‘B class’ roads in rural S.E. Yorkshire. The appearance of these salt-tolerant and halophytic plants on the central reservations and verges of the trunk road network is well documented, but I have yet to see published reports for such a wide variety of species occurring on salted minor roads.

In 1998 *Parapholis strigosa* (Hard-grass) was found on the verge of a B class road and, not having seen it myself anywhere else, it did not register with me as being much more than just a casual occurrence. However, in August 1999 I stopped the car to examine a mat of red/purple bristles in the gateway to a field and found *P. strigosa*! Before the end of the month I had accumulated four widely separated records for the species in three different 10 km squares.

Parapholis strigosa is most readily ‘spotted’ as a red/purple mat turning straw-coloured at the tips of the bristles. However, in one case I found isolated culms hidden within the fringe of *Puccinellia distans* along the roadside, which indicates that the species could be widespread and hidden from view. I would be interested to read of similar observations.

PETER J COOK, 15 Park Avenue, Withernsea, East Yorkshire, HU19 2JX

CONSERVATION NEWS AND VIEWS

EXTRA VIGILANCE NEEDED IN THE BATTLE TO COMBAT WILD PLANT CRIME

The wild plant conservation charity, Plantlife, is calling for public vigilance in a new push to curb the problem of wild plant crime. In a new report, Plantlife warns that without urgent action, plants such as the bluebell (*Hyacinthoides non-scripta*) and *Sphagnum* mosses will remain in particular peril, because of their commercial value to gardeners. Other rare and 'priority' species such as ground-pine (*Ajuga chamaeepitys*), are vulnerable simply due to the lack of proper legal protection.

The report, *Plant Crime - Is the law working to save our threatened plants?* also demonstrates the difficulty in gathering information on wild plant crime. In the last 25 years, there were only 14 cases of successful prosecutions in Great Britain. Six of these were in East Anglia, two in Scotland, one in Wales and others in Derbyshire, Devon and Sussex.

The research, carried out with the help of botanists and the police, suggests that the plant crime currently being witnessed does not reflect the true extent of the problem. Few people are actually arrested for illegal damage to wild plants and fewer still are being prosecuted, and where fines are imposed, they are usually derisory. Police wildlife liaison officers, particularly in East Anglia, which is thought to be the centre of the bulb trade, believe that many more incidences of wild plant crime go undetected because the public does not recognise it as the serious crime it is, or it is simply not noticed. Chief Superintendent Steve Parnwell of the Cambridgeshire Constabulary said, 'I have no doubt that there is a significant illegal trade in bulbs and other plants from the wild. Not only is this type of activity a criminal offence, it also has a major impact on our vulnerable habitats and species. Anything that can be done to assist the police to tackle crime more effectively would be welcomed'.

Martin Harper, Plantlife's Conservation Director, pledged Plantlife's support, saying 'We need a central database of offences. Until one is established, we are advising people to keep an eye out for incidences of wild plant crime and report them to the wildlife liaison officer of their local police force, or to Plantlife. We will work together to ensure that appropriate action is taken to protect our threatened plants.'

The report, researched and written by leading botanist and conservationist Dr John Akeroyd, is available from Plantlife, 21 Elizabeth Street, London SW1W 9RP at a cost of £3.

MARTIN HARPER, Plantlife, 21 Elizabeth Street, London, SW1W 9RP. Tel.: 0171 808 0100

ONE OF EUROPE'S LAST REMAINING BOTANIC WILDERNESSES SAVED FOREVER

Munsary Peatlands, a 3,350 acre blanket peat bog near Lybster in the Flow Country of Caithness, now has a safe future following its acquisition by Plantlife.

Munsary is of outstanding botanic importance, and is now a candidate for designation as a Special Area of Conservation under the EU Habitats Directive and a proposed World Heritage Site. Part of the site is already a Site for Special Scientific Interest (SSSI). Nevertheless, for some years there were fears that this pristine peat bog and its distinctive flora would be totally destroyed by the planting of conifer trees for either paper pulp or the Christmas tree industry. This might well have been the fate of Munsary Peatlands had it been offered for sale on the open market and not acquired by Plantlife.

An important wetlands habitat, it is also a Special Protection Area under the EC Birds Directive and a 'Ramsar' site, under the Convention on Wetlands of International Importance.

Known examples of prosecutions for wild plant crime
N.B. Date refers to date of conviction.

Species	Date	Location	Act	Conviction	Notes
Primroses	1980	Horsham, Sussex	Conservation of Creatures and Wild Plants Act 1975	Couple fined £20 each	First and only conviction under Act
Water-soldiers	1984	Ludham Marshes NNR, Norfolk	Wildlife and Countryside Act 1981	Two men fined £250 each	First prosecution under the Act
Primroses	1987	Helmbury Wood, Buckfastleigh, Devon	Wildlife and Countryside Act 1981	Individual fined £25	Offence took place in Dartmoor National Park
<i>Scirpophila calaractae</i> (a Moss)	1990	Abersoch Golf Club in Pwllheli, Gwynedd	Wildlife and Countryside Act 1981	The Club was fined £800 + £750 costs	Habitat destruction by bulldozing
White water-lilies	1990	Loch Palasing, Balmacara, Wester Ross	Wildlife and Countryside Act 1981	Man fined £25	Dingwall's Sheriff's Court gave conviction
Moss	1991	Thetford Forest, Norfolk	Wildlife and Countryside Act 1981	Man given 12 month conditional discharge, no costs even though the Forestry Commission claimed £487.41 in compensation	Thetford magistrates Court presided over case. Man from Wisbech admitted theft of two bags of moss from Forestry Commission land.
Snowdrops and bluebells	1992	Melton Constable Hall, Norfolk	Theft Act 1968	Leader fined £250 and £175 costs, second man fined £25; third man received 3-month suspended prison sentence	Norwich Crown Court gave conviction
<i>Sphagnum</i> Moss	1992	Rowdon Common SSSI, Norfolk	Wildlife and Countryside Act 1981	Man cleared of theft	King's Lynn Magistrates Court accepted defence that moss has no tools
White Water-lilies	1992	Assynt, Sutherland	Wildlife and Countryside Act 1981	Man fined £20 and £25 costs	Details unknown
Moss	1993	Via Gellia SSSI, in Cromford, Derbyshire	Wildlife and Countryside Act 1981	Man fined £20 and £25 costs	Matlock Magistrate's Court gave conviction despite defence plea that moss lacks roots
Snowdrops	1995	King's Lynn, Norfolk	Wildlife and Countryside Act 1981	Man fined £150 and £50 costs	No conviction under the Theft Act because landowner could not be found
Snowdrops	1995	Hertfordshire	Wildlife and Countryside Act 1981	Man sentenced to 150 hours Community service and £200 Costs	Luton Crown Court gave conviction
Snowdrops	1996	Padd St Mary - Idd St Giles, Lincolnshire	Wildlife and Countryside Act 1981	Two men each fined £60 and £40 costs	
Bluebells	1998	Keeper's Wood, Elmston, Norfolk	Wildlife and Countryside Act 1981	Two men fined £500 and £250 costs, third man fined £200 and £45 costs	

Its landscape, which has been untouched for hundreds of years, supports a rich and diverse plant community including bearberry (*Arctostaphylos uva-ursi*) and small cranberry (*Vaccinium microcarpum*) – two uncommon members of the heather family – and bog mosses such as *Sphagnum papillosum*, *S. tenellum* and *S. capillifolium*. Its most important feature is the 'dubh lochans': a pattern of deep pools on the peat. 'Dubh Lochans' sustain different types of bog moss which float on the water surface. In places these form 'quaking bogs' which shake when trodden.

Munsary Peatlands is Plantlife's first nature reserve in Scotland. It is also the first peat bog to be added to Plantlife's growing portfolio of threatened habitats under its stewardship. The acquisition follows a nation-wide appeal for funding launched last summer by Plantlife's President, Professor David Bellamy.

Commenting on the purchase, Professor Bellamy said: 'It is wonderful that Plantlife has bought Munsary. It is one of Europe's last remaining botanical wildernesses and breathtaking in its beauty. It will now be properly looked after to ensure that it does not dry out and that the amazing array of bog plants continue to thrive unhindered'.

LYNNE FRANKLAND, Plantlife, 21 Elizabeth Street, London SW1W 9RP. Tel.: 0171 808 0109; email: enquiries@plantlife.org.uk

CONSERVATIONISTS WIN FIGHT TO HAVE MORE BOGS CONSERVED

At the Atlantic Biogeographical meeting in Kilkee in Co. Clare, Ireland's performance in relation to the designation of habitats as SAC's was found insufficient for all types of bog and peatland occurring here as well as for most other habitats such as machair, limestone pavement and sites for Atlantic Salmon.

The Commission will therefore be requesting that Ireland designate more raised bogs, blanket bogs, fens and bog woodlands as SACs. The move was welcomed by the Irish Peatland Conservation Council, who have been campaigning to have more bog SAC's designated for the past 18 months. Dr Peter Foss, Chairman of the group was present at the meeting, to argue the case for increasing the area of peatland designated as SACs. 'It's a very significant decision which was based on the scientific importance of this habitat in Ireland – where 51% of the European resource occurs. To protect the geographic range and variation in our bogs more sites will have to be proposed by Dúchas'.

The meeting was hosted by the Paris based Nature Topic Centre who co-ordinated data for the 9 participating countries, namely Ireland, UK, France, Belgium, Netherlands, Denmark, Spain, Germany and Portugal. Ireland's performance when measured against the area of SAC's put forward by these countries was found lacking. For example 30% of the remaining intact raised bogs had been put forward as SACs. The Irish Government were hoping that they would get away with this level and adopted a no compromise policy with IPCC in relation to designation of more sites before the meeting, even though within Europe we hold the greatest quantity of this habitat type (51%). Dr Foss presented arguments for designating more raised bogs as SAC and these were accepted by officials from the Nature Topic Centre. They will be recommending to the European Commission that it is imperative the Ireland designate more raised bogs as SACs before the middle of 2000 when a follow up meeting will occur.

The arguments were that as Ireland possesses the largest quantity of raised bog in Europe, we must protect a large quantity as SACs. Already in this country we have lost 92% of the habitat. It is unacceptable for Ireland to suggest only conserving less than 30% of the remaining conservation worthy area of 23,527 ha. By their nature raised bogs are vulnerable to exploitation. The extraction of peat destroys the habitat, and current research shows that they cannot be re-created within a reasonable time span. IPCC will be campaigning to have all of the remaining raised bogs designated as SACs so as to ensure that the habitat and its wildlife is secured for future generations to enjoy.

Irish Peatland Conservation Council, 119 Capel Street, Dublin 1, Ireland. Fax: +353-1-8722397; Tel.: +353-1-8722384; E-mail: ipcc@indigo.ie, Web site: <http://indigo.ie/~ipcc>

ALIENS

ALIEN RECORDS

No authority is given if the taxon is mentioned in Stace's *New Flora of the British Isles*, Clement & Foster's *Alien Plants of the British Isles* or Ryves, Clement & Foster's *Alien Grasses of the British Isles*. Arrangement is alphabetical, an * before the Latin name indicates a taxon new to Clement & Foster or Ryves, Clement & Foster. I would be delighted to receive any alien records for inclusion in future issues. In general all taxa not included in Kent's *List of Vascular Plants of the British Isles* (1992) or its Supplement are eligible for inclusion but other more widespread aliens listed in that work may be included at the discretion of the v.c. recorder and the editor. Please ensure that all records include the details as set out below, especially a map reference, even if only to a hectad (10 km square). NCR following the record indicates a new record for that vice-county.

My thanks to Bill Thompson for sending in these records from Worcs., v.c. 37. All records not determined by a national referee have been confirmed by Roger Maskew or Bill Thompson and the list has been checked by John Day the vice-county recorder. Members are reminded that 1st records of all taxa included in Kent's *List* are eligible for publication in Plant Records in *Watsonia*.

Acaena anserinifolia (Bronze Pirri-pirri-bur). Established in woodland ride, Ankerdine Hill, Worcs. (v.c. 37), SO/73.56, R. Maskew, 30/7/1998.

Acaena ovalifolia (Two-spined Acaena). Established on a verge at Bockleton Country Study Centre, Worcs. (v.c. 37), SO/58.62, E. Heywood-Waddington, 26/7/1990. NCR.

Acer cappadocicum (Cappadocian Maple). Laneside hedgerow at Kents Green, Worcs. (v.c. 37), SO/82.49, K. Barnett, 29/5/1997.

Amaranthus blitum (Guernsey Pigweed). Waste ground near Wickhamford, Worcs. (v.c. 37), SP/06.40, Flora Project field meeting, 6/9/1998, det. R. Maskew & W.A. Thompson.

Echinops exaltatus (Globe-thistle). Long-standing colony on roadside verge near Upton Snodsbury, Worcs. (v.c. 37), SO/93.52, A.W. Reid, 15/8/1991.

Fargesia spathacea (Chinese Fountain-bamboo). Established on wooded sandstone knoll near Bewdley by-pass, Worcs. (v.c. 37), SO/79.75, W.A. Thompson, 14/2/1997, det. C. Stapleton. NCR.

Iberis sempervirens (Perennial Candytuft). Well established on old stone wall, Strensham Court, Worcs. (v.c. 37), SO/90.38, K. Barnett, A.W. Reid & W.A. Thompson.

Lavatera trimestris (Royal Mallow). One plant in roadside gutter well away from houses, Worcs. (v.c. 37), SO/71.65, R. Maskew & C.B. Westall, 26/8/1998.

Levisticum officinale (Lovage). Waste ground at Smethwick, SP/00.89, 6/1996, roadside verge away from houses, Shenley Fields, Birmingham, SP/03.81, 25/7/1997, both Worcs. (v.c. 37), C.B. Westall. NCR.

Pinus strobus (Weymouth Pine). Natural regeneration in the Wyre Forest, Worcs. (v.c. 37), SO/75.76 & 77.76, B. Westwood, 31/3/1998.

Pteris cretica (Ribbon Fern). Long-established in a well at Witley Court, Worcs. (v.c. 37), SO/76.64, M.A.R. Kitchen, 1997. NCR.

Rudbeckia hirta (Black-eyed-Susan). Single plant on waste ground, Whitley Park, Worcs. (v.c. 37), SO/76.65, R. Maskew, 23/8/1997.

**Salix aegyptiaca* L. Single bush by the Berwick Brook near Birlingham, Worcs. (v.c. 37), SO/94.42, A.W. Reid, 18/10/1998, det. R.D. Meikle. Status uncertain but possibly the first British record outside of cultivation.

Scilla bifolia (Alpine Squill). Small patch in open woodland at West Malvern, Worcs. (v.c. 37), SO/76.45, P.G. Garner, 19/3/1995.

- Sidalcea malviflora* (Greek Mallow). Good clump established on laneside verge near Dormstan Manor for at least six years, Worcs. (v.c. 37), SO/99.57, A.W. Reid, 26/7/97. NCR.
- Spiraea* × *rosalba* (*S. salicifolia* × *S. alba*) (Intermediate Bridewort). Large patch established in New Coppice, Madresfield, Worcs. (v.c. 37), SO/82.48, K. Barnett, 17/6/1997.
- Symphytum* 'Hidcote Blue' (*S. grandiflorum* × ?*S.* × *uplandicum*) (Hidcote Comfrey). Sizeable patch established on the bank of the River Teme near Tenbury Wells, Worcs. (v.c. 37), SO/60.68, R. Maskew & W.A. Thompson, 3/5/1994.
- Vicia tenuifolia* (Fine-leaved Vetch). Large patch in rough grassland, Chawson, Droitwich, Worcs. (v.c. 37), SO/88.62, B. Westwood, 25/7/1995.
- Yushania anceps* (Indian Fountain-bamboo). Established in woodland at Old Storridge, SO/74.51, Worcs. (v.c. 37), R. Maskew, 9/7/1998. NCR.

