

# BSBI NEWS

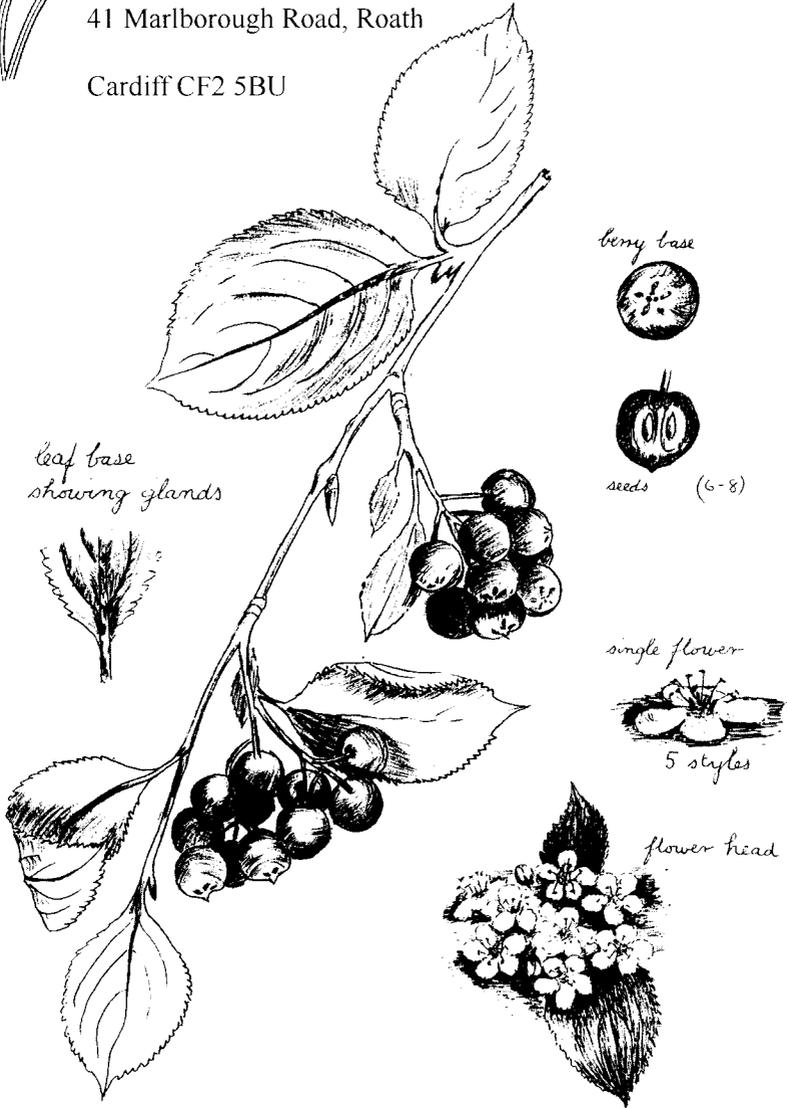
December 1997

Edited by R. Gwynn Ellis

No. 77

41 Marlborough Road, Roath

Cardiff CF2 5BU



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## 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 1998** (see *Year Book 1998* for the list of present Council members May 1997-1998).

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 78  
 should reach the Editor before FEBRUARY 28 1998**

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## IMPORTANT NOTICES

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### PRESIDENT'S COMMENT

This is merely an end-of-year report for the 95% of members who are not on Council or our central and regional committees.

#### 1 Co-ordinator

Cameron Crook has been in post for 2 years, with a further year to go. His post has been half-funded by English Nature, Scottish Natural Heritage and Countryside Council for Wales, with the other half coming from the Esmee Fairbairn Foundation. Our involvement has been quite considerable on the management side, especially for a voluntary body with no office. His role was to aid storage and dissemination of botanical records, that is make our vice-county recorder network even better and to help deliver records to BRC, particularly in respect of the new Atlas 2000. The other half of his role was to promote (the existence of) the BSBI with the Country Agencies, with other NGOs and with the general public. An ambitious specification!

