

ADMINISTRATION

PRESIDENT

Mr David Pearman
The Old Rectory, Frome St Quintin, Dorchester, Dorset DT2 0HF
 Tel. & Fax 01935-83702

PRESIDENT-ELECT

Mrs Mary Briggs, M.B.E.
9 Arun Prospect, Pulborough, West Sussex RH20 1AL
 Tel. 01798-873234

HON. GENERAL SECRETARY (General Enquiries)

Mr R.G. Ellis
41 Marlborough Road, Roath, Cardiff CF2 5BU
 Tel. & Fax 01222-496042. e-mail: bsbihs@aol.com

HON. TREASURER (Payment of Subscriptions and change of address)

Mr Michael Walpole,
68 Outwoods Road, Loughborough, Leics. LE11 3LY
 (Please quote membership number on correspondence concerning membership or subscriptions)
 Tel. 01509-215598

HON. FIELD SECRETARY (Enquiries on Field Meetings)

Mrs M. Lindop
36 Woodland Hill, Whitkirk, Leeds LS15 7DG
 Tel. 0113-2646513

BSBI CO-ORDINATOR

Mr Cameron S. Crook,
Millstones, 8 Woodstock Close, Lostock Hall, Preston, Lancs. PR5 5YY
 Tel. & Fax 01772-316717. e-mail: Cameron_SC@bigfoot.com

BSBI ATLAS 2000 ORGANISER (Enquiries on *Atlas 2000*)

Dr Trevor Dines
Rhyd y Fwch, Nr Bethel, Caernarfon, Gwynedd LL55 3PS
 Tel. 01248 670789. e-mail: 101667.2317@compuserve.com

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 the above address to arrive **before February 1st 1997** (see *Year Book 1997* for the list of present Council members May 1996-1997).

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.

Gwynn Ellis, Hon. General Secretary

Contributions intended for
BSBI NEWS 75
should reach the Editor
before FEBRUARY 28 1997

COMMENT FROM THE PRESIDENT

In September 1995 (*BSBI News* 70) the editor was kind enough to give me space to set out some of the new and ongoing projects that I hoped to be involved in over my term of office. Some of you will be familiar with the progress since then, whether through your membership of Council and the other Committees, or through regional meetings in Scotland, Wales and Ireland, or by virtue of being vice-county recorders. But that still leaves about 2400 members who have their main contact with the society through the pages of this publication.

Firstly then, the person whom we have chosen to “co-ordinate” our expertise and make certain it is available to Plantlife, to the country agencies (English Nature, Countryside Council for Wales and Scottish Natural Heritage) and to any others. Cameron Crook from Preston, our choice for the three year post, has written a progress report in each of the last three issues of *News*, and there is no need for me to add to the detail. We are pleased with his progress, and appreciate that one man is spread very thinly over the projects we have in mind! On the computer front sixteen VC recorders will have part-funded computers by the time this reaches you – a tremendous achievement.

Secondly our role *vis-à-vis* Plantlife, over conservation efforts for plants. We have met Plantlife, both formally and informally, and we are really making efforts to be the suppliers of good quality information to enable them to campaign even more effectively. They now have 7000 members and 7 full-time staff, so it is obvious they are really making a success of their plant conservation role. We are pleased to be associated with them. We are a keen attendee of Plantlife Link, the forum run by Plantlife to bring together the various botanical societies, with the larger NGOs and which jointly furthers plant conservation.

The third major project, ‘Atlas 2000’, is up and running, and again, I hope you all feel you know our commitments, and are as enthused as we are by Trevor Dines, our atlas organiser. I must not repeat what he is saying in each of his bulletins in *News*, but he and I would dearly like more members to feel they could be involved in the field recording meetings. I have to admit I am not the world’s most enthusiastic recorder of 10 km squares or tetrads. I prefer finding interesting habitats and recording those as individual sites. But the experience of going out on some of the Atlas field meetings this summer has reminded me, in case I needed reminding, how there is far more to it than just recording. I have recorded by sites (and then amalgamated them into a 10 km square). I have met some really interesting people in the field, both much better and slightly worse than me. I have been forced to tackle *Epilobiums* and yellow composites and *Agrostis* and I have looked at problems in the evening and learnt (at least until next year). And I have been to parts of Britain that I would never normally visit and really enjoyed it. If you look at the programme you will see that we have altered the meeting format to include some ‘experts’ to help all of us learn the trickier groups. Please come!

There are two other points that I would like to mention. This autumn I have been able to attend the regional exhibition meetings in Wales (near Mold), in Ireland (in Dublin) and in Scotland (in Glasgow), and look forward to going to London at the end of November. All have a real mixture of members attending, with plenty of exhibits, books for sale, and usually a dinner. I particularly enjoy the Scottish meeting, where the atmosphere is really friendly and, I think, as many as sixty odd sat down to dinner at the end of a full day. The Welsh meeting combines business with the bonus of a couple of days field meetings. These meetings are a hidden strength of the society and I urge you all to mark the dates in your diary for 1997. They are **not** for insiders only.

The last point is to ask you to note that our Bequest committee has reviewed the progress of the last six years and laid out a new set of guidelines, which you will find later on in this issue. Perhaps our Treasurer might not use precisely the same words, but we have some funds and do want to encourage more members to put forward projects. Very few do at the present, and the committee would really like to see a stream of new initiatives. The same goes for our publications; *Watsonia* always needs more

articles, which will of course be subject to the helpful refereeing process. With the new guidelines in place on what sort of articles the editors are looking out for, there is no excuse for delay this winter!

DAVID PEARMAN, President

November 1996

IMPORTANT NOTICES

BSBI BEQUEST FUND

The Background

The Bequest Fund originated in 1988 as a result of a generous legacy from Barbara Welch who joined the Society in 1928. She later became Assistant Secretary and was elected as an Honorary Member for her services to the Society and to field botany, particularly in her native Wiltshire and in the London area. Council decided that the income arising from this significant addition to our capital funds should not be used for to defray normal running costs but set aside for special projects. Further legacies to the society have been added to the Fund.

Over the last eight years the Fund (until 1994 known as the Welch Bequest) has made grants of over £40,000 to major botanical projects such as the database at Leicester, the Pondweeds handbook, the new *Taraxacum* handbook, work on the genus *Orobanch*e, and very many county and other local Floras.

The Fund is managed for the Society by a panel consisting of Mr M. Walpole, Dr F.H. Perring and Dr A.J. Richards with the President and Hon. Gen. Secretary as ex officio members. Over the last six months the panel has reviewed the way in which the Fund has been operating and are determined that the income on the capital recently amounting to about £10,000 available for distribution each year should be devoted to projects related to the British flora of high scientific calibre and importance. Whilst most of the projects funded since 1990 have met these criteria the panel believes the Society itself should be more active in the future in assessing areas where research is particularly needed and should encourage individual scientists or groups to undertake work and publish the results. It is intended that the various Working Committees of the Society should be involved in the process. The need to use our funds for projects of the highest scientific priority grows as the funds available from government for research decline. However we do not wish to deter individuals or groups from continuing to make applications independently. Nevertheless, to ensure the high standards we aim for, a new and more detailed application form has been prepared. The panel will hope to deal with applications for sums under £1,000 by correspondence in less than 6 weeks. Consideration of major applications may have to be deferred until the panel meets (twice a year) and applications in excess of £2000 will be subject to the approval of council.

Types of project which may be funded

Those concerned with British and Irish vascular plants, their taxonomy, systematics, reproduction genetics, ecology, distribution and conservation, as well as topics of a more general or historical nature which will lead to publication in books, in *Watsonia* or other scientific periodicals.

The award panel will favour

- a) those with a sound scientific base and method;
- b) those with a high scientific or conservation priority;
- c) those which have been carefully researched and are well documented;
- d) those not otherwise likely to receive major funding.

The panel will reserve the right to ask applicants for the names and addresses of two or more referees.

Use of funds

Any grant made will be a contribution towards the costs of a project such as travelling and accommodation for essential fieldwork, herbarium and library research, recording equipment, scientific equipment and consumables, hardware and software for data handling or preparing camera-ready copy, printing including preparation of illustrations, as well as other administrative items which will be listed on the application form. When publications are for sale to the general public grants may be made on the understanding that they are paid back when the publication costs are recovered from sales. Full contributions to salaries will not normally be made, but in some cases up to 50% of a salary may be provided when matched by an equivalent sum from another body, employment being controlled and governed by a recognised scientific institution.

Successful applicants will be asked to submit annual reports on the progress of their project and grants specifically for publications will not normally be made in full until the book/paper has reached the galley stage.

How to apply

Application forms are available from the Hon. Gen. Secretary and, when completed should be returned to him. He will circulate to the panel and a decision, except in the case of large applications which will have to wait for the next meeting (normally in March and October), will be made within six weeks.

The future

We believe the Bequest Fund to be vital to fostering the highest standards of scientific research on the British flora. Its existence is largely due to the wisdom and generosity of one member, Barbara Welch, who made the original legacy. We should like to think that, by demonstrating that the income is being used to encourage good science, other members may feel similarly inclined to remember the Society in their wills. The Hon. Treasurer will be pleased to answer any questions or advise.

M. WALPOLE – Chairman of Committee.

Dr F.H. PERRING and Dr A.J. RICHARDS – advisors.

THE BSBI DATABASE (LEICESTER) – WHAT'S IN IT FOR YOU?

Databases need time to gestate – they are only really useful once they have reached a critical mass. The BSBI believes that we are now approaching that point with our own database of the British & Irish flora, and the purpose of this note is to inform members of progress to date and to make them aware of the data that can be made available to them.

Stemming from an idea of Tim Rich's in 1988, the early days of the Database were described in *BSBI News* 59: 43-44 (1991). Actual work on inputting information for the database began in July 1991, when D.H. Kent's *List* manuscript was received. It took only six months to input all the data necessary for publication and the finished work appeared in October 1992. This work is fundamental to the database because it forms the spine upon which all other useful data can hang. Since 1992 the following data have been incorporated:

- List of vascular plants of the British Isles, complete with synonymy, full bibliographic citations and 'Kent' numbers.
- Vernacular names: English, Gaelic and Irish (Welsh is awaiting input).
- BRC numbers.
- Chromosome numbers of British & Irish plants, with full documentation, including localities and literature references.
- Literature relating to the British & Irish flora:
 - a) *BSBI Abstracts* parts 11 to 26 (relating to 1980-1995), with additional cross-referencing;
 - b) *BSBI Publications* 1980-1987, since these were not covered in the relevant *Abstracts*.
- Vice-comital census data: a complete listing by vice-county of taxa in the *Kent List*, together with a list of vice-counties in which each taxon occurs, and other data including a specified source for each record. (The data are unchecked as yet.)

The published versions of *Abstracts* parts 23 to date were actually produced from the database itself. Work is proceeding on inputting *Abstracts* retrospectively, depending on priorities at the time, back to part one.

With the exception of beginning with the *List*, it has not proved possible to develop the database consistently in a scientifically planned fashion. That is, we have not been able to commission studies and deliberately gather specific sets of data according to any schedule. Instead, the steady accumulation of data that has been the hallmark of progress to date has been dependent entirely on what botanists actively working on the flora have been able to make available to us. In the immediate future, apart from continuing to incorporate *Abstracts* retrospectively, additional alien taxa will be added to the database. Other information likely to become available in the near future includes data on, for example, phyto-geographical elements, first records of British plants, altitudinal limits and the location of published illustrations. The Database Advisory Committee would be delighted to consider offers of further data, and would be particularly interested in hearing from anyone with an interest in infra-specific taxa or the location of type specimens collected in the British Isles, or indeed any other aspect of the flora that would be worth incorporating. **Also urgently needed are members who would be willing to proof-read drafts from the database to check the accuracy of inputting. Members, these particular balls are in your court!**

The Database Advisory Committee is aware of the problem of how to make information available to members, and is discussing the options, including that of establishing a world-wide-web site. Meanwhile, the full version of the *List* will shortly be available on-line from BIDS (access is free) and, perhaps most importantly for members, the staff at Leicester will respond to any requests for specific information. In principle, any combination of data from the bulleted list above can be supplied: to take an extreme example, we could provide a list of taxa native to Leicestershire, together with their vernacular names and BRC numbers, that have had a published chromosome number of 14 (in somatic or meiotic tissue – your choice!) recorded on material from that (or any other) vice-county. In practice, of course, requests are likely to be simpler, such as for a list of references by a particular author from the period 1980-1995 relating to a particular genus or family in a particular vice-county. Information can be supplied either on disk or on paper, as required, at the following prices:

	Price per hour of preparation time*
BSBI members	£6.50 + VAT = £7.64
Non-members (personal use)/charities	£13.00 + VAT = £15.28
Commercial organisations, incl. consultancies	£26.00 + VAT = £30.55

*Please note that there is a minimum charge of £5 + VAT = £5.88p. I do not anticipate that many requests will take more than one hour to fill.

Requests for information from the database should be sent to BSBI Database, Botany Dept., University of Leicester, Leicester, LE1 7RH. In your initial letter of enquiry it would be most helpful if you could explain what you want as carefully as possible so that we in turn can provide guidance on how to fill in the formal application form that will be forwarded to you along with an invoice. When the completed form and payment is received, the data will be released to you.

RICHARD J. GORNALL, Botany Dept., University of Leicester, Leicester, LE1 7RH

BSBI POSTCARDS

Many members may have seen the excellent postcards produced by other natural history societies, especially those of the British Lichen Society, the British Bryological Society and the British Conchological Society. The BSBI has been contemplating producing our own set for some years, and did consider a competition for our members, but other societies warned us it was a logistical nightmare. So we went to the well-known photographer and naturalist Bob Gibbons, and eventually chose a set of 16 transparencies. These cover plants from all over Britain and Ireland, some in close-up, but many set against a background of their native habitat. They all are produced in normal postcard size by a firm in Cumbria,

Abacus, whom David assures me are the best in the field. The reverse has notes on the Society and the plant and space to write!

The postcards are only available as a set (of 16), and cost £2.50 plus 50p p.& p. – hopefully a very modest outlay compared with retail prices for cards. Please order from (and cheque payable to) :

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

P.S. The cards have now arrived and are really superb – we are very pleased and they will definitely help to publicise the Society and its aims.

DIARY

N.B. These dates are supplementary to those in the 1996 Calendar in *BSBI Year Book 1996*.

1997

Feb. 1st	Closing date for competition (see page 31)
April 18th-27th	National Spring Clean (see page 53)
30th	Closing date for applications to the 1998 Rolex awards (see page 54)
June 21-July 6	Azores Field Meeting (see page 52)
August 13-15	Meeting of the Systematics Association, University of Glasgow (see page 54)

See also page 73 for dates of 1997 wild flower holidays

EDITOR

EDITORIAL

My thanks to all contributors to this issue. I have a few items held over for *News 75*, but will be needing a lot more. If you have any thoughts or observations you would like to share with your fellow members please write to me. Take a look at the articles on the following pages, they range in length from a few lines to a few pages, so of course you can write something – can't you?

There is a particular need for good illustrations for the front cover; I have none in reserve and would much appreciate offers of papers with line drawings.

See *BSBI News 69*: 7 (April 1995) for detailed instructions to contributors. I hope to publish revised instructions to artists in the next issue (see also *BSBI News 25*: 31, Sept. 1980).

Inserts in this issue. Apart from *BSBI News*, the following items should also be with your mailing: *BSBI Year Book 1997*; AGM 1997 notice; Order form for first supplement to Kent's *List*; Details of joint meeting with AGS; Leaflet on Plant identification courses in 1997; Pre-pub. offer for *Dandelions of Great Britain and Ireland*, Pre-pub. offer for *Flora of Great Britain and Ireland*, Pre-pub. offer for *Wild flowers of East Anglia*. If any are missing please let me know.

Observant readers will have noticed that, for the last few issues, our aliens section and front cover no longer benefit from the efforts of Brian Wurzell. Brian's elderly parents have both been unwell for almost a year now and quite naturally he has had little time for botany. We wish Brian and his parents well and look forward to future contributions.

Please note new e-mail address — bsbihgs@aol.com. The old address is still valid but is to my son's computer, so delays may occur!

EDITOR

NOTES FROM THE PRESIDENT-ELECT & HON. GENERAL SECRETARY

Congratulations again to all those who have been members of BSBI for more than 50 years.

In listing those who had been members for 50 years in *BSBI News* 72: 9, I missed mentioning Professor Nicholas Polunin, a member since 1944, who now lives in Geneva and is Editor of *Environmental Conservation*; and also the Oxford Plant Sciences Library, a member since 1938. My apologies to them, and we are very pleased to include them in our list of valued members who have been in the BSBI for fifty years or more.

As the year turns to 1997 we add congratulations to the following members who joined the Society in 1947: Dr E.J. Balfour, Alan Crundwell, Gill Gent, Mr A.J. Healy, Desmond Meikle, John Ounsted and Ron Payne; also Botanisk Centralbibliotek Copenhagen, and the Library, Royal Botanic Gardens Kew. All have been members for 50 years and our thanks to them all for their long years of support.

Nicholas Polunin in a recent letter recalled that in his early years of membership, as Fielding Curator and Keeper of the Oxford University Herbaria, his responsibilities included some care for the contents of G.C. Druce's house at 9 Crick Road, Oxford. Also in Oxford they were able to give asylum to some evacuated London botanists when London was bombed during World War II.

Congratulations also: to Dr Peter Green, awarded a DSc by London University for his work on the taxonomy and phytogeography of the SW Pacific and of the Oleaceae; and to Jeanette Fryer who received a prestigious Lindley Silver Gilt Medal from the Royal Horticultural Society for a display of the National Collection of Cotoneasters at their November show. Incidentally, Jeanette has just returned from a 'memorable' sponsored trip to China to see Cotoneasters in the wild. She collected lots of seed (with permission) so new taxa may soon appear in our gardens.

Annual Exhibition Meeting. The venue for the 1996 AEM had to be changed from Baden Powell House to the Natural History Museum due to building work which we knew nothing about until the middle of October! Our apologies to any member who was inconvenienced by the move and our thanks to Roy Vickery and his team at NHM for their hard work in organising a very successful meeting. Many members commented on how good it was to be back at the Museum.

Octogenarian botanists. Botany must be good for the soul! There are a remarkable number of botanists who are still very active even well into their 80's. I recently had dinner with a vice-county recorder whom I had considered was a young looking sixty something, and was astounded to be told that he had recently celebrated his 80th birthday. If you know of any similar instances, do let me know.

A Guernsey Party. To celebrate his long association with Guernsey, a dinner was held to honour David McClintock by members of La Société Guernesaise on 28th Sept. 1996, exactly 50 years since his first visit to the island. The following day he met up with six former secretaries and the current secretary, together with other members of La Société, in a walk around Saumarez Park. David, a past President of BSBI and an honorary member of both Societies, published his *Wild Flowers of Guernsey* in 1975, to which a supplement was added in 1985. He has been to the Guernsey, and many of the other nearby islands, at least once a year since 1946 and we send him our best wishes for many more happy visits.

Where are they now? Tim Rich has now moved to Wales and from 1st January 1997 his new address will be: Dept. of Botany, National Museum of Wales, Cathays Park, Cardiff CF1 3NP. Tel.: 01222 397951; Fax.: 01222 239829. Nick Stewart's new address is Kingfisher House, 16 Stour Court, Loop Street, Sandwich, Kent CT13 9FY.

Tailpiece. Duggie Kent in *BSBI News* 73: 69 'Corrective Centre' queries the use of 'duel' carriage-ways. Surely these will be the localities for Ray Gould's 'pistols at dawn on the A38' (see *BSBI News* 68: 27) or David Cann's challenge 'with bow and arrow or a blowpipe' (see *BSBI News* 69: 20)?

MARY BRIGGS, President-elect.
GWYNN ELLIS, Hon. General Secretary

ATLAS 2000

PROGRESS REPORT

One Field Season Down, Three To Go!

Impossible as it is to believe, the first field season of recording for Atlas 2000 has now been completed, and we only have three left! Judging by the amount of recording that was done in 1996, the number of offers of help that have come in, and the general level of enthusiasm about the project, I'm very confident that we can achieve our goal. That does not mean, however, that we can all sit back and rest on our *Prunus laurocerasus*'s over the remaining three years, or over the winter for that matter. A quarter of the time has elapsed and if we really are to succeed, we must sustain (and preferably increase) the current momentum.

So, what can be done over the winter? Well, once records have come to Vice-county recorders, they generally need to be compiled. What this involves depends largely on whether your Vice-county recorder is submitting their records by card or on computer disk. If submission is by card, master lists of species for each hectad (10 km square) have to be produced from both new and historical records. This is obviously a major task, and many VC recorders will appreciate any help they can get. Similarly, if the VC recorder is computerising their records, you may be able to help by entering the records for particular taxa or particular hectads. Many members have 'adopted' one or more hectads to cover for the Atlas and this is again a great help to VC recorders.

Another very valuable winter task is the extraction of records from herbaria and literature sources. The records used to produce many local floras are often not in a format that allows them to be submitted for the Atlas, and this even applies to recent floras (e.g. *The Flora of Hampshire*, 1996). It also often applies to records held by local Wildlife Trusts and regional Country Agency offices (such as Scottish Natural Heritage, English Nature and Countryside Council for Wales). In many cases, all that's needed is for someone to go to the office, photocopy the records, and compile them onto Master Cards or computer. Please get in touch with your local VC recorder if you would like to help with this sort of work, as he or she will know how and where you can best help.

Voucher Specimens

The last mailing of *News* included a copy of Arthur Chater's excellent guide on the collection and pressing of specimens. It has generated a great deal of interest, and a collective sigh could be heard from herbarium curators and the BSBI Panel of Referees ('At last we might get decent vouchers!'). The booklet is both comprehensive and concise, with a great deal of information that has previously been either difficult or impossible to get. The need for voucher specimens is greater than ever, and I hope that you'll be encouraged to prepare your own after reading it.

There are now four Atlas 2000 Booklets and anyone requiring further copies can get them by writing to me at the address below stating which and how many are wanted, and enclosing a stamped, self addressed A5 envelope. The Booklets are:

1. Atlas 2000 Instruction Booklet. (T.D. Dines)
2. Fieldwork For Atlas 2000. 1. Notes on Identification Works and some Difficult and Under-recorded Taxa. (C.D. Preston)
3. Fieldwork For Atlas 2000. 2. Collecting and Pressing Specimens. (A. Chater)
4. BSBI Data Transfer Standards for Computerised Botanical Records

Future booklets are planned that cover the extraction of historical records and the list of species that will be covered by Atlas 2000.

The Richest Hectad

Dr Bowen, Vice-county recorder for Dorset, has written to me with details of the most species rich hectad (10 km square) presently known. This is SY/9.8, the square including Wareham, from which

1022 species have been recorded to date. Dr Bowen says that almost all of the records are post 1990, and that the list includes many interesting native and alien species. However, he does suggest that some parts of N.W. Oxford (which have a particularly rich alien flora) may beat this total. Can anyone rise to this challenge? [See page 25 Ed.]

Field Meetings

The list of field meetings for 1997 appears in the *Year Book* with this issue of *News*. You'll notice that all the meetings have been put into one list this time (we will not have a separate green flier this year) as this makes it more manageable and highlights that fact that at least half the meetings are recording meetings! Following the reports of meetings held in 1996 (three more of which appear in Field Meetings Reports – 1996, pages 58-72), we hope that attendance's will be much better than last year. To help tempt you into the field further, we'll be advertising the presence of one or more 'experts' at some of the meetings, which we hope will appeal to those of you who are keen to develop your recording skills. Watch this space in the next issue of *News* for more details. Also, I would like to point out that limited funds are available to help experienced recorders attend particular meetings where they would otherwise have problems doing so (please write to me, stating your circumstances, for further details).

Observant members will notice that four of the Vice-counties in which meetings are planned (Suffolk, Mull, S. Aberdeen and Wester Ross) were also covered last year. These re-visits are due to the fact that so much work has to be done in these areas that they need another meeting to cover the necessary ground. Please support these meetings, and indeed any recording meeting that is held near you.

Attendants at the three Scottish recording meetings held in July and early August, 1996 were fairly good (except for the Glen Shiel meeting) and a large amount of excellent recording was completed in often stunning surroundings. The meetings were organised to allow all three to be undertaken in sequence and it was surprising that more people didn't take up this opportunity. What's more, the three people that did were all from south of the border!

Many rare and scarce species were again encountered, along with a large number of interesting and attractive commoner species, all worthy of note. Particular favourites of mine were *Galeopsis speciosa* (Large-flowered Hemp-nettle) in arable fields, the beautiful *Carex magellanica* (Tall Bog-sedge), large bushes of *Salix lapponum* (Downy Willow), and huge specimens of *Botrychium lunaria* (Moonwort).

Workshops

The second Atlas 2000 Recording Workshop was held in Reading on the 7th September, 1996. The turn-out was particularly good, with around 30 members and Vice-county Recorders attending. The morning began with an extremely stimulating talk by Tom Cope, who tackled the identification of *Agrostis* in the field. To this he applied Hiesenburg's Uncertainty Principle, noting that most *Agrostis* keys require you to observe the palea **at** anthesis and then the condition of the panicle **after** anthesis! Alternative characteristics were therefore suggested. Next came a rare and impressive display. Jeanette Fryer had been invited to talk about *Cotoneaster* species we might encounter in the field. We had little idea she would turn up with fresh material from all 70 species reliably recorded from Britain, and the resulting talk was both instructive and memorable. The morning was rounded off by Anthony Piggot, who gave us a thorough tour of the ferns that may be encountered in the south of Britain and also treated us to a comprehensive display of *Equisetum* hybrids. After lunch, we were taken on a photographic tour of *Oenothera* by John Bowra. This included a potted history of the development of hybrid swarms between various *Oenothera* species in Britain, and was very informative. Unfortunately, Cameron Crook was unable to make the meeting to give us an overview of conifers that are grown in Britain (his car gave up the ghost in a motor way service station car park). Dr Stephen Jury was therefore kind enough to give a guided tour of the herbarium at Reading, and this prompted a stimulating debate on the value of herbaria, the collection and preparation of voucher specimens, and on how to obtain suitable materials. This was particularly appropriate, as several of the days' speakers had mentioned the need for good, well documented and well mounted specimens. A special workshop addressing these issues is planned for mid-March at the University of Reading. Many thanks to all those that attended and contributed towards the workshop. Particular thanks must go to Dr Stephen Jury for all his help in making the day a success.

Spell Checkers

In the last *BSBI News* Cameron Crook, the BSBI's Co-ordinator, provided a few entertaining alternatives suggested by his computer while spell chicken, sorry, checking, his articles. I thought a botanical slant on this might be appreciated, and therefore give the following that turned up while checking this article. The best ones are where the genus and species names both give a humorous 'correction' :

Saussurea alpina	Saucier alpine
Cicuta virosa	Cactus virus
Listera cordata	Lustier chordate
Avena sativa	Avenue saliva

And my personal favourites:

Parnassia palustris	Paranoia plasters
Crepis mollis	Crêpes moles

Perhaps the corrections should be adopted as new common names! Can anyone come up with any more? [see pages 13 & 26. Ed.]

Next *BSBI News*

Due to constraints of time and space, the article 'Recording for Beginners' will appear in the next issue of *News* (which, being at the start of the recording season, will be more appropriate anyway). Similarly, the report on the state of recording in Britain and Ireland will also appear then, as I hope it will be more up to date following a busy winter compiling records!

I'd just like to finish by saying many, many, thanks to all those who have contributed towards Atlas 2000 in 1996. It's been a great year, and I hope 1997 will be even better.

TREVOR DINES, Rhyd y Fwch, Bethel, Nr Caernarfon, Gwynedd, LL55 3PS. Tel: 01248 670789.
E-mail: 101667.2317@compuserve.com

ATLAS RECORDING IS FUN!!

Hey, I've just returned from a fortnight's organised recording for Atlas 2000 in Scotland (Cairngorm, Ballater, Shiel Bridge, Lockerbie) and have had a superb time! Apart from an initial fling up the Cairngorms (lots of special plants), Trevor Dines, the Atlas Organiser, was in charge and was well-prepared with copies of maps marked with potential 'hot spots' for the squares we were to tackle, specially selected under-recorded ones. I had not met him until then and he proved to be very lively, enthusiastic, and keen for us to cover as much ground as possible, so it was rather disappointing that quite a number of people who had apparently booked for the meetings did not turn up. This was very frustrating as it meant we could not cover the squares as thoroughly as we might and marred Trevor's careful planning. Not good! He said the attendance at some of the other meetings specifically for the Atlas had been poor, which surprised me. 'Twitching' may have its pleasures, but surely you cannot beat the thrill of the unexpected discovery, and, as many of the meetings are in under-recorded areas, the unexpected is all the more likely! In Ballater, it included authentic Italian and Thai restaurants. You see, it's not all work – the social side of these meetings is very valuable. Relaxing in the evening to discuss finds, ponder over specimens, share a meal or just a drink leads to more rewarding days in the field as your colleagues become your friends, and as for the gossip . . .!

I was mildly mocked for maintaining that there is no such thing as a boring square, but coming from the Cheshire *Lolium* plain, believe me, I know all about boring areas! Under-recorded parts of S Aberdeen, for example, may not sound like a recipe for fun, but we rarely failed to find some interesting species. One very wet mountain on the Road to the Isles just about defeated us, but we did have champagne for lunch to celebrate two participants' 30th wedding anniversary!