GWYNN ELLIS, Editor

WILL *SUTERA CORDATA* BECOME ESTABLISHED IN BRITAIN?

Alas, *Bacopa* 'Snowflake' is a well-known name much in use by garden centres for a pretty scrophulariaceous plant that currently trails down from many a hanging basket throughout much of Britain, and flowers prolifically all summer and autumn. It is a misnomer and has been repeatedly exposed as such by Susyn Andrews and other botanists – e.g., see Kew, **Summer 1996**: 56 and *The Garden (RHS)*, **122(1)**: 60 (1997).

The correct name is *Sutera cordata* (Thunb.) Kuntze (no English name) and it originates, as does the whole genus, from S. Africa. Several cultivars are sold, ranging in flower colour from the usual white to mauve. *Bacopa* species are mostly from America and are typically aquatic or paludal plants. The two genera have a very different facies, although technically it is the locucidal capsule of *Bacopa* separating it from the septicidal one of *Sutera*.

Sutera cordata appears to be self-incompatible and I have yet to find any capsules on a plant. Published line drawings of it seem to be equally rare – I can locate none: hence the special value of our splendid cover illustration by G.M.S. Easy, drawn from a garden plant obtained in Cambs. I assume that it readily roots from its nodes when pieces get broken off, even though the stems that are always prostrate are comparatively tough and subwoody. Another 'successful' scroph. is *Veronica filiformis* (Slender Speedwell) which also normally sets no seed in Britain.

The flowers, up to 1 cm in diameter, are slightly zygomorphic and the plant resembles no British genus closely, hence the divergent ID's quoted below. Maybe *Chaenorhinum* (Toadflaxes) is closest, but this genus has flowers with a basal spur (unlike spurless *Sutera*).

Five localities for escapees have come to my attention since 1995, all with vouchers in **herb.EJC** – yet the species was not in cultivation in Britain until its introduction from Germany in 1992! Curiously, all but one of the localities are coastal:

- v.c. 0 (Scilly) Gugh, 13 Oct 1995. A. Underhill. A small patch collected as '*Euphrasia* sp.'
- v.c. 0 (Scilly) Hugh Town, St Mary's, 16 Oct. 1997. R.A Barrett, collected as '?*Saxifraga* sp.'
- v.c. 25 (E. Suffolk) In town centre, Southwold, TM/508.763 & 508.761, June 1998 & 18 Oct. 1998. P.J. Lawson, collected as *Bacopa* 'Lilac Pearls'. Seen in two sites, one underneath the Town Hall balcony.
- v.c. 38 (Warks) By Childrens Hospital, Birmingham, SP/055.861, 6 Aug. 1997. A Underhill, collected as *Bacopa* 'Snowflake'. 'Seeding' in tarmac below window boxes.
- v.c. 53 (S. Lincs) Church Street, Holbeach, TF/358.248, 26 June 1998. Mrs D.L. Brookman, comm. A.R.G. Mundell. At base of a wall around a drainpipe. Mauve-flowered.

I should mention, in conclusion, that native plants preserved in **BM** are a reasonable (but not perfect) match, and there is a possibility that British plants may be of hybrid origin. Whatever its true identity, it

seems likely that this plant will establish itself in Britain. In Gosport I notice that it has happily survived the last two winters on a garden wall-let, with some flowers produced even in the winter months.

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GAULTHERIA SHALLON: A THREAT TO THE NEW FOREST (V.C. 11)

During the late summer of 1998 I heard of announcements on the radio and television telling of invasive 'American Strawberry' that was choking more than 20 hectares of Forest and of attempts to control it. Several members phoned me to ask precisely what it was. Out came all the books, but, alas, no answer surfaced. The identity was not revealed to me until I read on the front page of the *Hampshire Chronicle*, Friday, 11 December 1998 about 'Big pigs putting weed in retreat', where they introduced the alternative 'English' name of *Gaultheria*. It must be *Gaultheria shallon* (Shallon) I deduced.

Apparently, the Forestry Commission found out early in 1998 that pigs could root out the plant effectively, a chemical-free way of controlling the plant (but presumably also eliminating all other non-woody plants, too). Two large pigs are now being set free on a 0.3 ha compound on Fletchers Hill, off Rhinefield Drive, to see what impact they can make. A study of the recovery of the vegetation here could make an interesting piece of ecological research for someone.

I know that I should not encourage quotations from the sensational local press, but maybe conservationists are not fully aware of the danger of this plant on acidic ground: it can spread by seed and stolons and form a monoculture 1 m or more tall. It could, conceivably, match the pestilential status that *Rhododendron ponticum* has already successfully achieved in front of so many blinkered observers.

This matter also raised the question of English names: why should desk botanists invent them, when so few inhabitants really want them. They will arise spontaneously when one is really needed! – 'American strawberry' has arisen – it is not used in its native western N. American home. There they invariably use the aboriginal name of 'salal', which was apparently wrongly interpreted by Frederick Pursh, in 1814, as 'shallon' when he coined the scientific name of *Gaultheria shallon* – most gardeners to date **only** know it by its scientific name, why can't the botanists, too?

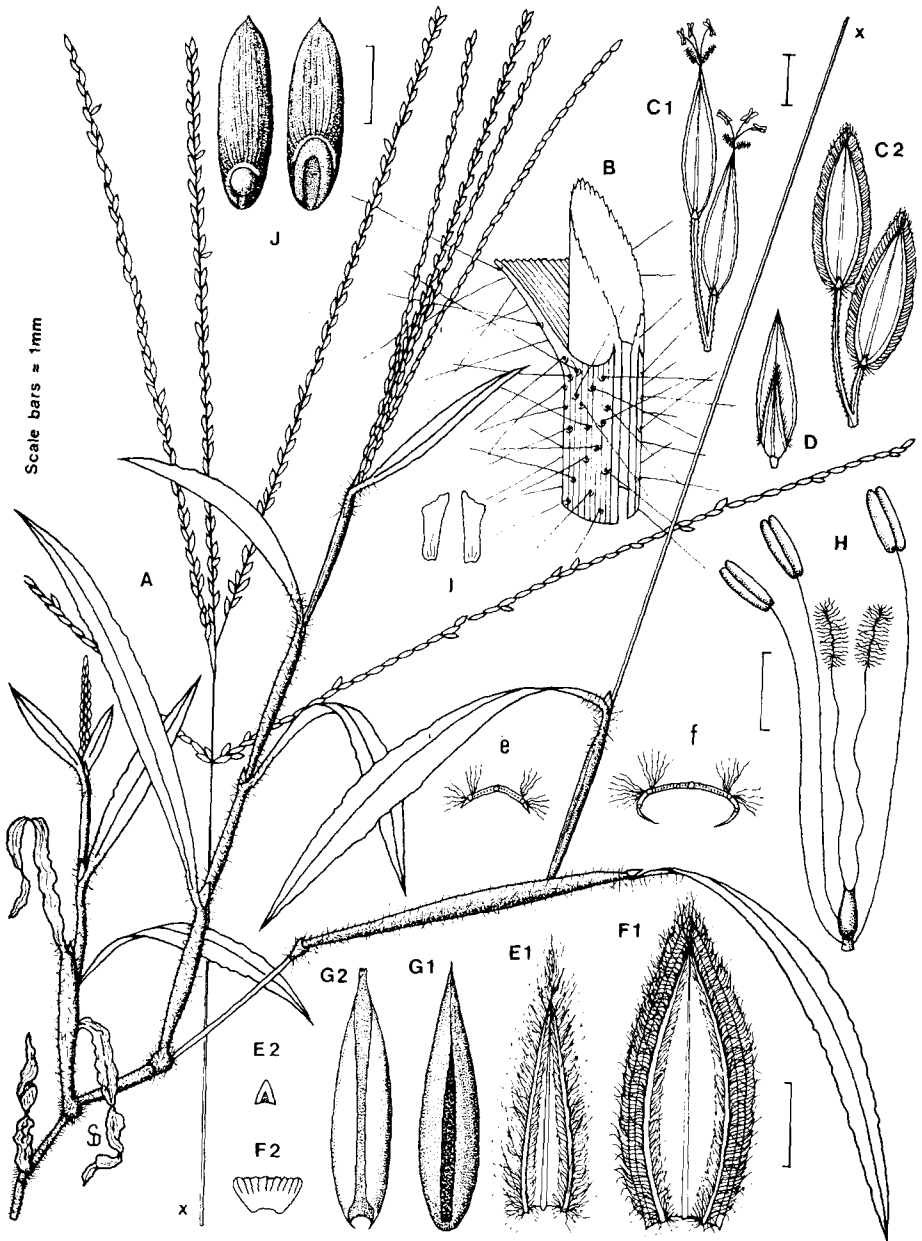
I delayed submitting this short note for a year in the hope that one of our younger members might take up these issues: it was not to be!

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DIGITARIA CILIARIS ESTABLISHED IN GOSPORT (S. HANTS, V.C. 11)

Digitaria sanguinalis (Hairy Finger-grass) has long been known as established in both S. Hants (v.c. 11) and N. Hants (v.c. 12), although all records bar one were apparently expunged from *The Flora of Hampshire* (1996). I revisited the locality quoted therein (Fleet railway station, v.c. 12) on 28 Aug 1999 and found, amongst the platform shrubbery, some 20 plants – i.e. 12 years of persistence here.

In Gosport (v.c. 11) *D. sanguinalis* has been a serious weed between pavement slabs and in flower-beds in and near Bury Road (SZ/606 996) since at least 1990 and was still there on 29 Aug 1999. Hence, when I learnt of a second Gosport colony of a *Digitaria* in Mumby Road (SU/617.003) I paid little heed to it. When Delf Smith and myself eventually stumbled upon the colony on 28 July 1998, in a lorry park, it was not in flower – indeed most of the 50 or more plants had only recently germinated. Very clearly an annual species here! DPJS took a couple of seedlings and grew them on in his greenhouse, and from which he sent me a voucher specimen (**herb. EJC**) and also produced the splendid drawing reproduced here (p. 38). He did not accept my somewhat hasty determination as *D. sanguinalis* and eventually sent a pressed plant to Dr T.A. Cope at R.B.G., Kew, for naming and who replied on 5/7/99:



Digitaria ciliaris (Retz.) Koeler del. D.P.J. Smith © 1998

'*Digitaria ciliaris* [Tropical Finger-grass]. I always expect this to be *D. sanguinalis* because this is a much more temperate plant than the more tropical *D. ciliaris*, and more likely to be found wild in this country. Your specimen certainly has the scabrid [lower] lemma nerves I would expect of *sanguinalis* but the more reliable upper glume and general habit of the plant point to *ciliaris*.'

Key to drawing of *D. ciliaris*

- | | |
|---|---|
| A Habit of plant | F1 Lower lemma |
| B Detail of ligule | F2 Palea of lower lemma |
| C1 Flowering spikelets | f Cross section of lower lemma showing hairs each side of outer ribs |
| C2 Fruiting spikelets | G1 Upper lemma |
| D Spikelet showing upper glume | G2 Palea of upper lemma |
| E1 Upper glume | H Stigmas and stamens |
| E2 Lower glume | I Lodicules |
| e Cross section of upper glume showing hairs each side of outer ribs | J Grain |

I confess that I find it distinctly disturbing that the important key character of scabridity of the veins, as given in Stace's *New Flora of the British Isles*, ed. 2: 916 (1997) is not always reliable. I find that the upper glume length is variable, too. In reality, I feel that although *D. ciliaris* can usually be easily recognised, especially in warm climes, the distinction from *D. sanguinalis* is clearly not always straight forward and the book characters do not properly correlate. I, personally, would happily merge them into one very variable entity - but no modern author appears to make them conspecific, although as late as 1949, R. Probst's *Wolladventivflora Mitteleuropas*, p. 5, treated *D. ciliaris* as *Panicum sanguinale* L. var. *ciliaris* (Retz.) Trin. Both 'species' are variable: they appear to be actively evolving (separating?) at the current time. The exerted anthers (fig. **C1**) demonstrate that it is not a self-fertilising stagnant 'race' in Gosport.

Meanwhile, readers can carefully compare the structure, shown so clearly by DPJS, of the Gosport variant with that of *D. sanguinalis* illustrated in Hubbard's *Grasses*, 3rd ed. (1984), p. 370. The 'more prominent ligule' of *D. ciliaris* shown is another character that I find to be unreliable overall.

Contrary to Stace (1997), p. 916, where *D. ciliaris* is said to be 'not nat'd', Sell & Murrell, *Flora of Great Britain and Ireland*, 5: 243 ('1996', 1997) tell us that it is 'sometimes naturalised', but I am unaware of where these localities are to be found.

Have we more convincing *D. ciliaris* established in Britain? - but please do not send vouchers to me for determination, I find this pair of species 'too difficult'!

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PERSICARIA CAPITATA (POLYGONUM CAPITATUM) AGAIN

While on my annual pilgrimage to Bedfordshire's shoddy fields on 6th October 1999 I called in at 'The George' public house in Maulden. This was the rendezvous where I met up with John and Chris Dony in the early Seventies for his famous guided tours to inspect the wool aliens nearby. I had already seen twenty two of the shoddy weeds near Flitwick in the morning and had thought to revisit the Maulden area where wool-waste was last used around 1978. Only a single plant of *Medicago polymorpha* (Toothed Medic) presented itself but there were two fields of *Trigonella foenum-graecum* (Fenugreek) and *Coriandrum sativum* (Coriander) with the unusual crop weed *Anethum graveolens* (Dill) waving above the coriander whose scent of bed bugs was overpowering.

Luxuriating in the autumn sunshine at the side entrance to 'The George' was a huge mat of *Persicaria capitata* (Pink-headed Knotweed) which seems to be very much in the news this year popping up everywhere. At Maulden it was typically growing out of a crack in the concrete steps and would have

been trampled away if the side door had not been sealed off. There were no window boxes or cultivated plants nearby.

On 8th October 1970, John Dony told me inside 'The George' that more eminent botanists had drunk beer at the bar than any other rural pub in Britain and I had certainly imagined a faint scent of one of Ted Lousley's famous cheroots near the largest specimen of *Persicaria capitata* that I had ever seen.

GORDON HANSON, 1 Coltsfoot Road, Ware, Herts. SG12 7NW

SAURURUS CERNUUS L. IN HAMPSHIRE

In June 1998 whilst doing some Atlas 2000 'square-bashing' I walked along a public bridleway within the grounds of the Foley Estate at Liphook, Hants (v.c. 12). In a woodland situation (but with much naturalised *Rhododendron ponticum*) there is a large pond (about 100 m long) beside this bridleway, dominated with *Nuphar lutea* (Yellow Water-lily) and with a dense growth of marginals.

The first surprise was a large dense stand of *Cladium mariscus* (Great Fen-sedge) that must have been originally introduced, but has spread happily along part of the pond edge. Adjacent to this was a very curious thicket of robust reddish shoots protruding 60-80 cm out of the water, with leaves that looked superficially similar to Japanese Knotweed (*Fallopia japonica*). On this initial June visit it had no flowers or fruit. It was growing in shallow water about 30 cm deep, spreading by strong rhizomes and extending along the water's edge as a huge solid patch 20 m long and 2 m wide. Although there were only leaves, I sent a specimen to Eric Clement who still managed to name it as *Saururus cernuus* L. This is a native of North America in the family Saururaceae.