We have made an impressive start on the computerisation front, but this is a complex field and we are dealing with a wide spectrum of county recorders who differ greatly in the time and effort they can manage, they are, of course, all volunteers. At the same time ambitious national plans for a National Biodiversity Network (NBN) are taking fresh shape after an earlier abortive start. This envisages, *inter alia*, a national network of Environmental Record Centres linked together, and intimately involved with Societies such as ours with their own national networks. It is an exciting concept with many parts not clear. We (well, most of us) are quite certain that we must be involved in the preparations, for all sorts of obvious reasons. This will need time, effort and commitment and our co-ordinator is the obvious choice.

Similarly we are convinced we have a real role in providing information to the government offices and to the voluntary network. Somehow we have to crack several problems here. We have to let people know we exist, collect and disseminate the information, be available for questions, discuss the canards that are always getting into the system (and then explain the whole thing again when the staff change!) Cameron and I have done this over the last two years and believe me it takes time. I step down in May, the work must be continued.

I still feel that we need to work more closely with Plantlife, who, after all are the only charity other than ourselves and the Wild Flower Society campaigning specifically for plants. They now have 10,000 members and seven or so staff and are doing some very exciting work in many spheres in our countries. Many of us have fed information into local Biodiversity Action Plans on behalf of Plantlife, the local Wildlife Trusts and the RSPB. This work must be co-ordinated.

#### 2. Scientific and Research Committee

I suspect it will be some time before a coherent picture comes from the National Biodiversity Network. In the meantime my colleagues and I think we could be channelling our scientific expertise into more organised channels. With the decline of taxonomic botany in our universities and schools, our society is one of the remaining outposts. I know it seems that *Watsonia* is full of articles on apomictic genera, but that reflects the choices of our members active in the field. We think that by focusing on research and possibly linking initiatives with our own funds available through our Bequest Fund, we will be able to start, pump prime and direct projects that we think are important in the context of botany in the British Isles. Our Bequest committee has only been going for 8 years, and the majority of its funds have gone to funding our Database at Leicester, with support also for publications from members and for the Atlas 2000. There is scope here to be more proactive, and, I hope, to encourage more members to remember us in their wills if they can see we are using our existing funds well. So Council propose to widen the brief of our Bequest Committee, to encompass the aims above, and rename it the Scientific and Research Committee.

### 3. Atlas and other recording matters

I am extremely grateful to our Bequests Committee for providing the funds to increase Trevor Dines to full time. He and I feel on top of things, which is just as well, because I suspect the hardest part is to come. I know Trevor has appealed for volunteers for indoor jobs, and some have come forward, but there are still many really helpful tasks that need to be done. We still have no news on what the final product will look like, or who will publish it; something we had hoped to have settled at the start of the project.

We are working as ever, extremely closely with the staff at BRC, Monks Wood over this project, and others. Members presumably know they have been the custodians for the last 40 years of our botanical records that we have collected centrally. We have been having discussions with them on formalising this unwritten agreement, and on how we might assist with other data collection.

This seems an imperfect summary of how my days pass. I remind myself (and my wife) that it is my choice, and after May, Council and a new president may have different priorities. I see these moves above as refocusing and repositioning ourselves for the next few years.

DAVID PEARMAN, President

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## THE FRONT (AND BACK) OF *WATSONIA*

For some years now, the covers of *Watsonia* have proved a topic of conversation not only among the editorial panel but also among the membership of the Society in general – and I have a medium sized file of complaints that bear witness to the loathing (if that isn't too strong a word) that some of you have for the design or perceived lack of design. The colour has fluctuated greatly as well, getting progressively darker as each issue appeared – I think the most impenetrable was Volume 20, Part 3 in 1995. Subsequently I got the printers to 'lighten up' but the last issue (Volume 21, Part 4) was drifting back to muddy green.

We had fully intended to redesign the cover in time for the start of Volume 21 but designers and artists conspired against us and, inevitably, we couldn't agree either on any of the designs submitted. **BUT** we now think we've got our act together and hopefully (everyone cross their fingers at this point) there will be a new cover for the first part of Volume 22, due out in February, 1998. The centre piece of the front cover will be an illustration and this will change through the four parts of each volume. The four plants used (*Euphorbia hyberna*, *Meconopsis cambrica*, *Potentilla anglica* and *Primula scotica* – in alphabetical order!) have been chosen to represent the four countries and have been drawn by Rosemary Wise. The rest of the cover will remain largely unchanged except for the font and some twiddly bits. And, as for the colour, we felt that we couldn't really depart from green but we've opted for a more pastel version. The back cover will have a broad green margin with the contents set out on a white background to facilitate those of you who photocopy the list of contents. We are very grateful to Rosemary Wise for supplying the illustrations and David Grech for the actual design of the front cover.