So what did we see? Well, my own favourite delights included a loch with prolifically-flowering *Sparganium natans* (Least Bur-reed) and *Carex lasiocarpa* (Slender Sedge), *Campanula lactiflora*

(Milky Bellflower), *Meum athamanticum* (Spignel) and *Lupinus nootkatensis* (Scottish Lupin) by the River Dee, *Doronicum pardalianches* (Leopard's-bane) looking like a native in Deeside woods, an upland meadow full of *Armeria maritima* (Thrift) with *Minuartia verna* (Spring Sandwort) on rocky bits (found with the aid of a geological map), Trevor flat on his face with a rabbit snare round his foot, *Carex norvegica* (Silly-name Sedge), *Juncus castaneus* (Chestnut Rush) and *Alopecurus borealis* (Alpine Foxtail) in Corrie Kander, extra plants of *Asplenium septentrionale* (Forked Spleenwort) found with the help of local climbers, botanising through the car windows in a downpour, *Peucedanum ostruthium* (Masterwort), 3 Ospreys and a Snow Bunting, *Carex buxbaumii* (Club Sedge) *en passant*, a bank of 20 *Platanthera chlorantha* (Greater Butterfly-orchid), a Range Rover stuck in the mud (special thrill!), beautiful small *Nymphaea alba* (White Water-lily) in an high lochan, *Plantago maritima* (Sea Plantain) at the top and bottom of a seaside mountain, *Cicuta virosa* (Cowbane) in a *Juncus/Equisetum* swamp, **purple** *Viola lutea* (**Yellow** Mountain-pansy) and, last but not least, Yorkshire pudding filled with scrambled egg and topped with cheese for breakfast – in Scotland? – very tasty!

I could go on for ages, but see Trevor's account for more details (pages 69-72). Above all, come along and join in the fun yourself. There are generally experts there to teach if necessary (we had David Pearman!) and there is a lot planned for next year. Atlas 2000 is a very important project, but it needs our support to succeed and many eyes make long lists, so even if you are not an expert or cannot manage long or distant meetings, go to your nearest ones. You may be surprised. ATLAS RECORDING IS FUN!

GRAEME M. KAY, 4 Geneva Road, Bramhall, Stockport, Cheshire SK7 3HT

CO-ORDINATOR'S CORNER

Introduction - An Apology

Apologies to all those who have been trying to contact me in past weeks and have failed. This has resulted from extensive building works – the electricity being off more than it's been on leading to my (electric) answerphone and fax losing its announcement and all its messages on an almost daily basis. The alcove I lovingly refer to as my office has been shifted around the house that many times I'm never sure where I might find it next. At the time of writing I have been banished to my car with my laptop computer, parked in a lay-by which has a phone box and a fish & chip van. This is the life!!!

Fortunately, all this should be done and dusted by the time you read this and I should be back to full strength in my newly decorated, newly fitted out, real office (no more alcoves for me!). I suppose this would be an appropriate time to bring up a couple of things. Many members have expressed dismay at not being able to speak to me on the phone or get a quick reply to letters or faxes (even prior to the building disruptions). Perhaps you hadn't realised but whilst I work from home, I am a full-time employee of BSBI with a BSBI phone line, which much as in any other 'office' is manned during working hours but not necessarily at evenings or weekends. This applies to the fax also. Furthermore, I have no administrative support – not only am I am Co-ordinator, but office clerk and general *fac totum* and spend a considerable amount of time away from my 'office' either at the photocopier in the Spar down the lane, at the Post Office, or on the road attending meetings or visiting Vice-county Recorders somewhere in Britain. I have also been known to have the odd day's leave on occasions. What I am getting round to saying is that I cannot be by the phone (or the fax) all the time and cannot reply to letters by return of post (although I sometimes do) and would respectfully ask for your patience and tolerance for what to you may seem like an un-reasonable delay in my responding to messages or letters, etc. But, that's not to say I don't want to hear from you . . . [there's no pleasing some folk!]

BSBI Software

And now for another apology. In the last issue of *BSBI News* where the BSBI Approved Software Packages were publicised, there were two glaring errors. Firstly, the note should have mentioned that

the offer of subsidised rates for these packages only applies to Vice-county Recorders or Computer Link persons who would computerise records on their behalf. The full price of these packages is in fact £135 for Aditsite (but less for bulk orders), £85 for Recorder, and £70 for ERICA. So, a big sorry to all those members who have had to be turned away from getting reduced price software.

Secondly, the discount prices were excluding VAT: therefore the cost of each of the three should have been £58.75. Good, so now we've got that one cleared up, please, please, please, no more cheques through the post (Vice-county Recorders excepted of course)!!!

More Software

Recently I received a copy of BioBase, another biological recording package modified specifically for plant recording. At the time of writing, the Computer Users Group and myself have not had time to assess it fully but my initial impressions are that it is a very useful, user friendly package. Perhaps the most interesting feature is the link to Recorder which, from a Windows based system is very novel. A full review will appear in the next issue of *News*. In the meanwhile, anyone wishing to know more is asked to contact Mike Thurner, Thurner Automation, Littleton Farmhouse, Littleton, Guildford, Surrey GU3 1HW telephone: 01483 304949.

Biodiversity

Many of you will have heard mention of the new(ish) Millennium Fund bid for some £29M by what is called the National Biodiversity Network. This is a consortium of the NERC, National History Museum, JNCC, ITE (in the guise of BRC) and The Wildlife Trusts. BSBI have been consulted on the proposals which will have been put to the Millennium Commission by mid November.

Essentially, this is a complex bid involving many 'partners' (>40) one of which is us. There are several strands to it: to set up a Network of Local Record Centres; to produce catalogues of all taxa in Britain; to develop software for biological recording (probably to be based on Recorder); and, to make all this newly accrued information available on the Internet and in published form. This is a very exciting and ambitious project but is not without its problems.

BSBI for its part, may become involved in the cataloguing aspect mostly. Whether or not BSBI records will be made available to the network will remain to be seen. Perhaps this will be in a summary format such as the Atlas data or maybe selected indicative data should be supplied. The all too worrying aspect of confidentiality and use and verification of data will need much further exploration before any firm commitments are made. I will keep you posted.

The Kew Seed Bank Millennium Bid

Another exciting (successful) bid recently drafted by the Royal Botanic Gardens at Wakehurst Place and again, BSBI have been consulted and asked for assistance. For more on this, see the note by Simon Linington later in this issue (page 15).

Plantlife Link Strategy

This has now been published as a consultative document and outlines a number of action points for the conservation of plants (in the broadest sense) and habitats. Copies are available from Plantlife, Natural History Museum, Cromwell Road, London SW7 1BD.

And Finally . . .

Following my note about computer spell-checkers in the last issue I received an interesting one from Chris Page who found that the term *Prothalus* (which you will all know is the sexual stage in the life-cycle of pteridophytes), comes up as Brothel although, he concedes, 'this means much the same thing'!!! (See also pages 13 & 26.)

A number of other members contacted me asking if there were spell checkers available for plant related words. At the time, I was unaware of any, but now know that a spell checker, designed to be used with Microsoft Word (but probably usable with most other word processors which can take ASCII file updates), is available for less than £10 from Dr Mark Atkinson, 10 The Grove, Wednesfield,

Wolverhampton WV11 1RW e-mail: cs1995@wlv.ac.uk, who should be contacted for further details. Whilst I have not seen this in action, I understand it has a file for generic, specific and family names of all those taxa listed in Stace together with instructions for loading onto the computer.

Please note the slight change in address and e-mail number.

CAMERON S. CROOK, BSBI Co-ordinator, Millstones, 8 Woodstock Close, Lostock Hall, Preston, Lancs PR5 5YY. Telephone and fax: (01772) 316717; e-mail: Cameron_sc@bigfoot.com

RECORDERS AND RECORDING

VICE-COUNTY RECORDERS

Members will receive the current complete list with their *Year Book*, but it may be of assistance to list the changes since *News 73*.

Appointments

20	Herts.	Mr T. James – please note correspondence to his home address.
41	Glam. (East)	Mr J P. Woodman
57	Derbys.	Dr A. Willmot
H14	Laois	Dr E. Moorkens

Resignations

41	Glam. (East)	Dr P. S. Jones (appointed 1993)
57	Derbys.	Mr R. Smith (appointed 1992)

We thank both of them for their help and assistance.

DAVID PEARMAN, Records Committee

PANEL OF REFEREES

We have some welcome additions to our Panel of Referees. John Akeroyd is adding *Atriplex* to the already extensive list of taxa he is prepared to referee – he says that it will also give him a chance to look at the odd *Chenopodium* specimen sent in error . . . Dr Crinan Alexander, who is at the Royal Botanic Garden in Edinburgh, has agreed to take over *Senecio*, the subject of his PhD thesis. Alison Lean will take over *Rhinanthus*; she also made the genus the subject of her PhD, and is especially knowledgeable about *R. minor*. Michael Foley is going to join Fred Rumsey as a second referee for British *Orobanche*, in addition to the European *Orobanche* which he already referees. He is making a special study of this genus at Lancaster University.

The general instructions for the preparation of specimens remain more or less the same as before, and we ask everyone wishing to send plants for identification to read these first, as well as the particular instructions given by individual referees. Also, as I mentioned in the last issue of *News*, we do strongly recommend the excellent booklet by Arthur Chater on collecting and pressing specimens, one of the series distributed to members to assist recording for Atlas 2000.

We would still like to find referees ready to undertake the following: *Populus*, *Geranium*, *Verbascum*, *Veronica* (apart from aquatics and *V. hederifolia*), *Utricularia*, *Galium*, *Echinops*, *Hieracium*, and yellow-flowered crucifers. If any member could offer to referee one of these groups please let me know.

MARY CLARE SHEAHAN, 61 Westmoreland Road, Barnes, London SW13 9RZ

NOTES AND ARTICLES

THE MILLENNIUM SEED BANK PROJECT

A project co-ordinated by Kew Gardens, to conserve seeds from the UK's native flora starts next year. This is the first time that a nation has attempted to underwrite the on-site conservation of its entire seed-bearing flora, and it is hoped that BSBI members will be keen to participate in this exciting project.

The Millennium Seed Bank (MSB) project, initiated by the Royal Botanic Gardens, Kew, was awarded a grant from the Millennium Commission in December 1995. Although much of the Project is directed at the conservation of overseas threatened plants, one key objective is the underwriting of the UK native flora through the collection and long-term conservation of seed samples. These samples will act as a national resource for study and, where appropriate, re-introduction.

Kew and the Millennium Seed Bank Project

The existing Kew Seed Bank at Wakehurst Place in Sussex has been conserving seeds of UK native species since the late 1970s. To date, 1,500 samples from nearly 600 native species (out of an estimated higher plant flora of close to 1,570, excluding most of the apomictic species) have been collected. The carefully dried and frozen samples are monitored for longevity which is estimated in terms of many decades, probably centuries and possibly millennia. Volunteers (including BSBI members) have helped to collect many of these seed samples and the MSB project aims to build on such links. About 200 species are thought either to produce seed rarely or to produce seed that is incapable of long-term storage. The project is therefore targeting 800 species not currently held by the Bank.

The value of conserving the rarer species in a seed bank may be obvious, but many might ask why it is necessary to hold samples of the common species. The seed biology of remarkably few native species has been sufficiently studied. Research work as part of the MSB project will study and publish information on seed storage and germination for the species conserved, and seed samples made available to other research groups may yield information important for the future management and conservation of wild populations. An added benefit of the work will be that each sample will act as a baseline against which genetic changes in the corresponding field population (e.g. due to climate change) could be compared.

Since the project's inception, some 14 UK organisations, including statutory countryside agencies and voluntary bodies such as BSBI and The Wildlife Trusts, have provided either support, advice, comment or offers of collecting help. With the involvement of so many organisations, it is proposed that a project co-ordinator be appointed in early 1997 to help train collaborators and to assist with the collecting.

Collecting the Seed

Most native plants occur in more than one site or population, each with a slightly different genetic 'make-up'. The initial goal will be to collect seed from just one site, which will sample a significant proportion of the genetic variation found within the UK for outcrossing species. As opportunity permits, collections will be made from more sites in order to broaden the genetic base of the material held in the Seed Bank. By collecting a small proportion of the available seed from a site, the plants' future security there will not be threatened.

Seed collecting involves checking the plants for seed ripeness and then carrying out a 'random and even' harvest from across the population, recording various simple details including (confidential) site data and, where possible, taking a photograph of the plant and of the site. Collecting bags, postage and out-of-pocket expenses will be covered.

How can I get involved?

Tentative discussions have taken place with Cameron Crook about the ways BSBI members might wish to participate. With help from Cameron and others at the national level of BSBI, it is hoped to focus on regions and on groups of BSBI members who are interested in monitoring and sampling populations. To assist in this task, those interested in taking part (initially in summer 1997) are invited to contact either Cameron Crook or Kew Gardens (see below). Training workshops will be arranged across the UK to guide those wishing to help. It is hoped that the project's progress will be relayed to members through the BSBI News.

If you wish to enquire further about the work, please contact:

SIMON LININGTON or MICHAEL WAY, Seed Conservation Section, RBG Kew, Wakehurst Place, Ardingly, West Sussex RH17 6TN. Tel.: 01444 894075/76/91, Fax: 01444 894069, e-mail: s.linington@rbgkew.org.uk

IDENTIFICATION COURSES WITH THE FIELD STUDIES COUNCIL

An analysis of plant identification courses available at Field Study Centres, Adult Education Centres and Independent Field Centres showed that the majority of courses offered are 'Introductions to Wild Flowers' whilst the few that are more specific cover a range of groups almost entirely limited to grasses, sedges, rushes and ferns. At the same time the occasional courses on yellow composites or umbellifers which I have run at Preston Montford have been well supported and there is clearly a demand for others covering all the more difficult groups in our flora.

This is a time when it is less and less likely that University graduates will have the opportunity to become competent in plant identification during their degree course even though the large number of them who take up careers in wildlife conservation or ecological consultancies need this skill in their daily work.

In this context discussions have taken place between the Field Studies Council and the BSBI with the result that we have agreed to collaborate in running a series of courses aimed at covering as many groups as possible. There will be 8-10 3-day courses (Fri-Mon or Mon-Thu) at 5-6 of their Centres which will be repeated on a 2-year cycle. They will move around the Centres so that keen students could go to all the courses in this period whilst others could take a more gradual approach and complete the series over 8-10 years. Details of the 1997 courses are included in the leaflet inserted in this issue of *News*.

At the same time it has been agreed that, with the advent of initiatives such as IDQs, NVQs, etc., there are increasing demands for evidence that training courses are of value and that participants are achieving an acceptable level of knowledge and skills. Therefore it seems sensible to accredit these identification training courses. Discussions are taking place between FSC and a range of academic institutions to develop partnerships which could provide suitable accredited courses. A pilot scheme with Birmingham University is to be launched next year, which could lead to a Certificate in Biological Recording and Species Identification. Sarah Whild, co-ordinator of the Shropshire Flora Group, has been contracted by FSC to carry out a feasibility study. It is expected that the accreditation scheme will be in place by the time the first 1997 course begins.

But please note accreditation will not be compulsory and ordinary BSBI members who do not need or seek a professional qualification will still be able to enjoy a plant course at an FSC Centre for its own sake.

FRANKLYN PERRING, Green Acre, Wood Lane, Oundle, Peterborough PE8 5TP

CREEPING SPEARWORT, *RANUNCULUS REPTANS* L., AT THE LOCH OF STRATHBEG

At a time when the Red Data Book for vascular plants is being revised, there is some urgency to put emphasis on the presence of *Ranunculus reptans* at the Loch of Strathbeg, 57°37' N, 1.75 km from the sea by Rattray Head, a very exposed windy site near Peterhead on the NE coast of Scotland. Here, *R. reptans* grows on the gently sloping sandy NW-facing shore in open vegetation in the *Eleocharis palustris* zone.

The width of the *Eleocharis* zone is up to about 4-5 m. In summer the upper zone becomes emergent locally and at irregular times, permitting the summer emergent growth and flowering of *R. reptans*. The loch level has been controlled, normally to within an annual variation of 50 cm, after eighteenth century attempts to drain the loch when it ceased to be an arm of the sea and small rivers brought in silt and mud.

As early as 19.08.1879, Professor James W.H. Trail collected and pressed *R. reptans* in flower and fruit from the Loch side, noting in 1884 the habitat as 'marshy shores'. On 15.08.1900 along with his specimens he recorded that they grew on wet sandy mud (although now the soil state is more like humose sand). A still earlier collection is that of J.H. Walker, who in 1876 named his specimens '*Ranunculus (Flammula* L. subsp.) *reptans* L.'. He also collected it flowering in August and perhaps this was considered to be a likely month to find aerial growth with flowering and fruiting plants after a period of low loch levels. Their specimens are rather poorly rooted, the leaves without much blade, the stolons of about 5 internodes to flower, and mostly it seems not yet at the fruiting stage.

More recently, *R. reptans* is, without much evidence, thought to have been hybridised out of existence. The last publication on this subject was by Gornall (1987). His opinion was that pure *R. reptans* is an intermittent member of the British flora, imported especially where major wildfowl migration centres, such as the Loch of Strathbeg, offer suitable habitats. On arrival it will quickly interbreed with *R. flammula* or existing hybrids, to produce progeny which, on the loch shore, closely resemble *R. reptans*. Gornall has given the hybrid creeping spearwort (*R. flammula* × *R. reptans*) the binomial *R. × levenensis* Druce ex Gornall. He considered the character most useful in distinguishing the hybrid from its parent to be the ratio 1:5 for its achene beak length to achene length.

An earlier publication on the Loch of Strathbeg (Bourne *et al.*, 1973) records the presence of extremely localized species such as *R. reptans* and southern species such as *Epilobium hirsutum*. It details the unusual geomorphological history of the area which has led to a diversity of habitats, and mentions the possible lack of glaciation there (Walton, 1956). Freedom from water pollution was also noted.

Evidence accumulated by the writer over almost three decades has shown the continued presence of an introgressed population of *R. reptans* at the Loch of Strathbeg. The plant is here close to the limits of its range as a boreal continental species. Following a suggestion from Professor C.H. Gimingham, comparisons have been made between this population and a similar introgressed population on the NW-facing shore of Stensjön near Gothenburg in Sweden at a similar latitude (57°36' N) to the Loch of Strathbeg and near the North Sea (material kindly supplied by the Director of the Gothenburg Botanical Garden, October 1969). The area covered by the Loch of Strathbeg population is about 0.02 ha, considering that it mostly occupies a belt about 2 m wide along the shore in the upper *Eleocharis palustris* zone.

At the Loch of Strathbeg, *R. reptans* may flower from June to September. Between it and *R. flammula* there are strong edaphic barriers, but no strong reproductive barriers. Where the species meet they can hybridise and, at the Loch, have done so in the past, leaving large hybrids (brought into cultivation from two locations, 23.08.1991 and 19.04.1996) occurring along the shore ('partially sympatric species' (Davis & Heywood, 1967).

In this marginal habitat, edaphic conditions such as the amount of flushing and variable pH allow progeny of repeated back-crossing to establish in a variety of niches, while for the *R. reptans* range of biotypes each is adapted to particular microhabitat conditions, having a concomitant range. Species associated with *R. reptans* in microhabitats which are seasonally emergent and fairly eutrophic and

base-rich (as in the vicinity of *Juncus* × *surrejanus* higher up the *Eleocharis* zone) include *Caltha palustris* (Marsh-marigold), *Potentilla anserina* (Silverweed) and the bryophyte *Drepanocladus aduncus*. In constant submergence in sites flushed from above but at the outermost reach of *Eleocharis palustris*, associates of *R. reptans* include *Chara aspera* var. *aspera*, *Zanichellia palustris* (Horned Pondweed) and *Potamogeton perfoliatus* (Perfoliate Pondweed). This community is similar to the 'elodeid' vegetation of shallow limestone lakes in Sweden, mentioned by Spence (1964). It can be well seen through clear water when the loch is at its maximum draw-down in summer, leaving the irregular lower *Eleocharis* margin about 14-15 cm under water. The least eutrophic *R. reptans* community contains *Equisetum fluviatile* (Water Horsetail) and *Littorella uniflora* (Shoreweed) with *Phalaris arundinacea* (Reed Canary-grass) present but not flowering. This mesotrophic habitat range may in the past have been narrower and more unfavourable to hybrids and *R. flammula*. Even now, with a few warmer summers there is a noticeable increase in *Angelica sylvestris* (Wild Angelica) flowering along the shore, indicating a better turnover of nutrients. There is no recent blown sand to open up the closing vegetation.

The population of biotypes of *R. reptans* at the Loch consists at present of two groups. Their separation is mainly edaphic but they have also slightly different climatic responses and might be considered to be ecotypes. The more eutrophic and weather-sensitive ecotype is the least introgressed of the two and most like pure *R. reptans*. The two ecotypes are very inter-fertile, given proximity and favourable environmental conditions, though only the more eutrophic group is found to be intra-fertile, with differing inter-fertility between its biotypes. Cultivated biotypes of both ecotypes are slightly self-fertile.

Small samples of biotypes from each ecotype, covering the edaphic range of the population, have been taken from the site into cultivation since 1968, e.g., for the poorest soil type on 14.09.1968 and 16.08.1991 and for the most eutrophic biotype on 7.07.1972, 13.06.1988 and 15.06.1995, while for a constantly submerged site of the definitely mesotrophic kind, the biotype was brought into cultivation on 4.07.1989 and 21.08.1995.

The overall conclusion has been reached that the present status of *R. reptans* at the Loch of Strathbeg is that of a native population, small and isolated but maintaining itself as a good species distinct from *R. flammula*. It is a rosette plant and in its growing season produces looping stolons rooting at the nodes where new rosettes and branches may develop, with the potential for abundant vegetative reproduction. This strategy of mobility gives a biotype the opportunity for reaching proximity to neighbouring biotypes or hybrids, with possible cross-pollination and seed set, although conditions such as pH may change unfavourably *in situ* and then certain other of its rosettes may be more favourably sited for survival. The species is heterophyllous and phylloides are the winter leaf type, whether or not the plant is submerged during that time. The plant has a range of leaf blade shapes from bladeless phylloides to small lanceolate blades which develop in certain summer conditions when the water-table is below the sand surface. However, at the Loch there is no month in which emergence of *R. reptans* invariably occurs, irrespective of the weather. Flowers are borne singly at the branch ends but in some sites the branches may be of indefinite growth. Pollen at the Loch has been found to be as little as about 4% infertile. There is plasticity in the length and width of the achene body, while undersized achenes have been obtained from crowded cultivation of small cuttings from the lochside population.

Garden cultivation as a back-up to observations at the Loch shows morphological and behavioural separation of *R. reptans* from *R. flammula* and hybrids. Pressed specimens mainly from cultivation are a record of the work.

A small range of *R. reptans* biotypes is still in cultivation.

Acknowledgement

I wish to thank Professor C.H. Gimingham for his advice and critical reading of this report.

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EVELYN M. BIRSE, 6 Woodburn Gardens, Aberdeen, AB15 8JA.

AN ABERRANT FLORA SPECULATION (and the green iceberg hypothesis)

In attempting to understand plant aberrations (terata, teratisms, monstrosities) I am forced to wonder what part may be played by genetic information that is surplus to a plant's immediate needs. A recent paper kindly sent to me by Dr H.H. Poppendieck seems to contain information pertinent to this problem.

'It is a well-known fact that all eukaryotic genomes contain much more DNA than would be essential for instructing the development and maintaining the functions of an organism' [p. 195]

'Plant morphologists are well aware of cases where similar changes appear in non-related lineages and even in nonhomologous organs. One example is the "tortuosa" syndrome . . . ' [p. 196]

' . . . it is more advantageous to store unexpressed genes and to express them only on demand ' [p. 201]

It seems at least possible that a proportion of the surplus genetic material (which may account for 18-95% of the genome) may be utilised when aberrations are thrown up. Another possibility is that this information is also utilised by gall-causing agents although *Agrobacterium tumefaciens* is reported to incorporate its own genes into the host.

In studying fasciated specimens natural occurrences of tissue broadening come to mind such as the swelling beneath the nodes on ash (*Fraxinus excelsior*) and the flattened petioles of *Ginkgo*. One possibility is that a normal control function is being misapplied but even a simple crossing of wires may have been caused by interaction with the surplus 'junk' DNA.

For plant teratologists (everywhere) the advent of genetic engineering opens up two new chapters. The understanding of genes, especially through work on mutations, throws up on a weekly basis new lights on the causes of aberrations. But what is to be the ultimate fate of the surplus DNA in genetically engineered plants? If it increases the likelihood of misbehaviour by acting as a reservoir of inessential and occasionally interfering genes, will they be omitted from our future creations? The phenotype may represent simply the tip of the genetic iceberg. Modern rose breeders seem to have succeeded in breeding out the tendency to proliferation that accompanied some of the older rose hybrids. The scope is obviously there to rid the world of its harmless monsters. Monitoring the aberrant forms in terms of their frequency and geographical and temporal distribution may contribute to a fuller understanding of the risks of genetic engineering. (Another possibility is that the monsters are also a kind of rubbish that gets in the way of species-based botany and confuses taxonomy. An aberrant flora project may equally serve to demonstrate this point thoroughly.)

Kubitzki, K. Sengbusch, P.v. & Poppendieck, H.H. (1991). Parallelism, Its Evolutionary Origin and Systematic Significance *Aliso* **13**(1).

MARTIN CRAGG-BARBER (Editor, *That Plant's Odd*), 1 Station Cottages, Hullavington, Chippenham, Wilts SN14 6ET

PERENNIAL FOXGLOVES

The editor did not say that his note (*BSBI News* 73: 3, September 1996) actually closed the correspondence on this subject, so some further empirical observations may be allowed, particularly as they may have a wider relevance.

In my woodland garden in Hexham, Northumberland I grow rather too many foxgloves (*Digitalis purpurea*), so that I try to dead-head most before they seed. This quite frequently leads to the production of one or two perennating side-rosettes, which have the capability of flowering the following year. I have not counted the proportion which do so, but my estimate is that perhaps 20% of flowering spikes will perennate when dead-headed, and it seems that well grown plants in sheltered, rich damp locations are most likely to set side-rosettes. I have never seen this behaviour in plants which are left to seed, but it seems likely that plants in the wild may sometimes perennate if they accidentally lose their flowering spikes. Certainly, the capacity for perennation seems to be under environmental control.

However, observation of related species suggests that perennation may be under genetic control as well. In the Sierra Nevada, Spain I noticed that approximately half the individuals of *D. thapsi* were producing perennating rosettes near the Refugio de Universidad at 2500 m. Material of its diminutive relative *D. dubia* grown from seed collected in Mallorca usually perennated when well grown. When starved or otherwise neglected it tended to die after fruiting.

JOHN RICHARDS, University of Newcastle upon Tyne

GENTIANELLA CILIATA IN SURREY

The sole Surrey record for *Gentianella ciliata* (Fringed Gentian), is based on a specimen collected by Mr A. Patterson on 22nd September 1910 'growing in a little meadow' at Swallowfield, Limpsfield. The specimen was named by W.B. Turrill and is held in the herbarium at the Royal Botanic Gardens Kew. The record has always been treated as an introduction, but Patterson noted that 'there is no alpine garden here from which it could have come'.

The rediscovery of the Buckinghamshire site (Knipe 1988), and the additional historical record from Wiltshire (Dowlen & Ho 1995) has led us to investigate the Surrey record further to see if Swallowfield could have been a native locality, a garden escape or an accidental introduction from elsewhere.

By kind permission of the current owners, Mr & Mrs J. Metcalfe, we visited Swallowfield and searched the meadow behind (i.e. immediately south of) the house at TO/406.522. The large house was built in 1889 and there have been a series of owners. The meadow is situated on the south-facing side of the Lower Greensand ridge and would be expected to be acidic, but had a deep, well-drained, brown earth soil type, pH 6.2. The meadow had been mown recently but it was possible to see many herbs and grasses including *Achillea millefolium*, *Centaurea nigra*, *Cerastium fontanum*, *Lotus corniculatus*, *Ranunculus bulbosus*, *Veronica chamaedrys*, *V. serpyllifolia* and an exasperating frequency of *Stellaria graminea*. The grassland was a good example of the NVC type MG5 *Cynosurus cristatus* – *Centaurea nigra* grassland. We also searched briefly the meadow further south but that appears equally unsuitable. Mrs Metcalfe has never noticed any gentians in the meadow. We concluded that the meadow was unlikely to continue to support the *Gentianella*, and indeed is unlikely to have been a native locality for this strict calcicole.

It is possible that the plant could have escaped from gardens or been planted, though there is little evidence now to investigate this thoroughly. *G. ciliata* has been cultivated, probably on a small scale, since at least 1803 when it was figured in the *Botanical Magazine* (A. C. Whitely, pers. comm. 1996). The fact that Patterson specifically noted that there was no alpine garden implies it was not deliberately planted.

Another possible explanation is that the *Gentianella* was introduced from elsewhere nearby, perhaps with chalk used to lime the meadow as the soil is richer than would be expected indicating some 'improvement'. Chalk is likely to have been brought from the local downs at Titsey or Oxted. No *G. ciliata* has been reported from these downs either, and none was seen on Oxted Downs in 1996.

The current evidence thus indicates that the record should be treated as an introduction of unknown origin.

We would like to thank Mr & Mrs J. Metcalfe, Mrs J. Learner (Alpine Garden Society), Prof. S. Owens (Royal Botanic Gardens, Kew), Mrs A. Rasey (Tandridge District Council) and A.C. Whitely (Royal Horticultural Society) for their help.