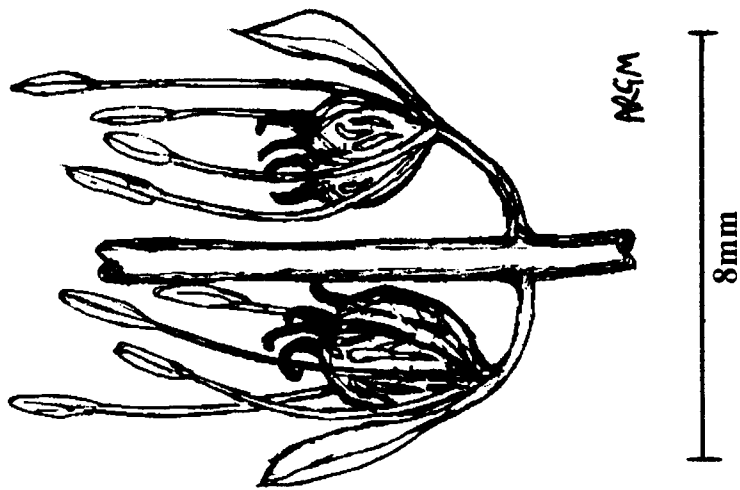
Eric commented that it is new to Britain provided that it can be regarded as established in the wild. A later autumn visit showed that it had more or less upright slender green racemes only 8 mm wide but 20 cm long. The family Saururaceae is characterised by having no petals or corolla (although some genera have conspicuous white bracts). On *Saururus cernuus* each small flower is subtended by a tiny greenish/white spatulate bract (see illustrations detailing the flower and of the whole plant, p. 41). The flower consists of some stamens surrounding the green developing fruits, which are about 2-3 mm across with a 'knobbly' surface. It is not a particularly decorative plant (and with its spreading rhizomes is clearly a bit of a thug!) but it must have been planted originally. I would only say it was 'established' in the sense that it would probably be very difficult to eradicate it! The dense tangled mat of rhizomes extending out across the water is almost strong enough to walk on.

There are several other ponds nearby that are all interconnected by streams that eventually feed into the River Wey. Looking at the 1:50,000 OS map afterwards I concluded (incorrectly) that the pond with the *Saururus* also connected into this system, enhancing the possibility of the plant spreading downstream. In fact I later found that the stream that connects via the other ponds to the River Wey runs alongside the *Saururus* pond but is a couple of metres from it.

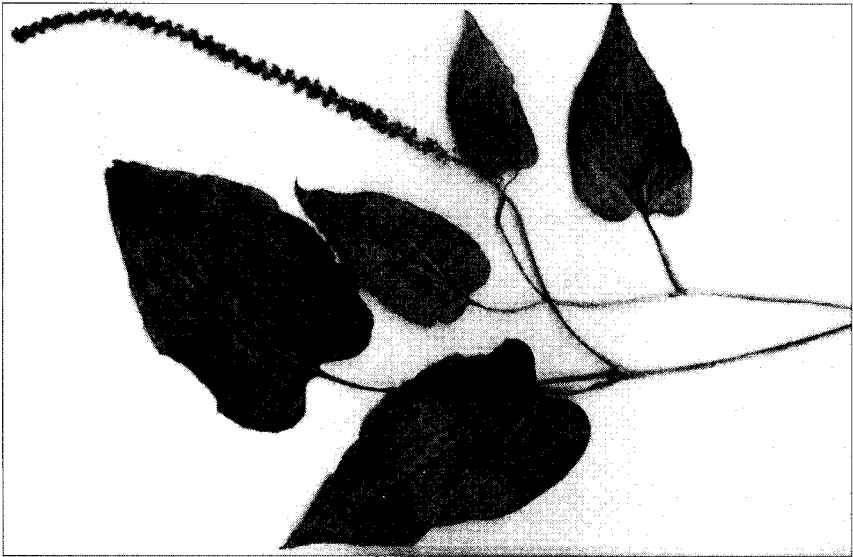
One of the adjacent ponds, only 400 m away, is in Bohunt Gardens. These gardens, owned by Lady Holman, are open to the public, who come to see her collection of wildfowl (Black Swans, etc.) on the lake in her garden. Lady Anne Brewis suggested that the *Saururus* might have originally been planted there by Lady Holman, so I visited Bohunt. I spoke to the elderly Lady Holman, but she was certain that she had not introduced the plant, and I found hardly any aquatic plants there, as the ducks eat everything.

Back at the pond with the *Saururus* on the adjacent Foley Estate, I spoke to the gamekeeper. I mentioned that it was a North American plant, and he said that it might have been introduced by Mr Lee, a former owner of the estate who was an American. If so, it has been there a long time, as the gamekeeper thought that Mr Lee lived at Foley Manor in the 1930s.

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Detail of *Saururus cernuus* flower



Saururus cernuus L.

WATER-HYACINTH – TWICE

Eichhornia crassipes (Water-hyacinth) is a flamboyant Brazilian native of the family Pontederiaceae. Its grossly inflated petioles enable it to float and its vegetative vigour secures rapid domination of still or sluggish waters. Having become notorious for its propensity to choke up tropical waterways throughout the world, it now holds a prominent place in the floristic and horticultural publications of nearly every continent.

Our climate is presently unsuitable for its permanent establishment here; certainly it will not tolerate hard frost and probably it is also not comfortable with the subdued light levels characteristic of the British winter. I have to hand a single published record of its occurrence in a pond at Godstone, Surrey, in 1982 (Leslie, 1987). Doubtless it was an aquarist's outcast there and understandably it didn't persist. At a site in north London, however, it has more recently turned up in two successive seasons, hence my stimulation to write this note.

The locality concerned is known as Boundary Ditch, a narrow, steep-banked, slow-flowing brook some 500 m long, culverted at each end. This feature separates the London boroughs of Edmonton and Enfield, and lies within Middlesex, v.c. 21. Although much polluted, liable to heavy littering and silting, and periodically flayed and dredged by the local council, it holds a rather rich native aquatic flora including strong colonies of *Sparganium emersum* (Unbranched Bur-reed) and *Oenanthe fluvialis* (River Water-dropwort).

In September 1998, I found six small clumps of *E. crassipes* scattered singly along this Ditch, and in September 1999 Kevin Waddington found one larger clump in the same place. We may but speculate on their history. Were they originally thrown out of a conservatory pond or did they spontaneously escape from someone's water garden upstream? Did either of these events happen two years running as a coincidence, or was the warm winter of 1998/9 sufficiently frost-free to sustain at least one specimen in the wild for a whole year? Not least, should the theory of global warming ever need further evidence from tropical plants spreading northwards, what better species than this might be chosen to test it by?

Reference

Leslie, A.C., 1987. *Flora of Surrey; Supplement and Checklist*. Privately published, Guildford.

BRIAN WURZELL, 47 Rostrevor Avenue, Tottenham, London N15 6LA

PENNY UNWISE

May I recommend that Red Alert status be accorded to *Hydrocotyle ranunculoides* (Floating Pennywort) whose rampant spread may gravely be threatening the navigability of some English lowland waterways. Originally recorded as abundant near Chelmsford, Essex (Clement & Foster 1994), I first noted it myself in the Lea Valley region (Essex/Middlesex border) in 1997, where, in two years only, it has developed into enormous surface carpets of bright vivid green. On no account, therefore, should this extremely invasive North American species be planted or discarded out doors in other parts of the British Isles.

Reference

Clement, E.J. & Foster, M.C., 1994. *Alien Plants of the British Isles*, BSBI, London.

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ALIENS GALORE!

In 1999 part of the A33 road was re-routed as a new dual-carriageway, joining Junction 11 of the M4 to the centre of Reading, Berks (v.c. 22). The new route was apparently bulldozed through an old landfill site, and then between an active rubbish tip and a sewage farm. For some of its length the new road and its associated disturbed soil is alongside a river.

If you think that this sounds like a recipe for a few interesting species of alien plants you would be right – although ‘few’ is the wrong word. It produced a truly remarkable crop, colourful with hundreds of tall sunflowers (*Helianthus annuus*). This extended over several kilometres on both sides of the new road, as well as in the central reservation and on the new roundabouts.

Dorothy Brookman first drew my attention to this after seeing some bright orange flowers (which turned out to be *Carthamus tinctorius* (Safflower) when she drove along the new road into Reading. We investigated one evening in August and made an impressive list, but there were several aliens we could not identify. Consequently reinforcements were brought in. Eric Clement, Ken Page and Barry Phillips joined me on 29/8/99 and, together with Paul Stanley, we all had another look on 31/10/99.

Unfortunately on the October visit we found that most of the alien-rich flora had been destroyed. Nearly all the vegetation closest to the new road had been cleared and sown with grass seed. However, there were still sufficient remaining patches of wasteland flora to add significantly to the list. No doubt most of the remainder will shortly be manicured into oblivion, so voucher specimens were taken of many of the scarcer species. Only the more interesting species were recorded – we ignored abundant common species like *Chenopodium album* (Fat-hen).

Nearly all the plants recorded had arisen from seed exposed by the soil disturbance. However, there were also some interesting halophyte species on the central reservation of the A33 dual-carriageway immediately south of the new roadworks. These comprised of *Puccinellia distans* (Reflexed Saltmarsh-grass), *Spergularia marina* (Lesser Sea-spurrey), *Hordeum marinum* (Sea Barley) and *Atriplex littoralis* (Grass-leaved Orache). The disturbed riverbank area was also very productive, with several *Rumex maritimus* (Golden Dock) plants and, best of all, a single plant of the hybrid *R. × callianthemus* (*R. maritimus* × *R. obtusifolius*) now confirmed by John Akeroyd. This was found by Paul Stanley and must surely be a first record for v.c. 22 (as indeed some of the aliens listed below will be).

There was insufficient time to survey the whole area. Separate lists were made for four sections of A33 roadside, starting from just south of the Junction 11 roundabout and going north by 2 km. There is a further 2 km of re-routed A33 beyond that, although most of it was built a year or two earlier, so most of the disturbed-soil flora there has probably already been lost under grass.

I have combined a selection of the records from each of our visits into the single list below (less interesting species and those awaiting determination are omitted). Fuller details, including some individual plant locations, were sent to Mick Crawley, the v.c. 22 Recorder, and he tells me that he also paid a visit in 1999. [For reasons of space, English names are omitted from the list. Ed.]

Abutilon theophrasti, *Achillea ptarmica* ‘The Pearl’, *Amaranthus cruentus*, *A. retroflexus*, *Ambrosia artemisiifolia*, *Atriplex hortensis*, *A. littoralis*, *Beta vulgaris* subsp. *cicla*, *Borago officinalis*, *Brachioria platyphylla*, *Bromus secalinus*, *Cannabis sativa*, *Carthamus tinctorius*, *Centaurea cyanus*, *Ceratochloa cathartica*, *Chenopodium giganteum*, *C. prostratum*, *Consolida ajacis*, *Conyza sumatrensis*, *Coriandrum sativum*, *Cosmos bipinnatus*, *Cucumis melo*, *Cucurbita pepo*, *Datura stramonium* var. *stramonium*, *D. stramonium* var. *tatula*, *Digitaria sanguinalis*, *Echinochloa crus-galli*, *E. esculenta*, *Eschscholzia californica*, *Euphorbia lathyris*, *Fagopyrum esculentum*, *Foeniculum vulgare*, *Galinsoga parviflora*, *G. quadriradiata*, *Geranium pusillum*, *G. rotundifolium*, *Guizotia abyssinica*, *Gypsophila muralis*, *Helianthus annuus*, *Helianthus tuberosus*, *Hordeum marinum*, *Kickxia spuria*, *Linaria maroccana*, *L. repens*, *Linum usitatissimum*, *Lobelia erinus*, *Lobularia maritima*, *Malcolmia maritima*, *Medicago arabica*, *Nemesia strumosa*, *Nicandra physalodes*, *Nicotiana glauca*, *Nigella damascena*, *Onopordum acanthium*, *Oxalis debilis* var. *corymbosa*, *Oxalis tetraphylla* ‘Iron Cross’, *Panicum capillare*, *Papaver pseudoorientale*, *P. somniferum*, *Petroselinum segetum*, *Petunia × hybrida*, *Phalaris canariensis*, *Phaseolus coccineus*, *Physalis peruviana*, *Polypogon monspeliensis*, *Puccinellia distans*, *Reseda odorata*, *Rumex crispus*, *Rumex maritimus*, *Rumex × callianthemus*,

Setaria viridis, *Sigesbeckia serrata*, *Sison amomum*, *Solanum nigrum* subsp. *schultesii*, *Solanum physalifolium*, *Sorghum bicolor*, *Spergularia marina*, *Stachys arvensis*, *Tagetes patula*, *Tanacetum parthenium*, *Thlaspi arvense*, *Tropaeolum majus*, *Verbena bonariensis*, *Verbena officinalis*, *Viola* × *wittrockiana*, *Zea mays*.

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PONTERERIA CORDATA AND SAGITTARIA RIGIDA NEW TO IRELAND

While recording for the Atlas 2000 in W. Cork (H3) at Dunkelly, west of Toormore, I noticed from the camper van window a large stand of something blue growing in a small lough (V/816.310) adjoining the road. This was soon named as *Pontederia cordata* (Pickerelweed). Several hundred plants took up the west end of the lough. There was also another large stand of an aquatic plant, but this time about half the size of the Pickerelweed patch. With the help of Dr P.S. Green this was named as *Sagittaria rigida* (Canadian Arrowhead). A specimen is placed in the herbarium at Kew and I have planted some in my garden pond. The only other aquatic species in the lough were a single clump of *Alisma plantago-aquatica* (Water-plantain), *Eleogiton fluitans* (Floating Club-rush) and *Potamogeton polygynifolius* (Bog Pondweed).

Not being satisfied with finding the *Sagittaria* and *Pontederia* in only one site, later the same day I came across a single clump of each in Glan Lough (V/980.415) east of Durrus. It seems strange how two plants which are rarely seen in garden ponds should turn up in two loughs, especially the *Sagittaria* which I have only once seen in cultivation.

PAUL GREEN, Coombegate Cottage, St Ive, Liskeard, Cornwall, PL14 3LZ

A HERTFORDSHIRE SEWAGE WORKS

I have been paying annual visits to Rye Meads sewage works near Rye House since 1975 when a colleague asked me about a strange thistle towering over the tomatoes seen from the nearby road. This thistle was *Silybum marianum* (Milk Thistle), thoroughly naturalised on the sludge until 1981.

The autumnal view from the road is very similar to that described by Graham Easy at Romsey tip with countless thousands of tomatoes and closer inspection over the years reveals a similar weed composition with however several notable additions making the range of aliens seen on an area about half that of a football pitch, perhaps one of the greatest in the British Isles in such a small area. There are, of course, bumper and leaner years caused by the weather and landscaping activities over the site but the latter can also spread newly introduced plants over a much wider area so that, for example, *Solanum scabrum* (Garden Huckleberry) first seen as two plants in 1992, was present in 1994 over a much wider area.

A total of 81 different aliens have been observed since 1975 with an average of 25 each year. Most reoccur annually either by fresh introductions (*Ambrosia artemisiifolia* (Ragweed)) or are now thoroughly naturalised. *Physalis peruviana* (Cape-gooseberry) is the classic example of the latter, and now occurs in thousands all over the site, while *Nicandra physalodes* (Apple-of-Peru) can provide hedges 20 m long and 2 m high of solid monoculture, and the lilac flowers of *Datura stramonium* var. *tatula* (Thorn-apple) is an annual treat.

The actual origin of the astonishing collection of plants is mainly three fold. The obvious source is via the human body which provides tomatoes, Jamberberry (*Physalis philadelphica*) and Huckleberry, while the kitchen waste washed down the sink explains Peppers, Oranges, Water Melon, Pumpkin and

Sesame Washing the bases of bird cages under the kitchen tap is the obvious vector for the dozens of bird-seed aliens present every year at the site while as always there are garden plants such as Tobacco, Fuchsia and Summer Cypress, although how they got into the drains I have no idea.

The great attractiveness of the site, apart from its small size, is the great exuberance of the majority of the plants. This is of course due to the astonishingly rich 'soil'.

Detailed lists can be boring but here are some of the more interesting aliens with their probable sources.

The human digestive system: *Capsicum annuum* (Sweet Pepper), *Lycopersicon esculentum* (Tomato), *Physalis peruviana* (Cape-gooseberry), *Physalis philadelphica* (Jamberberry, Large-flowered Tomatillo), *Solanum scabrum* (Garden Huckleberry).