If you like the new design, then please tell us, if you don't, *then please keep quiet!* It has taken us so long to do this that the Editorial Panel has already started the process of redesigning the new covers!

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## DIARY

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No extra BSBI dates to report but see pages 58–59 for dates of other 1998 Conferences and Symposia.

EDITOR

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## EDITORIAL & NOTES

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**Congratulations**— to our past-President David McClintock on his election as President of the Wild Flower Society.

– to Stanley Marvin who celebrated his 90th birthday on November 28th and still turned up for our Exhibition meeting the following day. He writes that he much enjoyed the meeting and ‘... met several people I knew about but had not previously met – including Mrs Briggs who is a pharmacist as I am (retired!). What a friendly lot botanists are – as well as truly scientists. I have only been a member 10 years and wish I had known about the Society earlier.’

– to Goronwy Wynne (recorder for v.c. 51) on his election to the Gorsedd of Bards at the 1997 National Eisteddfod.

– and to Stephen Jury for organising another memorable Exhibition meeting. What a good venue it is, with so much space to browse books, exhibits or just sit and talk (GE)

**Commiserations** to our birthday girl from the last issue (Anne Conolly), who, having spent a few weeks botanising in the Australian outback traipsing over all sorts of rough terrain, tripped over her own front doorstep, badly damaging her shin, necessitating a skin-graft. We all wish her a speedy recovery. Anne – the Exhibition Meeting was not the same without you! (GE)

**Obituary note** With regret we report the death in November of Captain R.B.G. Roe, R.N. He had been a member of BSBI since 1956 and for many years was a vice-county recorder for N. & S. Somerset. His *Flora of Somerset* was published in 1981 after 30 years of plant hunting in the county with many colleagues and friends. Mrs Roe was his constant companion and we send our sympathy to her. There will be an obituary in *Watsonia*. (MB)

**Wengen update**: If any potential travellers to Wengen were put off by the 1996 snowy pictures in *BSBI News* 76: 84, I would like to report that in 1997 (on the same dates) our visit to those sites found flower-filled Alps in summer sunshine! Of the ‘elusive’ *Cypripedium calceolus*, of which we saw only remnant clumps in ‘96, in this following year more than 1,200 flowering stems were counted.

In fact two completely different holidays in the two years – both with botanical interests, but more sultan in 1997! (MB)

**Swedish spring salads**: In the early spring of 1997, McDonalds in Stockholm offered a free hamburger for 15 flowering stems of *Tussilago farfara* (Colt’s-foot) – for use in their salads. Our Stockholm member, Eva Zache, tells us that her son, Ragnar, temporarily out of a job at the time and well informed on local sites for *Tussilago*, was able to live on hamburgers for the three weeks the offer lasted! (MB)

**Tailpiece**: Humphry Bowen, Recorder for Dorset, tells us that he is ‘kept busy at present feeding my BSBI subsidised computer with 190,000 tetrad records for v.c. 9’. He comments ‘who said slavery was abolished?’ (MB)

**Back numbers of BSBI News** are available for most issues except the first five and nos 17, 38, 43 and 51 but these can be supplied as photocopies. Numbers of the early issues range from 10 to over 50 and all (including photocopies) are available from the editor for £1.00 plus p. & p. at cost.

However, there are quite large stocks of later issues from no. 53 onwards, and in order to reduce storage space, these are being offered for sale at 50p each or three for a £1.00. (GE)

**Members on the ‘box’**: Both Ray Woods (v.c. 43) and Mike Porter (v.c. 42) appeared on a BBC Wales Today news item talking about the need to conserve old apple varieties. Mike, in addition to his interest in critical genera, is also something of an expert on apples. I am grateful to George Hutchinson for this snippet of information who also said that ‘cider’ was not mentioned once! (GE)

**And finally**, another bumper issue of *News* and I have had to hold over more than 20 pages of interesting articles. My apologies to all the authors concerned, your notes **will** be published next time. Inserts with this issue are remarkably few in number (only 4): *BSBI News*, *BSBI Year Book 1998*, and leaflets and booking forms for the 1998 Druce lecture and the 1998 AGM in Cardiff (GE)