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EILEEN TAYLOR & TIM RICH, 157 Seaforth Gardens, Stoneleigh, Ewell, Surrey KT19 0LW

DANISH SCURVYGRASS IN EAST YORKSHIRE

With reference to the recent correspondence in *BSBI News* on the spread of *Cochlearia danica* (Danish Scurvygrass) on roadside verges, the following comments may be of interest.

In VC 61 (E Yorks.), this species is in the midst of a very rapid spread, along with other halophytic plants (Cook 1995), so it is possible to see the process in its early stages.

An important factor is the presence of areas of bare disturbed earth near the road, which provide a seed bed for pioneer plants to colonise. Thus, on the A63 at North Ferriby, the usual roadside vegetation, dominated by perennial grasses which were established when the road was built 25 years ago, inhibited colonisation by ruderals and halophytes.

After the construction of a new service station in 1992, the grass verge was landscaped with a softer grass. This was neither robust enough to withstand the pressure of vehicles transgressing the kerb, nor the heavy applications of salt drenched spray in the cold winters of 1994/95 and 1995/96. The subsequent patches of bare earth were colonised by *C. danica*, forming seed colonies which are still spreading rapidly.

Similar conditions exist at slip roads, entries and exits from the motorways, and wherever the grass verge is physically damaged.

The theory that the species' early inland spread during the last War was caused by the transportation of material for sandbags and defences seems reasonable. A colonisation process from the coast would surely have shown a decreasing abundance with distance from the sea. The sporadic inland occurrences, so carefully catalogued by David Allen, remote from any other colonies, imply the transportation of seed from some distant source. As Rugby is on the main West coast railway line, I would postulate sand from the coast of North Wales.

In today's road dominated transport systems, the movement of seed is presumably caused by motor vehicles. Anyone botanising along busy roads will be aware of the violent draughts of air, and the copious movements of water caused especially by large trucks. Seeds may also be carried in the treads of tyres and amongst debris under wheel arches.

As for the central reservations being more favoured than verges, I am not sure that this is always the case. In VC 61, the opposite occurs on some stretches, suggesting that a lot depends on the pattern of salt application, prevailing winds, and nature of substrate. It must also be remembered that the amount of salt spread varies each year, depending on the severity of the winter (Cook 1995) and the amount of money which the highway authority has available.

Bridges and viaducts form barriers to seed dispersal. Thus the Humber Bridge, and slip roads, presents a 3 km obstacle which for several years acted as a barrier to colonisation from the thriving

population along the A15 in Lincolnshire. Once across the bridge, however, colonisation has been rapid via nursery colonies on damaged earth. The River Ouse has always been the other great obstacle to communications into East Yorkshire. This year I noticed the abundant growth of *Cochlearia danica* along the M62 motorway going west from Hull, reached as far as the Ouse, then stopped on crossing into the West Riding (VC 64). However, the species was abundant further west on the roundabout at the crucial node of the A1 to M62. My furthest inland record was at Tintwistle (SK/0.9), Derbyshire, in June 1996.

There can be no doubt that the species is now firmly establishing into one huge super colony along the highways of the British mainland. I wonder, however, if there could be some underlying change in the genetic material of the planet itself, which has enabled this expansion to take place? Does the shy *Cochlearia danica* of my boyhood on Hilbre Island, Cheshire, really have the same genotype as the one which marches in triumph down every motorway in the land? A puzzle which I leave to the plant geneticists to solve.

My thanks to Peter Cook for his comments and encouragement, and to my daughter Carol for correcting spelling and punctuation.

Reference

Cook, P.J. (1995). Road verge Halophytes in S E Yorkshire. *The Naturalist (Hull)* **120**: 36-39

RAY A. EADES, The Hawthorns, Ings Lane, North Ferriby, East Yorkshire HU14 3EL

A COMMENT ON *COCHLEARIA* AND PLANTS ON SALTED ROADSIDES

I agree with much of John Hodgson's analysis (*BSBI News* 73: 22) of the reasons for the restriction of *Cochlearia* to the central reservation, particularly the point that there is less chance of physical damage to plants there than on verges. However, I would not regard the effects of sodium on soil structure as being too important because the materials that are used to make the verges are usually of very poor quality, with no great structure to begin with. Splash from vehicles adds layers of silt and grit. In this area burnt colliery spoil was commonly used as the base then a few centimetres of poor quality sub-soil used on top. Our observations of many lengths of roadside (Matthews & Davison, 1976; Scott & Davison, 1982, 1983) suggest that compaction by vehicles is the main reason for poor drainage. Where verges are better drained because of the use of coarse materials then the flora is different. One example of this is that we found *Plantago maritima* (sea plantain) only on verges where the drainage was good.

Poor drainage not only affects aeration and root penetration, it also affects the persistence of salinity into the summer months. The high rate of salt application, compaction and low rainfall in the north east of England has resulted in extremely high salinity, which persists throughout the summer. In contrast, where the soil is better drained such as the central reservation, and in areas with higher rainfall, the salt is leached out so that salinity drops dramatically from spring onwards. Therefore the central reservation is probably much less saline as well as being less disturbed by vehicles.

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Professor A.W. DAVISON, Agricultural and Environmental Science, Ridley Building, University of Newcastle, Newcastle upon Tyne NE1 7RU. Tel.: +44 (0)191 2227890 Fax: +44 (0)191 2225229, e-mail: a.w.davison@ncl.ac.uk

INLAND ROADS AND HALOPHYTES

In the seven years since Simon Leach and Tim Rich first appealed for records (1989) of *Cochlearia danica* (Danish Scurvygrass) and *C. officinalis* (Common Scurvygrass), to add to existing reports of *Puccinellia distans* (Reflexed Saltmarsh-grass), the pages of *News* have been regularly enlivened by new sightings. Other than a passing comment in N.E. Scott's article (1985) I can trace no records for *Catapodium marinum* (Sea Fern-grass).

On crossing the A35 dual carriageway north of Poole this June, I found the central reservation densely fringed with this species. Further jay-walking (Dorset has much less traffic than many parts of Britain) revealed that it was widespread over a two mile stretch, but, as with *Cochlearia danica*, it was confined to the centre rather than the verge.

Catapodium marinum is a frequent coastal plant in Dorset, and this stretch of by-pass (SY/983.936) is within a mile of two arms of Poole Harbour. I have no idea whether the road is gritted in icy weather, but would have thought, in that maritime situation, that any such action was very infrequent.

So is the plant spreading from a native bare habitat to a man-made one, or is it another introduction with road salt?

References

Leach, S.J. & Rich, T.C.G. (1989). Scurvy-grasses take to the road. *BSBI News* 52: 15-16

Scott N.E. (1985). The updated distribution of maritime species on British roadsides. *Watsonia* 15: 381-386.

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

COCHLEARIA DANICA ON ROADSIDES IN SHROPSHIRE (VC 40)

I was interested to see Stanley Turner's note (*BSBI News* 73) on the appearance of *Cochlearia danica* (Danish Scurvygrass) in 1996 along the A5 (B4380) through Shrewsbury, and from there 'for several miles' along the A49. He wonders how the plant got there, and why it didn't appear there until now. The following records might help to answer these points.

In 1993 I found *C. danica* at several new places alongside the M5 and M6 in the neighbouring vice-counties of Worcs. (VC 37) and Staffs. (VC 39); at last, it seemed that the plant was beginning to make headway in this previously 'barren' corner of the West Midlands, possibly colonising northwards up the M5 from its strongholds in E. Gloucs. (VC 33), or from outlying long-established colonies in Warks. (VC 38).

Then, in 1994, I was summoned to a meeting at English Nature's offices at Attingham Park, near Shrewsbury. This gave me the excuse I had been waiting for – to drive along the M54 to Telford and beyond (sounds a bit mundane now, but at the time I got pretty excited at the prospect!). And, no sooner had we turned off the M6 than there it was, great patches of it along the central reservation of the M54. We located at least 20 colonies on the M54 (including a few alongside the hard shoulder), and many of these were across the border in Salop (VC 40). Our impression was that the plant was spreading westwards: the largest – and therefore, one presumes, the longest established – colonies were towards the eastern end of the motorway, within VC 39. On our return journey we went cross-country by the A458, A422 and A449 (Shrewsbury-Bridgnorth-Kidderminster, joining the M5 at junction 6 near Worcester). Within VC 40 we located two small patches of *C. danica* alongside the (single-carriageway) A458, between Shrewsbury and Cressage. (We also found it to be well established along

the A449 dual-carriageway between Kidderminster and the M5, often on the outer verges (no hard shoulder.)

The sudden appearance of *C. danica* on roadsides around Shrewsbury has probably followed on from its initial colonisation of the M54. In effect, construction of the M54 provided the species with its 'point of entry' into VC 40. It will be interesting to keep track of its spread there, in a county where the dual-carriageway is still (thankfully) something of a rarity.

SIMON LEACH, 15 Trinity Street, Taunton, Somerset TA1 3JG.

A NEW VARIETY OF FLY ORCHID IN ANGLESEY

In June 1995 an unusual variant of Fly Orchid (*Ophrys insectifera*) was noticed in Cors Bodeilio NNR, Anglesey, VC 52, by the Warden, Les Colley. Two plants of this variant were seen then, but a year later there were eight, all of them identical and strikingly different from the normal form in the colour of the flower and in its size.

The mid-lobe of the labellum has a broad yellow border and its lateral lobes have corresponding yellow tips. The rest of the labellum, with the exception of the greyish-blue central pattern, is a lighter shade than the usual chestnut brown. Other differences are the green instead of brown lateral petals (the 'antennae' of the 'fly') and the pale yellow instead of purplish-orange bursicles (pollen sacs).

Size differences are most noticeable in the broader labellum with more spreading lateral lobes giving it the appearance of being as broad as it is long; and in the broader sepals. As a result these plants, especially those with larger spikes, are more conspicuous in the field.

As far as I am aware there is no previous record of this very distinct variant from Britain or Ireland. However, it seems to answer to the description of a form first noticed in southern France in 1959, and subsequently found on rather dry, calcareous soils in several widely separated localities. This was first described as a subspecies of *Ophrys insectifera* but later raised to specific rank: *Ophrys aymoninii* (Breistr.) Buttler.

It has been suggested that this form may be a hybrid between *O. insectifera* and *O. lutea*. Since only one of these species is present in Anglesey this suggestion is clearly not tenable.

Whether this striking variant will persist in Cors Bodeilio and, hopefully, increase in numbers, remains to be seen. Only then shall we be able to decide whether the epithet *aymoninii* can be added to the British Flora, and at what rank.

A permit is required to visit this site and can be obtained by applying to the Administrative Manager, Countryside Council for Wales, Bryn Menai, Holyhead Road, Bangor, Gwynedd, LL57 2EF. Anyone wishing to see this variety should contact the Reserve Warden, Mr L. T. Colley.

Reference:

Buttler, K.P., (1991). *Field Guide to Orchids of Britain and Europe*. The Crowood Press.

R.H. ROBERTS, 51 Belmont Road, Bangor, Gwynedd, LL57 2HY

BOTANY AND BOTANISTS IN LITERATURE - 4

I am once again indebted to B.E. Smythies of Redhill, Surrey, for pointing out that Sherlock Holmes at least *pretended* to botanise (although as a one-time alumni of the University of Montpellier – remember his monograph on different types of tobacco ash, published there? – he probably *did* have considerable botanical knowledge, which Conan Doyle had no occasion to refer to in any of his accounts of the great detective's exploits). In *The Adventure of Wisteria Lodge* (from *His Last Bow*), Holmes remarks to Dr Watson:

'It is very pleasant to see the first green shoots upon the hedges, and the catkins on the hazels once again. With a spud, a tin box, and an elementary book on botany, there are instructive days to be spent.'

Indeed (although the use of a 'spud' to dig out plants might not be approved of today); but, in fact, the detective uses a botanist's disguise in order to survey the village of Oxshott and its inhabitants, to solve a particularly nasty murder case.

There must be many more references to botany and botanists in fiction. More 'records' please!

JACK SMITH, 48 Dean Road, Handforth, Cheshire, SK9 3AH (Tel.: 01625-528160)

SPECIES RICH ISLANDS

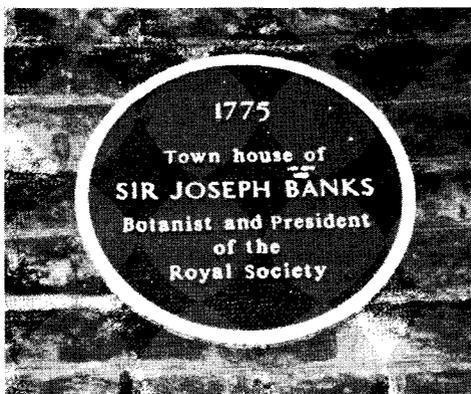
In *BSBI News* 73: 8, Trevor Dines asks about richest hectads. Small islands, whilst lacking a variety of habitats seem to have a more concentrated flora. Alderney, maximum 5.6×2.4 km, divides conveniently on the grid into 14 1 km squares for recording purposes. Of these only 5 are completely land; the remaining 9 being on average half sea. Total land area is thus about 9.5 sq. km or 0.1 hectad. All but one square are in hectad WA/5.0 with a single 1 km square in WA/6.0. In addition the Casquets rocks with 23 recorded species are in WA/4.0.

In this small area 1,051 species have been recorded since Babington visited the island in 1824. Of these approximately 850 are still extant. At least 3 of the 1 km squares contain 90% or more of these 850 species.

BRIAN & JEAN BONNARD, The Twins, Le Petit Val, Alderney, Channel Islands, GY9 3UU. Tel. & Fax: 01481 823482

MORE ON COMMEMORATED BOTANISTS

Rene Weston adds to the list of plaques the one for Sir Joseph Banks on Town House, Main Market Square, Horncastle. Rene reminds us that Horncastle is a small market town only a few miles from Revesby.



Plaque commemorating Joseph Banks Photo © I. Weston, 1996

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

BOTANISTS REMEMBERED HERE

The famous church of St Olave, Hart Street, in the City of London, has a 'botany corner'. In it, on the East wall is the elegant Latin memorial to William Turner (1508-1568) – the 'Father of English Botany'. At right angles on the adjoining wall is that to Job Edward Lousley (1907-1976) botanist and banker. The epitaph is from the book of Job, chapter 38, verse 9 – 'The range of the mountains is his pasture and he searcheth after every green thing.' I found this reference in his diary after he died, – it seemed most appropriate.

The memorial service for 'Ted' Lousley was held in St Olave's on February 20th 1976, when the church was transformed into a spring garden with flowers from Kew and Cambridge, arranged by Jocelyn Russell. Three years later on 28th October 1979 the memorial tablet was dedicated. The dedicatory prayer included the words, . . . 'In this hallowed corner we commemorate William Turner, the father of English Botany, who planted a garden in this parish and Job Edward Lousley, a worthy follower, who found a garden amongst the ruins of this church . . . We dedicate this memorial tablet to Job Edward Lousley in grateful and affectionate memory of his life of devoted service and of the happiness he gave to others. [An account of this service appeared in *BSBI News* 24: 13 (April 1980).]

At the back of my mind I have another memorial. I once joined Ted for a day out with the Essex Field Club. One of the places we visited was an Essex church, where, if my memory is correct, there is a memorial to John Ray, another botanist of renown. Can anyone tell me if this remembrance is correct?

DOROTHY LOUSLEY, 3 Barton Court, Barton Road, Scotforth Lancaster LA1 4HG

RISQUÉ SPELL CHECKERS

In *BSBI News* 73: 51, Cameron Crook asks about spell checkers. I use Lotus AmiPro word processor and, this morning was reminded of Cameron's note when checking a weather report I had done for the local Water Board. Spell checking the report produced only one unknown word 'Boreholes'. The spell checker offered the option of changing this word to 'Brothels'! [See also page 13. Does AmiPro need brothelyzing!]. Some time ago whilst using Locoscript and finding some queer alternatives offered for misspellings, I decided to put the following well known Lewis Carol poem through its spell checker and that of AmiPro and to accept the first alternative offered in each case.

Lewis Carol	Locoscript	AmiPro
'Twas brillig and the slithy toves,	Twos bridling, and the slaty toes,	Twos brisling and the smithy toes,
Did gyre and gimble in the wabe,	Did gyro and giggle in the wade,	Did gyre and gamble In the wade,
All mimsy were the borogroves,	All midst were the boardrooms,	All missy were the ?,
And the mome raths outrabe.'	And the mode ratas outrage	And the mom rates ?

AmiPro had no suggestions for the two ? words.

BRIAN & JEAN BONNARD, The Twins, Le Petit Val, Alderney, Channel Islands, GY9 3UU. Tel. & Fax: 01481 823482

MORE ON TEASEL WATER TRAPS

I was most enlightened to read the note on 'Why does Wild Teasel trap water?' in *BSBI News* 73. The note illuminates an important understanding in evolutionary biology. In brief, it is very easy for us to imagine that specific physiological structures serve some kind of evolutionary advantage. Indeed, the cup-like structures of *Dipsacus fullonum*, may represent some form of physiological adaptation.

However, BSBI members may be interested in a wonderful, and often overlooked, paper by Stephan Gould & Richard Lewontin entitled *The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme*. This classic paper highlights that it is often rather too easy to try to find an explanation for a function of a particular physiological structure, when in fact the structure may serve no specific function at all, and is essentially a 'by-product' of another structure or mechanism. In essence the cup-like structures of *Dipsacus fullonum* may not provide the plant with any evolutionary advantage, but may be a product of some other function, for instance such as leaf and stem strengthening for inflorescence production.

Of course, I await to be proven wrong!

MARK JOHNSTON, Department of Biological Sciences, University of the West of England, Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY. Tel.: 0117 965 6261; Fax: 0117 976 3871

H. WEAVER HERBARIUM

In December 1995 I had a 'phone call asking if I was interested in having 'a collection of dried flowers'. I envisaged a bunch of dried *Statice*, but agreed to have a look and was most surprised and pleased when a few days later three large cardboard boxes arrived containing a large British herbarium collection dating from around the turn of the century. It had come from a school at Felixstowe that had closed down, the collection was about to be thrown into a skip when a local man spotted it and passed it on to me at Ipswich Museum.

Peter Furze, who has spent several years producing a computer catalogue of the collections at Ipswich spent some time extracting the records of this collection and we now have a list of all 1492 specimens. The compiler appears to be a Mr H. Weaver and the collection was put together between 1862 and 1917. Tony Higgott of Newbury Museum sent me some information about Mr Weaver which was most useful in confirming that he was the compiler of the collection. He was referred to by Druce in the *Flora of Berkshire* (1897) as 'my friend Mr H. Weaver the Station Master at Newbury', and in 1901 he had become station master at Reading. He appears to have known A.B. Jackson (also a Berkshire man) well and may have accompanied him on trips to the Channel Isles, some of his specimens are from Guernsey and the National Museum of Wales at Cardiff have specimens from the Channel Isles attributed to H. Weaver.

Unfortunately many of the specimens are only labelled with the species name and we have assigned them to Weaver on the basis of the handwriting and the paper used (A4 lined foolscap, sometimes with GWR heading on the back). He contributed an account of the Botany of the Newbury area to Hawkins' *Guide to Newbury and Neighbourhood* (1890) and some of his records are referred to in Druce's *Flora of Berkshire*. About a third of the specimens are from other collectors and although Weaver is not listed as being a member of the Botanical Exchange Club I suspect that many of the non-local specimens in the herbarium were provided by A.B. Jackson, perhaps as duplicates from his own collection.

Although there are very few Suffolk specimens this herbarium contains many unusual and rare British plants and is a valuable addition to the Museum collections.

Of particular interest to me is a specimen of *Gnaphalium luteoalbum* (Jersey Cudweed) from Hinton, a small hamlet between Westleton and Blythburgh collected by C. Wilson in August 1859. This is the only specimen I have seen from East Suffolk (VC 25) although there are old records from Breckland.

If anyone has further biographical details of Mr Weaver or can suggest how the collection ended up in a Felixstowe Girls School please let me know. This collection is now safely housed at Ipswich Museum (IPS), but I wonder if there are other unrecorded collections stored away in schools.

MARTIN SANFORD, Suffolk Biological Records Centre, Ipswich Museum, High Street, Ipswich, Suffolk IP1 3QH.

PLANTS WITH 'THE BLUES'

I was fascinated (and relieved!) to read the report from Ursula Broughton and B.E. Wright in the September 1996 issue of *BSBI News* about *Mercurialis perennis* (Dog's Mercury) with 'the blues'. On two occasions this year (in July 1996, Central Scotland) I saw complete plants bright blue among others of the same species normally coloured.

As I was in a speeding car both times and my husband – a non-botanist – was not inclined to stop, I was tempted to concur with his assertion that I must have been hallucinating. Because we passed them in a flash, I was not able to confirm the species, but one appeared to be *Tripleurospermum inodorum* (Scentless Mayweed) and the other *Cirsium vulgare* (Spear Thistle).

I have no explanation to offer (other than hallucination) but would be most interested to hear if anyone else has.

FAITH ANSTEY, Lochore Meadows Riding Stables, Chapel Farm Road, Crosshill, Lochgelly, Fife KY5 8LY

A VERY REMARKABLE YEW TREE AT 'THE BULL', STREATLEY, BERKSHIRE

It has been observed that the majority of the very large and very old Yews (*Taxus baccata*) in Britain are to be found either in churchyards or in the grounds of other religious houses such as monasteries or nunneries, though some were planted as ornamentals by the owners of big gardens or estates. Thus, the back garden of a public house would seem a little unusual!

However, on Wednesday, 2nd October, 1996, after lunching at The Bull in Streatley, my daughter and I walked out through the back garden to the car park and were immediately struck by the sight of an immense old Yew tree beside the path. Clearly it had been clipped all round the base of the branches and foliage up to a height of about 2.5 m to prevent it from obstructing the path in front and the lawn at the back and sides. At the front, on the path side, a kind of alcove had been cut out to form a hollow 'cave' in which stands a shiny wooden blackboard bearing the words (in beautiful golden gothic script):

'In 1440 a Nun & a Monk here slain for misconduct and buried under the Yew Tree at The Bull, Streatley'.

Since a tree (and not a seedling) was already there in 1440, it would appear to be at least 600 years old, if not more.

We returned a few days later to measure and take photographs of the tree. The height is approximately 12 m but it was not possible to measure the circumference of the trunk owing to the dense foliage which forms an impenetrable forest, so we paced out the distance all round the perimeter of the branches, which come right down to the ground all the way round; this was approximately 27.5 m but would certainly have been much more had the tree not been severely cut back at regular intervals.

I have not been able to find any more information as to the truth of the story which is written on the blackboard except that 'rumours abound' in the neighbourhood and there are several alternative versions of the legend – for instance, one variant tells of a knight and a nun, rather than a monk. However, I shall adhere to the monk and nun story which seems to me a much more likely tale as there were, in mediaeval times, religious houses on both sides of the River Thames, one near the parish church in Streatley and another centred on the old church in Goring, Oxfordshire, so that opportunities for 'misconduct' would not have been hard to find. Perhaps next time we have a hurricane in these parts the old tree will be uprooted and the bones laid bare, just as the Selborne Yew was flattened in January 1990 and the skeletons of 30 adults were found and removed by two archaeologists from the Hampshire Museums Service. I very much hope the Streatley Yew will stand and grow and guard its

secret legacy for many generations to come. It is a beautiful tree which has managed to retain its dome-like shape despite the severe tree surgery it has endured over the years, and I wish it well for the next six centuries – and more!

CAROL J. HORA, 51 Eastern Avenue, Reading, Berks, RG1 5SQ.

THE OCCURRENCE OF SLENDER HARE'S-EAR (*BUPLEURUM TENUISSIMUM*) IN VC 35 (MONS.)

An enquiry about halophytes in the mouth of the River Wye and River Severn shore from Des Callaghan, Research Officer of the Wildfowl & Wetlands Trust, Slimbridge made me realise that my records for Slender Hare's-ear were only incidental to general littoral recording and some records were from 1972. Thus in August and September 1996 I walked from the mouth of the Wye to the mouth of the Rhymney along the R. Severn shore looking for and estimating the number of plants wherever they were found.

It was noticeable that the coastal marshes of my boyhood had been eliminated by the building of an earthen sea wall, the deepening of reens, the installation of regularly spaced drainage pipes that empty into the reens, the lowering of the water table and the control of water levels by sluice gates. Farmers now operate on the land at any time of the year. They graze the meadows with cattle or sheep, grow cereals including maize, convert it into golf courses or sell the top soil and plough the next layer for sale later. As there is as much as 13 metres of peat in places this process can go on for years.

As you approach the sea wall from the land side, a reen parallel to the 'wall' has to be crossed and there are widely spaced simple bridges to facilitate this. Running along near the 'wall' is a farm and land drainage board vehicle track. If you climb the sea wall you may look down on a flat grassland which is often covered by Spring tides. As you move towards the river more and more halophytes appear among the grass. The grass ends in a vertical bank that varies from several centimetres to over a metre in some stretches of the foreshore. Below the bank lies a muddy area that also varies in width. This is colonised by Cord-grasses mainly *Spartina anglica* (Common Cord-grass), Saltmarsh-grasses mainly *Puccinellia maritima* (Common Saltmarsh-grass), *Glaux maritima* (Sea-milkwort), *Suaeda maritima* (Annual Sea-blite), *Aster tripolium* (Sea Aster), *Salicornia* spp. (Glassworts), *Plantago maritima* (Sea Plantain), *Triglochin maritima* (Sea Arrowgrass), *Spergularia marina* (Lesser Sea-spurrey) and *S. media* (Greater Sea-spurrey). Beyond this is mud, sand, gravel and peat often mixed up by the powerful tides. On this ephemeral surface Eelgrasses (*Zostera* spp.) struggle for existence, along the eastern third of the VC shore.

On the other hand, the sea wall may drop straight down into mud. Here the earth bank is strengthened, on the riverside, by a concrete wall, often reinforced by large stones deposited from the riverside. The fossils on some of the stones indicate that man has brought them from some way away. The large stones are also deposited against the bank or at the foot of the eastern sea wall in places.

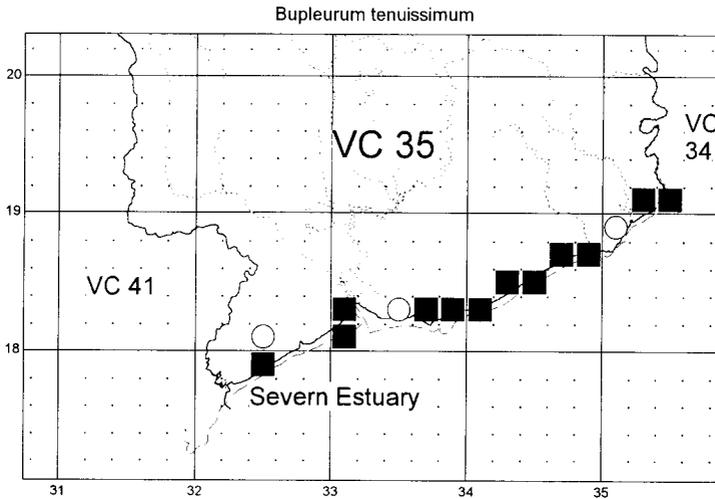
Because of the frequently narrow nature of the lower saltmarsh the Salicornietum, Spartinetum and Puccinellietum overlap and intermingle. The Slender Hare's-ear does not occur in such a community. Look for it on top of the bank within ten metres of the edge usually, also around the edges of pills. Near the sea wall the grassland more nearly resembles that of the land side and is unsuitable.

Its associates are well grazed coastal grasses, e.g. *Festuca rubra* subsp. *littoralis* (Red Fescue), *Puccinellia distans* (Reflexed Saltmarsh-grass), *Hordeum secalinum* (Meadow Barley), *Lolium perenne* (Perennial Rye-grass), *Parapholis strigosa* (Hard-grass), *Alopecurus bulbosus* (Bulbous Foxtail), *Trifolium fragiferum* (Strawberry Clover), *Leontodon autumnalis* (Autumn Hawkbit), *Plantago coronopus* (Buck's-horn Plantain), a very much reduced *Plantago maritima* (Sea Plantain) and *Daucus carota* (Wild Carrot).

Where there is no flat grassland only mud, *Bupleurum* may be found on the top of the sea wall, especially where it has been strengthened with the concrete wall which is always some centimetres

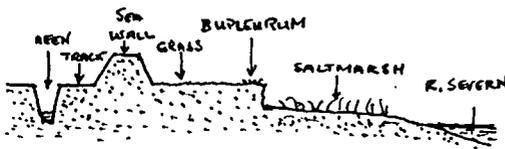
above the earth. In the angle so formed the plant survives most grazing. It can withstand cattle grazing though the plants are stunted, knotted, branched and spreading horizontally, not upright and slender, as it is in ungrazed areas, where its growth is more in keeping with its name. Where sheep have been introduced, survival is much more difficult. Another threat to its survival is the encroachment of *Elytrigia atherica* (Sea Couch), particularly in ungrazed stretches, but it must be unpalatable because even where cattle and sheep graze it has invaded areas where *Bupleurum* grew as recently as 1985 and eliminated it completely in two tetrads.

The optimum time to search is in August and September. In grazed areas, in particular, it is difficult to spot because its flowers and fruits barely reach pin-head size. In August the leaves are blue-grey and though small, the yellow flowers combine with them to afford a contrast with the green of surrounding plants. In September the whole plant turns to brownish purple and becomes more detectable. The relevant part of the VC is shown in the map below with the 1996 records for *Bupleurum tenuissimum* blacked in, the tetrad squares containing the open circles are 1985 plants that have since disappeared.