Kitchen waste: *Anethum graveolens* (Dill), *Capsicum annuum* (Peppers), *Carum carvi* (Caraway), *Citrus* spp., *Coriandrum sativum*, *Citrullus lanatus* (Water Melon), *Cucurbita maxima* (Pumpkin), *C. pepo* Marrow).

Bird's cages: *Abutilon theophrasti* (Velvetleaf), *Amaranthus albus* (White Amaranth), *A. hybridus* (Green Amaranth), *A. blitum* (Guernsey Pigweed), *A. quitensis* (Mucronate Amaranth), *A. retroflexus* (Common Amaranth), *Ambrosia artemisiifolia* (Ragweed), *Avena fatua* (Wild-oat), *A. sativa* (Oat), *Brassica oleracea* (Wild Cabbage), *B. rapa* (Wild Turnip), *Cannabis sativa* (Hemp), *Centaurea diluta* (Lesser Star-thistle), *Chenopodium giganteum* (Tree Spinach), *C. probstii* (Probst's Goosefoot), *C. strictum* (Striped Goosefoot), *Cichorium endivia* (Endive), *C. intybus* (Chicory), *Carthamus tinctorius* (Safflower), *Cuscuta campestris* (Yellow Dodder), *Digitaria sanguinalis* (Hairy Finger-grass), *Datura stramonium* var. *stramonium* (Thorn-apple), *Datura stramonium* var. *tatula* (Lilac Thorn-apple), *Echinochloa crus-galli* (Cockspur), *E. frumentacea* (White Millet), *E. esculenta* (Japanese Millet), *Guizotia abyssinica* (Niger), *Glycine max* (Soyabean), *Helianthus annuus* (Sunflower), *Ipomoea purpurea* (Common Morning-glory), *Linum usitatissimum* (Flax), *Lolium temulentum* (Darnel), *Nicandra physalodes* (Apple-of-Peru), *Panicum capillare* (Witch-grass) *P. miliaceum* (Common Millet), *Papaver somniferum* (Opium Poppy), *Phalaris canariensis* (Canary-grass), *Portulaca oleracea* (Common Purslane), *Raphanus sativus* (Garden Radish), *Sesamum orientale* (Sesame), *Sesbania exaltata* (Colorado River-hemp), *Setaria italica* (Foxtail Bristle-grass), *S. pumila* (Yellow Bristle-grass), *S. viridis* (Green Bristle-grass), *Silybum marianum* (Milk Thistle), *Solanum rostratum* (Buffalo-bur), *Sorghum bicolor* (Great Millet), *S. halepense* (Johnson-grass), *Spinacia oleracea* (Spinach).

From the garden: *Atriplex hortensis* (Garden Orache), *Fuchsia magellanica* (Fuchsia), *Bassia scoparia* (Summer-cypress), *Nicotiana glauca* (Sweet Tobacco), *Onopordum acanthium* (Cotton Thistle).

This paper has taken five years to get into print since it was written [it was discovered last year in a parcel of specimens given to NMW a few years previously]. In the intervening years a completely new system of sewage treatment has been installed at Rye Meads and this has cut off the supply of dumped sludge. Twenty five years of rewarding alien surveys now appear to be at an end although Bill Last found a large specimen of *Abutilon theophrasti* (Velvetleaf) at the edge of the bulldozed site this Autumn.

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 Hanson, C.G. & Mason, J.L. (1985). Bird seed aliens in Britain. *Watsonia* **15**: 237-252.
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 Stace, C.A. (1991). *New Flora of the British Isles*. Cambridge University Press.

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NOTICES (BSBI)

BSBI POSTCARDS

We are down to our last 100 sets with no plans to produce more. So, to secure 16 superb different postcards of plants from Britain and Ireland, which promote the Society (and are half the price of those from Plantlife – working out at 16p a card), please send:

£3.00 (incl. p. & p.) for a set
 £5.50 (incl. p. & p.) for 2 sets
 £7.50 (incl. p. & p.) for 3 sets to

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

VISITORS TO IBIZA

One of our members, Mr J.M.W. Topp, who lives in Ibiza for part of the year is very willing to meet any members on holiday on the island in spring who would like information on the island's flora. Please contact him, in writing, in the early months of the year at 20 Lupus Street, London SW1V 3DZ.

MARGARET LINDOP, Field Meetings Secretary, 36 Woodland Hill, Whitkirk, Leeds LS15 7DG

FIELD MEETINGS ON MOD LAND

The Society has been fortunate this year to obtain permission from the MOD to hold BSBI field meetings on their land, much of which is under-recorded. John Hawksford is leading such a meeting in 2000 in Staffordshire. If any one is interested to lead a similar meeting in 2001 will you please contact me and I will give you further details.

MARGARET LINDOP, Field Meetings Secretary, 36 Woodland Hill, Whitkirk, Leeds LS15 7DG

ATTENDANCE AT FIELD MEETINGS

I should like to draw your attention to a paragraph in bold print in the *Year Book* under **PROCEDURE FOR BOOKING FIELD MEETINGS**. This asks members who have booked, and then find that they are unable to attend the meeting, to make every effort to let the leader know that they will not be there. Failure to do this causes two problems

- 1) There may be a waiting list for a place on that meeting which someone else would be happy to fill, and
- 2) the leader feels obliged to wait and keep the rest of the group waiting in case the missing person is late.

It is the only complaint I ever get from leaders who so willingly give their time to organise and lead meetings for our pleasure. Your co-operation will be much appreciated.

MARGARET LINDOP, Field Meetings Secretary, 36 Woodland Hill, Whitkirk, Leeds LS15 7DG

NOTICES (NON BSBI)

IDENTIFICATION OF AQUATIC MACROPHYTES

Two courses providing training in the identification of difficult aquatic plants

Richard Lansdown will be leading two courses for botanists in 2000, one tackling a wide range of taxa and the other concentrating on a four critical groups. Both courses are supported by comprehensive documentation.

June 2000 – New Forest – An opportunity to familiarize oneself with the wide selection of species found in the bogs, rivers and Mediterranean ephemeral pools to be found in this area. The course will focus on identification of non-flowering specimens and tackle the problems of identifying little-known or variable species.

July 2000 – Anglesey – Intensive course dealing with British *Callitriche*, *Potamogeton*, Batrachian *Ranunculus* and Charophytes, a wide diversity of which are to be found on the island

For details contact:

TIM PANKHURST, 44 The Avenue, Leighton Bromswold, Huntingdon, Cambs, PE18 0SH.

Tel/fax: 01480 890702; e-mail: tpankhurst@cwcom.net

BRISC: BIOLOGICAL RECORDING IN SCOTLAND

BRISC is a charitable organisation which promotes the gathering of environmental data in order to increase public awareness about biological diversity in Scotland and to ensure that effective actions are taken to conserve this resource. It encourages and supports every aspect of recording wildlife and wildlife habitats in Scotland, through local record centres, recording groups and individual recorders. It also promotes the adoption of high standards and good practice in biological recording and encourages the contribution and exchange of data for the purpose of conservation, education, research, planning and general information. *BRISC* represents the interest of biological recorders at the national level and supports national recording schemes and is committed to working towards the National Biodiversity Network.

BRISC has recently published an important reference work, *A source book for biological recording in Scotland* by A-M. Smout & D. Mellor (ISBN 0-9535934-0-1). Although aimed primarily at Scotland, much of the information is relevant to the rest of the UK. It contains sections on the techniques and purpose of recording, on standards and principles; the activities of each Scottish local records centre (LRC), while all the national recording schemes are dealt with in detail including contact names and addresses, and there is a section with the most recent information on the Local Biodiversity Action Plans (LBAPs) around Scotland. Seven appendices contain lists of Scottish priority species and habitats, useful addresses (including national societies, ranger services, SWT survey teams, specialist software), lists of recommended field guides and reference works relating to biological recording, relevant legislation (national and international), etc.

It is available at £10 or offered free with every new membership of *BRISC*. If you would like more information please write to:

BRISC, c/o Chesterhill, Shore Road, Anstruther, Fife KY10 3DZ. Tel.: 01333 310330; fax: 01333 311193; e-mail: AMSmout@aol.com

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YOUR LAST CHANCE TO OBJECT TO GM CROPS

I am writing to ask you to consider joining Friends of the Earth in objecting to the placing of Genetically Modified (GM) seeds on the National Seed List under the Seed Regulations. The Seed Regulations provide the legal opportunity for you to object to GM seeds and potentially succeed. **We urge you not to miss the chance to have your say!** The GMO regulatory system offers no such rights for interested people and organisations to formally and democratically object to GM crops.

MAFF has to approve all new seed varieties before they can be sold to farmers so that only quality varieties are available. The system leads to approved varieties being placed on the National Seed List.

It is possible that the first GM seeds will be proposed for National Seed Listing before the end of 1999 and almost certainly in spring 2000 leading to the possibility of the first full commercial growing in 2000 before the Farm Scale Trials into the impact of GM Herbicide Resistance on biodiversity have started in earnest.

It is important that we use our rights under the Seed Regulations to say 'No' to GM food and crops; it is our first and only chance! But this democratic right comes at a cost – a total of £90 if you want to object and appear in person at the inquiry. We recognise that this unreasonable sum of money may make it difficult for some people or smaller organisations to object. We are therefore offering to represent the views of those 'priced out' of objecting.

If you wish to object in person or to have FOE represent your views at any inquiry please contact us as soon as possible. Once registered as a 'Seed List Objector' we will inform you if any GM seed is proposed for the National Seed List as soon as possible and send a detailed list of grounds to object. Once notice is given, you have less than 18 days in which to object!

ADRIAN BEBB, Food and Biotechnology Campaigner, Friends of the Earth, 28 Underwood Street, London N1 7QJ, Tel.: 01714901555; Fax: 01714900881; E-mail info@foe.co.uk; Web site: www.foe.co.uk

SPRING 2000 – WAKE UP TO VINE WEEVILS!

A nightmare scenario – Spring is here! The earth is alive with new growth, and a new season's plants are beginning to blossom in Britain's gardens. But, new shoots may not be the only thing emerging after the winter sleep. Vine Weevils, non-movers at the top of the pest chart, are waking up! As the warmer season develops, Vine Weevil eggs are hatching into root-ravishing larvae. In addition, there are more than likely to be a few winter weary adults who have survived the cold. Revived by the

warmth, they will begin producing between 600-800 eggs, each. The resultant wanton destruction by the Vine Weevil will leave British gardeners feeling more than just the weather temperature rising.

Unwary gardeners may find that they have, not only eggs and adults, but also several stages of larvae infesting a single plant pot. Other gardeners, who have followed the suggestions of the Vine Weevil Advice Centre, may be lucky enough to have removed any larvae lurking in pots over the winter. Yet, often it is not until the daffodils have disappeared that poor, put-upon, plant pot owners will discover unseen eggs and larvae are now merrily munching away on their roots. Also, larger larvae, and pupae, which can sometimes escape even the most determined gardening detective, are now pottering about over plants as egg-laying adults.

The Vine Weevil larvae are leg-less, milky white, with a yellowish/brown head. Fully grown, the larvae form into a distinctive 'C' shape of about 7 mm in length. These larvae are the real invisible 'killers', girdling the roots of plants and consuming them, whilst gardeners are unaware of the potentially devastating threat to their plants, lurking beneath the soil. The adult Vine Weevil is a wingless beetle, small and black with light brown spots on its back, and distinctive elbowed antennae. They spend the summer grazing on plant leaves, but can also survive through winter at temperatures down to -6°C.

The Gardener's best method for preventing the arrival, and development, of the Vine Weevil is to 'Spring Clean' containers and re-pot in plant protection compost. This is perfect for new planting, as it is effective within one hour. It provides a season's 'Pest Free Zone', for Vine Weevils and other common pests – such as aphids, white fly and sciarid fly – in which your plants can safely grow and develop. Other solutions include nematodes and drenches, which will ease the situation if you already have Vine Weevils. Pathogenic nematodes are a biological control, and can be watered into the soil in spring when temperatures reach 14°C, and over. Nematodes act as 'vigilante' bugs, feeding on larvae present in the soil. Insecticide drenches are also a useful treatment for Vine Weevil, and can be watered into the soil in order to kill off any larvae present. Drenches should only be used in certain areas, as specified by the manufacturers.

As a warning to Gardeners who may think that, at last, it is safe to go back in the water, beware! The 'bug of the millennium' is still 'out there'. Constant care and continued control is key in the ongoing fight against the Evil Vine Weevil.

For anyone who would like to know more, fact-files and questionnaires are available from the address below, or you can visit the Vine Weevil Web-site at www.vine.weevil.org.uk

DEBORAH SCRAGG or BOBBI DAVY, The Vine Weevil Advice Centre, Denton House, 40-44 Wicklow Street, London WC1X 9HL; Tel: 0171 278 6886; Fax: 0171 278 5998; e-mail: vineweevil@clear-group.co.uk

FLORA CELTICA GOES PUBLIC

Launch of the Flora Celtica – Scotland 2000 project

On 26 October 1999 **Flora Celtica** officially launched its **Scotland 2000** project with a striking colour poster and a call to the Scottish public for assistance. This innovative initiative, based at the Royal Botanic Garden Edinburgh (RBGE), is an unusual departure for Scotland's national botanic garden. It's not just about plants but about people!

Distributed across Scotland to schools, community centres, libraries and other public places this new poster actively encourages the Scottish public to take part and invites anybody of any age to get involved. Anyone who knows of any uses for native Scottish plants (however simple), knows of any interesting beliefs, local names, or rituals in which they play a part, or has any letters, cuttings, pictures or objects concerning native plants, would be making an important contribution by sharing it with the rest of the nation.

How are we using the wild plants of the Scottish countryside and coasts? How did we use them in the past, what do we still know about them and how might they be used in the future? With the help of the public, the project aims to answer all these questions and to bring the answers back to the people through a range of exciting media and activities.

Scottish native plants have a wide range of fascinating uses. Surprising as it may seem, this tradition is still alive in Scotland today and despite the modernisation of society, plant use remains a significant and evolving part of our heritage. At the commercial level, crofters on the west coast of Scotland are harvesting seaweed for the high-tech alginate industry, reed beds are planted for water purification, living willow fences are woven to muffle the sound from motorways, and heather is harvested from moorlands to make beer, soap and jewellery.

At the domestic level, people across Scotland are still using plants on a daily basis as part of their diet: for example picking wild mushrooms and berries. Others are using them for medicines, thatching their houses, making baskets, fertilising their gardens, and so on. They also play a key role in some of our traditions – witness the bizarre spectacle of South Queensferry's Burry Man!

With the public's help, **Flora Celtica – Scotland 2000** aims to ensure that this lesser known aspect of our heritage not only survives into the next Millennium, but blossoms in it. The project involves a series of high-profile public-focused activities in the year 2000, where the Scottish public will see their own knowledge of plant use in the limelight. These will include a touring roadshow for schools, and a travelling exhibition. Using theatre, animation, art and sound, these events will bring Scotland's rich plant lore to life. All the information will be available on the Internet, and at the end of the project a book will be produced celebrating Scotland's ongoing relationship with its flora.

The project is largely funded by the Millennium Festival Scotland Fund, with partnership funding from Bioforce UK. Additional support has been provided by the Esmée Fairbairn Charitable Trust, Scottish Natural Heritage, the John Spedan Lewis Foundation, the Garfield Weston Foundation and the Gordon Fraser Charitable Trust.

More information is available from our website <http://www.rbge.org.uk/research/ceitica/scot2000/>

CLARA GOVIER (Development Co-ordinator), Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR. Tel: 0131 248 2942; e-mail: c.govier@rbge.org.uk

REQUESTS

ABERRANT PLANTAIN PROJECT SHEETS NOW AVAILABLE

I would be very grateful if members could keep an eye out for, and report any discoveries of, aberrant plantains (*Plantago* sp.). A leaflet has been produced that give clues as to what to look for, and help in describing some of the commoner forms. Copies of this are available from me at the address below (please send A5 SAE or stamp):

MARTIN CRAGG-BARBER, 1, Station Cottages, Hullavington, Chippenham, SN14 6ET. Or e-mail reports to martin@worldmutation.demon.co.uk

A PRICKLY PROBLEM!