We hope you all had a good Christmas, and wish all our readers **A Very Happy and Peaceful New Year**

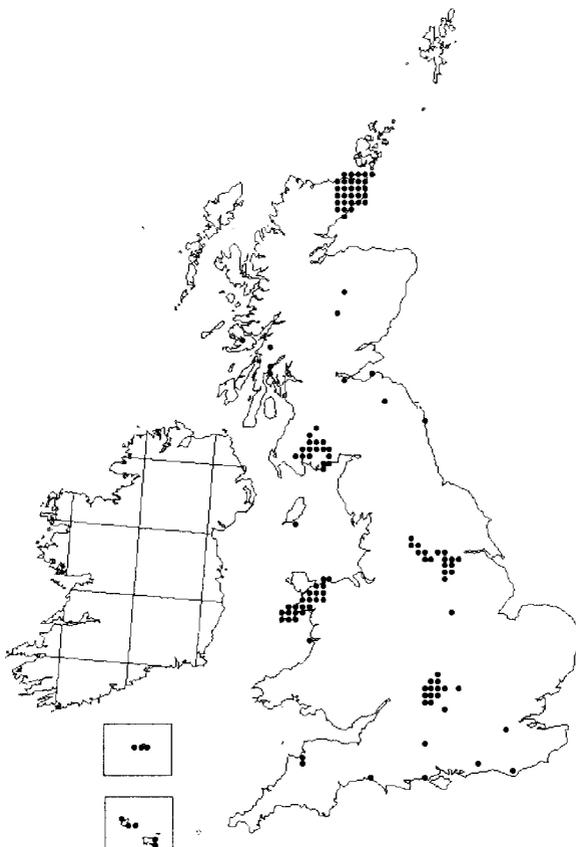
GWYNN ELLIS (GE) & MARY BRIGGS (MB)

## ATLAS 2000

### PROGRESS REPORT

#### The Fruits of Our Labours

It is a real pleasure now to see the results of our hard work beginning to arrive. Each day the postman delivers a parcel of Mastercards or carefully packaged computer disks. In order to streamline the flow of Atlas 2000 data into BRC, Monks Wood, we are asking Vice-county Recorders to begin submitting their records this winter. At the time of writing, Mastercards and records on disk have been received for 129 hectads (10 km squares) from 31 Vice-counties. The map below shows these squares.



Congratulations must go to two Recorders that have submitted *all* their records already. Both Ken Butler (Caithness, v.c. 109) and Geoff Battershall (Caerns, v.c. 49) have provided records on disk for their entire Vice-counties. This highlights an obvious benefit of getting your records computerised – all records can be exported to disk at the simple click of a button!

### Field Meetings

The field meeting calendar for 1998 has been drawn up (please see *BSBI Year Book 1998*) and includes many meetings to record for the Atlas 2000. As the project progresses, these meetings are becoming less 'square-bashing' and more 'targeted', with emphasis being placed on updating specific old records. Attendances at the 1997 meetings were superb and I hope even more people will be encouraged to come to the 1998 meetings. Reports of the 1997 meetings can be found in this issue of *News*.

### Conferences and Workshops

The report of the 1997 Lancaster Recorders Conference is being included in the spring edition of *News*. Because it will incorporate reports from each of the speakers, I thought it would be better to delay it until the beginning of the next field season.

Due to the success of the Lancaster Conference, it is being repeated in 1998 on the 11th–13th September, again at Lancaster. Please see the next edition of *News* for more details.

Two Identification Workshops are also being planned for the Spring. The first is in Ireland and will be based at Glasnevin Botanic Garden in Dublin in the middle of May. The second will be at the end of April or early May in Scotland. Again, more details of both will appear in the next *News*.

### Winter Help

Again, I'd like to stress that, even in the depth of winter, there is plenty to do for the Atlas. Many Vice-county Recorders will appreciate help with compiling records, either manually or on computer. Herbaria and county floras are valuable sources of records, and it's surprising how many of these need attention. Don't assume that because your county has a flora, its records will be 'in the system'! If you would like to help in any way, or need more information about the Atlas, please contact either myself or your Vice-county Recorder.