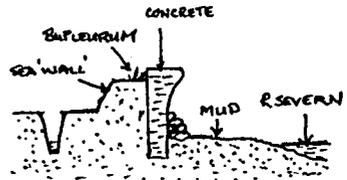


Two Shore Profiles

No. 1



No. 2



1 km sq. tetrad	locality	Date	abundance	habitat	status
ST/54.90	K Hunger Pill	20.8.96	c.1000	grass	
ST/53.90	F Mathern Pill	12.8.96	50+	grass	new hectad
ST/51.88	E Blackrock	8+9.96	0	formerly grass	1985
ST/48.87	Y Caldicot Pill	26.8.96	100s	grass	
ST/47.86	T Rogiet Rifle Range	1.9.96	c.80	grass	
ST/46.86	T Rogiet Rifle Range	1.9.96	c.50	grass	
ST/44.85	M Chapel Farm	9.8.96	50+	grass	
ST/43.84	H Magor Pill	22.8.90	100's	grass	
ST/40.83	B Windmill Reen	19.9.96	c.1000	'wall' top	
ST/39.83	Y Broad Mead	19.9.96	10-20	'wall' top	
ST/38.82	W Porton House	19.9.96	100's	'wall' top	
ST/37.82	R Elm tree Farm	19.9.96	c.5	'wall' top	
ST/36.82	R Hill Farm	15.8.96	10-100,000	'wall' top	
ST/36.82	R Goldcliff Pill	15.8.96	100's	grass	
ST/34.82	L Saltmarsh Pill	27.9.96	0	formerly grass	1985
ST/30.82	B Sutton Farm	13.8.96	100's	grass	
ST/30.81	A Sutton Farm	13.8.96	c.5	grass	
ST/25.78	P Rummy Great Wharf	13.8.96	c.100	grass	new hectad

Some other notable species came to my attention during the walks. South west of Lighthouse Inn on the top of the sea wall at ST/29.81V included only the third record of *Atriplex littoralis* (Grass-leaved Orache), an unusual site for the three plants noted. Eight tetrads had *Puccinellia rupestris* (Stiff Saltmarsh-grass) on well trodden parts of the top of the sea wall or the track by its side. A large patch of several square metres *Trifolium squamosum* (Sea Clover) was found on the wrong side of the sea wall at the mouth of the River Rhymney, until one remembers that there a loop of the river was cut off to accommodate a new road into Cardiff Docks not long ago. *Althaea officinalis* (Marsh-mallow) has made a bit of a comeback in the last five years, none more so than where the Second Severn Crossing comes ashore near Caldicot Pill. Vehicles moving along the shore carrying materials had churned up the upper saltmarsh for a hundred metres. Now the causeway is finished the vehicles have gone but in tracks 27 large clumps of the mallow have grown up where over the last twelve years I have only seen one plant. Thank you dormant seed.

TREVOR EVANS, La Cuesta, Mounon Road, Chepstow, Monmouthshire NP6 5BS

BOTANISTS AND THE FARMING COMMUNITY

Recently, reading some letters between botanists, I came across the following heart-felt commentary, which seems to chime with the present day, not just as far as plants are concerned but also footpaths.

‘... but for *Dianthus prolifer* – alas! what shall I say, but that it is lost & lost I fear for ever to this County, the unfeeling farmers, those mortal enemies of botanists, having ploughed up the ground to the very hedge so that I had some difficulty in forcing my way along among the barley & weeds to the very end of the hedge row, as I was determined not to lose an inch of the precious ground where the dear creature used to grow.’

That was **not** written within living memory, even of the most venerable member of this society. As a prize to the person who can guess the date (year) on which it was written, I will donate a copy of my book *The shamrock: history and botany of an Irish myth*. Answers, in the usual manner **only** on post-cards or the backs of sealed envelopes, *with your name and address* (of course!), to reach me by 1st February 1997. In the event of a tie, a draw will take place, and the answer and winner will be revealed in the next *BSBI News*.

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

NO IDLE RETIREMENT

After two parties at the National Museum and Gallery of Wales at the end of March, Gwynn Ellis, our indefatigable editor of *BSBI News* for the last ten years and our new Honorary General Secretary, took early retirement. Gwynn joined the Museum 30 years ago, on September 1st 1966, and this is a good moment to look at the way his work there has been so successful in bringing the BSBI and the Museum more closely together in a real partnership.

Gwynn's most important publication during this period has been *Flowering Plants of Wales* (1983). This grew out of the two editions of *Welsh Flowering Plants* written by his predecessors at the Museum, H.A. Hyde and A.E. Wade, and published in 1934 and 1957. A.E. Wade had been BSBI recorder for all 13 Welsh vice-counties when the recorder system was started in the 1940s, and *Welsh Flowering Plants* was based largely on the authors' own knowledge and on the resources of the Museum and its herbarium. As separate recorders were gradually found for all the vice-counties, the BSBI in Wales could easily have become diffused and the Museum could well have lost its co-ordinating role. But Gwynn, not least through his *Flowering Plants of Wales* project, contrived to encourage or cajole the recorders, and indeed all the active members in Wales, into a most effective working group. Abetted by his Keepers in the Department of Botany, Gerald Harrison who retired in 1984, and Barry Thomas who has taken early retirement himself just four months after Gwynn, and by the BSBI Committee for Wales, he provided an unparalleled support service for Welsh members and in return got a steady inflow of records, specimens and good will for the Museum.

Although this sort of interrelationship exists in Ireland and Scotland, in England it is difficult to expect 56 recorders and perhaps 2000 members to have the same sort of close relationship with an institution, even though considerable efforts are being made to encourage such collaboration at the Natural History Museum. Members in Wales have been very fortunate, and from time to time when problems are raised in the Society's committees one finds oneself commenting 'Well, that sort of problem wouldn't arise in Wales because we've got Gwynn.' For Atlas 2000 England has six regional co-ordinators, and this is a start, but it is not the same as having a member of staff at a museum who is prepared to receive and get identified voucher specimens and add them to the collections, and who will oversee (perhaps in an avuncular rather than in a paternalistic way) and oil the wheels of so many of the Society's activities (do English VC recorders get provided with personalised headed notepaper, in two colours, by anyone?).

Gwynn's successor at the Museum will come in with the immense benefit of the good will that the Welsh membership now has for the institution. The vital link here is of course George Hutchinson who, among his many other activities, has been Gwynn's right-hand man in his relationship with the BSBI in Wales for many years. That the successor is to be none other than Tim Rich ensures that Cardiff will continue to be a hotbed of the sorts of botanical activity dearest to the hearts of members. He takes up the post in January and we look forward to working with him as happily and productively as we have with Gwynn.

Gwynn's own future looks to be alarmingly busy. As though stepping into Mary Briggs's shoes as Hon. Gen. Sec. was not enough, he is continuing to edit *BSBI News*, he is co-ordinating Wales for Atlas 2000 (and is determined that he will personally ensure that all the records from Wales will be sent to BRC on disk), he is compiling Welsh Plant Records annually, and he continues as Secretary of the Committee for Wales and of the Aliens Study Group, and as Chairman of the Computer Users Working Party. He has also just taken over as Secretary of the BSBI's Bequest Fund and has embarked, with Mary Briggs, on a project for the BSBI database to compile first records of British Plants, especially aliens. And these are just his BSBI commitments. A new edition of *Flowering Plants of Wales* is under way, long-term interests in the spread of aliens in the British flora and historical studies of Welsh botany will doubtless be pursued, and a variety of (to me) incomprehensible sporting activities will continue to be energetically supported (I believe from the armchair or the grandstand rather than on the pitch). He is also Church Warden of one of the largest Parishes in Wales, and, finally, has a passion, as yet unfulfilled, to get up in his loft and play with the trains he has been collecting for over 30 years. It doesn't sound like retirement, but it follows the pattern of A.E. Wade and of botanists everywhere. We

wish both him and his family, who have done so much for the BSBI in the background, well. Gwynn's parish will now be much greater, covering not just Wales but the whole of Britain and Ireland. Though he will be spread more widely, he is as expansive in character and abilities as in person and I think we can therefore be confident that he will not be spread more thinly.

ARTHUR CHATER, Windover, Penyrangor, Aberystwyth, Cardiganshire SY23 1BJ

COUNTY FLOWERS

For some while now, I have been pondering over the idea of each county adopting a county flower, just as Wales has the leek or daffodil and Scotland the thistle. This would be a species of special significance for the county, perhaps one unique there like *Lloydia* in Caerns. or one that is scarce but specially common like *Cicuta* in Cheshire. Sadly, I cannot think of any real value in the idea, though I gather the various states of Canada and Australia have their state flowers, so there is reasonable precedent. It would give people something light-hearted to think about as an antidote to the intensely serious business of Atlas 2000! Perhaps each county authority would develop a sense of pride in their county flower and give it special conservation status (as they do to airborne pigs), though in most cases it should already have it and I would not wish to give them an excuse to neglect other equally deserving species. Inevitably I expect there would be a bias towards pretty plants with nice flowers, so hard luck *Ludwigia*, *Gladiolus* wins hands down!

I would suggest that counties split by Watson for the VC list (e.g. Cornwall) should be reunited for this purpose, though perhaps Yorks. is big enough for each of the old Ridings to have a separate plant. The BSBI might even provide each VC recorder with headed note-paper featuring the plant! The VC recorder(s) would presumably decide the species, but some English suggestions are presented below.

Devon	<i>Romulea columnae</i>	Somerset	<i>Helianthemum polifolium</i>
Wilts.	<i>Phyteuma orbiculare</i>	Wight	<i>Clinopodium menthifolium</i>
Hants.	<i>Gladiolus illyricus</i>	Sussex	<i>Phyteuma spicatum</i>
Kent	<i>Orchis purpurea</i>	Surrey	<i>Damasonium alisma</i>
Essex	<i>Primula elatior</i>	Herts.	<i>Gentianella anglica</i>
Berks.	<i>Leucojum aestivum</i>	Bucks.	<i>Epipogium aphyllum</i>
Suffolk	<i>Pulmonaria obscura</i>	Norfolk	<i>Veronica spicata</i>
Cambs.	<i>Selinum carvifolium</i>	Beds	<i>Melampyrum cristatum</i>
Gloucs.	<i>Allium sphaerocephalum</i>	Notts.	<i>Silene nutans</i>
Derbys.	<i>Polemonium caeruleum</i>	Cheshire	<i>Cicuta virosa</i>
Lancs.	<i>Pyrola rotundifolia</i>	Durham	<i>Gentiana verna</i>
Yorks.	<i>Cypripedium/Maianthemum/Orobancha reticulata</i>		

So, can anyone think of a good reason to continue with this idea, or is it just the vacant ramblings of someone with nothing better to do? I am sure *BSBI News* will be delighted to publish views for and against, so I await future editions with nervous anticipation.

GRAEME M. KAY, 4 Geneva Road, Bramhall, Stockport, Cheshire SK7 3HT

DIALECT PLANT NAMES

The following continues from *BSBI News* 73 a list of names collected since January 1992.

Dog standards – *Senecio jacobaea*, Ragwort. [Addingham Moorside, West Yorkshire, May 1994].

Donkey's tail – *Equisetum* sp., Horsetail. Old Working, Surrey [New Haw, Surrey, September 1995].

- Drumsticks – *Knautia arvensis*, Field Scabious: ‘I was born in Lincolnshire 68 years ago . . . [at An-caster] one field used to be blue with field scabious, which we called drumsticks’ [Wheatley, Ox-fordshire, June 1993].
- Duckweed – *Veronica beccabunga*, Brooklime. [Addingham Moorside, West Yorkshire, May 1994].
- Dug berry – *Arctostaphylos uva-ursi*, Bearberry [Lerwick, Shetland, March 1994].
- Dug’s corn – *Arrhenatherum elatius*, False Oat-grass. [Lerwick, Shetland, March 1994].
- Dug’s lug – *Iris pseudacorus*, Yellow Iris. [Lerwick, Shetland, March 1994].
- Dug’s pennies – *Rhynanthus minor*, Yellow Rattle. [Lerwick, Shetland, March 1994].
- Dysle (or disle) – *Cirsium arvense*, Creeping Thistle. [Truro, Cornwall, December 1993].
- Easter ledges – *Persicaria bistorta*, Bistort: ‘essential ingredient of Westmorland Herby Pudden, which I make and enjoy’ [Appleby-in-Westmorland, Cumbria, October 1996].
- Easter rose – *Primula vulgaris*, Primrose [Taunton, Somerset, April 1994].
- Egglets – *Crataegus* spp., Hawthorn, fruits: ‘eaten in season’ [Plymouth, Devon, January 1993].
- Eggs-and-bacon – i) *Crataegus* spp., Hawthorn: ‘young leaves/shoots eaten Warwickshire, 1956’ [Leamington Spa, Warwickshire, January 1993].
- ii) *Lotus corniculatus*, Bird’s-foot-trefoil: Derbyshire, 1940s [Downley, Bucking-hamshire, February 1995], also St Mary’s, Isles of Scilly, September 1992, and Cinderford, Gloucestershire, November 1993.

Thanks to Michael Atkinson, Rhoda Bulter, Dorothy Hinchcliffe, Chris Howkins, Margaret Lee, Kate Mason, Elsie Olivey, Julia Ottery, James Partridge, Gerald Tremewan and Stella Wilson for their contributions. Any comments or further contributions would be gratefully received.

ROY VICKERY, 9 Terrapin Court, Terrapin Road, London, SW17 8QW.

SPORING OF POLYPODIUM INTERJECTUM

With reference to my note in *BSBI News* 72 on the level of reproductive activity in ferns, the *Polypodium* concerned has now been determined by C. Jermy as *P. interjectum*, and its time of sporing was therefore normal.

RACHEL HEMMING, The Anchorage, South Woodchester, Stroud, Gloucs. GL5 5EL.

SALIX (WILLOWS) IN CARMARTHENSHIRE – A GUIDE TO IDENTIFICATION

A paper with the above title by Dr G. Hutchinson of the Dept. of Botany, National Museum of Wales, appeared in issue no. 2 of the *Llanelli Naturalists Bulletin* and is worthy of a wider audience. As an introduction to the systematic descriptions, George deals with taxonomy and identification and refers to etymology, uses and world distribution of willows. He also lists and gives identification clues to willows planted in landscaping schemes in the county. The paper is illustrated with photocopies of leaves and catkins of the various taxa taken from specimens in NMW. They include a figure of the recently confirmed record of *Salix aurita* × *S. caprea* (*S. × capreola*), a taxon not dealt with by R.D. Meikle in the BSBI Willows Handbook.

As well as other subjects of general wildlife interest, articles with a botanical element in this issue include the 1994 Carmarthenshire Flora progress report, recording for a Carmarthenshire bryophyte flora and the significance of Dan-y-Parc parkland, Cynghordy.

Copies of the Bulletin are available from the Hon. Treasurer, Llanelli Naturalists, 30 Glevering Street, Llanelli, Carmarthenshire at £5.50 including postage.

RICHARD PRYCE, Trevethin, School Road, Pwll, Llanelli, Carmarthenshire, SA16 4AL

LIPARIS LOESELII (FEN ORCHID) – A DISAPPOINTING VISIT TO KENFIG

With reference to the note in *BSBI News* 72: 45 about keeping away from the Fen Orchid (*Liparis loeselii*) sites in Norfolk, it is with considerable disappointment that I have to report on a failed visit on Saturday 27th July to Kenfig to view the plant.

Our daughter wished to see and photograph the Fen Orchid so we phoned the Wardens a week earlier to be assured by them that Fen Orchid was available and she would be guided to the appropriate spot. We were also told that all callers had succeeded in seeing this elusive plant, although it was pointed out that Peter Jones no longer worked there.

Our daughter drove down from Farnborough with camera and high hopes. On arrival despite the door being open she was told the Centre was shut. On enquiring about the Fen Orchid she was brusquely told that the phone information was incorrect and they had gone over!!

This is a repeat of 1991, when we were regularly in contact with a previous warden to find the correct date for seeing the orchid. When we arrived at Kenfig we were told they were too busy to go with us but we would find one plant beside a post. After hours of searching we were finally forced to leave without seeing the orchid.

The Kenfig attitude is completely different to the help we have received elsewhere and we would like to warn members that it is not as easy to see and photograph the Fen Orchid as the note in *News* would suggest.

DAVID & JEAN DELL, 7 Blunden Road, Cove, Farnborough, Hants GU14 8QJ

THE POPULARITY OF ANTHYLLIS VULNERARIA

Anthyllis vulneraria (Kidney Vetch), which contributes so much to the colour of the Pembrokeshire coast in May, is a very popular plant, but not just with painters and photographers, for it is even more popular with Bumble Bees, for practical reasons – food?

Though aware of the fact that there are 35 subspecies world-wide of *Anthyllis*, five of them in Britain – including many varieties, neither I nor the associated animal life are interested in these taxonomic complexities and it can be assumed that the following observations and remarks refer to the widespread, perennial *Anthyllis vulneraria* sensu lato

It appears to root in rocks like its relative *Lotus corniculatus* (Bird's-foot-trefoil), but along with *Armeria maritima* (Thrift) and a number of other coast-hugging plants this is not, of course, because it 'likes' rocks, but because grasses and other competitors don't 'like' rocks.

Long before large swathes of maritime grassland blossom in May, to hum and crawl with insect visitors, the first few flowers of *Anthyllis* to open, are spotted and immediately attract insect visitors from neighbouring flowers, such as those of *Armeria maritima*, *Silene uniflora* (Sea Campion), *Ulex europaeus* (Gorse) *Hyacinthoides non-scripta* (Bluebell) and indeed many other species. It is not difficult to understand its attraction to *Bombus lapidarius* (the black, but red-tipped bumble bee) as it has a 'taste' for yellow flowers, including particularly *Lotus corniculatus*. Both *Bombus pascuorum* and the long-tongued *B. hortorum* visit too, and I have also observed the two female 'crooks', *B. terrestris* and *B. lucorum*, but these large, portly, queens do not benefit the flowers, as they extract the nectar through an incision made at the base of each flower. Tedious though this seems and although they may

do it more out of habit than necessity in this instance, they do have short tongues compared to other bumble bees and without this inherited tendency to rob flowers, they would probably starve. If present in the area, for its distribution along the coast is uneven, the medium-sized, black, solitary bee, *Anthophora plumipes* also became 'hooked' on *Anthyllis*, and even the Common Blue butterfly. An obvious attraction of the inflorescences, is the fact that the flowers are bunched together in groups of about 18, so 'customers' can literally crawl from flower to flower, hence economising on 'fuel'.

Along the Pembrokeshire coast *Anthyllis* is the principal larval food-plant of the Six-spot Burnet (*Zygaena filipendulae*), its caterpillars being moderately easy to find, but Field Voles (*Microtus agrestis*) also eat the leaves, sometimes causing considerable damage to individual plants. They also collect ripening and fully-ripe inflorescences, remains of which lay about outside the entrance to their burrows. As Rabbits are so much less common than they once were, I am not sure of their relationship with *Anthyllis*, although I suspect they eat the inflorescences, particularly when they have gone to seed.

As is already known, dispersal is by dried, detached inflorescences being blown about: a sort of British version of the Tumble Weed, each pod containing just one seed. This starts in late July, many of the dried inflorescences collecting in hollows. What is not commented on, but which is clearly significant to the species' success, is that germination, followed by vigorous development of young plants, starts, when possible, immediately afterwards. This also applies to *Leucanthemum vulgare* (Oxeye Daisy). This late-summer germination probably explains the often commented on fluctuations in the summer 'Flower Show' of these two species, for two of the essential requirements for seedling success are naturally difficult to meet in August and September. The ground by then is often very dry and overgrown.

A number of observers commented that *Anthyllis* was not at all impressive in the summer of 1996 compared with 1995, and this is what one would expect, following the above comments. From their brown, 'toasted' appearance even Heather and Gorse clearly suffered symptoms of drought at the end of the exceptional summer of 1995, and the effect on mesophytic herbs, like *Anthyllis*, especially at the seedling stage, must have been near disastrous. Ideally, I suppose, a dry, grass-killing summer, followed by a wet autumn would help provide first the openings – the 'seed-beds', then the 'watering', before *Anthyllis* can be expected to excel in the following summer.

GORDON KNIGHT, 12 Ffordd y Felin, Trefin, Haverfordwest, Pembrokeshire SA62 5AX

SITE RECORDING AND DISTRIBUTION MAPPING IN DORSET

In 1989 Dorset Wildlife Trust (DWT) and Dorset Environmental Records Centre (DERC) instigated a project to identify Sites of Nature Conservation Interest (SNCI) within the county, to assist Local Authorities in identifying second tier (i.e. lower than SSSI) sites for protection in Local Plans. Since then 1110 sites have been surveyed and selected by a panel including representatives from English Nature, Dorset County Council, DWT and DERC. All selected sites meet agreed criteria, based on the presence of i) particular semi-natural habitats, or ii) populations of Dorset Red Data Book species (Mahon and Pearman 1993) or Dorset Notable species (those indicative of semi-natural habitat or occurring in ten or less sites in the county). The SNCI survey data are held on computer at DERC using the RECORDER database package. Records from this survey can be located to a six-figure grid reference.

Additionally, DERC has recently begun a programme of processing the data which it holds for all Dorset Red Data Book plants and Dorset Notable plants. This species-based data has been accumulated since the formation of DERC in 1976, and includes records extracted from floras, and local herbaria, as well as incidental records reported by local botanists. Much of this data, being historical, are not related to any specific site, and can often only be located to a 1 km or 10 km square.

To assess the contribution of the SNCI project to our knowledge of plant distribution in Dorset, a comparison was made between records collected during this project and other records held at DERC. To do this, a subset of Dorset Notable species was selected. Incidental records of these species from

other sources were processed, and species were only chosen if there were a minimum of 100 records from all sources in the database. The date classes currently used for most distribution mapping by DERC are pre-1980/post-1979. The number of additional post-1979 squares recorded by the SNCI project for these species, was compared with those recorded from other incidental sources during the same period. This was repeated at four mapping scales, 10 km, tetrad, 1 km and 100 m.

The tables (page 38) show the results at the different scales for 12 species from the subset. For example, *Campanula glomerata* had been recorded in 13 10 km squares since 1979 before the SNCI survey began. During the period of the survey, general recording has added one further square, the SNCI survey 2 further squares, and 3 further squares were recorded by both the survey and from general recording; in total an additional 6 post-1979 squares. At this scale, general recording alone could have provided most of the new squares. However, at the 1 km scale, there were 31 1 km squares recorded post-1979 before the start of the SNCI survey. General recording has provided an additional 4 squares, but the SNCI project a further 62 squares, and a further four squares were recorded by both the survey and general recording; this is a total of 70 additional 1 km squares. At this finer scale, the SNCI survey contributed greatly to the distribution map. The current distribution map for this species is shown at the 1 km scale a) without the records from the SNCI survey (upper map page 39) and b) including the records from the SNCI survey (lower map page 39). Similar trends can be seen for the majority of other species at all scales. In particular the project has dramatically improved our knowledge of locally common species such as *Oenanthe pimpinelloides* and *Polygala calcarea*, indicating the benefits of site recording where a county's populations of locally common and scarce species are important in the national context.

In contrast, *Parentucellia viscosa* is one of the species where general recording has provided more records than the SNCI survey. As a species of damp grassland on sandy soils, the distribution in Dorset is confined to the heathland areas of the Poole Basin. Many of these heathlands are designated as Sites of Special Scientific Interest, and there are therefore very few SNCIs of the appropriate habitat for this species.

The figure (page 40) shows the relative contribution of the SNCI survey and incidental records averaged over this subset of species during the period of the survey (1989 onwards) at the four spatial scales. At all scales the SNCI survey added a higher percentage of new squares than did incidental records. Additionally, the percentage of new squares added by the SNCI survey increased at the finer spatial scales.

At this stage in the computerisation of the available data, it should be noted that there may be datasets not yet computerised which could alter the results at the different scales. For example, there have been site-related surveys undertaken in Dorset in the past, but these have perhaps not covered 'wider countryside' areas in such depth as the SNCI project. Inclusion of this data may result in fewer additional squares found by the SNCI survey at the finer scales. Conversely, data for the forthcoming *Flora of Dorset* is not yet computerised, this would lead to more records from other sources at the tetrad level and above, but perhaps not at the finer resolutions.

In conclusion, in the years 1989 onwards, the SNCI survey has contributed more to our knowledge of the flora distribution than have incidental records received at DERC during the same period. This highlights the importance of targeted site surveys in comparison with general recording.

Acknowledgements

The project has been supported by the Dorset Team of English Nature as a key initiative to document the county's biodiversity. The maps have been produced using DMAP for Windows.

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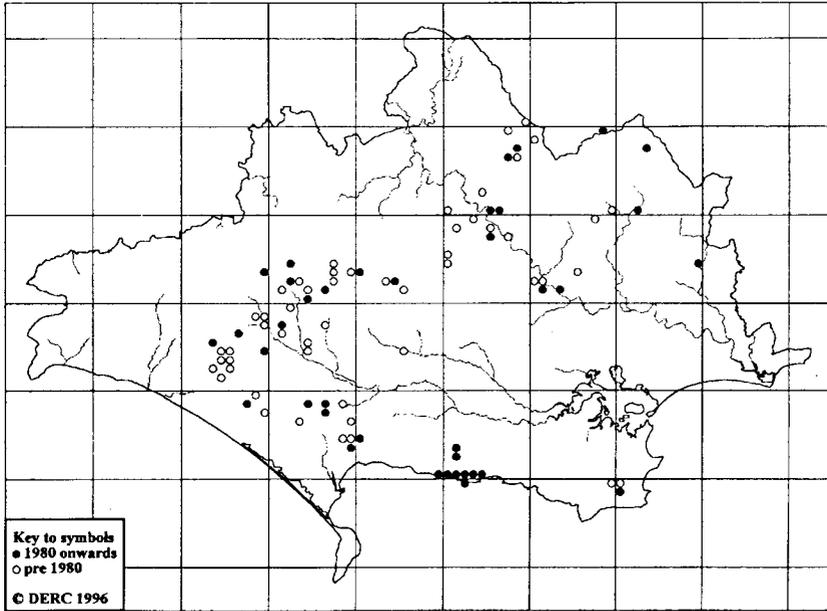
ALISON STEWART, Dorset Environmental Records Centre, Colliton House Annexe, Glyde Path Road, Dorchester, Dorset, DT1 1XJ.