The Peak District is a critically important region for ecological reasons as many species of plants reach northern or southern distributional limits in this area. Many such species although common in the core areas of their distribution become increasingly rare toward the periphery, often attracting some form of protection.

The project A project currently underway at the University of Sheffield is investigating limitations to the spread and occurrence of plant species. This project aims to compare populations of selected species between their range limits in the Peak District and elsewhere in the UK. Focusing on Stemless or Dwarf Thistle (*Cirsium acaule*), Woolly Thistle (*C. eriophorum*), Melancholy Thistle (*C. helenoides* / *heterophyllum*), and the widespread Creeping Thistle (*C. arvense*), a number of measures of plant performance are being assessed along a transect covering the length of Scotland and England. Increasing rarity toward the species periphery will be examined following completion of the Atlas 2000 records. A major part of this research aims to investigate patterns of variation in the genetic structure of populations. Comparisons of core populations with those on the periphery of the species distribution will provide information on the colonisation and maintenance of populations in peripheral areas. Effects of population isolation and habitat fragmentation will also be considered. This work will have major application for conservation of species at the limits of the species range.

How can you help? Widespread sampling of populations is needed for this research to be most informative. A great deal of help in preliminary work has been provided by a number of Vice-county Recorders, however for future work I hope to locate populations of Stemless Thistle, Woolly Thistle and Melancholy Thistle countrywide for the purpose of strictly non-destructive sampling. Although these species are common in many regions they can prove difficult to find without prior knowledge of the local area. I would like to appeal to members for their help in locating populations of these species throughout mainland UK for the purposes of this study. Members are encouraged to help by sending locations of three or four local populations in the form of a six figure National Grid Reference together with grid letters indicating the 100 km grid square. A brief description of the site and its location should also be included. Please include your name and address if you are happy to be contacted for a small amount of further information. All locations sent, even where these plants are common, will be of great help.

Please send records to:

ALISTAIR JUMP, Department of Animal and Plant Sciences, University of Sheffield, Sheffield,
S10 2TN or e-mail: A.S.Jump@sheffield.ac.uk

WHITE FORM OF RAGGED-ROBIN

While trampling across the damp end of the machair rich plain of Totronald on the Isle of Coll I came across a white form of Ragged-Robin (*Lychnis flos-cuculi*). There were 3 plants all with double heads with no obvious difference in the stem or leaf format. In the same area were the normal strain. I would appreciate hearing from anyone who has also found the white form, so I can work out its distribution in Britain and Ireland.

Mrs PAT GRAHAM, Garden House, Isle of Coll, Argyll PA78 6TB

FLORAL VOLUNTEERS URGENTLY NEEDED!

Flora locale is currently looking for two volunteers.

Firstly we are looking for a volunteer botanist with editorial skills to review extract material from scientific literature for our website. The work will involve reviewing scientific papers and summarising them in about 250 words. These summaries will be put on the Flora locale website. The papers will all be related to the subject of using and sourcing native plants for ecological restoration, wildplant genetics and genetic conservation. An understanding of restoration practices, as well as botanical knowledge, would be an advantage.

A second volunteer is needed who will be able and willing to update our website as new information becomes available (updates and reviews will be undertaken about once a month). Computing skills and expertise with website development are necessary.

The volunteers will need their own computer and will need to be in touch by email. The website developer will preferably have their own software but this can be provided if necessary.

This work will contribute to Flora locale's 'one-stop-shop' information source on sourcing and using native plants for ecological restoration, now posted on our new website at www.floralocale.org

If you are a willing volunteer please contact Sue Everett at floralocale@naturebureau.co.uk, or call her on 01635 550380.

SUE EVERETT, The Nature Conservation Bureau Ltd, 36 Kingfisher Court, Hambridge Road, Newbury RG14 5SJ

MUMMY WHEAT – MIRACLE WHEAT

I am preparing a paper reviewing claims of viability in ancient seeds from archaeological provenances. These claims often feature grains obtained from an ancient Egyptian tomb, planted, and found to germinate and grow into plants with miraculous properties. The plant concerned is usually wheat, but peas, tomatoes and other crops feature too. The survival of the belief in 'mummy crops' since the Victorian period is well illustrated by a recent article in a national newspaper (Sykes 1999) about peas grown in the Duke of Sutherland's walled garden, said to derive from Tutankhamun's tomb.

The mainstream literature on these claims has been usefully reviewed by King-Parkes (1885), Trotter (1986) and Whympster (1913), amongst others. I would be very grateful to receive further anecdotes relating to this topic, or copies of newspaper clippings and other such ephemeral literature that I would otherwise miss.

References

- King-Parkes, H. (1885). On the supposed germinating powers of mummy wheat. *The Journal of Science* 7: 604-610.
- Sykes, T. (1999). Peas from the mummy's tomb. *The Guardian*, September 18th.
- Trotter, W.R. (1986) 'Mummy wheat' at Albury. *Surrey Archaeological Collections* 77: 173-180.
- Whympster, R. (1913). The influence of age on the vitality and chemical composition of the wheat berry. *Knowledge* 36(537): 135-138.

MARK NESBITT, Centre for Economic Botany, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE. Fax: (020) 8332 5768. Email m.nesbitt@rbgkew.org.uk

OFFERS

WEST DOWN SEED LIST, 1999

This year has been a good one for collecting seed. Small amounts of the following are available free, on receipt of small LABELLED packets and an s.a.e. To all those who kindly sent me their seeds last year, many thanks. I also have some old seed from earlier lists.

<i>Acanthus spinosus</i>	<i>Eryngium giganteum</i>	<i>Nectaroscordum siculum</i>
<i>Aconitum napellus</i>	<i>Euphorbia exigna</i>	<i>Nepeta cataria</i>
<i>Adonis annua</i>	<i>Euphorbia oblongata</i>	<i>Nepeta subsessilis</i>
<i>Agrostemma githago</i>	<i>Euphorbia platyphyllos</i>	<i>Nicandra physaloides</i>
<i>Alcea rosea</i>	<i>Euphorbia stricta</i>	<i>Nigella arvensis</i>
<i>Allium cernuum</i>	<i>Farsetia clypeolata</i>	<i>Nigella damascena</i>
<i>Allium moly</i>	<i>Ferula communis</i>	<i>Oenothera stricta</i>
<i>Allium nigrum</i>	<i>Francoa ramosa</i>	<i>Onopordon acanthium</i>
<i>Althaea officinalis</i>	<i>Galtonia candicans</i>	<i>Paeonia lutea</i>
<i>Amaranthus caudatus</i>	<i>Geranium palmatum</i>	<i>Parahebe perfoliata</i>
<i>Anagallis arvensis (blue)</i>	<i>Geranium pratense</i>	<i>Papaver hybridum</i>
<i>Anchusa arvensis</i>	<i>Geranium sanguineum</i>	<i>Petroselinum crispum</i>
<i>Angelica officinalis</i>	<i>Geranium versicolor</i>	<i>Phalaris aquatica</i>
<i>Asphodeline lutea</i>	<i>Geranium wallichianum</i>	<i>Phygelius capensis</i>
<i>Briza maxima</i>	<i>Gilia capitata</i>	<i>Polypogon monspeliensis</i>
<i>Briza minor</i>	<i>Gladiolus communis</i>	<i>Potentilla argentea</i>
<i>Bupleurum rotundifolium</i>	<i>Glaucium flavum</i>	<i>Potentilla recta</i>
<i>Camassia leichtlinii</i>	<i>Helichrysum bracteatum</i>	<i>Primula veris</i>
<i>Campanula persicifolia</i>	<i>Hyoscyamus niger</i>	<i>Roemeria hybrida</i>
<i>Campanula primulifolia</i>	<i>Hypochoeris glabra</i>	<i>Salvia glutinosa</i>
<i>Carex depauperata</i>	<i>Impatiens halfourii</i>	<i>Salvia pratensis</i>
<i>Carthamus lanatus</i>	<i>Impatiens cristata</i>	<i>Salvia sclarea</i>
<i>Centaurea cyanus</i>	<i>Inula helenium</i>	<i>Salvia viridis</i>
<i>Cerinthe major</i>	<i>Kickxia elatine</i>	<i>Scrophularia nodosa</i>
<i>Chenopodium ficifolium</i>	<i>Kickxia spuria</i>	<i>Scrophularia scorodonia</i>
<i>Chenopodium giganteum</i>	<i>Knautia macedonica</i>	<i>Scutellaria altissima</i>
<i>Chenopodium quinoa</i>	<i>Lagurus ovatus</i>	<i>Scutellaria bicalensis</i>
<i>Chenopodium vulvaria</i>	<i>Lathyrus latifolius</i>	<i>Silene armeria</i>
<i>Chrysanthemum segetum</i>	<i>Lavatera trimestris</i>	<i>Silene noctiflora</i>
<i>Clinopodium acinos</i>	<i>Leonurus cardiaca</i>	<i>Silene pendula</i>
<i>Clinopodium ascendens</i>	<i>Linaria amethystea</i>	<i>Silybum marianum</i>
<i>Codonopsis cardiophylla</i>	<i>Linaria dolmatica</i>	<i>Sisyrinchium striatum</i>
<i>Collinsia grandiflora</i>	<i>Linaria purpurea</i>	<i>Smirnium olusatrum</i>
<i>Critium maritimum</i>	<i>Linaria repens</i>	<i>Solanum rostratum</i>
<i>Crocsmia paniculata</i>	<i>Lithospermum arvense</i>	<i>Stachys germanica</i>
<i>Cynoglossum germanicum</i>	<i>Lithospermum officinale</i>	<i>Stylophorum diphyllum</i>
<i>Cynoglossum officinale</i>	<i>Lunaria annua</i>	<i>Telekia speciosa</i>
<i>Cytisus monspessulanus</i>	<i>Lychnis alpina</i>	<i>Tragopogon porrifolius</i>
<i>Delphinium requienii</i>	<i>Lychnis chalcidonica</i>	<i>Verbascum nigrum</i>
<i>Dianthus deltoides</i>	<i>Malva alcea</i>	<i>Verbascum phoeniceum</i>
<i>Dierama pulcherrima</i>	<i>Marrubium vulgare</i>	<i>Verbena officinalis</i>
<i>Digitalis lutea</i>	<i>Misopates calycinum</i>	<i>Veronica agrestis</i>
<i>Dorycnium hirsutum</i>	<i>Misopates orontium</i>	<i>Vicia bithynica</i>
<i>Echium vulgare</i>	<i>Myosurus minimus</i>	<i>Xeranthemum inapertum</i>
<i>Erodium manescavii</i>		

HUMPHRY J.M. BOWEN, West Down, West Street, Winterborne Kingston, Blandford, Dorset
DT11 9AT

SEEDS OF ALIEN PLANTS

The following seeds are available from my garden this year. Please send an S.A.E. and some small packets according to the number which you require.

<i>Agrimonia procera</i>	<i>Cotoneaster boisianus</i>	<i>Iva xanthiifolia</i>
<i>Amaranthus albus</i>	<i>C. lindleyi</i>	<i>Nonea lutea</i>
<i>A. blitoides</i>	<i>C. sikangensis</i>	<i>Oxalis valdiviensis</i>
<i>A. blitum</i>	c.40 other <i>Cotoneaster</i> spp.	<i>Paspalum dilatatum</i>
<i>A. graecizans</i>	<i>Datura ferox</i>	<i>Pavonia urens</i>
<i>Ambrosia artemisiifolia</i>	<i>D. innoxia</i>	<i>Pennisetum flaccidum</i>
<i>Artemisia annua</i>	<i>D. quercifolia</i>	<i>Physalis peruviana</i>
<i>Bidens pilosa</i>	<i>D. stramonium</i>	<i>Solanum nigrum</i> ssp. <i>schultesii</i>
<i>Bunias orientalis</i>	<i>Digitaria ternata</i>	<i>S. scabrum</i>
<i>Carthamus tinctorius</i>	<i>Dracunculus vulgaris</i>	<i>S. sisymbriifolium</i>
<i>Chenopodium urbicum</i>	<i>Elymus multiflorus</i>	<i>S. villosum</i>
<i>C. vulvaria</i>	<i>Erodium cicutarium</i>	
<i>Coix lachryma-jobi</i>	<i>E. cygnorum</i>	
<i>Conyza bilbaoana</i>	<i>Helianthus annuus</i>	

GORDON HANSON, 1 Coltsfoot Road, Ware, Herts. SG12 7NW

JOURNALS FOR DISPOSAL

PROCEEDINGS, WATSONIA AND YEAR BOOK

I would like to find good homes for the following BSBI publications:

Proceedings, vol. 1-7

Year Book 1951, 1952, 1953

Watsonia 1-12 (pt 4).

Preferably to be collected, in which case they are offered free of charge (or a donation to Plantlife at recipient's discretion).

PETER F. YEO, 71 Grantchester Meadows, Cambridge, CB3 9JL.

BOOK NOTES

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

**The Sands of Time : an introduction to the Sand Dunes of the Sefton Coast*. P.H. Smith. Pp xvii + 196. National Museums and Galleries on Merseyside. 1999. Price £8.50 (ISBN 1-902700-03-1). Available from NMGM Publications, Box 33, 127 Dale St, Liverpool, L69 3LA for £8.50 + £1.50 p & p.

[A well-assembled paperback on the origins and land-use of this very rich dune system. There are major sections on the plants (30 pp) and the animals (33 pp) (although with no overall checklists) and substantial chapters on management.]

**Genera Orchidacearum*, Volume 1, General Introduction, Apostasiodeae, Cyrtipediodeae. Edited by A.M. Pridgeon, P.J. Cribb & M.W. Chase. Pp xv + 197. Oxford University Press 1999. Price £45 (ISBN 0-19-850513-2).

[The first of six projected volumes of a comprehensive modern treatment of world-wide orchid classifications. Half of this first volume covers the history, elements and science of orchid classification and the other half covers the two sub-families listed. Each genera is described, with lists of species and their sections, chromosome numbers and distribution, together with details of 4C DNA ranges. There are excellent colour plates and maps.]

Ireland, A Natural History. D. Cabot. Pp 512. Harpur Collins. 1999. Price Hbk £34.99; pbk £17.99 (ISBN 000-220079-1 (hbk); 000-220080-5 (pbk). New Naturalist No. 84.

A Rum Affair. K. Sabbagh Pp ix + 224. Allen Lane, the Penguin Press. 1999. Price £16.99 (ISBN 0-713-99277-8).

Britain's Rare Flowers. P. Marren. Pp xvii + 334. T. & A.D. Poyser. 1999. Price £24.95 (ISBN 0-85661-114-X).

A Naturalist's Shetland. J.L. Johnston. Pp xii + 506. T. & A.D. Poyser. 1999. Price £27.95 (ISBN 0-85661-105-0).

In *BSBI News* 82, Sept. 1999, I mentioned I intended to review the new biography of R.L. Praeger (by S. Lysaght, Four Courts Publishing, Dublin). I have been unable to obtain a review copy. The same comment applies to the new German plant list flagged in *BSBI News* 81.

The book *Gaelic Plant Names* is available from The Gaelic Book Council, 23 Mansfield Street, Glasgow G11 5QR (Tel.: 0141 337 6211).

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

WILD WOODS OF IRELAND FIELD STUDIES GUIDE

A new field studies guide on Woodlands in Ireland will place students in the role of 'Ecological Consultants' surveying woodlands. On the basis of their assessment they will recommend management measures for conservation and amenity.

This guide is the latest in a line of education resource packs which have been developed by the IPCC's education department in an attempt to bridge the information gap on Irish Wildlife habitats. It is an essential resource for teachers of Primary and Secondary school students and Instructors of Education Centres as it meets the changing school curriculae of Science, Biology and Geography which have an increasing emphasis on field studies focusing on terrestrial, freshwater and marine environments.