10km	Number of post-79 squares before SNCI survey	Number of additional post-79 squares added during SNCI survey period by:-				Number of post-79 squares to date
		Incidental records	SNCI Survey	Both sources	Total	
<i>Adoxa moschatellina</i>	28	1	4	1	6	34
<i>Campanula glomerata</i>	13	1	2	3	6	19
<i>Cirsium dissectum</i>	17	0	4	1	5	22
<i>Geum rivale</i>	9	0	5	1	6	15
<i>Luzula sylvatica</i>	11	2	2	2	6	17
<i>Oenanthe pimpinelloides</i>	22	4	3	6	13	35
<i>Parentucellia viscosa</i>	8	0	0	1	1	9
<i>Polygala calcarea</i>	14	2	2	1	5	19
<i>Potentilla palustris</i>	6	1	2	0	3	9
<i>Sagittaria sagittifolia</i>	10	0	0	0	0	10
<i>Serratula tinctoria</i>	21	1	6	2	9	30
<i>Trifolium subterraneum</i>	9	3	0	1	4	13

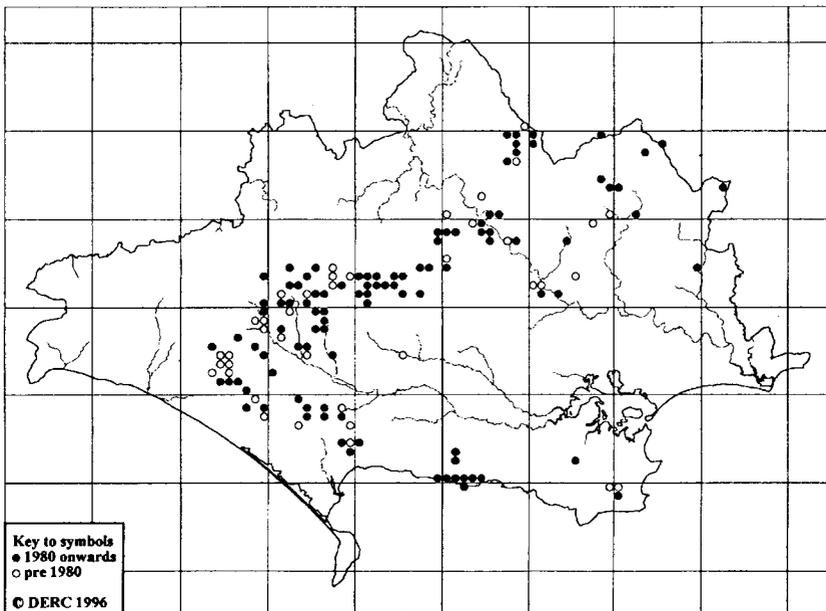
Tetrad						
<i>Adoxa moschatellina</i>	115	11	107	10	128	243
<i>Campanula glomerata</i>	28	4	43	4	51	79
<i>Cirsium dissectum</i>	46	5	25	4	34	80
<i>Geum rivale</i>	14	1	8	3	12	26
<i>Luzula sylvatica</i>	25	8	16	4	28	53
<i>Oenanthe pimpinelloides</i>	44	19	58	16	93	137
<i>Parentucellia viscosa</i>	15	6	3	3	12	27
<i>Polygala calcarea</i>	20	11	17	5	33	53
<i>Potentilla palustris</i>	13	5	6	0	11	24
<i>Sagittaria sagittifolia</i>	29	2	0	0	2	31
<i>Serratula tinctoria</i>	49	6	43	9	58	107
<i>Trifolium subterraneum</i>	14	11	13	1	25	39

1km						
<i>Adoxa moschatellina</i>	154	23	190	9	222	376
<i>Campanula glomerata</i>	31	4	62	4	70	101
<i>Cirsium dissectum</i>	57	6	32	4	42	99
<i>Geum rivale</i>	19	1	14	3	18	37
<i>Luzula sylvatica</i>	30	13	24	4	41	71
<i>Oenanthe pimpinelloides</i>	56	25	85	14	124	180
<i>Parentucellia viscosa</i>	20	10	3	4	17	37
<i>Polygala calcarea</i>	22	14	23	3	40	62
<i>Potentilla palustris</i>	18	5	6	0	11	29
<i>Sagittaria sagittifolia</i>	39	4	4	0	8	47
<i>Serratula tinctoria</i>	61	10	52	10	72	133
<i>Trifolium subterraneum</i>	16	13	15	1	29	45

100m						
<i>Adoxa moschatellina</i>	94	37	273	7	317	411
<i>Campanula glomerata</i>	22	10	86	2	98	120
<i>Cirsium dissectum</i>	38	15	45	5	65	103
<i>Geum rivale</i>	21	9	20	1	30	51
<i>Luzula sylvatica</i>	19	12	42	0	54	73
<i>Oenanthe pimpinelloides</i>	37	23	130	9	162	199
<i>Parentucellia viscosa</i>	21	23	8	2	33	54
<i>Polygala calcarea</i>	12	15	27	2	44	56
<i>Potentilla palustris</i>	19	9	10	0	19	38
<i>Sagittaria sagittifolia</i>	23	10	6	0	16	39
<i>Serratula tinctoria</i>	29	19	66	6	91	120
<i>Trifolium subterraneum</i>	15	16	16	0	32	47



Distribution of *Campanula glomerata* at the 1 km scale without the records from the SNCI survey



Distribution of *Campanula glomerata* at the 1 km scale including the records from the SNCI survey

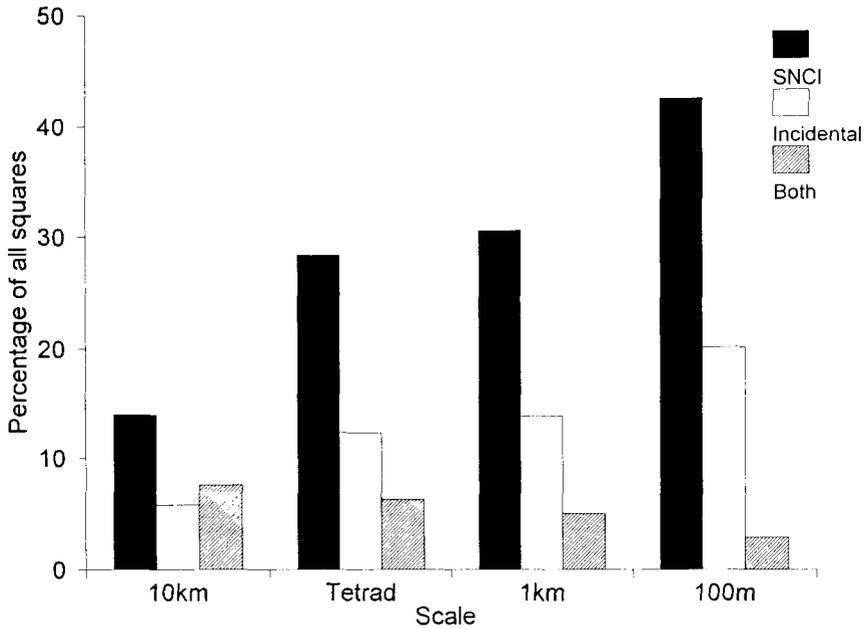


Figure showing the relative contribution of the SSCI survey and incidental records averaged over a subset of species (see text) during the period of the survey at the four spatial scales.

GRANMATRICIDE?

1. Can fertile *Grandma-Earth*,
(I ask for what it's worth),
outlive we humankind?
Or shall we future find—
that Grandma has passed on,
and our present home has gone?
2. Through eons Earth has spun,
in orbit round the Sun,
marking days and years,
we recognise as hers.
She bore Nature as her child—
in perfect climates; mild
3. As she rotated and revolved,
surface life evolved—
from chemical beginnings,
to humans' wanton innings.
Why did she nurture us;
so callous and murderous?
4. We pollute her balanced air,
rip her landscapes bare,
dump waste in the oceans deep,
her waters with toxins steep.
We axe her cleansing trees,
so abuse her as we please.
5. We do not hear her cries—
of warning as she dies.
Afflicted by our violence—
we only sense her silence.
In Granmatricidal zeal—
we do not seem to feel.
6. But within *Mother Nature's* way,
is found reason why we stray.
We survive her constant war,
so we may strike on more.
So this batsman still scores runs,
and dreams of distant Suns.

ANSWERS PLEASE

FLOWERING OF HAZEL AND TEASEL

Each year I am puzzled that *Corylus avellana* (Hazel) produces masses of pollen for weeks before any female flowers can be found. Why?

I have also noticed that the first flowers to open in a *Dipsacus fullonum* (Teasel) inflorescence are in the middle with waves of flowering passing up and down. What is the explanation? What other species flower the same way?

CHRISTOPHER J. PERRATON, 178A Woodrow Road, Melksham, Wilts SN12 7RG

INFLORESCENCE BLACK SPOTS

We would very much like to know the function of the single, raised, dark flower to be found amongst the florets of some wild carrot flowers (*Daucus carota*). When we first saw these, we mistook them for flies or beetles because all the nearby flower heads, without the dark floret, invariably had a fly or a beetle feeding there. It reminded us of the famous variation of South African daisy that has a dark spot near the centre, mimicking a beetle that feeds on the flower. Apparently this coloration is a very effective insect repellent. We have never heard of another flower with this device but were struck by the resemblance of the carrot flowers' dark centre floret to the insects that were feeding on the nearby flowers.

Shortly after this, we noticed that some yellow cat'-ear flowers (I think), had stamens with dark tips, held upright and close together, forming a dark spot, whereas the other flowers had all yellow stamens, spread out. Again, we were struck by the similarity to the South African daisy's dark spot. We would be grateful if any member could help us with an explanation.

R. HOEKSTRA, Via Croera 33, 12064 La Morra CN, Italy. Tel.: +39 173 509395, Fax: +39 173 509534

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 * following 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* are eligible for inclusion but other more widespread aliens listed in that work may be included at the discretion of the VC 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).

My thanks to John Palmer and J. Clarke for supplying the following records.

- Aichryson laxum**. Plentiful on walls to the approach of the Gardens and around the toilets, Tresco, SV/8.1, Scilly (VC 1b), 1996, J. Clarke, det. E. Clements.
- Astilbe* × *arendsii* 'Brautschleier'. Abundantly naturalised by streams at several wooded estates in E. Cornwall (VC 2), e.g. at Lanhydran and Pencarrow, SX/1.5, July 96, J.R. Palmer.
- Carduus pycnocephalus* (Plymouth Thistle). Hop field manured with wool shoddy, Barming, TQ/7.5, W. Kent (VC 16), 18/6/66, J.R. Palmer. Probably the only record for Kent, but still occurs on the unmown parts of Plymouth Hoe, S. Devon (VC 3), 6/7/96, J.R. Palmer.
- Coleus blumei* (Painted Nettle). On a few square inches of soil in the middle of a concrete parking area, Hawley, TQ/5.7, W. Kent (VC 16), 2/7/96, J.R. Palmer.
- Crassula multicava**. Seen growing out of some old steps which were on Abbey Hill, to the rear of the Gardens, SV/8.1, Scilly (VC 1b), 1996, J. Clarke, det. E. Clements.
- Eryngium planum* (Plain Eryngo). On top of a brick wall, Sutton-at-Hone, TQ/5.7, W. Kent (VC 16), 29/7/95, J.R. Palmer. Not in nearby gardens.
- Genista monspessulana* (Montpelier Broom). Naturalised, with frequent seedling bushes in Darenth Wood, TQ/5.7, W. Kent (VC 16), 29/5/96, J.R. Palmer.
- Impatiens balfourii* (Kashmir Balsam). Several plants on concrete wall near country cottages, Swanley Bottom, TQ/5.7, W. Kent (VC 16), 18/8/96, J.R. Palmer. Glabrous except for a few glands on the fine feathery teeth of the long, pointed leaves. Sepals nearly orbicular, small, white tinged rose. Lower petal with bright pink front lobes; yellow at the base; its spur shortish, curved, blunt.
- Lonicera* × *italica*. Scrambling on wire fence of railway cutting between Dartford and Crayford, TQ/5.7, W. Kent (VC 16), 23/6/96, J.R. Palmer. Not planted.
- Mirabilis odorata* L.* (Scented False Jalap). Sizeable creeping patches on S facing bank by footpath, Wilmington, TQ/5.7, W. Kent (VC 16), 3/10/96, J.R. Palmer. Its tuberous roots appear to be well established but may well not survive a really severe winter.
- Parthenocissus henryana* (Variegated Virgin-vine). On sloping waste ground underneath London Bridge Station, TQ/3.8, Surrey (VC 17), 8/10/89; and on a wall of Bigs Hill Wood, Crayford, TQ/5.7, W. Kent (VC 16), 1996, both J.R. Palmer.
- Polygonum amplexicaulis* (Mountain Fleece-flower). Well established on field edge by footpath, Wilmington, TQ/5.7, W. Kent (VC 16), 4/10/96, J.R. Palmer.
- Pyracantha rogersiana* (Asian Firethorn). Bird sown bushes for many years at Dartford on steep concrete river walls; (and, 8/10/96, with bird-sown *Photinia davidiana*); TQ/5.7, W. Kent (VC 16), Oct. 1996, J.R. Palmer. First record in the wild, it is thought bird sown at Aylesford gravel pits, TQ/7.5, E. Kent (VC 15), May 1976, J.R. Palmer. Widely planted and probably under-recorded.
- Saxifraga* × *arendsii*. Creeping patch on chalk heaps in fields near Longfield, TQ/6.6, W. Kent (VC 16), 24/10/96, J.R. Palmer.
- Veronica anagallis-aquatica* subsp. *divaricata* Krösche*. High above the ground near gravel pits on large dry earth mounds (with *V. beccabunga*), Darenth, TQ/5.7, W. Kent (VC 16), 2/6/96, J.R. Palmer. May be a form related to a dry habitat.
- Viburnum davidii* Franch* (David's Viburnum). Overgrown waste ground near long-ruined chapel, Dartford, TQ/5.7, W. Kent (VC 16), 10/10/96, J.R. Palmer. A few seedlings to 30 cm high, not far from a larger, probably planted specimen with the typical, shining blue, cylindrical fruits of this species. With seedlings of *Cotoneaster helmquistii*.

EDITOR

RUBIA TINCTORUM (MADDER) IN SOUTH LINCS. (VC 53)

Rubia tinctorum was formerly grown in England for its dye – red madder and Turkey red obtained from its roots. Clapham *et al.* (1962) states that it 'still occurs as a casual' and in Stace (1991) we read that it 'was formerly grown for its dye and used to occur as a casual and escape – but no longer, Clement & Foster (1994) regard it as 'Pre 1930 only'.

A very large *Rubia* plant was found in the summer of 1996 in the small Lincolnshire village of Boothby Graffoe by P. Porter and a group of naturalists attending an evening 'moth' meeting. It was subsequently identified (I. Weston) and confirmed (E.J. Clement) as *Rubia tinctorum*. The plant, flowering profusely and conspicuously, covered an old limestone wall in the lane at one end of the village. It covered 2-3 m along the length of the wall (1 m high), and over into the pasture beyond. Known locally for over 30 years in that spot and called 'cleavers' the dead material is tidied up each autumn and grows up strongly again the following year. The deciduous nature was apparent very early on as the older stems and leaves turned straw-coloured and became brittle.

The stone wall had ivy growing over it adjacent on both sides to the madder. The bright green shiny gloss of the ivy leaves contrasted sharply with the more yellow green of the madder leaves and flowers.

The plant flowers profusely with masses of small light yellow flowers but the fruit set is very low. The fruits, red-brown eventually turning to black, berry-like fruits normally have one seed but about 4 double seeded fruits were counted. The anthers are 5-6 times as long as broad. (see Tutin *et al.* 1980).

How such a large plant had been missed for such a long time is a mystery. So too the origin – possibly a relic from the garden of a dyer or weaver. The Jurassic limestone wall is at the far end of the village lane and semi-encloses a small grassland area which had once been part of the Farm yard/garden.

Rubia tinctorum was cultivated for its dye. It was known and used by the Greeks and Romans as a dye and also as a medicine – 'Erythrodonon'. Pliny called it *Rubia*. The dye – Turkey red – was used for many purposes before the discovery of the aniline dyes in the middle of the last century. The plant was of considerable economic importance (used to dye French military uniform trousers and képis and the Turkish fez (Hanf 1983)).

The finest account noted is given together with a colour illustration showing the very large root and flower detail in Rind (1872). A fascinating account of the methods of cultivation and yield statistics and some interesting accounts of the dye extraction procedures are detailed.

Rubia tinctorum is a native of the Levant and grows in Italy, Holland, France and also Turkey and Smyrna.

There are two dyes – madder red from the whole of the colouring matter (red and fawn mixed) and Turkey red, first obtained from the Levant, using only the red matter. It was not until 1790 that the art of dying with Turkey red was introduced into Britain – at Glasgow.

A few extracts from Rind (1872).

'Its culture was first introduced into England by Gerard and subsequently every encouragement for its cultivation in this country was held out, yet although it thrives well with care, it is found that it can be imported better and cheaper from abroad.'

'The madder imported in considerable quantities from Smyrna is more esteemed than the best Dutch madder which ranks the first of that grown in Europe'.

'The average annual importation of madder of all kinds into England for the seven years 1858 - 1864 was 318,700 cwts.

In 1864 94,294 cwts of prepared madder were imported from Holland, France, Spain and America and 190,631 cwts of madder roots chiefly from France, Italy, Turkey and the East Indies'.

'The colour is not so beautiful as that obtained by Kermes or cochineal, but being much less expensive it is extensively employed for common stuff.'

'Madder has the singular property of imparting its colour to the animal fluids when given along with food.'

An extract from Lee (1854): '... it makes the bones of all animals who feed on it a fine red. The beaks and claws of the birds also become coloured.' Her estimate of import generally in 1854 to Great Britain was about 13,093 tons of roots.

The only other Lincolnshire connection – resulting from enquiry after the find at Boothby Graffoe, was communication with Mrs Anne DeLap (East Barkwith Lincoln – now Carrera, Scotland) who had grown 5 plants from seed from Herbal Plants, Pointsfeld Herbs Black Isle in 1994. Two survived, one with Mrs DeLap and one with Mrs J. Ostler at Colsterworth, Lincs.

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IRENE WESTON, Lindhris, Riseholme Lane, Riseholme, Lincoln LN2 2LD.

CONYZA BILBAOANA ALSO IN IRELAND

Paul Stanley's article on *Conyza bilbaoana* (*BSBI News* 73: 47-49) was of great interest to me as I have been aware of an unusual *Conyza* near a port in south-east Ireland since 1992, the same year that he found his plant in Southampton.

On 22 September 1992, I found numerous yellow-green *Conyza* plants on a gravel car park and adjacent area a few hundred metres from the port at Rosbercon on the River Barrow (S/71.27). Rosbercon is administered as part of Co. Wexford, but botanically it is in Co. Kilkenny (VC H11). In 1992, I was only familiar with *Conyza canadensis* (Canadian Fleabane) and the distinctly different *Conyza sumatrensis* (Guernsey Fleabane), and although I noted that the inner florets of this composite were five-lobed, I mistakenly identified the Rosbercon plants as *C. canadensis* (*Ir. Nat. J.* 24: 339-342). However, by September 1994, I was sure that these plants were not *C. canadensis*. I wrote to Eric Clement about them, and he told me about another *Conyza*, 'close to *C. canadensis* but different', being found in the Southampton area. By the spring of 1996, a name, *C. bilbaoana*, had been put on the Southampton plants, and dried specimens from Rosbercon sent to Eric Clement seemed to be that species. Within days of reading Paul Stanley's article in September and finding that the Rosbercon *Conyza* by and large matched his description, I collected more plants and sent them fresh to Paul Stanley and Eric Clement, who agreed that they were indeed *C. bilbaoana*.

C. bilbaoana is now thoroughly established at Rosbercon on roadsides, waste ground, walls and at the entrance to the port as well as the gravel car park where it was first noticed. Judging by the large population found in 1992, *C. bilbaoana* must have arrived at least the year before – I have botanised the Rosbercon area regularly in the autumn since 1989, so if there had been many plants prior to 1992, they are unlikely to have been overlooked. In October 1995 and September 1996, many plants were also found on waste ground in New Ross, Co. Wexford (VC H12), across the River Barrow from Rosbercon. *C. canadensis* has not been seen in the area.

The following observations were made on fresh specimens of *C. bilbaoana* collected at Rosbercon in September and October 1993-1996, and voucher specimens have been deposited at the National Herbarium, Glasnevin, Dublin (DBN).

Plants: up to 140 cm tall, often much shorter, with one main stem or branched from the base; large, well-grown plants were all grey-green; some flowering plants with rosettes of leaves attached to base of stem; many flowering plants without attached rosettes; rosettes of leaves, up to about 18 cm across, on their own. Note that many of the flowering plants and leaf rosettes found on the

gravel car park at Rosbercon were yellow-green in colour, and may have been suffering from a nutrient deficiency.

Stems: strongly ridged; brittle (snap easily when bent); colour green, maroon on one side, maroon, or maroon at stem base only (red pigment in outermost layer of cells); distinctly hispid.

Leaves: rosette leaves usually crowded, mid-green, and leaf margins coarsely serrate without any long patent hairs; stem leaves all simple, lanceolate, no distinct petiole; the lower leaves with more serrations than the upper ones; appressed hairs on upper and lower surfaces; leaves feel scabrous; hairs on leaf margins short, appressed; some leaves with long patent hairs at proximal end; lower leaves have axillary shoots which may make them appear pinnate.

Inflorescences: usually much branched, with the lower branches not overtopping the upper branches; inflorescences of larger plants open and untidy; numerous small capitula.

Capitula: approximately 3-4 mm across at the widest part and 5 mm in length; shape variable; involucre bracts (phyllaries) of variable widths with green centres, scarious margins, few hairs and most red-tipped; lower/outer bracts shorter than upper/inner bracts.

Florets: outer florets female, pale to pink-purple with very short, toothed ligules; ligules scarcely projecting above the bracts; inner florets with carpel and stamens; corolla yellow, five-lobed.

Achenes: achenes of outer and inner florets differ slightly; inner beige coloured, approximately 1.2-1.3 mm in length, longer than wide, laterally flattened with sparse appressed hairs and a distinct rim (as in Fig. B, *BSBI News* 73: 49); pappus of off-white simple hairs up to 3 mm long with tiny forward pointing teeth, outer achenes slightly smaller with a less conspicuous rim, also with pappus.

The Dublin Port *C. canadensis* and *C. sumatrensis* matched the descriptions in Wurzell (*Watsonia* 17: 145-148) and Stace (1991 *New Flora of the British Isles*). To indicate the differences between *C. bilbaoana*, *C. canadensis* and *C. sumatrensis* the following observations were made on fresh specimens of the latter two species collected at Dublin Port; the comparisons are made with *C. bilbaoana*. *C. canadensis* plants were shorter, up to about 60 cm tall, consistently yellow-green, more glabrous; stems scarcely ridged, neither brittle nor strongly hispid, and sometimes maroon at the base; narrower leaves, with long patent hairs at the margins; inflorescence usually columnar; capitula about 3.5 mm across and 5 mm long; nearly glabrous bracts, narrower and paler, some inconspicuously red-tipped; outer florets pale to pink-purple with long ligules, about 1 mm long, clearly projecting above the bracts; inner florets yellow and corolla narrower, mostly four-lobed (rarely five-lobed); achenes of inner florets smaller, slightly ovoid, hairier (shorter hairs?) and with only an indistinct rim; achenes of outer florets without a rim.

C. sumatrensis plants were up to 165 cm tall, greyer than the grey-green plants of *C. bilbaoana*, stem distinctly ridged, brittle, pubescent, which could also have some maroon colouring; pubescent leaves with short appressed hairs at the margins; heavy-looking pyramidal inflorescence with larger capitula, about 5-6 mm across and 6 mm long; narrow pubescent red-tipped bracts; outer florets pale with very short ligules; inner florets yellow and corolla five-lobed; achenes laterally flattened with a rim and appressed hairs, but seemed slightly smaller and with more hairs than those of *C. bilbaoana*. In the three species, the colour of the florets seemed to be somewhat variable, and between the species slight differences in the ligule teeth and width of the corollas of the inner florets were noticed.

In late September 1994, I transplanted several rosettes of *C. bilbaoana* from Rosbercon into my garden. They overwintered and produced large flowering plants in 1995; some smaller self-sown plants appeared again in 1996. No rosettes of leaves were seen with either *C. canadensis* or *C. sumatrensis* at Dublin Port in early October 1996, although rosettes had been seen among mature *C. sumatrensis* in late October 1992, growing in a dank situation.

It should be noted that both *C. canadensis* and *C. bilbaoana* produce abundant fertile fruits which were dispersing in the early autumn, whereas *C. sumatrensis* seems to flower later at Dublin Port and has hardly spread since it was first seen there in 1988; Brian Wurzell considered the latter a marked thermophile (*Watsonia* 17: 145-148).

Having displayed three species of *Conyza* at the Irish BSBI AGM held in Dublin on 28 September 1996, some members went to look for *Conyza* during the lunch break. It was assumed that we would

find *C. canadensis* but the plants on the city centre waste ground David Nash led us to were *C. bilbaoana*, matching the plants at Rosbercon! At David's suggestion, a few days later I checked the *Conyza* at Heuston Station, the main station for trains to the south-west and west of Ireland. There were scattered plants of *C. bilbaoana* by the car park, *C. canadensis* on a nearby roadside, and many plants of both species on the railway tracks with *Senecio viscosus* (Sticky Groundsel). Among the *C. bilbaoana* were numerous rosettes of bright green leaves. By the end of October where the two species grew together on the tracks *C. canadensis* had mostly gone over and *C. bilbaoana* was still in flower and fruit. All the Dublin *C. bilbaoana* flowering plants were grey-green.

On 27 October, two more plants of *C. bilbaoana* were found on Long Mile Road on the outskirts of Dublin, not far from Bluebell Industrial Estate where a specimen, which appears to be of *C. bilbaoana* was collected in 1984 (TCD, labelled *Erigeron canadensis*). Another specimen collected in Dublin city centre in 1985, seems also to be of *C. bilbaoana*, *C. canadensis* was found in the same area in 1984 (both specimens in DBN). Further afield, a *Conyza* collected in 1995 (DBN) near Tralee, Co. Kerry, in the railway yard at Blennerville, and found there again in 1996, is also *C. bilbaoana*.

After finding *C. bilbaoana* in Dublin, I rechecked the *Conyza* at Dublin Port, but could still only find *C. canadensis* and *C. sumatrensis*. Since 1988, there have always been many more plants of *C. canadensis* than *C. sumatrensis*, with only a slight overlap in distribution of the main populations.

To conclude, Irish records for *Conyza* are as follows. *C. sumatrensis* has been found since 1988 only at Dublin Port. *C. canadensis* was first reported from Co. Kildare (VC H19) in 1978 (*BSBI News* 21: 24), and there are reliable records from Limerick railway station (VC H8) in 1991 and 1992; Waterford Port, Kilkenny side of River Suir (VC H11), in 1989 and 1994; Dublin city (VC H21) in 1984; and Dublin Port and city since 1988. It has also been reported from the Belfast area (VCC H38 & H39) since 1990. The record for Rosbercon (VC H11) in 1992 is incorrect (see above), and the one for Rosslare Harbour (VC H12) in 1994 (*Ir. Nat. J.* 25: 186-189) is questionable. A specimen was not kept and a slide of the plant there looks more like *C. bilbaoana* than *C. canadensis*; there was no *Conyza* seen at Rosslare Harbour in 1996.

C. bilbaoana has definitely been found at Rosbercon (VC H11) since 1992, New Ross (VC H12) since 1995, the railway yard at Blennerville near Tralee (VC H2) since 1995, and Dublin in 1996 (VC H21), and probably also in 1984 and 1985 (specimens in TCD and DBN). So, how has *C. bilbaoana* arrived in Ireland, and how long has it been here? According to Eric Clement (pers. comm.), *C. bilbaoana* cannot withstand drought and he predicts a rapid spread in Ireland. BSBI members are encouraged to look carefully at any *Conyza* they come across while recording for Atlas 2000 and to re-examine any specimens they may already have.

I would like to thank Thomas Ryall for sending me fresh *Conyza* from Tralee; Paul Stanley and Eric Clement for so promptly verifying the fresh specimens from Rosbercon as *C. bilbaoana* and Eric for alerting me to 'another *Conyza*' in 1994 and for his correspondence in 1996, full, as always, of interesting information.

SYLVIA REYNOLDS, 115 Weirview Drive, Stillorgan, Co. Dublin, Ireland

IS BUDDLEJA DAVIDII EXPANDING IN NORTHERN BRITAIN?

The Chinese shrub *Buddleja davidii* (Butterfly Bush) is planted extensively in gardens throughout most of the British Isles. It is naturalised in southern England where it is common on waste ground, but it becomes rarer in the north. In the Newcastle region naturalised plants have been very uncommon in the past. However, in the last few years there has been a noticeable increase, especially on railway embankments and waste ground around Manors railway station (NZ/25.64) and towards Heaton. At present there are hundreds of plants ranging from seedlings to individuals 2m high. There is a range of colours and noticeable numbers of white plants. This year individuals up to about 30cm high have appeared in cracks in the pavements near the city centre, 1 km or more from the railway, and recently I have

noticed young plants growing around the platform and car park at Morpeth station (NZ/203.854) 21 km north of Newcastle.

In the past, *Buddleja* has not produced noticeable quantities of seeds in the Morpeth area but last year copious seeds were produced in my garden, and a colleague (A.J. Richards) has noted young seedlings this year at Hexham. Several species that are restricted to the south and east of Britain are known to be limited by their requirement for warm summers in order to produce seeds. *Cirsium acaule*, *Hordeum murinum* and *Tilia cordata* have all been shown to be limited in this way (Pigott, 1970; Davison, 1977; Pigott & Huntley, 1981). Therefore it seems likely that the expansion of *Buddleja* in the Newcastle area is due to the warmer summers in recent years allowing seed production. Spring frosts may be a complicating factor. Adults are resistant to very low temperatures (they have survived -25°C in my garden) but the young leaves and shoots are killed by late frosts. As flowers are produced on the current year's shoots this delays flowering, often until well into September when temperatures are low. Seed production is not likely to be limited by lack of pollinators as there are always large numbers of butterflies available.

There has been much discussion in the scientific press about the effects of climate change on plant distribution. If *Buddleja davidii* is expanding because of a few warmer summers then it is an illustration of the fact that if our climate does change, there will be quite rapid changes in patterns of flora distribution. Opportunists that produce readily distributed seeds and grow in the open, disturbed habitats that are common in our cities, may be some of the most responsive species.

References

- Davison, A.W. (1977). The ecology of *Hordeum murinum* III. Some effects of adverse climate. *Journal of Ecology* **65**: 523-530.
- Pigott, C.D. (1970). The response of plants to climate and climatic change. In: *The Flora of a changing Britain*: 2-34. Ed. by F. H. Perring, Botanical Society of the British Isles.
- Pigott, C.D. & Huntley, J.C. (1981). Factors controlling the distribution of *Tilia cordata* at the northern limit of its geographical range. III. Nature and causes of seed sterility. *New Phytologist* **87**: 817-839.

Professor A.W. DAVISON, Agricultural and Environmental Science, Ridley Building, University of Newcastle, Newcastle upon Tyne NE1 7RU. Tel.: +44 (0)191 2227890, Fax: +44 (0)191 2225229, e-mail: a.w.davison@ncl.ac.uk

ELAEAGNUS COMMUTATA AT WORKINGTON OLDSIDE (VC 70)

The 1 km square at NX/99.30 consists of little more than 60 hectares of a coastal stretch of industrial land, containing the remains of workings of an ironworks and coal-mine. The last buildings were removed, and the spoil-heaps and slag-heaps earthed over and graded, with amenity planting in the mid-70s. This year it has seen the erection of the southernmost half dozen wind-generators of the Sid-dick wind-farm.

Perhaps surprisingly in view of its history, it is nevertheless a botanically rich 60 hectares, with about 280 records. One of its more remarkable features is the flourishing spread of *Elaeagnus commutata* (Silver-berry) which, with *Hippophae rhamnoides* (Sea-buckthorn), *Alnus incana* (Grey Alder), *Salix* spp. and *Cytisus scoparius* (Broom), was planted when the site was cleared, mainly on the leeward side of the well-drained remaining spoil-mounds. The plantings have all matured, and have at least maintained their original cover – except that is for the *Elaeagnus*, which has successfully regenerated and spread to a quite remarkable extent. Suckers and seedlings in their thousands now provide more or less continuous cover of an area of perhaps 4 or 5 hectares. Most of the plants are about 0.6 m high, but in the more sheltered areas can reach 1.2 m.

In the summer, what at first sight looks like an exposed post-industrial scrubby wasteland is transformed by the carpeting of this silvery-leaved, and silver-berried, American shrub. This would appear to be its first British record as a naturalised plant. (See *Alien Plants of the British Isles*, Clement & Foster: p. 186).

(Identification originally proved problematical, as there was no-one left in the Local Authority Parks Department from the time of the planting though a tentative suggestion of *Elaeagnus ebbingei* was offered. My thanks to Geoffrey Halliday who first recognised its interest, and to Eric Clement for final determination).

ANDREW DUDMAN, Holebeck House, Cleator Moor, Cumbria CA25 5HD.

PHACELIA TANACETIFOLIA

Phacelia tanacetifolia (Phacelia), an annual from North America belonging to the Hydrophyllaceae (Waterleaf family), continues to confound British botanists! It has attractive lavender blue flowers in scorpioid racemes (some species of *Phacelia* in America are called Scorpion Weed), and appeared on the front cover of *BSBI News* 43, Sept. 1986.

P. tanacetifolia is grown as a garden annual in Britain. It is widely cultivated in southern Europe as a nectar plant for bees, and in recent years it has been recorded as a crop in Hereford & Worcester, Cornwall and Devon (1987), in West Sussex (1992) and Kent (1993). In 1993 it was also recorded from Jersey, where it was cultivated as a deterrent to eelworm and was subsequently found as an escape in hedgerows. Unfortunately for the farmers who grew it in Jersey, the *Phacelia* is effective only against eelworm of cereals and not potato eelworm, potatoes being the main field crop in Jersey.

In the *New Scientist* of 22 August 1992, Steve Wratten reported that *P. tanacetifolia* was being grown in the centre of cereal fields to encourage hoverflies, which are efficient aphid predators. The article was on the biological control of pests which would reduce the need for chemical pesticides.

In most recent years it has been recorded from waste ground, at the edges of crop fields, or in grass leys.

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

'SUMMER CYPRESS' (*BASSIA SCOPARIA*) ON YORKSHIRE ROADSIDES

In October 1994 I noted Cypress-shaped shrubby plants with bright red stems and leaves turning flame yellow ('Burning Bush') on the verge of the M18 by the slip road into Thorne, Yorkshire (VC 63). Interests in self preservation prevented me from investigating further. In late summer 1995 I noted similar plants growing to almost one metre both in height and in basal girth at the intersection of the M18 and the M62 to the west of Goole. These were oak green in colour with purple stems showing through. Again, it was not safe to gather material for an identification.

This year, in mid September, I noticed great quantities of this plant along both the eastbound and the westbound verges of the A63 West of Hull and on the A1033 East of Hull, close to the docks (VC 61). At last, I had an opportunity to collect material for an identification. I was a little too early for fruit and unable to identify the plant satisfactorily myself so sent fresh material to both Dr Eric Chicken and Mr Mullin. Both gentlemen replied by return of post with the name '*Bassia scoparia*' and Mr Mullin added that the specimen appears close to the central Asian form that was previously called *Kochia densiflora* Turcz., so this plant is not really 'Summer Cypress', although it resembles it very closely.

Dr Chicken and Mr G.T.D. Wilmore have informed me that the plant has recently caused interest among a group of West Yorkshire botanists and I have since learned from Mr R.A. Eades that it has spread extensively in west Yorkshire and in north Lincolnshire around Grimsby; also that it occurs on the docks in Hull. The earliest record in this 'cluster', received so far, is for Killingholme (VC 54) in 1993 (Paul Kirby/Mrs Irene Weston via R.A. Eades). There are early records for *Kochia scoparia* (L.) Schrader in VC 61 (1933 and 1978) listed in Crackles 1990, but it is not clear whether the plant being found today is the same taxon as the plant recorded earlier, due to taxonomic changes.

The plant most commonly grows at the margin between the salt-stripped border of the carriageway and the closed up vegetation behind. It is therefore commonly found with its miscellaneous relatives in the Chenopodiaceae and Reflexed Saltmarsh-grass (*Puccinellia distans*), and is therefore a fairly salt-tolerant plant thriving well with lack of competition. Isolated plants are often seen growing from underneath crash barriers on both the central reservation and the verges; these tend to be about one metre in height. Dense populations are often seen growing together with Mugwort (*Artemisia vulgaris*) on the wedge of soil at slipways onto the dual carriageway; in the company of competitors, plants are reduced to c.10-20 cm. Anyone familiar with the outline shape of a Cypress or the colours of the Burning Bush plant should have no problem in spotting specimens at 70 mph, for even the smallest plants have a distinctive shape and colour.

As an ardent road verge watcher over several years I have never witnessed such a sudden appearance of a plant in such quantity, with such a rapid rate of spread. *Cochlearia danica* is a tortoise by comparison with *Bassia scoparia*. I can see no reason why this species should not spread further and become well established. I would appreciate correspondence on theories of provenance and records from elsewhere in the country please.

Crackles, F.E. (1990). *Flora of the East Riding of Yorkshire*. Hull University Press.

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

THE WIND AS A FACTOR IN THE SPREAD OF *BASSIA SCOPARIA*

The rapid spread of *Bassia scoparia* (Summer-cypress) along the motorways and trunk roads in East Yorkshire (VC 61) and Lincolnshire (VCC 53 & 54) has puzzled me greatly this year.

The plant is abundant in the bare earth at the side of the motorway caused by the liberal application of salt in last winter's snow and ice. However, it has a patchy distribution, being most abundant near the ports of Albert Dock, Hull, Immingham Dock in Lincolnshire and Goole in the West Riding, whence it extends along the M62 as far as Morley near Leeds. On the 20th October, whilst botanising along the salt burnt zone of the A63 at Melton, I found a mature specimen of *Bassia scoparia* at the roadside which had been uprooted and was lying on the grass verge at a site where it could not possibly have grown. I wondered if it had been uprooted by a vehicle mounting the kerb further down the road, and had then fallen off, but was unable to check this hypothesis.

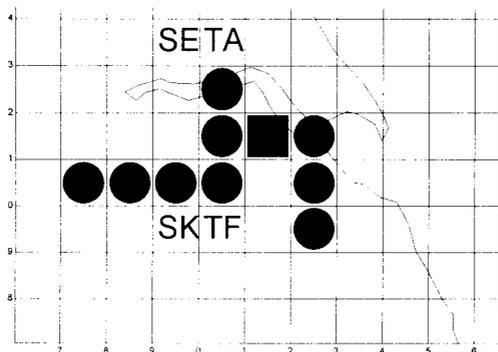
However, on the evening of 27th October 1996, whilst driving along the A63 trunk road into Hull, I noticed a plant of *Bassia scoparia* blowing along the middle of the road. The weather was windy at the time, westerly force six at least, and the plant was turning end over end, cartwheeling along the main carriageway at a speed which I estimated to exceed 10 mph. The species seems to be shallow rooted, and easily moved by gusts of wind. I postulate that such movement of mature, seed bearing plants could play a large role in its rapid dispersal.

RAY A. EADES, The Hawthorns, Ings Lane, North Ferriby, East Yorkshire HU14 3EL

SPREAD OF SUMMER-CYPRESS (*BASSIA SCOPARIA*) ALONG ROAD VERGES IN NORTH LINCOLNSHIRE

Bassia scoparia was first noticed in the north east corner of the county in 1993 growing in quantity along road verges around North Killingholme Haven, a small working port to the north west of Immingham. Numerous other aliens, including *Chenopodium murale* (Nettle-leaved Goosefoot), *Setaria viridis* (Green Bristle-grass), *Setaria pumila* (Yellow Bristle-grass), *Echinochloa crusgalli* (Cockspur), *Phalaris canariensis* (Canary-grass), *Ambrosia artemisiifolia* (Ragweed), *Panicum miliaceum* (Common Millet), *Amaranthus retroflexus* (Common Amaranth), *Carthamus tinctorius* (Safflower), *Beckmannia syzigachne* (American Slough-grass), *Agropyron cristatum* and an unusual form of *Salsola kali* (Prickly Saltwort) were also present.

This year it has been found alongside the A15, A180 and M180 and records extend right across the north of the county and into South Yorkshire. A few plants have also appeared beside the A16 to the south of Grimsby. The present distribution in terms of 10 km squares is shown on the accompanying map.



Square indicates present in 1993 and 1996; dots present in 1996 only
 Recorded in the following hectads: SE/7.0, 8.0, 9.0; TA/0.0, 0.1, 0.2, 1.1, 2.0, 2.1; TF/2.0

PAUL R. KIRBY, The Old Vicarage, Fulstow, Nr Louth, Lincs. LN11 0XS

RAY A. EADES, The Hawthorns, 38 Ings Lane, North Ferriby, Yorkshire HU14 3EL

NON-NATIVE *MENTHA PULEGIUM* (PENNYROYAL)

Records of this were reported by Graeme Kay (*BSBI News* 72) and Simon Leach (*BSBI News* 73). In Sussex similarly tall and robust specimens were recorded in 1979, in sown grassland at the edge of the then newly constructed Ardingly Reservoir. Associated species included *Downingia elegans* (Californian Lobelia) and *Hordeum jubatum* (Foxtail Barley), suggesting a North American origin. Botanists from Wakehurst Place, adjoining the Reservoir, were able to confirm that the grass seed had been imported from N. America, a mix sold as being particularly suitable for areas with fluctuating water levels. The *Mentha pulegium* persists near the Reservoir, in smaller numbers, but still more robust in appearance than our native plants. 'Native' *M. pulegium* features on one of the BSBI postcards, exhibited by the President at the recent Exhibition Meetings, and available from Mrs Anita Pearman (see page 6).

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

RARE NIGHTSHADE AT DARTFORD

On August 30th 1996, three plants of *Solanum chenopodioides* (Tall Nightshade) were found on fairly old waste ground (e.g. *Trifolium arvense* (Hare's-foot Clover), and small trees present) at Dartford, W. Kent (VC 16) TQ/5.7 by J.R. Palmer. As this species seems to be increasing in Britain the following notes may help the field botanist to name it.

1. Of a very downy grey-green colour, with a dense covering of appressed and spreading hairs. *No glandular hairs.*
2. Leaves very soft to the touch.
3. Perennial if not badly frosted, with woody stems below.
4. Can grow to one and a half metres in its first year from seed, becoming shrubby.
5. Fruiting peduncles *extremely deflexed*, to an angle of 25° or much less.
6. Berry black, not dull purple as some books say.

JOHN R. PALMER, 19 Water Mill Way, South Darenth, Dartford, Kent DA4 9BB

PLANTS FROM SHIPS' BALLAST

In the last century and the early part of this century, many articles relating to plants contain the statement 'introduced with ballast'. By the end of the 19th century about 1,000 species of alien had been identified in the British Isles. Prominent among these were species accidentally brought with ships' ballast (Clement and Foster 1994).

There is little published information regarding when the practice of taking on and discharging solid ballast ended. I have consulted two retired sea captains and the Clyde Port Authority. All agreed that the custom of using sand, stone and gravel for ballast purposes tailed off during the 1920s. By the early 1930s water had replaced solid ballast in trading ships, although local barges continued to use solid ballast for another decade.

While seeds would commonly be found in solid ballast this is not the case with water and the change in ballast type, as well as the decrease in cargo trade mean that ballast must now be an exceedingly rare cause of plant introduction.

Reference

Clement, E.J. & Foster, M.C. (1994). *Alien Plants of the British Isles*, Botanical Society of the British Isles.

PETER MACPHERSON, Ben Alder, 15 Lubnaig Road, Glasgow G43 2RY

NOTICES (BSBI)

BSBI FIELD EXCURSION IN SOUTH WEST AUSTRALIA

September/October 1998

Leaders: Mary Briggs & Neville Marchant

On this meeting we shall be very fortunate to have with us Dr Neville Marchant, Director of the Western Australia Herbarium, who will be with us on the tour and is now helping with the planning of the itinerary.

Starting from Perth we shall first go north through Wheatbelt, Northern sandplains or heath, Mulga Wattle Scrub or Spinifex. Then south through Jarrah Forest, Karri Forest, Southern sandplains, the

Stirlings and the Barrens. We plan to show something of the bewildering richness of the spring flowers in these areas (from which 9,000 species of flowering plants are known), and also to spend some time collecting for the W. A. Herbarium in localities from which they are particularly short of specimens.

Group plans for distant meetings have to be prepared well in advance, and announcing the meeting now. I am prepared to keep a list of provisional bookings, which would be finalised this time next year. Numbers on the excursion will be limited and the cost is expected to be in the region of £2,500; more detailed information will be available in the autumn of 1997.

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

BSBI AZORES FIELD MEETING

21st June to 6th July 1997

Leader: A. Copping

A few places remain on this meeting which will visit four of these enchanting islands. Please contact the leader as soon as possible for full details (a summary appeared in *BSBI News* 73: 55 (Sept. 1996)). Bookings must close early in 1997.

ARTHUR COPING, The Nook, Brewers Green, Roydon, Diss, Norfolk IP22 3SD. Tel. 01379642109

NOTICES (NON BSBI)

A NATIONAL STRATEGY FOR SYSTEMATIC BIOLOGY RESEARCH The UK Systematics Forum

In January 1996, the UK Systematics Forum secured additional funding to December 1998 from the Office of Science and Technology, with the principal aim of developing a national strategy for systematic biology research.

The Forum was initially set up in February 1994 to promote communication and co-ordination within the systematics community. Since then, the group has established a number of initiatives (see below) aimed at developing a network of UK systematists in order to improve co-ordination of the nation's collections and associated expertise. These activities will provide the basis for carrying out the Forum's second phase of work: to develop a strategy for UK research in systematic biology.

A national strategy for systematics research will be developed with consensus from the wider systematics community. It will aim to identify priorities for the UK's expertise and resources in systematics by assessing scientific and user needs. The strategy should help to promote the best possible use of available resources by enhancing co-operation and collaboration between institutions, and to strengthen the case for funding of systematic biology.

Commitment to the strategy has already been expressed by the Directors of the leading UK collections-holding institutions at a meeting held in April 1996. This meeting was convened by the Forum to initiate discussion on content of the strategy and to build commitment to the initiative. The next phase will involve a survey of collections-holding institutions to gather base-line information on their current policies for systematics collections and research, and surveys of scientific and user needs for systematic biology research. Once a preliminary strategy has been developed, the Forum will carry out a wider consultation process to ensure that the final document has wide support.

Development of the national strategy will take place alongside the Forum's on-going activities in its role of promoting co-ordination: developing a database of UK systematics expertise, and supporting meetings of specialist groups of collection managers. Information from the database of expertise is available from a searchable directory, accessible from the Forum's Home Page (<http://www.nhm.ac.uk/ukssf>). Certain information in the directory, such as the spread of expertise across taxonomic groups, will be used in developing the national strategy. UK systematists not currently included on the database are therefore urged to complete and submit a questionnaire – available either *on-line* or from the Secretary.

Further information is available from:

EMMA WATSON, UK Systematics Forum, c/o The Natural History Museum, Cromwell Rd, London, SW7 5BD. Tel: 0171 938 9522, fax: 0171 938 9531, e-mail: ew@nhm.ac.uk.

PLANTS FOR LIFE—A PROJECT FOR THE NEW MILLENNIUM **Royal Botanic Garden Edinburgh**

Launched on November 1st 1996, with the submission of an application to the Millenium Commission for suport, *Plants for Life* is a major new project aimed at stressing that plants are the very basis of life itself and involving the community in the work of the RBG. Representing a tree, a new building will be constructed from steel, wood and glass. Inside a range of delights will await the visitor as they discover the wonders of the plant kingdom in innovative, inspirational and thrilling ways.

Further information from:

ANGELA KILDAY (Press Officer) or ELAINE CARMICHAEL (Development Manager), Royal Botanic Garden, 20A Inverleith Row, Edinburgh EH3 5LR. Tel.: 01315527171; fax: 01315520382

NATIONAL SPRING CLEAN **18th-27th APRIL 1997**

'National Spring Clean' aims to raise awareness of the litter problem and encourage clean-up action throughout and beyond the 10 day campaign. Local authorities, schools, community groups, individuals and companies all get involved through organising a variety of imaginative clean-up events and activities.

For further information about the campaign and free publicity material, please contact:

JULIE HINSLEY, National Campaigns Assistant, Tidy Britain Group, The Pier, Wigan WN3 4EX.
Tel.: 01942 824620; Fax.: 01942 824778

ARE YOUR GARDEN PLANTS INSURED?

Has your greenhouse heating ever failed? Has a hole appeared in your garden where your best specimen plant once grew? Did you assume that your household contents policy would provide all the cover that you need and it didn't? At best, most household policies provide only limited cover for garden ornaments – and universally exclude any cover for specimen plants shrubs and trees.

A special insurance policy, combining cover for home contents and loss of garden plants and ornaments including failure of greenhouse heating has been offered at a special discount to individual members of the Royal Horticultural Society and other kindred societies.

For an information pack contact:

KATH JEVONS, 20 Marple Road, Offerton, Stockport SK2 5QB. Tel.: 0161 483 8800; Fax.: 0161 456 2888.

1998 ROLEX AWARDS FOR ENTERPRISE

These Awards have been running since 1976 on a three year cycle. To help those who display remarkable personal enterprise and initiative to gain funding and international recognition for their outstanding endeavours, the decision was taken this year to increase the frequency to every two years.

Rolex is looking for original and innovative projects in the areas of science and medicine; technology and innovation; exploration and discovery; the environment; and cultural heritage from entrants of any age and nationality. Five winners will each receive \$50,000, a gold watch and international publicity. Up to ten others will receive \$10,000 and a steel and gold watch.

Applications from the UK must reach the Secretariat by April 30, 1997 and application forms and information packs are available from the address below. [I have one copy available to the first to contact me. Ed.]

The Secretariat, The Rolex Awards for Enterprise, PO Box 1311, 1211 Geneva 26, Switzerland.

FUTURE CONFERENCES AND SYMPOSIA

ADVANCES IN PLANT MOLECULAR SYSTEMATICS

An International Meeting of the Systematics Association

University of Glasgow, 13-15 August 1997

The conference will focus on recent advances and developments in the rapidly expanding field of plant molecular systematics, with talks given by key international speakers. A broad spectrum of the taxonomic hierarchy will be included, ranging from infra-specific variation and population differentiation to high-level phylogeny. Particular attention will be given to the applicability of different approaches at different taxonomic levels, and the meeting will reflect the importance of the linkage between molecular population genetics and phylogeny reconstruction to the understanding of evolutionary patterns and processes among plants. The integration of molecular and non-molecular data sets will also be emphasised.

For further information and to be placed on the mailing list contact:

PETE HOLLINGSWORTH, Graham Kerr Building, University of Glasgow, Glasgow, G12 8QQ,
tel.: 0141 3398855 ext. 2114/6207, Fax: 0141 339 4447, e-mail: plantsys@udcf.gla.ac.uk

REQUESTS

AMPHIBIOUS BISTORT STUDY — HELP PLEASE!

This common water plant (*Persicaria amphibia*) has three types of floral arrangement:

- short, usually sterile, stamens with long-exserted styles
- long-exserted stamens with medium-length styles
- both stamens and styles long-exserted

These are the three most usual variants, there are others. Many of these plants set seed very poorly, if at all. Plants growing or floating in water seem to flower more readily.

Little is known about the distribution of these variants in Britain, and their effects on the plant's fertility. **This is where you can help!**

Please send fresh, flowering or fruiting material to me, together with the details requested below. A length of about 35 cm is enough, wrapped in wet newspaper and tightly sealed in a plastic bag. Rooted material (with flowers or fruit) is ideal as I will try and make a chromosome count of each specimen. I will, of course, refund postage.

Details required: Date; Floral type (if known); Locality; Vice-county; Grid reference; Collector; Address.

JAMES PARTRIDGE, 85 Willes Road, Leamington Spa, Warwicks., CV31 1BS

MERTENSIA SEED WANTED

I am studying the genus *Mertensia*, and my particular interest is the requirements of different species in cultivation and especially seed germination. If some members could donate seed (stating the provenance, if possible) of any *Mertensia* species, each donor would receive a copy of the results of my germination experiments when these are available. I would also be grateful for any information on cultivation and propagation of *Mertensia* spp. Please note that seeds **should not** be collected from any wild populations in Ireland where it is a protected species.

MARIA BENNETT, 14 Middlefield Place, Aberdeen, Scotland, AB24 2NX. Tel.: 01224 684310

SPREAD OF *BUDDLEJA DAVIDII* IN THE BRITISH ISLES

I am currently researching the role of *Buddleja davidii* (Butterfly-bush) in accelerating successions in disturbed land. To this end I am seeking sites throughout the British Isles with a high population density of *B. davidii*. Ideal sites will include large quarries (abandoned or still in use) and industrial wasteland. If you know of any such sites I would be very grateful for details.

JIM PATERSON, School of Environmental Studies, University of Ulster, Coleraine, N. Ireland
BT52 1SA. Tel.: 01265-329064; e-mail: JPHP.Paterson@ulst.ac.uk

OFFERS

WEST DOWN SEED LIST, 1996

Small amounts of the following seeds are available FREE on receipt of small packets and an s.a.e. Some seeds from the 1995 list (*News* 71: 53, Jan. 1996) may also be available. I thank all those who sent me seeds in 1996, and would particularly like seeds of *Melittis melissophyllum*.

<i>Abutilon vitifolium</i>	<i>Galtonia candicans</i>	<i>Nepeta cataria</i>
<i>Acanthus spinosus</i>	<i>Gaudinia fragilis</i>	<i>Nicandra physalodes</i>
<i>Aconitum napellus</i>	<i>Geranium</i> 'Inverewe'	<i>Onopordum acanthium</i>
<i>Adonis aestivalis</i>	<i>G. pratense</i>	<i>Papaver argemone</i>
<i>A. annua</i>	<i>Gilia capitata</i>	<i>P. lecoqii</i>
<i>Agastache mexicana</i>	<i>Glaucium corniculatum</i>	<i>P. hybridum</i>
<i>Agrostemma githago</i>	<i>Gypsophila muralis</i>	<i>P. rhoeas</i>
<i>Alisma lanceolatum</i>	<i>Helleborus foetidus</i>	<i>Parahebe perfoliata</i>
<i>Allium cernuum</i>	<i>Iberis umbellata</i>	<i>Piptanthus nepalensis</i>
<i>A. nigrum</i>	<i>Impatiens balfourii</i>	<i>Potentilla recta</i>
<i>A.schoenoprasum</i>	<i>Impula helenium</i>	<i>Ranunculus lingua</i>
<i>Anagallis arvensis</i> (blue)	<i>Kickxia elatine</i>	<i>Rapistrum rugosum</i>
<i>Anchusa arvensis</i>	<i>K. spuria</i>	<i>Rehmannia elata</i>
<i>Asphodeline lutea</i>	<i>Knautia macedonica</i>	<i>Roemeria hybrida</i>
<i>Briza minor</i>	<i>Lagurus ovatus</i>	<i>Salvia bulleyana</i>
<i>Bupleurum rotundifolium</i>	<i>Lathyrus latifolius</i>	<i>S. pratensis haematodes</i>
<i>Camassia leichlinii</i>	<i>L. nissolia</i>	<i>S. sclarea</i>
<i>Campanula persicifolia</i>	<i>L. sativus</i>	<i>S. verbenaca</i>
<i>Carex depauperata</i>	<i>Lavatera trimestris</i>	<i>S. viridis</i>
<i>Centaurea cyanus</i>	<i>Legousia hybrida</i>	<i>Saxifraga tridactylites</i>
<i>Cephalaria gigantea</i>	<i>Lepidium heterophyllum</i>	<i>Silene armeria</i>
<i>Chenopodium vulvaria</i>	<i>Linaria amethystea</i>	<i>S. coeli-rosa</i>
<i>Chrysanthemum segetum</i>	<i>L. dalmatica</i>	<i>S. italica</i>
<i>Clinopodium grandiflorum</i>	<i>L. repens</i>	<i>S. noctiflora</i>
<i>Cynoglossum germanicum</i>	<i>L. triornithophora</i>	<i>S. pendula</i>
<i>Dianthus armeria</i>	<i>Lithospermum arvense</i>	<i>Silybum marianum</i>
<i>D. deltoides</i>	<i>L. officinale</i>	<i>Stachys alpina</i>
<i>Dierama pulcherrima</i>	<i>Lupinus arboreus</i>	<i>S. germanica</i>
<i>Dorycnium hirsutum</i>	<i>Lychnis chalconica</i>	<i>Stylophorum diphyllum</i>
<i>Echium vulgare</i>	<i>L. coronaria</i>	<i>Teucrium botrys</i>
<i>Eremurus spectabilis</i>	<i>Malva moschata</i>	<i>Thlaspi alliaceum</i>
<i>Euphorbia corallioides</i>	<i>M. neglecta</i>	<i>T. arvense</i>
<i>E. exigua</i>	<i>Marrubium vulgare</i>	<i>T. perfoliatum</i>
<i>E. platyphyllos</i>	<i>Meconopsis cambrica</i>	<i>Tragopogon porrifolius</i>
<i>Farsetia clypeolata</i>	<i>Misopates calycinum</i>	<i>Verbascum nigrum</i>
<i>Ferula communis</i>	<i>M. orontium</i>	<i>Veronica peregrina</i>
<i>Galeopsis angustifolia</i>	<i>Myosurus minimus</i>	<i>Viola tricolor</i> 'Bowles Black'
	<i>Nectaroscordum siculum</i>	<i>Xeranthemum apertum</i>
Stop press		
<i>Chenopodium giganteum</i>	<i>Nicotiana sylvestris</i>	<i>Oenothera missouriana</i>
<i>Gypsophila paniculata</i>	<i>Paeonia lutea</i>	

BSBI JOURNALS – A GOOD HOME WANTED

I have long runs of the *Proceedings of BSBI*, and *Watsonia* (both from the first issues). I would be very glad to pass these on to a deserving institution or person, where they might be used more than I am currently able to. I would only wish the recipient either to arrange to collect them (they are quite bulky, obviously) or pay for the carriage.

EDWARD LITTLE, Whimbrels, 21 North Drive, Littleton, Winchester, Hampshire SO22 6QA.
Tel.: 01962 881055

BOOK NOTES

NEWS OF SCOTTISH AND OTHER BOOKS FROM OUNDLE

Two new books of importance to Scottish botany were published in November. *Scottish Wild Plants, their history, ecology and conservation* by Phil Lusby and Jenny Wright is a valuable and colourful introduction to the flora and the factors affecting its distribution as well as giving detailed accounts of 40 rare and attractive species all beautifully photographed by Sydney Clarke.

Scottish Plants for Scottish Gardens has an Introduction by Jill, Duchess of Hamilton, a text describing 100 native species valuable for wildlife with hints on their propagation and availability from nurseries by Franklyn Perring and, most importantly, a checklist of Scotland's native flora by Richard Pankhurst and Chris Preston with Gaelic/Scots names by Joan Clark.

Both these paperbacks are available from BSBI Publications for £14 post paid.

An old favourite back in print is *Wild Flowers of South Africa* an essential introduction to the flora of the Cape – £15.99 post paid. This is just one of several books on S. Africa which will be available from us shortly.

Books in the Autumn 1996 Stocklist which are not yet in print include:

Supplement to List of Vascular Plants of the British Isles by D.H. Kent

Flora of Great Britain and Ireland by Sell & Murrell

The Making of the Cretan Landscape by Rackham & Moody

Please note that the price of the paperback edition of *The Land Use, Ecology and Conservation of Broadland* by George is only £25.

If you would like any of these books or want to know about availability please write, phone or fax for our *Supplement*.

MARGARET PERRING, BSBI Publications, Green Acre, Wood Lane, Oundle, Peterborough PE8 5TP. Tel: 01832 273388 Fax: 01832 274568

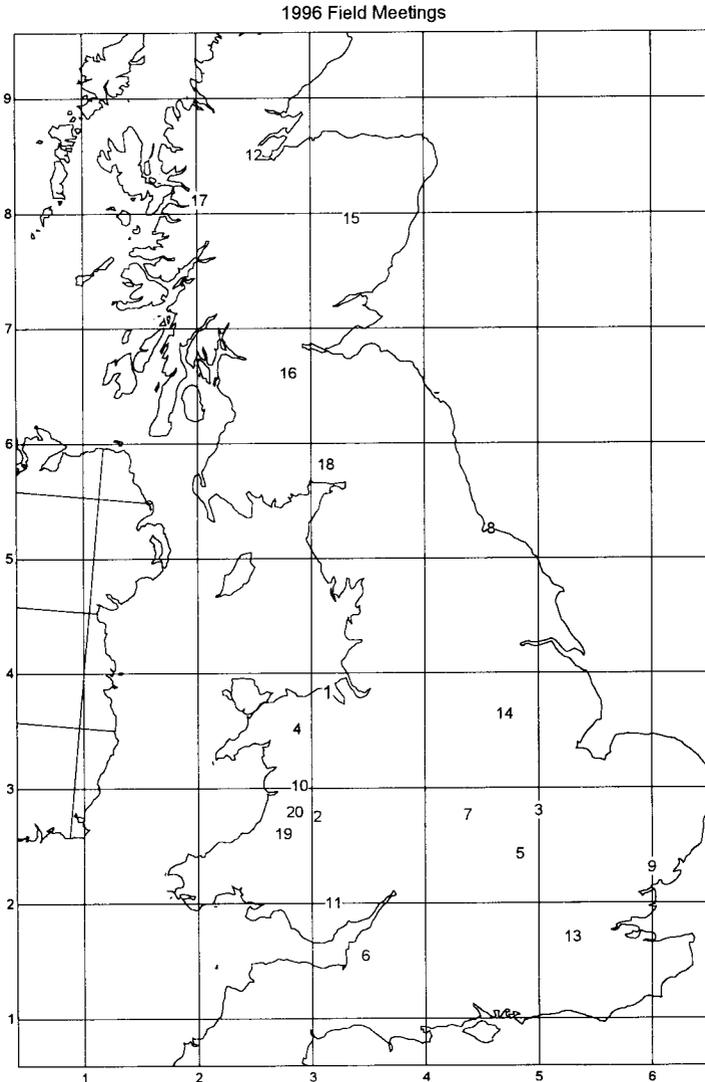
YORKSHIRE BROOMRAPE NEWS

This full-colour four page A4 leaflet devoted to Broomrapes is published by the Nature Conservation Section of Leeds Leisure Services on behalf of a partnership of organisations and individuals working to conserve 'Thistle' or 'Yorkshire Broomrape' (*Orobanche reticulata*). Contents in issue 2 (July 1996) include: Some broomrape ecology, introducing the broomrape family, and a year in the life of thistle broomrape. Copies are available from the address below.