The guide is divided into two parts:

- The first provides information on Irish woodlands, their ecology, conservation and management.
- The second contains photocopyable field studies worksheets and project ideas of varying difficulty and content.

'This field studies guide focusing on wild woodlands and plantations will help young people understand how woodlands work, why they need to be managed and how they can benefit local communities. It will foster an appreciation of trees and Irish woodlands.' Dr Catherine O'Connell.

To date IPCC's education department has ensured that adequate field studies guides exist for bogs, peatlands and their wildlife. This latest guide on the wild woods of Ireland is significant in that it meets the requirements of new school curriculae whilst raising awareness and hopefully an appreciation of Irish woods and trees.

Copies of Wild Woods of Ireland Field Studies Guide are available from IPCC at the address below, costing £10 (Irish punts) including postage & packing.

Irish Peatland Conservation Council, 119 Capel Street, Dublin 1, Ireland. Fax: +353-1-8722397;
Tel.: +353-1-8722384; E-mail: ipcc@indigo.ie; Web site: <http://indigo.ie/~ipcc>

FUTURE CONFERENCES AND SYMPOSIA

SER2000: LIVERPOOL

Society for Ecological Restoration International Conference
4 – 7 September 2000

The Society for Ecological Restoration is dedicated to promoting greater understanding and good practice in all aspects of habitat and ecosystem repair.

The international network of SER members provides a professional platform for all those involved in ecological restoration and the 2000 Conference will be the first SER Annual Conference to be held in Europe.

Conference objectives

- To bring together as many individuals and organisations as is possible, from the USA, UK, Europe and elsewhere, to pool and share their experience and expertise in ecological restoration – covering both the successes and the failures;
- To raise political understanding of the relevance and applications for ecological restoration and to gain further support for more effective legislative and policy initiatives;
- To improve international dialogue over ecological restoration issues and to establish common understanding of the situations where ecological restoration is appropriate;
- To identify priorities for the 21st Century to ensure that biodiversity has the greatest opportunity to thrive and increase. These include scientific needs, technology, new legislation and policy, community involvement and monitoring standards;
- To identify how ecological restoration can meet the needs and aspirations of ordinary people.

If you would like to receive further information on the Conference as it becomes available please write to:

SER 2000 Conference Secretariat, c/o SJS Business Services Limited, P0 Box 17, Newton le Willows, Merseyside WA3 2FQ; E-mail: ser2000@netcomuk.co.uk

BIODIVERSITY 2000

3 – 6 September 2000

Royal Botanic Garden, Edinburgh,

'Biodiversity 2000' will be the main conference for the Institute of Horticulture in 2000. All those working in the field of Crop Production, Plant Genetics and issues with Environmental impact should be encouraged to attend this meeting.

Why Biodiversity?

The term 'biodiversity' was first coined in the book *The current state of biological diversity* edited by E.O. Wilson in 1988. However, it came into common usage throughout the world following the signing of the Convention of Biological Diversity at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992.

Horticulturists play a very key role in biodiversity-related issues through research, cultivation and conservation of the world's plants and the Year 2000 is a timely point for the Institute of Horticulture to celebrate the achievements of the past and look to the issues of the future – the subject 'Biodiversity' provides the perfect forum.

The Conference has three main themes, based on biodiversity and its relevance to horticulturists genetics, production and environment. Each theme will be co-hosted by a relevant organisation.

Further particulars can be obtained from:

R.F. OTTLEY, Conference Secretary, 1/6 South Elixia Place, Edinburgh EH8 7PG; Tel/Fax: 0131 661 0486, e-mail: rayottley@lineone.net

BUILDING BRIDGES WITH TRADITIONAL KNOWLEDGE:

An exploration of issues involving indigenous peoples, conservation, development and ethno-sciences for the new millennium

May 28 - June 3, 2001

Honolulu, Hawaii

A landmark conference on conservation, development, traditional knowledge and the sustainable use of the earth's cultural and biological resources will take place in Honolulu in 2001. It will bring together indigenous and traditional people, researchers, academic institutions, government representatives, natural product industry leaders and non-profit organisations. The plan is to bring together a diverse group of participants who have an interest in conservation, sustainable use and other topics to be covered in this five-day conference.

For more information contact:

ALEXANDRA PAUL, Building Bridges Conference, University of Hawaii, Honolulu, HI, 96822-2279; e-mail: apaul@traditionalknowledge.com; Fax: (808) 956-3923; www.traditionalknowledge.com

REPORTS OF INDOOR MEETINGS — 1999

CURRENT WORK ON THE BRITISH FLORA AT THE NATURAL HISTORY MUSEUM

On Sunday May 9th, the day following the Annual General Meeting, the society was invited to a day's meeting at the Natural History Museum for which we are most grateful to Professor Steve Blackmore and to Roy Vickery.

After a welcome by Professor Blackmore, the following papers were presented:—

- Roy Vickery: The Natural History Museum and its historical collections

- Dr William Purvis: NHM Lichen Collections: Tools for environmental monitoring
- Ian Tittley: The Seaweed Flora: NHM resources and activities
- Professor Chris Humphries: Biodiversity, Biogeography and Conservation

During lunch, tours of the Herbaria were arranged and then the afternoon session was introduced by Dr Mary Gibby.

- Dr Dave John: Towards a modern British Freshwater Algal Flora
- Alison Paul and Rosemarie Rees: Endangered species in the British Isles and the British Herbarium
- Dr Johannes Vogel: Historical biogeography of Arctic-alpine ferns in the UK
- Dr Fred Rumsey: Genetic aspects of conservation - some case studies from the NHM Conservation Biology Laboratory
- Dr David Allen: Museum collections and the study of British brambles
- Caroline Ware: An introduction to the Museum's Wildlife Garden

Dr Rob Huxley brought the meeting to a close.

The Wildlife Garden at The Natural History Museum was opened after tea.

Again, our sincere thanks to Professor Steve Blackmore and to Roy Vickery and all the speakers and helpers for a most interesting day which was greatly enjoyed by all attending SBSBI members.

AILSA BURNS, 3 Rosliston Road, Stapenhill, Burton-upon-Trent, Staffordshire DE15 9RJ

REPORTS OF FIELD MEETINGS — 1999

Reports of Field Meetings (with the exception of Atlas 2000 reports written by Trevor Dines and Reports of Irish meetings written by Alan Hill) are edited by, and should be sent to: Dr Alan Showler, 12 Wedgwood Drive, Hughenden Valley, High Wycombe, Bucks, HP14 4PA, Tel.: 01494 562082.

LLANGRANOG, CARDIGANSHIRE (v.c.46) 12th June

Fifteen members met at the car park near the church in this small coastal village. On the walk down the hill to the beach we saw several colonies of *Erodium moschatum* (Musk Stork's-bill). *Brassica nigra* (Black Mustard) and *Fumaria capreolata* subsp. *babingtonii* (White Ramping-fumitory) were on the scrub slope above the road, and a flourishing naturalised population of *Matthiola incana* (Hoary Stock) still flourished on a sandy slope near the bottom where J.H. Salter first recorded it in 1924. After looking at *Crithmum maritimum* (Rock Samphire) and two spikes of *Orobancha hederæ* (Ivy Broomrape) on the cliffs, we took the coast path northwards, passing a fine colony of *Vicia sylvatica* (Wood Vetch) in full flower and climbing up through the coastal heath vegetation of *Erica cinerea* (Bell Heather) and *Ulex gallii* (Western Gorse). Steve Chambers demonstrated the leaf-sheath characters of *Festuca ovina* (Sheep's-fescue) and *F. rubra* (Red Fescue), and we lunched on the south-facing slope of the headland sitting on *Sagina subulata* (Heath Pearlwort), *Catapodium maritimum* (Sea Fern-grass), *Scilla verna* (Spring Squill) and dwarf *Hypochaeris radicata* subsp. *ericetorum* (Cat's-ear).

Working round the headland, we found abundant *Sagina maritima* (Sea Pearlwort) with *Festuca rubra* subsp. *juncea* (Red Fescue) on the salt-swept west side. Mark Lawley was the only one of the party to make the perilous crossing to Ynys Lochtyn, and found the coastal ecotype of *Vicia cracca* (Tufted Vetch). Meanwhile Wendy McCarthy made the find of the day, a colony of *Anagallis minima* (Chaffweed) among *Hydrocotyle vulgaris* (Marsh Pennywort) and *Carex flacca* (Glaucous Sedge) in a

closely sheep-grazed flush on top of the east cliff and some of us descended a steep path nearby to see *Asplenium marinum* (Sea Spleenwort). A steep climb up brought us to the Iron Age camp of Pendi-naslochty, where we searched in vain for *Vicia lathyroides* (Spring Vetch) which the leader thought he might have seen there once. On the way back to the village past Lochty we saw *Moenchia erecta* (Upright Chickweed) with its characteristic associates *Thymus polytrichus* (Wild Thyme) and *Ornithopus perpusillus* (Bird's-foot) on the thin soil of a steep bit of pasture, and in the churchyard *Carex hirta* (Hairy Sedge) was crossed off as a post-1987 record for the Atlas.

ARTHUR CHATER

MULL, MID-EBUDES (v.c. 103) 20th - 23rd June

Sunday 20th 2 members explored Craignure golf course early on, where the 'rough' was a saltmarsh and 'out of bounds' in the sea. Later, David Hawker and Imogen Crawford joined the group for an excellent, varied walk through the rich, deciduous woodland north of Tobermory.

Epipactis helleborine (Broad-leaved Helleborine) grew with *Calamagrostis epigejos* (Purple Small-reed) by the footpath and basalt crags were purple and gold with *Thymus polytrichus* (Wild Thyme) and *Lotus corniculatus* (Bird's-foot-trefoil). Emerging from the woodland we found many *Gymnadenia conopsea* (Fragrant Orchid) to guide us along to the lighthouse, where an unusual viviparous plant of *Plantago maritima* (Sea Plantain) growing in the saltmarsh puzzled us for a while. The owner of the lighthouse informed us that he had found *Cephalanthera longifolia* (Narrow-leaved Helleborine) in the wood several years ago. The cliffs to the north of the lighthouse were not particularly rich but *Geum rivale* (Water Avens), *Linum catharticum* (Fairy Flax), *Cirsium heterophyllum* (Melancholy Thistle) and *Orchis mascula* (Early-purple Orchid) were scattered on the steep, grassy slopes, ungrazed in places. We returned via Tobermory golf course, ending as we began, on the greens.

On **Monday 21st** Jean Miller, author of *Flowers of Iona*, joined Gordon Rothero and me on Staffa. A choppy sea made for an interesting crossing, but the day improved and a full record of island plants was made, with 158 species being noted. Nothing unusual was found but Staffa is certainly a varied island botanically, quite apart from its spectacular geology.

Tuesday 22nd was a strenuous day, which saw Gordon and me walking across the Laggan deer forest from north to south, closely inspecting the towering basaltic cliffs along the south coast, before scrambling up a steep, wooded ravine, visiting Loch an t'sidhein, which only yielded *Lobelia dortmanna* (Water Lobelia) and *Litorella uniflora* (Shoreweed), and then the long walk back to the car at Loch Spelve. However, there was plenty of variety in the 'forest', including an exciting time when we thought we had a new site for *Carex magellanica* (Tall Bog-sedge), but on reflection it proved to be *C. limosa* (Bog-sedge) *en masse*. *Carex dioica* (Dioecious Sedge), *Dactylorhiza incarnata* subsp. *pulchella* (Early Marsh-orchid) and *Pinguicula lusitanica* (Pale Butterwort) occurred in richer *Schoenus nigricans* (Black Bog-rush) flushes and an annoyed female Adder provided some entertainment. A wet, swampy area in Glen Libidil was a mixture of *Carex lasiocarpa* (Slender Sedge), *C. pauciflora* (Few-flowered Sedge) and *C. rostrata* (Bottle Sedge) and good, healthy colonies of *Osmunda regalis* (Royal Fern) were scattered along the lower part of the burn and the wet cliffs along the coast. In the wooded ravine *Viburnum opulus* (Guelder Rose) and *Ulmus glabra* (Wych Elm) were located during a scramble.

Wednesday 23rd was recuperation day. The sun came out and we spent the whole day slowly exploring the coast near Scoor on the Ross of Mull, covering about 1.5 km at the most. But that does not mean we were slacking! The coastal cliffs and especially the sandy areas were rich in species not

commonly found elsewhere on Mull – *Sherardia arvensis* (Field Madder), *Viola tricolor* subsp. *curtisii* (Wild Pansy), *Draba incana* (Hoary Whitlowgrass), *Anagallis arvensis* (Scarlet Pimpernel), *Arabis hirsuta* (Hairy Rock-cress), *Carlina vulgaris* (Carlina Thistle), *Euphorbia peplus* (Petty Spurge), *Aira caryophyllea* (Silver Hair-grass), *Arenaria serpyllifolia* subsp. *serpyllifolia* (Thyme-leaved Sandwort), *Cakile maritima* (Sea Rocket), *Coeloglossum viride* (Frog Orchid), *Daucus carota* (Wild Carrot), *Erodium cicutarium* (Common Stork's-bill), *Geranium molle* (Dove's-foot Crane's-bill), *Scilla verna* (Spring Squill), *Valerianella locusta* (Common Cornsalad) and *Thalictrum minus* (Lesser Meadow-rue) were just the 'pick of the bunch'. It was during this time that our slow progress and diligent inspection of the cliffs with binoculars, led a local fisherman to report us to the RSPB as possible egg thieves!

LYNNE FARRELL

ESGAIRDRAENLLWYN (v.c 43) 4th July

The farm at Esgairdraenllwyn in the far north of Radnorshire was the meeting place for 12 members, where we were welcomed by the owner Mr Tom Davies. He has been very active in wildlife matters, and a large area of wet meadow below the farm is an SSSI, and was the scene of the morning's explorations. The meadow was the home of two friendly horses, to whom the sight of a group of kneeling botanists was irresistible, and a nuzzle was inevitably centred on the species under discussion. This grassy area is intersected by several small streams draining into the infant River Ithon which runs down its centre. Of particular interest here were *Vicia orobus* (Wood Bitter-vetch), *Salix purpurea* (Purple Willow), *Valeriana dioica* (Marsh Valerian) and *Carex acutiformis* (Lesser Pond-sedge). The combination of habitats here gave us a total of over 200 species, and provided elements of discussion about willows and hybrid rushes, admirably guided by Arthur Chater. New records were of the hybrid rush, *Juncus* × *kern-reichgeltii* and the hybrid Willowherb, *Epilobium* × *rivale*.

The afternoon's excursion moved first to a wet slope which the owner told us had not been grazed for three years, and its future management was discussed. Extra finds here were *Hypericum tetrap-terum* (Square-stalked St John's-wort) and *Pedicularis palustris* (Marsh Lousewort). Further west a wet area had been made into three ponds at different levels. The pond edges, beyond the *Eleocharis palustris* (Common Spike-rush) zone, yielded several sedges including the hybrid *Carex* × *fulva*, and in the water *Potamogeton bertholdii* (Small Pondweed). Beyond the highest pond was an extensive and trackless wet deciduous wood. Among the profuse ground flora of *Ribes nigrum* (Black Currant) here a single plant of *Osmunda regalis* (Royal Fern) was found, far from its only other extant site in the county. A further search yielded no other specimens, and even the first find could not be relocated. It is clear that this partial hectad, which had not been extensively recorded since the Monitoring Scheme, will repay further visits, especially if the weather is as agreeable as on this occasion.

DAVID HUMPHREYS

YOXALL, STAFFORDSHIRE (v.c. 39). 17th-18th July

Twelve attended this meeting, nine on each day. Although the prime object was to boost Atlas 2000 records for the underworked hectads SK/1.1 and SK/1.2, data was collected on a tetrad basis. This was to facilitate its inclusion in a forthcoming *Flora of Staffordshire* for which 1999 was the opening

year of a decade of fieldwork. The party divided into four groups for both the Saturday and the Sunday.