Leeds Leisure Services, Nature Conservation Section, The Town Hall, The Headrow, Leeds LS1 3AD

REPORTS OF FIELD MEETINGS – 1996

I am delighted to welcome Dr Alan Showler as the new editor of Reports of Field Meetings. In future all reports for publication in *BSBI News* should be sent to Alan at: 12 Wedgwood Drive, Hughenden Valley, High Wycombe, Bucks HP14 4PA. The reports that follow were partly edited by Brian Rushton and partly by the Gwynn Ellis. The map below shows the location of the Meetings.



FFYNNONGROEW, FLINTSHIRE (VC 51). 11th MAY [1]

Nine members attended this meeting, which was arranged in order to record for the Atlas 2000 project.

In good weather we divided into groups and recorded in three narrow valleys near the northern end of the Dee Estuary – Coed-y-Garth and Nant Felin-blwm near Ffynnongroew and The Dingle near Gronant. The latter is a remarkable, narrow, wooded gully with dramatic ferns (and bryophytes). Later, the whole group spent some time at the nearby Point of Air, examining part of the sand dunes and a small area of saltmarsh.

In all, 226 species were recorded – a very creditable day's work, especially as we were experiencing such a late spring in this part of the country, with many plants several weeks behind schedule.

No great rarities were recorded, but the following plants are worth mentioning: *Prunus laurocerasus* (Cherry Laurel) – 1st record for hectad; *Centaurea montana* (Perennial Cornflower) – 3rd record for VC; *Lamium purpureum* (Red Dead-nettle) – form with white petals – 2nd record for VC; *Ribes sanguineum* (Flowering Currant) – 1st record for VC; *Claytonia perfoliata* (Springbeauty) – 4th record for VC; *Hyacinthoides non-scripta* × *H. hispanica* – 1st record for VC; *Cerastium tomentosum* (Snow-in-summer) – an escape from the gardens of the temporary houses on the Point of Air dunes in the 1930s and 40s, and still going strong; *Symphytum tuberosum* (Tuberous Comfrey) – this plant appears to be scarce in England and Wales, but we now have it in 13 tetrads in Flintshire.

Although all the sites visited during this field meeting were in the same hectad, and therefore were recorded on one Master Card for the new Atlas project, it was decided to keep the initial field records on separate cards. These species lists for 'sites' (however difficult it may be to define them!) are useful for future reference; how I wish that I had kept more of them separate when doing the tetrad recording for the *Flora of Flintshire* for all those years!

G. WYNNE

ABBEYCWMHIR, RADNORSHIRE (VC 43). 18th MAY [2]

The area around the old abbey is dominated by coniferous plantations, and seems to have been avoided in previous botanical recording. Attempting to remedy some of this deficiency, five members met on an arctic day, finding that spring had barely arrived and primroses only just showing. To shelter from the freezing wind, recording was done mainly in forestry tracks and intervening valleys. A 'hit list' for the hectad SO/0.7 had shown that of the 410 species recorded before 1986 some 158 had not been recorded again for the post 1986 period for Atlas 2000.

At the end of the day, although there were no outstanding finds, some 21 species had been removed from the 'hit list', but clearly the rest of this hectad needs many more visits. There was considerable discussion about the identification of *Rosa sherardii* (Sherard's Downy-rose) by its faintly lemon scent, before flowers or hips appear. It certainly seems by far the commonest of the downy roses in this area. It is a pleasure to see so much *Adoxa moschatellina* (Moschatel) flourishing in the shelter of the hedges.

D. HUMPHREYS

NORTHAMPTONSHIRE AND THE SOKE OF PETERBOROUGH (VC 32). 24th-26th MAY [3]

Friday

The meeting began with a convivial, informal buffet supper for 20 in the Talbot Hotel, Oundle from which it was only a stroll across the car park to the Methodist Church Hall where the more serious evening fare was provided by Gill Gent. The weekend had been planned as a celebration of the publication of the new *Flora of Northamptonshire and the Soke of Peterborough* in 1995 and no one could have been better able to enthuse an audience with the unexpected (to strangers) riches of our flora than

Gill, the joint author and for so long the County Recorder for VC 32. It was also splendid to have Rob Wilson, the other main author, in the audience and to see his excellent exhibit on an amazing journey by Druce around the north of the county nearly 100 years ago along routes to be covered over the next two days.

Saturday

Contrary to all our fears the day was dry and mostly sunny and a good crowd, eventually totalling over 30, assembled in Oundle for directions from Adrian Colston and Rosemary Parslow, the two other leaders, for reaching the seven Wildlife Trust reserves which were to be the centre-pieces of our field visits. The first stop was Bedford Purlieus where the 22 ha Trust reserve is part of a much larger Forestry Enterprise wood. The whole site has probably the largest flora of any wood in Britain and over 400 vascular plants have been recorded. Despite the late season we were able to find several clumps of *Lathraea squamaria* (Toothwort), a large patch of *Convallaria majalis* (Lily-of-the-valley) though none in flower, and even a few leaves of *Paris quadrifolia* (Herb-Paris) beneath extensive groves of *Tilia cordata* (Small-leaved Lime). Towards the northern end several plants of *Atropa belladonna* (Deadly Nightshade) lined the ride and, on the track back along the west edge of the wood, a fine stand of *Lepidium campestre* (Field Pepperwort) provoked a stylish cruciferous conversation.

After picnicking in the garden of the Shuckburgh Arms at Southwick the BSBI caravan rested at Short Wood, one of the county's finest bluebell woods and one of a group of three Trust woods on the crest of the ridge north of Glapthorn. Here, as elsewhere, Adrian was able to explain the trouble caused by deer which may well be responsible for the dramatic decline in orchids over the last decade. Only one specimen of *Orchis mascula* (Early-purple Orchid) was visible where there had been dozens and *Epipactis purpurata* (Violet Helleborine) and *Platanthera chlorantha* (Greater Butterfly-orchid) have not been seen for several years. However there was an enormous compensation: a fine stand of *Hordeum europaeus* (Wood Barley) was found on a bank on the edge of a clearing – a new hectad for this Nationally Scarce Species and the first VC record for over 25 years – at Bedford Purlieus!

Though the skies were now clouding over the day ended in Glapthorn Cow Pasture as planned with the hope of hearing nightingales but that hope was frustrated. However the management of the blackthorn scrub to provide a habitat for the black hairstreak butterfly was demonstrated and the number of ancient woodland indicators found in what was grassland until the turn of the century, such as *Mercurialis perennis* (Dog's Mercury), *Crataegus laevigata* (Midland Hawthorn), *Veronica montana* (Wood Speedwell) and *Moehringia trinervia* (Three-leaved Sandwort) raised a few questions.

Sunday

In contrast to the woodlands of Saturday, Sunday was devoted to limestone grassland starting at Collyweston Deeps, 8 ha of worked out 'slate' quarries – the Jurassic limestone which breaks up into thin sheets used extensively for roofing in the area. Now heavily grazed by 200 sheep during the winter the close sward was full of herbs and, in an hour's walk round, many of its treasures such as *Campanula glomerata* (Clustered Bellflower), *Genista tinctoria* (Dyer's Greenweed), *Hypochaeris maculata* (Spotted Cat's-ear), *Saxifraga granulata* (Meadow Saxifrage) and *Astragalus danicus* (Purple Milk-vech) were already showing, howbeit only the last in full flower.

The next stop, Barnack Hills and Holes, another ancient quarry site where the last stone was taken out for mediæval buildings about 1450, was strangely lacking in colour in this terribly late season until, suddenly, coming round the corner of one of the 'hills' a carpet of feathery leaves studded with the purple bells of the Pasqueflower (*Pulsatilla vulgaris*) was revealed. Other purple flowers were also predominant: *Orchis mascula* and *Astragalus danicus* were sought for and found but a search for *Antennaria dioica* (Mountain Everlasting), initially unsuccessful, revealed a single stem of the blue bells of *Muscari neglectum* (Grape-hyacinth), never recorded at Barnack before and apparently native but highly suspicious in such a well-botanised site.

These blue bells were a signal that it was lunch time – at the Blue Bell in Helpston where the inn sign depicts a blue bell and a bluebell on opposite sides. More importantly John Clare, the county's famous poet/naturalist drunk here and was born next door in 1793. On a post-prandial perambulation

we saw his house, his monument and his grave. For some this last was especially poignant as, only a week earlier, we had attended the unveiling of a new headstone over the grave of George Claridge Druce in Oxford and had been reminded that his birthday had been this very week on the 23 May. When we reached Clare's grave we found it decorated with a bunch of flowers and were able to read, amongst the lichens, that the anniversary of his death was also this week – he died on 20 May 1864. The flowers were sweet-Williams, suitable for Wordsworth no doubt, but perhaps we should suggest St John's-wort for future years.

The rest of the day was spent searching for limestone grassland indicators in two small reserves at Southorpe, the Meadow and the Paddock, where the Trust has been able to control the grazing in recent years. The Meadow rewarded us with a good patch of *Ophioglossum vulgatum* (Adder's-tongue) and some *Astragalus glycyphyllos* (Wild Liquorice). The latter turned up again in the Paddock but there were no pasqueflowers to be seen where one plant was found soon after the Trust bought the reserve in 1986, though it had been abundant here in the 1930s.

With rain in the air, and the threat of worse to come, everyone was grateful that the pleasures of our woods and grassland had not been dampened or hindered in any way by the weather, and only the lateness of the season had robbed us of complete enjoyment.

F. H. PERRING

PENTREFOELAS, DENBIGH (VC 50). 25th MAY [4]

It was cold, wet and windy. Fifteen people met to record in three hectads. We divided into four groups, and set off in different directions, meeting again at 4 p.m. to hand in recording cards. Interesting finds included *Urtica urens* (Small Nettle) growing at 375 m on a mature heap, *Ceterach officinalis* (Rusty-back), and *Prunus cerasus* (Dwarf Cherry). A. O. Chater found *Hedera helix* subsp. *hibernica* (Atlantic Ivy) in Llangwm, a first county record for this species. This is often 'passed by' by recorders, and is surely more common in the county than this first record suggests. *Berberis vulgaris* (Barberry) was found in two hectads.

Salix × *smithiana* (*S. cinerea* × *S. viminalis*) (Silky-leaved Osier) was also a first county record. *Salix* hybrids are common in the county, but seldom recorded because of lack of confirmation and recording confidence. *Asplenium trichomanes* (Maidenhair Spleenwort) subsp. *quadrialeans* and *trichomanes* were found on walls on either sides of a road, and *Myrrhis odorata* (Sweet Cicely) further on. Non native plants included *Centaurea montana* (Perennial Cornflower) in two hectads, *Aconitum napellus* (Monk's-hood), *Hyacinthoides non-scripta* × *H. hispanica* (a hybrid bluebell) and *Narcissus* × *incomparabilis* (Nonesuch Daffodil). At the end of the day we looked at specimens of *Alchemilla* (*xanthochlora* and *filicaulis* subsp. *vestita* (Lady's-mantles)), *Polypodium* (Polypodies) (for microscopy) and *Hedera* spp.

We added a total of 48 sp. to the three hectads, and many thanks to those who came.

JEAN A. GREEN

MILTON KEYNES, BUCKS (VC 24). 1st JUNE [5]

10.00 a.m. and glorious sunny weather welcomed the four visitors and two leaders to the luxury of the ARC Environmental Studies Centre on the northern edge of Milton Keynes new city. The Centre is privately run and its grounds developed from disused, and now flooded, gravel pits. These, together with a length of the adjacent River Great Ouse, formed the venue for the afternoon session of the meeting. Several species were added to the extensive list for the area but the most interesting plants seen were *Chenopodium bonus-henricus* (Good-King-Henry) and *Equisetum* × *litorale* (*E. fluviatile* ×

E. arvense) (Shore Horsetail) which were already known to be present. For reasons explained later, the afternoon was relatively short but useful.

Because of the few participants, it was decided that we should all go together to Stokepark Wood, an ancient wood about 10 km north of the city. It had to be approached through a churchyard (which, needless to say, I persuaded all to visit!). Three men with mowers were present but we managed to see *Ranunculus bulbosus* (Bulbous Buttercup) before all the flowers were cut off! A few flowers of *Erophila verna* (Common Whitlowgrass) were still out as were those of *Arenaria serpyllifolia* (Thyme-leaved Sandwort). (*Salvia verbenaca* (Wild Clary) was 'tidied' off the churchyard walls several years ago and, unfortunately, it shows no signs of returning.) Crossing a cornfield to get to the wood, the heavens opened for a short, sharp shower, but we soon dried out in the warmth and shelter of the very wide main ride which is a feature of the wood. The southern side of the wood is all planted conifers, but to the north broad-leaved trees dominate and there is a meadow in the centre. The bluebells (*Hyacinthoides non-scripta*) were still at their best and the flowers of *Crataegus monogyna* (Hawthorn), *C. laevigata* (Midland Hawthorn) and their hybrid (*C. × macrocarpa*) could be studied side by side. In the main ride, good species diversity was of interest and included the first sighting there of *Platanthera chlorantha* (Greater Butterfly-orchid). After splitting into three smaller groups for short forays we reassembled to be diverted into the trees. Here we got lost! However, this was to great recording advantage as we found a few, small, non-flowering plants of *Paris quadrifolia* (Herb-Paris), *Adoxa moschatellina* (Moschatel), *Listera ovata* (Common Twayblade) and *Dryopteris dilatata* (Broad Buckler-fern), all being new records for the site.

Return to the Centre for lunch did not happen until about 2.00 p.m., but we had clocked up some 180 species during the morning so we were well satisfied.

R. MAYCOCK & VIV PHILLIPS

CHEDDAR GORGE AND BURRINGTON COMBE, N. SOMERSET (VC 6). 8th-9th JUNE [6]

The purpose of this weekend meeting in North Somerset was to examine and compare the flora of two carboniferous limestone gorges in the Mendip Hills and to explore some of the less well known parts of these two localities which are only a few miles apart.

Cheddar Gorge cuts into the south-facing slopes of the Mendips and is a popular area frequented by tourists for its spectacular cliff scenery and cave systems. It is well visited by botanists for the rare and special plants to be found there. Burrington Combe, cut into the north side of the Mendips is less well known. It too has steep cliffs and extensive cave systems but is lacking some of the rare species that are present at Cheddar. Both areas are Sites of Special Scientific Interest for their biological and geological importance.

A total of 25 members and guests booked for the weekend event which began on Friday evening when part of the group met for a meal and an informal get-together at the Gardeners Arms in Cheddar. We were accompanied by Adrian Woodhall, the National Trust Mendip Area Warden who gave us a short introduction to the area and explained about the extensive scrub clearance programme that the National Trust has been undertaking in Cheddar Gorge over the last few years. There was an opportunity to see slides of some of the habitats and plants to be encountered over the next two days and to examine old postcards of Cheddar Gorge and Burrington Combe which showed the progression of scrub encroachment that has taken place over the steep cliffs and grassland over the last 50 years.

On Saturday morning 22 members and guests met opposite the covered reservoir in Cheddar Gorge. Louisa Kilgallen kindly offered to fill out the Atlas 2000 recording card for the day and after a short introduction to the botanical interest of the area we started the day's recording by ticking off many of the commoner species around the car park. Much interest was shown in *Poa compressa* (Flattened Meadow-grass) which was found on the low cliffs here.

The group made their way down the gorge to see *Meconopsis cambrica* (Welsh Poppy) at its most easterly native location. It was encouraging to see that this species was surviving here on rock outcrops near the road as the scree slope on which it used to occur was recently removed during the construction

of the new coach turning point. *Campanula trachelium* (Nettle-leaved Bellflower), *Sedum telephium* (Orpine) and *Cochlearia pyrenaica* subsp. *alpina* (Alpine Scurvygrass) were recorded from this locality. At Horse-shoe bend the party climbed up the steep slopes to see and photograph some of the Cheddar specialities such as *Dianthus gratianopolitanus* (Cheddar Pink), *Thalictrum minus* (Lesser Meadow-rue) and *Sedum forsterianum* (Rock Stonecrop) growing on the cliff edges. The cliff grassland was rich in limestone-loving plants and *Geranium columbinum* (Long-stalked Crane's-bill) was especially abundant at this location. A small *Sorbus anglica* (English Whitebeam) tree was recorded nearby.

One plant of *Geranium sanguineum* (Bloody Crane's-bill) was spotted amongst scrub on rocks behind a tea-shop in the commercial part of the gorge. Many of the group paused to buy ice-creams before beginning the long steep walk up through the secondary Ash woodland by Lion Rock to reach the open cliff-top grassland. After our lunch stop on the plateau with spectacular views across the Cheddar Valley, the group made its way along the cliff tops through a field where *Orchis morio* (Green-winged Orchid) was frequent, to a small area of limestone heath where calcifugous plants such as *Calluna vulgaris* (Heather), *Potentilla erecta* (Tormentil), *Carex pilulifera* (Pill Sedge) and *C. pulicaris* (Flea Sedge) were growing with species more typical of limestone grassland.

The group walked along the Piney Sidelands path and descended to the road where a small party elected to make a detour to visit nearby Black Rock to see *Polygonatum odoratum* (Angular Solomon's-seal) growing on a shaded cliff face. Many ferns including *Gymnocarpium robertianum* (Limestone Fern), *Cystopteris fragilis* (Brittle Bladder-fern), *Polystichum aculeatum* (Hard Shield-fern) and *Ceterach officinarum* (Rustyback) were recorded on a mossy dry stone wall along the wooded path back to the road.

After an enjoyable day in the field during which 235 plants were recorded, some of the group met up again for a meal and to chat about the day's findings. A few die-hards who didn't want the day's recording to end went out again to find *Ophioglossum vulgatum* (Adder's-tongue), even though it was almost dark!

On Sunday we met opposite the Rock of Ages in Burrington Combe (the cleft rock which is said to have inspired the Rev. A.M. Toplady to write the well known hymn whilst sheltering from a storm). Dr Paul Bartlett volunteered to be responsible for the Atlas 2000 cards for the two tetrads in which Burrington Combe falls.

We made our way amongst the numerous pot-holes and cavers to see *Carex montana* (Soft-leaved Sedge) on the scrubby west-facing slopes. Here three species of *Cotoneaster* were colonising, *C. horizontalis* (Wall Cotoneaster), *C. integrifolius* (Entire-leaved Cotoneaster), and *C. simonsii* (Himalayan Cotoneaster). After pausing on the lower slopes to record all the species growing in the species-rich grassland and to discuss the vegetative details of several grasses including *Danthonia decumbens* (Heath Grass), *Helictotrichon pratense* (Meadow Oat-grass) and *H. pubescens* (Downy Oat-grass), the group climbed up the steep cliffs to the bracken and scrub-dominated plateau above. We encountered, as on the previous day at Cheddar, a small area of limestone heath near the top of the hill with Flea Sedge, Tormentil and *Erica cinerea* (Bell Heather).

The rock outcrops on the cliff tops and amongst the scrub and bracken on the plateau yielded interesting associations which included *Cerastium pumilum* (Dwarf Mouse-ear), *Aira caryophylla* (Silver Hair-grass), *A. praecox* (Early Hair-grass) and *Trifolium striatum* (Knotted Clover). A short detour was made to a small area of Hazel coppice where 14 spikes of *Neottia nidus-avis* (Bird's-nest Orchid) were flowering. The circular route taken was across the rough grassland and bracken of Burrington Ham to rejoin the road where *Rosa* × *andegavensis* (*R. stylosa* × *R. canina*) was recorded. On descending the combe, short detours up the cliffs were made to record species such as *Hypericum montanum* (Pale St John's-wort), *Hieracium maculatum* (Spotted Hawkweed), *Imula conyzae* (Ploughman's-spikenard) and *Solidago virgaurea* (Goldenrod). A total of 258 species were recorded during the day at Burrington Combe.

It was very interesting to note the differences in the flora of the two sites. Some of the species that are so frequent at Cheddar like *Galium fleurotii* (Cheddar Bedstraw), *Dianthus gratianopolitanus* (Cheddar Pink), *Sedum forsterianum* (Rock Stonecrop) and *Thalictrum minus* (Lesser Meadow-rue)

were absent at Burrington Combe and have never been recorded there despite being only 4 km to the north.

The weekend was very enjoyable, with good weather, a large number of plants recorded, interesting habitats and spectacular scenery in the company of very enthusiastic and knowledgeable botanists. My thanks go to Adrian Woodhall of the National Trust for his help at Cheddar.

E.J. McDONNELL

COVENTRY, WARWICKSHIRE (VC 38). 29th JUNE [7]

The morning was spent at Brandon Marsh SSSI Nature Reserve (SP/38.75) by kind permission of the Warwickshire Wildlife Trust. Their Nature Centre headquarters provided a convenient starting point. We studied an aerial photograph of the 23 ha of gravel workings which have become recolonised over the last 20-30 years and are particularly famous for their ornithological interest. The perambulation which embraced tipped land, secondary woodland, marshland, pools and lakes, was led by Dr James Partridge who provided most helpful identification tips, particularly for grasses and sedges. Species found included *Filago minima* (Small Cudweed) and *Equisetum telmateia* (Great Horsetail).

In the afternoon we moved some 1.5 km north to an ancient woodland, Piles Coppice (SP/38.77), protected from devastation by the Coventry Eastern By-pass and purchased by the Woodland Trust a few years ago. Here David Morfitt, a historical ecologist who is undertaking a research doctorate on the site, gave us a most interesting introductory explanation of the patterns of tree and herb distribution. The whole wood is amazingly unspoilt and its historical development presents an intriguing research puzzle. Among a list of good woodland plants, most notable species were *Carex binervis* (Green-ribbed Sedge), *Melampyrum pratense* (Common Cow-wheat) and *Tilia cordata* (Small-leaved Lime). We walked through most of the wood but participants could not be restrained from bursting out near the end to scour a cornfield and a most attractive fishing pond and adjacent unused meadowland.

Unfortunately shortage of time and the extremely cold weather, prevented us from continuing on to Herald Way Marsh SSSI. Thirteen people attended.

PAM COPSON

REDCAR, CLEVELAND (VC 62). 6th-7th JULY [8]

The main purpose of this meeting was to monitor the ever-changing coastal habitat along the stretch from Coatham to the South Gare breakwater at the Tees Estuary (*BSBI News* 72: 31-32).

Only five members attended each day, but it was very nice to have a party of students from Reading University who were accompanying Dr Richard Carter. They were able to see the existence of a salt-loving marsh community at the edge of industrial wasteland with its own well-established flora.

I was particularly interested in the effect of the tremendous pressure exerted on the halophyte species through human activities, industrial changes and natural causes. With so many pairs of very observant eyes we were able to make an accurate survey and I have been able to compare with records from ten or more years ago, when populations were showing a decline.

Species such as *Glaux maritima* (Sea-milkwort) and *Spergularia marina* (Lesser Sea-spurrey) were almost abundant. The wet areas were well colonised by *Juncus gerardii* (Saltmarsh Rush) and the once elusive *Eleocharis uniglumis* (Slender Spike-rush) and *E. quinqueflora* (Few-flowered Spike-rush) were not difficult to find. *Centaureum pulchellum* (Lesser Centaury) appeared to be on the increase. We even determined a new species, *Plantago major* subsp. *intermedia* (Greater Plantain) which may well have been overlooked on previous visits.

Other interesting finds were *Anacamptis pyramidalis* (Pyramidal Orchid) and *Dactylorhiza praetermissa* (Southern Marsh-orchid). This latter had been recorded several decades ago but not seen since on this side of the Estuary. There were hybrids nearby which would appear to be *Dactylorhiza praetermissa* × *D. purpurella*, the latter parent is abundant in the area. This will have to be confirmed. On the

Sunday another elusive Teesmouth orchid was found, *D. incarnata* (Early Marsh-orchid) again with hybrids nearby.

The party was also interested to see a good colony of *Ophrys apifera* (Bee Orchid) at the edge of a nearby golf-course and some of the many alien species which have become established on the main dunes including *Securigera varia* (Crown Vetch) and, surprisingly on this northeast coast, a long-surviving *Spartium junceum* (Spanish Broom).

One of the rarer grasses to be found at the north side of the Estuary, and now established on this side, is *Festuca arenaria* (Rush-leaved Fescue). Another once uncommon species on these dunes is *Catapodium marinum* (Sea Fern-grass). It was seen in abundance in one area.

So, on the whole the situation is looking good thanks to the help of those members who turned up. I would like to thank our local Wildlife Trust member, Chris Lowe, who made all the necessary arrangements with British Steel and Amoco pipelines.

I. LAWRENCE

EAST SUFFOLK & NORTH ESSEX (VCC 19 & 25). 12th-14th JULY [9]

Ten members attended the full meeting to look at brambles in the Colchester area. We gathered at the High Woods Centre run by Essex County Council at the High Woods Country Park on the outskirts of Colchester, on the Friday evening. Jerry Heath from Colchester Museum thoughtfully brought a wide selection of *Rubus* specimens from the Museum Herbarium which he had collected in the district. He also gave up three evenings to enable members to press their specimens at the centre in relative luxury, and regaled us with tea and biscuits each evening into the bargain! One wonders how many specimens have been mislaid when trying to do ones pressing in the boot of a car on a windy evening?

A stroll round High Woods before darkness fell allowed members to see a few of the problems they were likely to meet with in the Colchester area. The pretty pink Hystrican in the car park with ternate leaves – the unnamed member of the '*Rubus serpens* agg.' – the 'ternate *criniger*' which is everywhere round Colchester (and further afield) even when it does have five leaflets, still does not look like true *R. criniger*. However, 10 species were named in the course of half an hour, one of which was *R. londinensis* which, it has only been realised over the past few years, is almost always white flowered north of the Thames, whereas it was always regarded as being pink flowered in the area from which Watson named it.

Saturday morning saw us assembled at Dodnash Priory Farm, Bentley near Ipswich, by kind permission of Mr C. Bacon, and here we were joined by an almost equal number of members of Suffolk Naturalist's Society. Dodnash Wood has long been known as one of the best for *Rubi* in Suffolk, and on this visit, 14 species were named in the field, with *R. nitidiformis*, which only occurs in 8 VCs, being the dominant almost throughout the wood. Growing with it were such regional endemics as *R. norvicensis* and *R. watsonii*, and with a good scattering of *R. macropyllus* and *R. gratus*. The visit resulted in two new VC records for East Suffolk, with the discovery of *R. londinensis* and also of *R. anisacanthos* which has been found in both the Essex VCs in recent years.

From Dodnash, we made our way to Belstead Wood where a public path runs conveniently round the field and wood margins. Here, 16 species were identified of which several were new for the weekend. These included *R. echinatus* a dominant here, *R. diversus*, unfortunately not yet flowering due to the late season, and the recently named *R. percrispus*, with the added bonus of finding another plant which is due for naming in the near future.

Walking back to the cars, *Medicago minima* (Bur Medick) was a reminder that we were on the edge of the Suffolk Sandlings.

The final stop of the day was at Foxhall Heath, by which time it was very hot and a fair bit of walking was involved. However, flagging spirits were raised by sightings of the northern *R. infestus*, the midland *R. anglocandicans* and the somewhat scattered *R. euryanthemus*, here in a new station.

Very little unidentifiable material was seen during our day in Suffolk, but the same could not be said for the remainder of the weekend. We met on Sunday morning at Tiptree Heath, where we were joined by one more fairly local member.

Here we found some 16 species with names and at least four others which have none, or at least, none that could be called satisfactory. Newcomers to the week-end list included the beautiful *R. confertiflorus*, *R. plicatus*, *R. britannicus* and *R. atrebatum*, this latter again only recently recognised as being an Essex plant. Here too, we found *R. anisacanthos* in some quantity, as was the case also at Berechurch Common, our next stop. Eventually, as often happens, the pennies started to drop, and it was realised that the plant referred to as being similar in appearance to *R. vestitus* but being very distinct in armature, and almost replacing *R. vestitus* in North East Essex, in S. Jermyn's *Flora of Essex* (1974) is actually *R. anisacanthos*. 21 species were named on Berechurch Common, and five were not! Most had been seen previously, but newcomers to the list were *R. platyacanthus*, *R. milesii*, *R. echinatoides*, and, believe it or not, *R. ulmifolius*!

Our last call of the day was at Fordham Heath where parking proved difficult due to the occurrence of that old British tradition, cricket on the village green. One of our party was even heard to remark that 'had he moved a bit faster, he ought to have held that one!'

We did find *R. percrispus* again, and also *R. schiocharis* in some abundance. After one more evening at the High Woods centre, most people made their way home, though 4 of us had an hour and a half in Stour Wood, Wrabness, just on the south bank of the Stour estuary on the Monday morning, by which time, even we were glad to go home! 15 species were identified, whilst 8 very good looking plants could not be recognised, even by Alan Newton. Of those named, *R. scaber* was new for the week end, and one plant which awaits confirmation, was tentatively named as *R. hylonomus*. If correct, this will be new for Essex.

A. BULL

LLANBRYNMAIR, MONTGOMERYSHIRE (VC 47). 13th JULY [10]

One aim of this meeting was to up-date records made for *The Flora of Montgomeryshire* (Trueman, Morton & Wainwright 1995), ready for Atlas 2000. The other was to look for scarce plants which had been recorded for the area in the past. A party of seven made it possible to deploy three small groups, two working in SH/9.0 to the east of Llanbrynmair, and one in SH/8.0 to the west. This was, and still is, a place one passes through on the way to somewhere else, and many nationally known botanists had done just this. However, at the end of the nineteenth century, even in upland Wales, the idea of local parish Floras was catching on and John Morgan's little *Flora of Llanbrynmair*, 1892, listed the plants of the parish and the farms on which they were to be found. We hoped that some frequently mentioned locations would still be good for plants.

Grazing and 'improvement' had taken their toll. *Serratula tinctoria* (Saw-wort) survived, but only on roadside verges, and *Epipactis helleborine* (Broad-leaved Helleborine) on shady tracksides. A century ago there were four different clubmosses on Mynydd Fynyddog, three of them common. We found none on today's heavily grazed sheep-walks, but *Wahlenbergia hederacea* (Ivy-leaved Bellflower) was still there, presumably because it hugs the ground so closely even the sheep cannot get at it. There was *Potentilla palustris* (Marsh Cinquefoil) in a marshy dingle on the skirts of Llanbrynmair moor, where sheep were excluded, but forestry, which blankets much of the moor was about to overtake the craggy hillside where *Hymenophyllum wilsonii* (Wilson's Filmy-fern) grew, so we did not search it. The best locations were deep ravines and steep dingles where the old woodland had changed little. *Tilia cordata* (Small-leaved Lime) was a feature of most.

In all 600 plants were recorded. Allowing for some overlap on SH/9.0 where two groups were working, we still made 200 updated or new records for SH/8.0, and probably 350 for SH/9.0. Only lack

of manpower precluded a search for *Polygonatum multiflorum* (Solomon's-seal) which used to grow in fields around Llan and Bontdolgadfan, but it would have been a very unlikely find in today's lush green fields. Llanbrynmair cafe provided tea and an opportunity to compare notes on a fruitful and enjoyable day.

MARJORIE WAINWRIGHT

PEN-Y-FAN, MONMOUTHSHIRE (VC 35). 14th JULY [11]

Five members and the leader divided into two groups of three. The first group went to survey Pen-y-fan Pond, then on to a marshy meadow south of Ty'r Sais Farm, which the leader had previously seen from the wrong side of the fence, and finally to Cwm Philkins. The pond yielded *Potamogeton obtusifolius* (Blunt-leaved Pondweed), new to this hectad, and only the third post-1970 record for the 100 km square. The Ty'r Sais marsh had *Carex laevigata* (Smooth-stalked Sedge), *Cirsium dissectum* (Meadow Thistle) and 2 or 3 plants of *Juncus foliosus* (Leafy Rush) a new vice-county record. At Cwm Philkins there were *Cirsium dissectum* and *Epipactis helleborine* (Broad-leaved Helleborine) which is uncommon in this NW part of Monmouthshire.

The second group went to Graig Fawr near Aberbeeg, which proved to be uninspiring, and as one member complained 'It was only a place you would take your friends to'. On the edge of the River Ebbw a *Mimulus* (Monkeyflower) hybrid, in which *M. luteus* featured strongly, was found and is awaiting determination. A riverside marsh featured *Carex paniculata* (Greater Tussock-sedge) *C. laevigata* (Smooth-stalked Sedge) and *C. disticha* (Brown Sedge). The only other plant of interest was *Calystegia pulchra* (Hairy Bindweed) on the roadside through Trinant.

T.G. EVANS

DINGWALL, EASTER ROSS (VC 106). 14th-16th JULY [12]

This three day meeting was attended by eight members. The weather remained dry although it was unseasonably cold for the first day.

Glen Sgitheach above Dingwall was visited on the first day where a range of interesting wetland and moorland plants were seen. Of particular interest was the extensive *Eriophorum latifolium* (Broad-leaved Cottongrass) flushes and a population of *Dactylorhiza incarnata* (Early Marsh-orchid), the exact subspecies of which will need to be checked next year. A quick visit to Tor Achilty later in the day yielded many species characteristic of dry rocky habitats as well as *Ajuga pyramidalis* (Pyramidal Bugle) and a possible hybrid with *A. reptans* (Bugle).

Next day we went in search of a new vice-county record for *Dactylorhiza lapponica* (Lapland Marsh-orchid) which local teacher and natural historian Murdo Macdonald had reported only five days previously. We were very fortunate to be guided by Murdo to this population which comprised about 30 flowering spikes in a stony runnel which was otherwise unremarkable botanically. A short distance away, a similar runnel supported three spikes of *Dactylorhiza traunsteineri* (*D. majalis* subsp. *traunsteineri*) (Narrow-leaved Marsh-orchid). Both these populations have recently been confirmed by Richard Bateman of the Royal Botanic Garden, Edinburgh, for which many thanks are due. The slopes leading up to the plants were flushed and large numbers of *Pseudorchis albida* (Small-white Orchid) and *Botrychium lunaria* (Moonwort) were seen. After lunch some of the group explored the corrie above where the loch supported *Subularia aquatica* (Awlwort) while the rest of the group botanised a gorge with *Orthilia secunda* (Serrated Wintergreen) and *Rubus saxatilis* (Stone Bramble) growing on ledges inaccessible to grazing animals.

Gordon Rothero joined us for the last day which was spent in the two 'rough coires' at the eastern end of the main Fannich ridge. Thanks to the co-operation of Loch Luichart Estate we were able to drive to the foot of the first corrie. In perfect weather and no midges we walked round the corries and most of the alpine were seen. The most interesting discovery was a small population of

Hymenophyllum wilsonii (Wilson's Filmy-fern) under a huge boulder in the first corrie. *Betula nana* (Dwarf Birch) was seen on the lower ground on the way back to the cars.

An excellent 3 days which has considerably helped in recording for the new atlas. Many thanks to all those who attended and to Strathconon and Lochluichart Estates for allowing access.

P. WORTHAM

ALIENS IN THE AREA (LONDON), 20th JULY [13]

Some forty participants on this joint meeting with the London Natural History Society led by Mike Mullin met on a sweltering Saturday morning at Island Gardens station on the Isle of Dogs. A circular walk lasting several hours enabled the party to learn the features of a number of alien plants scarce within the rest of the country but not uncommon here. The genus *Sisymbrium* (and indeed the family Brassicaceae) was to feature prominently during the day, and this first walk produced *Sisymbrium orientale* (Eastern Rocket), *S. loeselii* (False London-rocket), *S. altissimum* (Tall Rocket) and the ubiquitous *S. officinale* (Hedge Mustard). Other crucifers of note were *Bunias orientalis* (Warty-cabbage), *Hirschfeldia incana* (Hoary Mustard), *Rapistrum rugosum* subsp. *linnaeanum* (Bastard Cabbage) and in particular *Berteroa incana* (Hoary Alison), the latter well camouflaged growing with *Achillea millefolium* (Yarrow). An area that had been subject to chalk spoil dumping had *Securigera varia* (Crown Vetch) in abundance and one large patch of *Salvia verticillata* (Whorled Clary). *Hyo-scyamus niger* (Henbane) was in profusion – and indeed the only plant – in the pot-bellied pig enclosure at the nearby city farm. Other species of note were several fine plants of *Rumex palustris* (Marsh Dock) in a damp ditch and both *Euphorbia* × *pseudovirgata* (Twiggy Spurge) and *Rumex cristatus* (Greek Dock) well naturalised – the latter producing an interesting discussion on the taxonomy and identification of the *R. cristatus*-*R. patientia* group. It was interesting to see *Ailanthus altissima* (Tree-of-Heaven) as both self-sown seedlings and suckers commonly during the day and both naturalised species of *Galinsoga*, *G. parviflora* (Gallant Soldier) and *G. quadriradiata* (Shaggy Soldier), were located as weeds in gardens. *Lapsana communis* subsp. *intermedia* (Limestone Nipplewort) and *Medicago sativa* subsp. *varia* (Sand Lucerne) were both widespread.

Several members had to leave the party at this point but the rest continued on the Docklands Light Railway to Tower Gate station. Here, in the shadow of the Tower of London, specimens of *Sisymbrium irio* (London-rocket) were examined – the plants ranging in size from 5 cm (growing in a disused concrete plant container) to 80 cm (in a nearby gateway).

An underground trip across London on the District Line brought the party to Kew Gardens station. By the station platform, *Alstroemeria aurea* (Peruvian Lily) was naturalised with a single plant of *Melilotus indicus* (Small Melilot) nearby. A shrivelled green lump on the platform wall appeared to be all that was left of the naturalised *Gymnocarpium robertianum* (Limestone Fern). At Kew Green Church, the last *Sisymbrium* of the day – *S. strictissimum* (Perennial Rocket) – was seen at this traditional site although only in fruit. Other novelties located of varying status were *Hieracium cheriense* (a hawkweed), *Acanthus spinosus* (Spiny Bear's-breech), *Lychnis coronaria* (Rose Champion), *Crataegus submollis* (Hairy Cockspurthorn), *Atropa belladonna* (Deadly Nightshade), *Sisyrinchium striatum* (Pale Yellow-eyed-grass) and *Galactites tomentosa*. Unfortunately there was no sign of *Gnaphalium purpureum* (American Cudweed) – a species that has been naturalised here many years, nor of *Centranthus calcitrapae* (Annual Valerian) – a single plant of which had been seen six weeks earlier.

The nearby Thames footpath rewarded with *Buddleja globosa* (Orange-ball-tree) (in fruit only) and two fine bushes of the hybrid with *B. davidii* known as *B. × weyeriana*. *Angelica archangelica* (Garden Angelica) was well naturalised here. On the return walk an ornamental pond was inspected and had planted *Cyperus longus* (Galingale) amongst others. After a refreshing drink in a nearby public house, to celebrate an excellent day, most participants headed for home leaving a few stalwarts to make a fruitless attempt to locate black walnut seedlings close to the wall of the adjacent gardens.

A. LEWIS

KNEESALL AREA, NOTTINGHAMSHIRE (VC 56). 21st JULY [14]

Kneesall lies on the Keuper Marl of central Nottinghamshire and is part of a predominantly arable landscape. This meeting was organised to provide general records from a relatively unworked area. We divided into two small groups, of three and four, to cover as large an area as possible.

The farmland itself yielded very few arable weeds, clearly having been well sprayed, although *Anthemis cotula* (Stinking Chamomile) and *Sinapis alba* (White Mustard) were welcome finds. Many hedgerows have been grubbed out, but one of those remaining yielded much *Clinopodium vulgare* (Wild Basil), and another had the pink and white flowered *Calystegia sepium* subsp. *sepium* f. *colorata* (Hedge Bindweed).

No standing or running water was encountered to the north of the village, but *Oenanthe fistulosa* (Tubular Water-dropwort) and *Potamogeton pectinatus* (Fennel Pondweed) were found by the 'southern' team.

Probably the most productive patch was an old ditch which had been filled with rubble. The fine soil between the stones and bricks sported many garden plants, but *Melilotus indicus* (Small Melilot) was frequent here, and *Urtica urens* (Small Nettle), *Euphorbia peplus* (Petty Spurge), *E. helioscopia* (Sun Spurge), *Thlaspi arvense* (Field Penny-cress) and *Lamium amplexicaule* (Henbit Dead-nettle) (all common Nottinghamshire plants) were not found anywhere else on the day.

There was much *Malva neglecta* (Dwarf Mallow) in Kneesall village itself, with *Spergularia rubra* (Sand Spurrey) by the main road. Altogether, although we failed to discover many unusual plants, we recorded nearly 250 taxa. The results should therefore provide a useful record for the Atlas 2000 project.

A.B. LOY

BALLATER AND GLEN CALLATER, S. ABERDEEN (VC 92). 22nd-27th JULY [15]

A total of 13 members, including our President, met on various days to tackle the lowlands and highlands of Aberdeenshire on what proved to be a very enjoyable and successful recording meeting. We split into groups to cover two local hectads (10 km squares) on the first day, which promised to be warm and sunny. On Morven (in NJ/3.0) we encountered *Juniperus communis* (Juniper) growing to head-height, *Pyrola media* (Intermediate Wintergreen) and large populations of *Orthilia secunda* (Serrated Wintergreen) growing in regenerating patches of burnt heath. Another group (in the Ballater square, NO/3.9), encountered *Sparganium natans* (Least Bur-reed), *Goodyera repens* (Creeping Lady's-tresses) and *Carex lasiocarpa* (Slender Sedge). A fascinating suite of species was encountered on a serpentine outcrop, including *Mimuartia verna* (Spring Sandwort), *Arabis petraea* (Northern Rock-cress), and *Gymnadenia conopsea* (Fragrant Orchid). *Campanula lactiflora* (Milky Bellflower) and *Sambucus racemosa* (Red-berried Elder) were frequent on the banks of the River Dee. On day two we explored 'The Vat' – a steep, narrow, and wet gorge that was rich in *Hieracium* species, ferns and beautiful clumps of *Carex pallescens* (Pale Sedge). *Pyrola minor* (Common Wintergreen) was found in wet flushes, along with *Mimulus moschata* (Muskflower) and *Parnassia palustris* (Grass-of-Parnassus). By mid-afternoon, however, light rain developed from steady to torrential, and then to unbelievable – the pockets of my waterproof jacket filled up within minutes! A very rich square (NJ/4.1) was visited the next day, beginning with *Viola lutea* (Mountain Pansy), *Alnus incana* (Grey Alder), and *Primula florindae* (Tibetan Cowslip), the latter naturalised on a river bank. Another serpentine outcrop yielded more *Minuartia verna* (Spring Sandwort) but this time with copious *Armeria maritima* (Thrift) – quite a sight on an inland mountainside! The day was rounded off with the fine spectacle of robust *Galeopsis speciosa* (Large-flowered Hemp Nettle) in a field of potatoes. On the fourth day, we covered the square around Alford (NJ/5.1). *Dryopteris dilatata* (Broad Buckler-fern) and *D. carthusiana* (Narrow Buckler-fern) were plentiful in a wet wood, and eventually the hybrid between them (*D. × deweveri*) was found. A surprising spectacle was provided by Hayghton Hay Meadows – a

substantial area of grassland sown with rare arable weed species some 5 years ago. A small part of this had been re-cultivated in the spring, and many species had made a re-appearance. *Agrostemma githago* (Corncockle), *Chrysanthemum segetum* (Corn Marigold) and *Centaurea cyanus* (Cornflower) were all present and were recorded with an E ('Established') to indicate their status as alien species. Another group examined a neighbouring square (NJ/6.1) and recorded *Peucedanum ostruthium* (Masterwort) on a roadside, abundant *Rubus mucronulatus* and three *Pandion haliaetus* (Osprey)! The highlight of the week came on day five, when a major assault was launched on Glen Callater. Entry to this alpine corrie was greatly assisted by a Land Rover owned by one of the group, as it spared most group members a very long walk-in. Near the final destination, however, disaster struck when a particularly deep rut left the vehicle firmly grounded on it's axles (much to the delight of those walking behind!). Only a huge effort by the whole group (and much spraying of mud from spinning wheels) enabled us the free the vehicle. We were, however, very well rewarded for our efforts, as the finds included *Luzula spicata* (Spiked Wood-rush), *Juncus castaneus* (Chestnut Rush), *C. atrata* (Black Alpine-sedge), *C. rariflora* (Mountain Bog-sedge) and *C. norvegica* (Close-headed Alpine-sedge), *Alopecurus borealis* (Alpine Foxtail), *Tofieldia pusilla* (Scottish Asphodel), *Listera cordata* (Lesser Twayblade), *Athyrium distentifolium* (Alpine Lady-fern) and *Salix lapponum* (Downy Willow). An exceptional day indeed! The final day was spent back in the lowlands, around Aboyne (NO/5.9). On the banks of the River Dee we tackled various Lupins (*Lupinus nootkatensis* and *L. polyphyllus*), and recorded *Galium boreale* (Northern Bedstraw), *Campanula latifolia* (Giant Bellflower) and *Meum athamanticum* (Spignel). Things were going very well until, while examining the banks of a duck pond, I got my foot caught in a snare and was instantly flattened! We ended the day, and the meeting, with a rewarding examination of an *Asplenium septentrionale* (Forked Spleenwort) site near Ballater. One or two plants had been seen before and we quickly located these on the steep cliffs. More clumps were found with the aid of binoculars and our activities attracted the attention of nearby climbers. We explained what we were looking for, showed them a plant, and asked them to keep an eye open. They returned to their exposed crag, and in seconds the cry came back – 'Here's some more'. And more. And more. We left the site with 13 clumps of this great fern being recorded!

T.D. DINES

FORTH, N.E. LANARKSHIRE (VC 77). 27th JULY [16]

The meeting was held jointly with the Glasgow Natural History Society.

In the morning the party of six began by recording on Braehead Moss. This has been described as being the best remaining example of an intermediate raised/blanket bog system in the district. The surface features of the peat are unusual in that raised bog originally developed in two separate areas, subsequently merging along a relatively steep slope during the most favourable period for peat formation.

A 1983 plant list, with some updates, had previously been provided by John Mitchell, the now retired warden. Our aim was to locate the plants listed, thereby obtaining post 1987 records. We had the initial interest of seeing the plants of such a habitat, but after ten minutes when we had seen hundreds of *Drosera rotundifolia* (Round-leaved Sundew) and thousands of Cranberry berries (*Vaccinium oxycoccos*) recording became distinctly boring and the members of the party gradually worked their way to the edges where there were less interesting but many more records to be made. The majority of the records for the square were in fact made in the waste ground where we had parked the cars. We agreed that a plant seen there in fruit was *Limnanthes douglasii* (Meadow-foam) easily recognised in flower but not previously familiar in fruit to any of the party.

In the afternoon we drove to Wilsontown, just north of Forth and recorded on a disused railway line, adjacent slag heaps and surrounding heathy area. The flora was of course very different from and much more diverse than that seen in the forenoon. Included in the records were, in order of recording, *Briza media* (Quaking Grass), *Botrychium lunaria* (Moonwort), *Solidago virgaurea* (Goldenrod) and *Cystopteris fragilis* (Brittle Bladder-fern). Aliens noted were, *Alchemilla mollis* (Soft Lady's-mantle)

both *Lupinus polyphyllus* (Garden Lupin) and *Lupinus × regalis* (Russell Lupin) and *Phalaris arundinacea* var. *picta* (Gardener's Garters).

P. MACPHERSON

GLEN SHIEL, WESTER ROSS (VC 105). 29th - 30th JULY [17]

A much smaller group met in Shiel Bridge to roam the spectacular mountains around Glen Shiel in Wester Ross. The forecast on the first day promised fine weather, so we split into three groups to examine several squares. In the Shiel Bridge and Dornie squares (NG/9.1 and NG/8.2), habitats varied from coastal grassland to river valleys and marshes to mountain heathland with the occasional basic dyke. The range of species was therefore large, including arable weeds (*Avena sativa* – Wild Oat) and established aliens (*Cotoneaster simonsii* – Himalayan Cotoneaster & *Gaultheria mucronata* – Prickly Heath) as well as more typical west Highland species. Near the coast, *Eleocharis uniglumis* (Slender Spike-rush) was recorded, while upland grassland yielded *Platanthera chlorantha* (Greater Butterfly Orchid), *Saussurea alpina* (Alpine Saw-wort), *Gentianella campestris* (Field Gentian) and *Coeloglossum viride* (Frog Orchid). One group of members headed off high into the hills to reach a particularly inaccessible region, Glen Gaorsaic (NG/0.2). This exhausting hike proved very rewarding, with good records of *Saxifraga oppositifolia* (Purple Saxifrage), *Salix herbacea* (Dwarf Willow), *Botrychium lunaria* (Moonwort), *Sibbaldia procumbens* (Least Cinquefoil) and *Pseudorchis albida* (Small-white Orchid). Two notable sedges were seen, *Carex pauciflora* (Few-flowered Sedge) growing in sphagnum bogs, and *Carex magellanica* (Tall Bog-sedge) near the Falls of Glomach. This latter species had only been recorded from one site, but a second very large colony was also found and this provided a fitting reward to a hard days recording. The second day began well and the whole group set off to record in Cluanie Forest (NH/0.0 and NH/0.1). A search for *Melampyrum sylvaticum* (Small Cow-wheat) proved unsuccessful, although *M. pratense* (Common Cow-wheat) was frequent. As we moved up the mountainside, the weather gradually deteriorated. We recorded *Cornus suecica* (Dwarf Cornel), *Cryptogramma crispa* (Parsley Fern), *Vaccinium uliginosum* (Bog Bilberry) and *Dryopteris oreades* (Mountain Male-fern) before the rain became torrential and we were forced to descend. We could have recorded delights such as *Carex norvegica* (Close-headed Alpine-sedge), *Trichomanes speciosum* (Killarney Fern) and *Gentiana nivalis* (Alpine Gentian), but these would have been the result of celebrating the wedding anniversary of two group members (Robin and Jennifer Walls) with a bottle of champagne!

T. D. DINES

LOCKERBIE, DUMFRIESS (VC 72). 1st-2nd AUGUST [18]

A well attended meeting, with 12 members meeting on the first morning. Seven squares received attention and many habitats were covered, resulting in a good variety of species being recorded. Perchhall Loch SSSI (NY/1.8), proved to be a rich area of raised bog, with *Vaccinium oxycoccos* (Cranberry), *Calamagrostis canescens* (Purple Small-reed), and *Cicuta virosa* (Cowbane) growing on floating mats of sphagnum moss. Sedges were plentiful, including *Carex lasiocarpa* (Slender Sedge), *C. disticha* (Brown Sedge), *C. muricata* subsp. *lamprocarpa* (Prickly Sedge), and *C. rostrata* (Bottle Sedge). Coastal areas around Powfoot (NY/1.6) revealed *Parapholis strigosa* (Hard Grass), *Centaureum littorale* (Seaside Centaury), *Allium vineale* (Wild Onion), *Humulus lupulus* (Hop) and *Lupinus arborea* (Tree Lupin). Neutral grasslands were also surprisingly rich, holding good colonies of *Botrychium lunaria* (Moonwort), *Briza media* (Quaking Grass), with *Valeriana dioica* (Marsh Valerian) and *Carex hostiana* (Tawny Sedge) in wetter flushes. *Carex viridula* subsp. *brachyrrhyncha* (Long-stalked Yellow-sedge) was also found, along with its hybrid with *C. hostiana*. River banks were rich in alien species, including *Telekia speciosa* (Yellow Oxeye), *Campanula trachelium* (Nettle-leaved Bellflower)

– native further south but introduced here) and *Aruncus dioicus* (Buck's-beard). The best find of the meeting, however, was a new site for *Crepis mollis* (Northern Hawk's-beard) on a river bank.

T. D. DINES

TEIFI POOLS, CARDIGANSHIRE (VC 46). 10th AUGUST [19]

Twenty members met at the end of the tarred road 6 km east of Ffair-rhos on a day of sunshine and heavy showers to explore the aquatic flora of this group of six upland lakes. The two largest, Llyn Egnant and Llyn Teifi, have been enlarged by dams. The westernmost, Llyn y Gwaith, is entirely artificial, while the other three, Llyn Hir, Llyn y Gorlan and Llyn Bach are entirely natural. All are oligotrophic, and Llyn Hir is limed annually by Welsh Water in an attempt to raise its pH which had dropped from 6.2 in the mid nineteenth century to 4.8 in 1984, a year before liming started.

Juncus bulbosus var. *fluitans* (Bulbous Rush), mostly non-flowering except where exposed on the shore, was very abundant in Llyn Egnant, along with *Sparganium angustifolium* (Floating Bur-reed) in full flower, and shoals of *Callitriche hamulata* (Intermediate Water-starwort). We found the closely related *Callitriche brutia* (Pedunculate Water-starwort) with its stalked fruits on exposed mud by the Llyn Teifi dam. It is usually a lowland plant, but was first recorded here by Burkill and Willis in 1984. We saw *Isoetes* in five of the lakes and detached a few leaves and dried the megaspores to separate *Isoetes lacustris* (Quillwort) from *I. echinospora* (Spring Quillwort) in Llyn y Gwaith, Gorlan and Hir. The other rosette-forming aquatics of superficially similar appearance (at least as seen through the choppy surface of the water) that we saw were *Lobelia dortmanna* (Water Lobelia), *Littorella lacustris* (Shoreweed) flowering on the shore of Llyn Teifi, *Subularia aquatica* (Awlwort) fruiting well in Llyn Hir, and *Luronium natans* (Floating Water-plantain). The non-flowering rosette form of this latter, looking remarkably like *Isoetes* but with flat leaves, was in several of the lakes, and is known to form an extensive sward in the depths of Llyn Hir. A flowering form without floating leaves was in Llyn y Gorlan, and a terrestrial form was flowering by Llyn Teifi. The protean forms of *Luronium* in fact kept us guessing through most of the day, and hardly any of the plants seen were 'textbook' in appearance.

Other aquatics included *Myriophyllum alterniflorum* (Alternate Water-milfoil), *Lythrum portula* (Water-purslane) and a magnificent display of flowering *Nuphar lutea* (Yellow Water-lily) in Llyn y Gorlan. The surrounding sheep-walks were mostly devoid of interest, apart from a few flushes with *Carex hostiana* (Tawny Sedge), its hybrid with *C. viridula* subsp. *oedocarpa* (Common Yellow-sedge), *C. pulicaris* (Flea Sedge) and *Euphrasia scottica* (an Eyebright). The area around the lakes had been described by Leland in the sixteenth Century as 'horrible with the sight of bare stonies' and by J.H. Salter in 1892 as 'brown paper country' and has a very long history of overgrazing.

A.O. CHATER

GLANHIRIN, RADNORSHIRE & CARDIGANSHIRE (VCC 43 & 46). 17th AUGUST [20]

In the remote uplands, on the border of Radnorshire with Cardiganshire, twelve members met at the isolated farm of Glanhirin, with the kind encouragement of the farmer Mr T.M. Rogers. The aim was to progress towards two upland lakes, Llyn Cerrigllwydion Isaf and Llyn Cerrigllwydion Uchaf, a few kilometres to the south west. There were no tracks beyond the immediate reaches of the farm, and the area is dominated, and fortified, by vast tracks of *Molinia caerulea* (Purple Moor-grass) in its most tussocky and discouraging form. The lower of the two lakes (Llyn Cerrigllwydion Isaf), at an altitude of some 500 m, was not reached until the early afternoon, and yielded some of the expected plants of these oligotrophic waters, *Isoetes lacustris* (Quillwort), *Lobelia dortmanna* (Water Lobelia), *Littorella uniflora* (Shoreweed) and also *Luronium natans* (Floating Water-plantain). The boggy area at the SW end of the lake had much *Menyanthes trifoliata* (Bogbean) and one of the members had to be rescued when waist high in a bog hole. Some of the more tireless members went on another kilometre to the upper of the two lakes, Llyn Cerrigllwydion Uchaf, and found a similar flora though *Luronium* not

seen. In a base-rich flush SW of Llyn Cerrigllwydion Isaf a small non-flowering population of *Carex lasiocarpa* (Slender Sedge) was found. This is a vice-county rarity.

The areas that yielded most finds were some flushes nearer home on returning to the farm, and particularly around the farm itself. Here *Conyza canadensis* (Canadian Fleabane) was found, a new vice-county record, and oddities such as *Daucus carota* (Wild Carrot) away from its usual habitats. Across the moorland an initially puzzling plant, needing identification from Arthur Chater, was a viviparous form of *Trichophorum cespitosum* (Deergrass), and in a muddy pool there was the floating form of *Juncus bulbosus* (Bulbous Rush). About a dozen different sedges were seen, including *Carex* × *fulva*, the hybrid of *C. hostiana* × *C. viridula*, and *C. spicata* (Spiked Sedge), a rare find in this county. Before leaving, an elegant flock of Angora goats was greatly admired, especially some enchanting and friendly kids.

D.R. HUMPHREYS

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The following books, left to The Wildflower Society by its late President, Violet Schwerdt, are offered to BSBI members

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FLORA OF CRETE – A SUPPLEMENT

by Lance Chilton & Nick Turland

Pre-publication Offer

The original *Flora of the Cretan Area: annotated checklist and atlas*, by Nick Turland, Lance Chilton and Bob Press, was published by the Natural History Museum and HMSO in March 1993.

Crete is, without doubt, the region of Greece most explored botanically, and one might expect little new information to come to light. However, with so many botanists now working in the area, and with the inevitable interest generated by a new *Flora*, a substantial body of new data has swiftly built up. In early spring 1997, this will be published by Lance Chilton as a supplement to the *Flora*, with updated floristic, nomenclatural, taxonomic and distributional/mapping information. This will include: Copious, as yet unpublished plant records and field data, gathered by the authors in both Crete and Karpathos from 1993 to 1996; Data published by other botanists since spring 1993; Data published prior to 1993, but not included in the *Flora*.

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The Editor Gwynn Ellis can be contacted by phone on 01222-397951 ext. 218 (NMW) or 01222-496042 (home).

Articles can now be Faxed to the Editor on 01222-239829 or 01222-373219.

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