Bidens frondosa (Beggarticks) was in the Trent and Mersey Canal at Alrewas. This species has moved steadily from the Birmingham area and has penetrated further north, along the waterways, into Cheshire. A young *Solanum* plant, at Fradley, was grown on and found to be *S. physalifolium* (Green Nightshade), a new v.c. record. *Nicandra physalodes* (Apple-of-Peru) was nearby, at Orgreave. A second group knew their hybrids and identified the thistle *Carduus* × *stangii* (*C. crispus* × *C. nutans*) (another first for the v.c.) and the dock *Rumex* × *abortivus* (*R. conglomeratus* × *R. obtusifolius*) on the banks of the Trent, near King's Bromley. *Papaver argemone* (Prickly Poppy) displayed its bristly capsule in a field north-west of Nethertown.

The more northerly hectad was one of less varied and, on the whole, drier habitats and, consequently, yielded fewer additions to the species cards. However, both *Coronopus squamatus* (Swine-cress) and *C. didymus* (Lesser Swine-cress) were in field gateways in the Dunstall area and *Veronica polita* (Grey Field-speedwell) and (another new v.c. record) *Mentha* × *villosanervata* (Sharp-toothed Mint) in the Rangemoor tetrad. Group four detected the overlooked *Chenopodium ficifolium* (Fig-leaved Goosefoot) in an arable field close to Hoar Cross Hall and captured *Carex spicata* (Spiked Sedge) on a grassy roadside at Hoar Cross village.

On Sunday, the supposedly choicer areas having already been explored, it was a pleasant surprise to add extensively to both lists. In SK/1.1, there were more hybrids, with both *Dactylorhiza* × *grandis* (*D. fuchsii* × *D. praetermissa*) and the woundwort *Stachys* × *ambigua* (*S. sylvatica* × *S. palustris*) flowering by Hanchurch reservoir. *Lemna minuta* (Least Duckweed), first seen in Staffordshire a few days before, was near Hamstall Ridware, with *Rumex maritimus* (Golden Dock) nearby on the bank of the River Blythe. Disturbed ground, on a building site at Fradley, had dozens of plants of *Erysimum cheiranthoides* (Treacle-mustard), but just a single one of *Lactuca virosa* (Great Lettuce). Only two members spent the day in SK/1.2: their rewards included the willows *Salix* × *smithiana* (*S. viminalis* × *S. cinerea*) and *S.* × *reichardtii* (*S. caprea* × *S. cinerea*) near Newborough, with *Puccinellia distans* (Reflexed Saltmarsh-grass) on the edge of the A515.

Some members came from as far afield as Hampshire and Yorkshire. All contributed to more than achieving the purpose of the meeting: the post 1986 hectad total of SK/1.1 being raised over the weekend by 112, to 526 and that of SK/1.2 by 66, to 510.

JOHN HAWKSFORD

GNOSALL, STAFFORDSHIRE (v.c. 39). 7th-8th August

This was the second meeting of the season to record for Atlas 2000, and the forthcoming *Flora of Staffordshire*, in underworked squares of rural areas. Highlighted on this occasion were SJ/8.1 and 8.2. The leader had optimistically suggested that some of the remarkable number of ponds marked on the OS map might be still extant and even lack sufficient tree cover so as not to be devoid of life. This proved to be so in a few cases, and the high water levels caused by recent downpours, which raised water levels and flooded many of the bridle tracks in the area, did not prevent some rewarding records being made.

Although a total of eleven members and friends attended, only six were able to be present on the first day: they worked in pairs and covered five tetrads. *Conyza canadensis* (Canadian Fleabane) was in surprisingly pastoral territory on a disturbed verge by Church Eaton church, with a couple of fine clumps of *Rumex maritimus* (Golden Dock) on the edge of a large pond by Intake Plantation to the south-west; *Rorippa microphylla* (Narrow-fruited Water-cress) displayed its diagnostic characters well,

near Cowley. In SJ/8.2 much excitement was provided by an *Epilobium* in Haughton churchyard, which had some of the characters of *E. lanceolatum* (Spear-leaved Willowherb). Unfortunately, its elderly, rain-battered condition did not permit a definite confirmation, which would have resulted in an extension of the range of this species. *Isolepis setacea* (Bristle Club-rush) and *Potamogeton berchtoldii* (Small Pondweed) were in the same parish.

The larger number supporting the second day permitted a division into four groups. The more northerly 10 km square, near Great Bridgeford, then gave rise to *Sherardia arvensis* (Field Madder) and *Potamogeton pectinatus* (Fennel Pondweed). *Sedum album* (White Stonecrop) bordered an enormous length of a runway of a disused aerodrome, west of Seighford, with *Calystegia pulchra* (Hairy Bindweed) well naturalised in a hedgerow nearer to the village. In SJ/8.1 *Glyceria declinata* (Small Sweet-grass) was new for the tetrad at Wheaton Aston as was *Claytonia sibirica* (Pink Purslane) at Lapley. *Lemna minuta* (Least Duckweed) was only the third v.c. record from a pool in a wood, by the canal near Little Onn with *Mentha × piperata* (*M. aquatica* × *M. spicata*) (Peppermint) nearby. As a result of the weekend's diligent paddling, the number of taxa recorded (post-1986) for SJ/8.1 rose by 58, to a total of 512, and that of SJ/8.2 by 57, to 471.

JOHN HAWKSFORD

CARMARTHEN (v.c. 44) (IN ASSOCIATION WITH WELSH AGM) 20th-22nd August

About twenty members and friends arrived at Trinity College, Carmarthen for dinner on the evening of Friday 20th August, for several their first stay in Carmarthenshire.

After dinner a short walk along the by-way to Tre-fechan (SN/394.209) was led from the campus by George Hutchinson who described not only the botanical interest but also went into great detail with regard to Carmarthen's history, the locality and the local topography while Richard Pryce chipped in with some brief comments on the geology. *Filipendula vulgaris* (Dropwort) was shown to the group, albeit suffering from the council's unrelenting verge-cutting programme. Towards the ford, five different brambles were pointed out, including *Rubus scaber*, a species confined to only three localities in the vice-county

On the Saturday morning, the group met at Burry Port Harbour (SN/445.005) where RDP showed members some of the botanical highlights of this site, which is popular with both tourists and locals alike. *Carduus nutans* (Nodding Thistle) has been known here for many years despite repeated mowing and only one or two plants near the outer dock wall had escaped and were in a condition to be shown to the party. Species seen growing from the dock walls and aprons of the eastern scouring basin included *Limonium procerum* subsp. *procerum* (a rock sea lavender), *Trifolium scabrum* (Rough Clover), *Crithmum maritimum* (Rock Samphire) and a small desiccated crucifer which gave rise to much discussion. It eventually dawned on us that it was long-spent, *Cochlearia danica* (Danish Scurvy Grass)!

The western inner harbour walls were next examined, all the aprons having recently been mown or strimmed. However enough vegetation remained to demonstrate the presence of a few plants of *Linum bienne* (Pale Flax) and *Linaria repens* (Pale Toadflax). There was no sign of the few *Anacamptis pyramidalis* (Pyramidal Orchid) plants noted by the leader earlier in the year. In 1997 a small population of *Silene gallica* (Small-flowered Catchfly) was discovered at the site which in 1998 consisted of several thousand small plants. However, despite repeated monitoring visits in 1999 no plants had been found. The opportunity was taken to make a very careful search of the site and after several minutes Arthur Chater found a single tiny spent plant. This may have been the only plant to have grown in 1999 or may even have remained intact from the 1998 season. Further monitoring will be carried out in 2000.

Limonium procerum subsp. *procerum* was also seen to be growing frequently on the walls as well as on the saltmarsh/slag-shingle at the western end of the harbour. Here Andy Jones gave the party the benefit of his knowledge of this rare species. Finally, before lunch, *Medicago arabica* (Spotted Meddick) was refound after a short search, growing in the lawns near the boat chandlers.

During lunch Paul Day discovered *Phacelia tanacetifolia* (Phacelia) growing by the public toilets, a new record for the vice county.

The party moved on to the former fly-ash lagoon west of Pwll (SN/471.010) for a short visit prior to returning to Trinity College for the AGM. The wildlife interest of the lagoon has been known for some years with records of *Osmunda regalis* (Royal Fern), several pairs of Lapwings breeding in some seasons and large numbers of Snipe feeding in winter. It is only in the last two years, however, that sustained and regular botanical monitoring has been carried out.

Prior to these more intensive studies, the lagoon was flooded to a depth of up to 2m. The physical nature of the fly-ash that was pumped as a slurry from the now demolished Carmarthen Bay Power Station, was such that it separated into two fractions: particles that sank and particles that floated. The 'floaters' tended to coalesce to form floating islands which drifted with the wind and ultimately became vegetated with a distinctive and diverse floral community whilst still drifting from end to end of the lagoon. Due to an unfortunate incident in which a visiting child was stranded on one of the floating islands, the lagoon was drained about four years ago. Floating islands are not an uncommon feature of fly-ash lagoons elsewhere in the country but the Pwll system was destroyed during the draining process and the islands became beached and are now fixed in position. Water from old colliery workings ensures that the lagoon remains flooded to a depth of up to about 400 mm at the western end, while it is always 'soggy' at the eastern end, even in dry summer weather.

The chemistry of the ash is such that after leaching for a few years it is able to support plant species which in natural habitats are often confined to highly acid or highly alkaline conditions. Thus, normally acidophile species such as *Osmunda regalis*, *Oreopteris limbosperma* (Lemon-scented Fern) and bog-mosses including *Sphagnum fimbriatum* and *S. subnitens*, grow in juxtaposition with acidophobes such as *Juncus subnodulosus* (Blunt-flowered Rush), *Isolepis cernua* (Slender Club-rush) and *Dactylorhiza praetermissa* (Southern Marsh-orchid). One of the most notable features of the plant community is the great abundance of *Drosera rotundifolia* (Common Sundew) which is usually found in upland, acid bogs and flushes, often growing on moss-tussocks, but here it carpets some areas of the floor of the drained lagoon in such profusion that it is impossible to walk without treading on the delicate plants.

The visit by members of the BSBI enabled the lagoon to be scrutinised by some of the country's most eminent botanists. Not surprisingly several new and outstanding findings were made. Several hundred tiny plants of *Centaureum pulchellum* (Lesser Centaury) were discovered in one spot. This species is known from the dune systems of Tywyn and Laugharne Burrows where characteristically it grows in rabbit-grazed dune slacks. It has not, however, been seen in the county since 1991, even at its previously known sites. But the discovery by Arthur Chater of the liverwort *Petalophyllum ralfsii* (Petalwort) was an important find. It was subsequently seen to be growing in abundance. This species is rarely more than about 10 mm across but when examined under the lens resembles a tiny lettuce and is included on Schedule 8 of The Wildlife and Countryside Act. It has been previously recorded in Carmarthenshire from single sites at both Tywyn and Pendine Burrows but characteristically grows in pristine dune grassland.

Members returned to Trinity College for the AGM and discussion on Atlas 2000 and Biodiversity Action, followed by talks on Siberia by Goronwy Wynne and on the Carmarthenshire Flora by Richard Pryce. There was also the opportunity for members to examine the exhibits set out by various participants.

On Sunday morning, participants met at Carmel Woods where the leader outlined the history of the site culminating in its recent designation as a National Nature Reserve. The western area, a large solution-collapse structure (a tabor) known as Pwll Edrychiad (centre at approx. SN/584.162) was the subject of our visit. This area formerly included relatively large areas of unimproved calcareous grassland, a very rare vegetation type in Carmarthenshire, but this has largely been modified to neutral grassland by farming practices although calcareous grassland remains around former limestone workings.

The site had not been grazed in 1999 and the first field entered, which earlier in the season had been very colourful with its abundance of flowers, was past its best. However, a species list was compiled which included *Euphrasia nemorosa*, *E. arctica* subsp. *borealis*, *E. rostkoviana* subsp. *rostkoviana* (eyebrights), lady's-mantles which promoted some discussion and were provisionally identified as *A. xanthochlora* and *A. filicaulis* subsp. *filicaulis*, and the hybrid between *Juncus effusus* and *J. conglomeratus* (a hybrid rush) which was observed to have a very yellowish-green colouration when compared with the parents. The party was not lucky enough to see any of the small population of Greater Butterfly-orchid (*Platanthera chlorantha*), known from one small area of the field but which had been observed flowering earlier in the season.

At the foot of the slope conditions were more acid and a few plants of *Carum verticillatum* (Whorled Caraway), *Cirsium dissectum* (Meadow Thistle) and *Succisa pratensis* (Devil's-bit Scabious) were seen. Some members were lucky enough to observe and photograph a Vestal moth, an uncommon migrant in this area. Peripheral woodland on the limestone yielded specimens of *Geranium robertianum* (Herb Robert) which promoted discussion as to the status and validity of the subspecies *celticum* to which these plants might be assigned.

The calcareous swards near the old workings were rich in *Pimpinella saxifraga* (Burnet Saxifrage), *Carlina vulgaris* (Carlina Thistle), Harebell (*Campanula rotundifolia*), *Briza media* (Quaking Grass) and other calcicole species growing in company with *Succisa pratensis* and *Danthonia decumbens* (Heath Grass). Much of the limestone outcrop was clothed in *Cotoneaster integrifolius* (Entire-leaved Cotoneaster) which was smothering more desirable species such as *Rhamnus cathartica* (Buckthorn). Other species on the rocks included *Phyllitis scolopendrium* (Hart's-tongue), *Asplenium trichomanes* subsp. *quadrivalens* (Maidenhair Spleenwort), *A. ruta-muraria* (Wall-rue), *A. adiantum-nigrum* (Black Spleenwort) and *Linum catharticum* (Fairy Flax).

The northern rim of the tabor is formed by the acid dip-slope of the Old Red Sandstone rocks and was generally clothed in *Ulex europaeus* (Gorse), *Pteridium aquilinum* (Bracken) and some patches of *Calluna vulgaris* (Heather).

A return was made to the cars for lunch, walking through several neutral grassland fields which were generally rather rank but where *Centaurea nigra* (Common Knapweed) was locally frequent.

After lunch the farmyard at Garn (SN/591.159) yielded several weed species including *Stachys arvensis* (Field Woundwort) and the small pond had a marginal zone dominated by *Persicaria maculosa* (Redshank), *P. hydropiper* (Water-pepper) and the hybrid between the two – another new record for the vice county. *P. lapathifolia* (Pale Persicaria) was also present. A *Ranunculus* subgenus *Batrachium* (a water-crowfoot) growing on the mud proved to be indeterminate at this time of year. Nearby, the wooded and scrubby Garn limestone quarries were rather disappointing, although *Geranium columbinum* (Long-stalked Crane's-bill), a rather scarce plant in Carmarthenshire, was found on some crags.

Rain had by now set in and the party made its way back to the cars before dispersing after what was generally considered to have been a very pleasant and enjoyable weekend.

REPORTS OF OVERSEAS MEETING – 1998

WESTERN AUSTRALIA, September – October

Leaders: Mary Briggs & Mike Hislop

Eighteen BSBI members and friends set out from Perth on September 15th 1998, on 2½ weeks of travel through the very diverse scenery and vegetation to be found in S.W. Australia. First driving north through the wheat-belt, we saw the flowers of the bush there at their best. Shrubs such as *Grevillea*, *Melaleuca*, *Dryandra* and *Hibbertia* flowering in amazing forms and colours, with many species of herbs below in a range of shape, colours and texture – including very many genera of *Papilionaceae*.

In *Eucalyptus wandoo* woodland we found scarlet sundews, and *Drosera* species in other colours too, living up to their local name of Rainbow plants. Further north around Paynes Find and Cue, through stretches of red sandy desert we found the *Ptilotus* spp. in *Amaranthaceae* known as ‘Mulla Mulla’, with many spreads of *Goodeniaceae*, *Asteraceae* and *Eremophila* bushes shaped by wind and drought but as though pruned neatly by human hands; and at ground level low-growing miniature *Asteraceae*, etc., many of them exceedingly puzzling to identify. Also the Saltbush plants *Atriplex* spp. and *Frankenia* spp. of the saline desert areas.

We survived some very dusty drives in a somewhat substandard bus, and a visit to a sheep station at Mileura, overnight in the shearer’s quarters – then on to the coast at Kalbarri for coastal plants and pelicans. Visits to the Murchison Gorge from Geraldton produced yet more plants, then return to Perth via the extraordinary Wreath plant (*Lechenaultia macrantha*), growing naturally as a wreath on the sand, the ancient limestone rocks of the Pinnacles in the Nambung N.R., and the Stromatolites at Lake Thetis.

In Perth we divided for the day to King’s Park, a visit to the W.A. Herbarium, or shopping and camera repairs, etc., as each preferred. We were then joined by Mike Hislop for the rest of the tour, a botanist from the W.A. Hbm who gave a major helping hand with the identifications and the maze of new name changes; also by request *en route* he tutored demonstrations on *Proteaceae*, *Myrtaceae* and *Papilionaceae* – three of, to us, the most bewildering families. Then we were off again, this time to the south through the forests of giant Karri (*Eucalyptus diversicolor*), Marri (*E. calophylla*) and Jarrah (*E. marginata*) – these last now threatened with Dieback fungal disease, having been sadly exploited by the pioneers, felled in large numbers and exported to Britain for railway sleepers, etc. In the forests we found very many orchids, a diversity of King Spider orchids (*Caladenia* spp.), Donkey orchids (*Dinnia* spp.), the tiny Flying Duck orchid (*Paracaleana nigrita*) and many more. Possibly even more fascinating were the intriguing *Stylidium* Trigger plants with their complex pollination mechanisms. Also the incredible flowers of Kangaroo Paws (*Anigozanthos* spp.), the many Banksias and the very interesting *Cyperaceae*. Inevitably this account leaves out mention of many of the notable genera seen and named.

Finally a day in the FitzGerald National Park from Ravensthorpe, for yet more new flowers, and a full day in the Stirling mountains which enabled some members of the group to reach Bluff Knoll summit, while others spent longer on the path photographing *Darwinia* spp., etc., etc. From Albany also a visit to the coast of the Southern Ocean, then the return to Perth – all the photographers laden with exposed film, and for all, memories of a fantastic and fascinating flora; some members yearning to return to spend more time sorting out their favourite genera: peas, triggers, *Cyperus* or *Drosera*, etc. – but all agreeing that in spite of lack of time for this, it had been a memorable experience.

MARY BRIGGS

CORRIGENDA CORNER

As mentioned on page 5, a few errors in the last issue need correcting.

There was one error in the article 'Notes on the breeding behaviour of *Vulpia fasciculata* in *BSBI News* 82 which resisted two attempts to correct it.

On p. 38 (under Insect damage) the thrip generic name should be *Anaphothrips*.

My apologies to the author Peter Thomas who writes 'Perhaps the article on p. 36 [of *BSBI News* 82] could be used as the basis of a phonetic alphabet for botanists wishing to make corrections over the phone!'

In the report of the North Cyprus Meeting – 4th line from the bottom of page 69, for *Scutellaria cypria* read *Scutellaria sibthorpii*. Both are endemic but only the latter occurs in North Cyprus and it is **constant**-coloured not **variously**. – Franklyn Perring.

EDITOR

ADVERTISEMENTS

SECOND-HAND BOOKS FOR SALE

The late David Tinston kindly left his botanical books to me to sell for charity. Below is a list of those still remaining. HB/SB stands for hard or soft-backed books. The prices are not cast in stone, being only a hoped-for price, but they do not include postage. I would be glad to hear from anyone wishing to purchase any items.

- Alien Plants of BI*, Clement & Foster, SB 10
- Collins Guide to Animal Tracks*, Bang & Dahlstrom, HB 8
- Collins Guide to Ferns, Mosses & Lichens*, Jahns, HB 8
- Colour Guide to Rare Wild Flowers*, Fisher, SB 8
- Crucifers of GB&I*, Rich, SB 10
- Ecological Flora of Shropshire*, Sinker *et al.*, HB 35
- English Names of Wild Flowers*, Dony, Jury & Perring, SB 2.5
- Field Guide to Wild Flowers of Britain*, Reader's Digest, HB 5
- Flora Europaea* Vol 1 Edn 1, Tutin *et al.*, HB 35
- Flora of Angus*, Ingram & Noltie, SB 10
- Flora of Essex*, Jermyn, HB 10
- Flora of N Aberdeen*, Welch, SB 20
- Flora of Northamptonshire*, Gent & Wilson, SB 18
- Flora of Staffordshire*, Edees, HB 20
- Flora of the East Riding of Yorks*, Crackles, HB 15
- Flowering Plants of Wales*, Ellis, HB 15
- Flowers & Ferns around Huddersfield*, Lucas & Middleton, SB 3
- Guide to Britain's Nature Reserves*, (Macmillan), HB 20
- Introduction to Field Biology*, Bennett & Humphries, SB 6
- List of British Vascular Plants*, Dandy, HB 4
- Liverworts of B&I*, Smith, HB 35
- New Flora of BI* (Edn 1), Stace, SB 10

Plant Crib (Edn 1), Rich, SB 5

The Diversity of Green Plants, Bell & Woodcock, SB 6

Umbellifers of BI, Tutin, SB 6

West Yorkshire Plant Atlas, Lavin & Wilmore, HB 25

Wild Flower Key, Rose, SB 9

Wild Flowers of B&N Europe (1985), Fitter, Fitter & Blamey, SB 5

Wild Flowers of Britain, Phillips, SB 5

Wild Flowers of NE Essex, Tarpey & Heath, SB 8

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AA 2 Star 2 Rosettes for food Good Food Guide 2000

STOP PRESS

BOOK AGENTS – PERRINGS

Plans are well advanced to appoint a new agent but we do not know yet who this is to be. Margaret Perring has very kindly agreed to handle any orders during the changeover, so please continue to write to her. She will pass anything to the new Agents, when appointed, and we will announce this in the April mailing.

GWYNN ELLIS, Hon. General Secretary

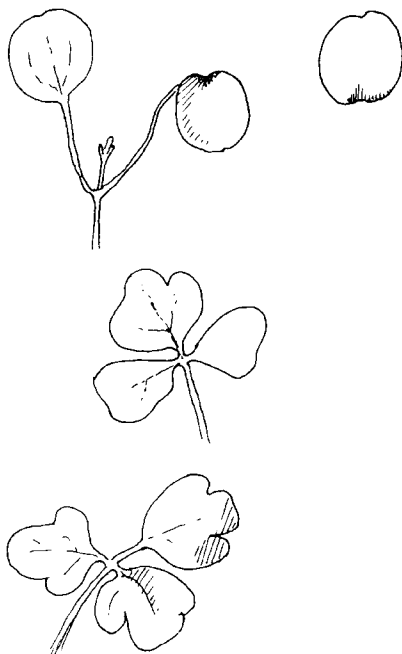
DRAWINGS OF WILD FLOWER SEEDLINGS

One of the problems I have when sorting out the pages of *BSBI News* for printing is that the final number of pages must always be a multiple of 4. The actual number of pages I have available is very rarely correct and I have to 'lose' 1-3 pages by holding them over for the next issue. I now have a much more elegant solution. Stanley Evans of Ilkley, West Yorkshire, has, over the years, prepared a set of drawings of the seedlings of 140 common taxa. He has very kindly donated these drawings to the Society and I like them so much that I intend to publish a few of them at the end of each issue of *BSBI News* as and when space permits. The cotyledons and seedlings of only one taxon are drawn on each sheet of A4 paper. I will publish them mostly in alphabetical order of Latin name, but as the size of the drawings varies, a species might be published out of order to fill a space of less than one page.

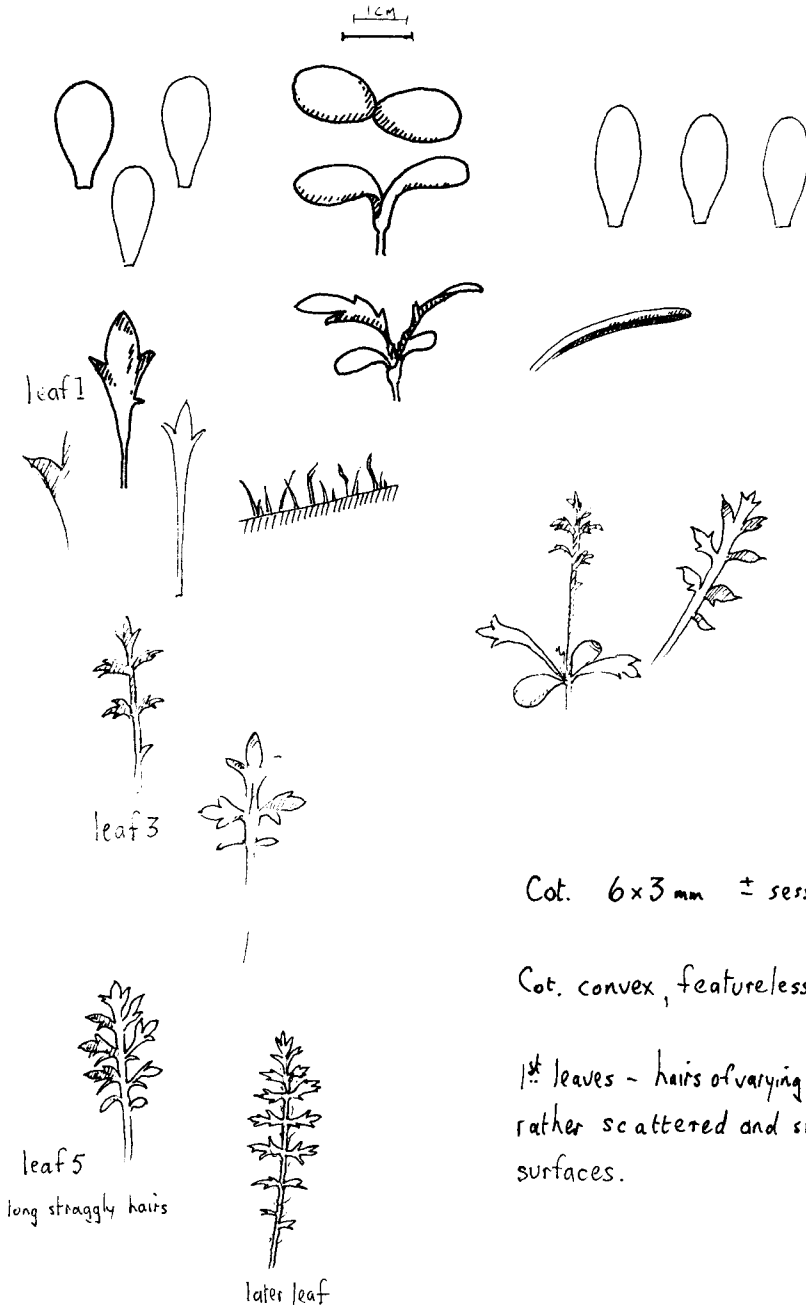
Stanley writes: 'These drawings are not to scale. The rate of expansion of cotyledons and stems of the various species was variable and the measurements given are generally those made at the time of the drawing and not necessarily when maturity had been reached. Moreover, the growing-medium (horticultural seed and potting compost) was not ideal for all species and this may have influenced development and size. In a number of drawings the actual size of the plant is shown by a bar or a cross with a 1 cm scale bar next to it.'

In the drawings the words *retuse* and *emarginate* have not always been used critically. The distinction of 'shallowly notched at the apex' (*emarginate*) and 'slightly indented' (*retuse*) is blurred. Both words have been used to indicate an indentation at the tip of the cotyledon.'

EDITOR



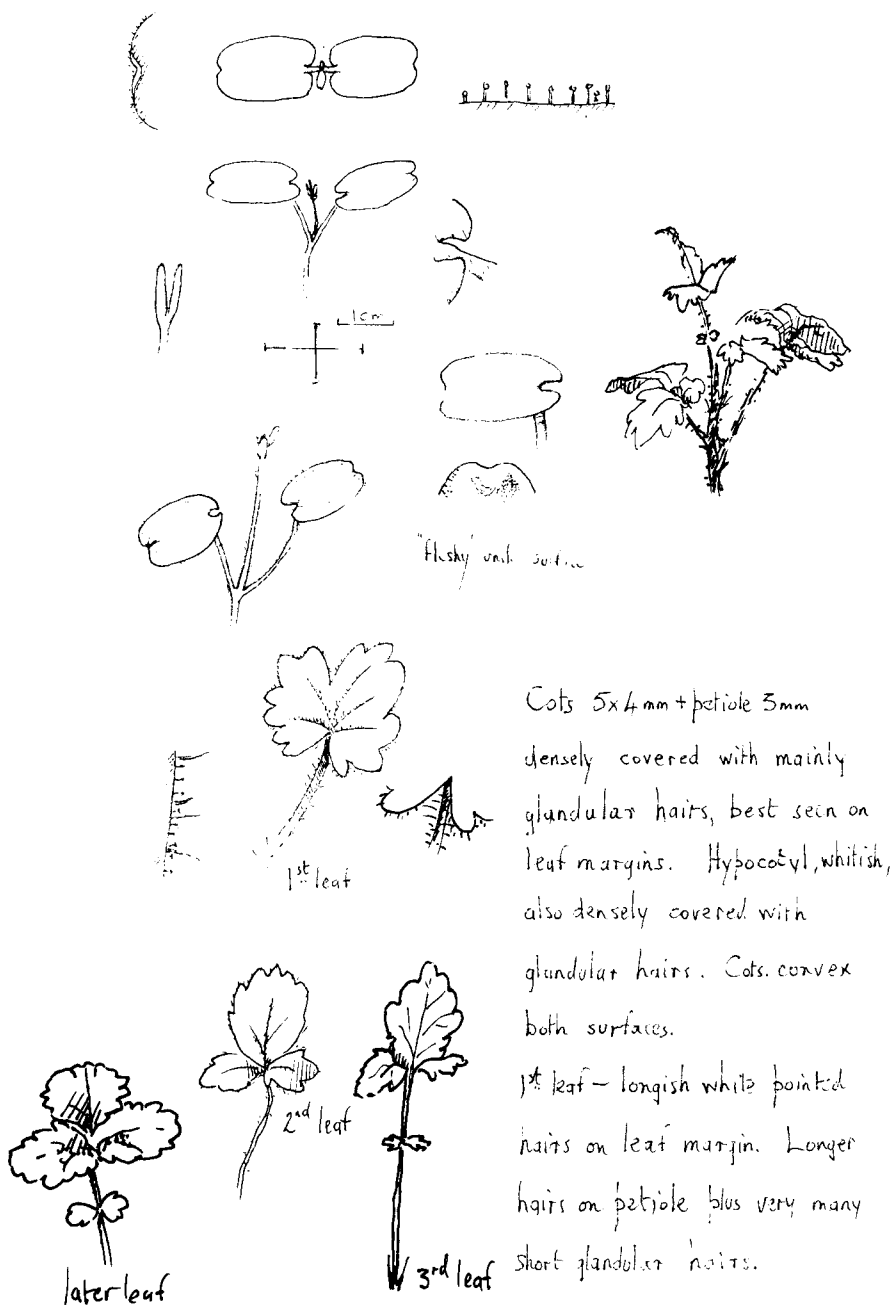
Cots. matt, pale or glaucous green; circular; veins very faint only on upper surface. 1st leaf trifoliate, dull, glaucous, lightly veined. Older leaves more deeply divided.



Cot. $6 \times 3 \text{ mm} \pm$ sessile

Cot. convex, featureless

1st leaves - hairs of varying length, pointed, rather scattered and straggly, all surfaces.



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