**Finally**, apologies for the short report; the round of regional AGM's, conferences and meetings has taken its toll! I hope to have a longer report next time. Until the spring (which seems a very long way away), have a good winter!

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## PLANT STATUS NOMENCLATURE AND ATLAS 2000

It is gratifying that since the publication of our recommendations with regard to Plant Status Nomenclature (Macpherson 1996) most of the articles in *BSBI News* have complied and I am informed that in the Atlas 2000 Mastercards so far submitted, almost all recorders have been completing the 'stat' column conscientiously.

I was interested to read the article by John Killick (1997) regarding plants which have appeared spontaneously in his garden. As he implies, spread within a garden should be ignored, but a record should be accepted when the wind, or a bird has deposited seed in a garden other than in an adjacent 'wild location'. Initially such a record would qualify as casual, perhaps rising to a higher status if left *in situ*.

However, we appreciate that assigning plants to a particular status can, on occasions, be difficult as not all cases are clear-cut. During the consultative process which we undertook before issuing our definitions we were frequently requested to keep our recommendations as simple as possible – a point with which we were happy to comply. In any case we could not have catered for every eventuality. In the following paragraphs I hope to address the more common problems experienced by recorders.

Problems of interpretation have arisen mainly with regard to trees and shrubs whose presence in the study area is due to their having been planted initially. A taxon which has been planted ('P') **remains in**

**that category for the whole of its life**, even when it has grown into a mature tree or shrub. If it produces progeny, **these** are initially 'C' (casual) but if these persist for (say) + five years they come into the 'S' (surviving) category. If in turn, this progeny **spreads** either vegetatively or effectively by seed, then the record for the site is 'E' (established). If more than one of these categories applies to the same taxon in the same hectad or site, one records only that of the highest priority, viz. 'E', 'S', 'C', down to 'P'.

Some recorders have considered that there is an in-between grey area where a planted tree or shrub has produced progeny, which has reached maturity and is producing seed, but as yet without an obvious third generation. If there is known to be only a single plant of a taxon (e.g. cotoneaster) in the wild in the study area and it is not regenerating effectively by seed, it cannot be other than 'C' or 'S'. If it dies, the taxon will cease to exist in the wild in the study area. However, if two (or more) mature plants of the taxon are present, it may be difficult to know whether both have been spread from planted material or one from the other. We have had a number of representations on this matter and for the purpose of conformity we recommend that in this case the record be entered as 'E'.

Another problem arises where a planted tree is spreading vegetatively by suckering or even by layering. These are usually regarded as bringing the status into a different category. As it is important to have conformity of records for Atlas 2000 we recommend that the new growth arising from below ground should be regarded in the same way as a seedling.

Cameron Crook (1997) is correct in his assumption that we regard hybrids which have arisen spontaneously in this country from alien parents to be native, because they have originated here. However, only spontaneously occurring progeny of such a hybrid remain native. If seed is sown or vegetation from the hybrid is planted elsewhere, that record is then 'P'. In turn, spontaneous offspring from the sown or planted material are alien because they have not come directly from a plant which is native.

The recommendations of the Working Party on Plant Status Nomenclature were accepted by the BSBI Council and adopted by the Records Committee for use in Atlas 2000. The use by all recorders of these recommendations will produce the required uniformity necessary in a publication of this nature. However, we appreciate that we cannot make definitions by which every alien can easily be categorised. Where a recorder experiences such a problem then the taxon should be classified into what, in the opinion of the recorder, is the most appropriate category. Where there is doubt it can be recorded simply as 'A' (alien) giving full details on the Mastercard.

As indicated by Trevor Dines (1997) I shall be pleased to give a second opinion on questions of status.

## References

- Crook, C.S. (1997). Co-ordinator's Corner. *BSBI News* 76: 14-15  
 Dines, T. (1997). Atlas 2000: Progress Report. *BSBI News* 75: 6-10  
 Killick, J. (1997). Aliens and Introductions in a v.c. 22 Garden. *BSBI News* 75: 39-40  
 Macpherson, P., Dickson, J.H., Ellis, R.G., Kent, D. & Stace, C.A. (1996). Plant Status Nomenclature. *BSBI News* 72: 13-16

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## EXTRA ATLAS 2000 RECORDING OF MOUNTAIN PLANTS

In spring 1997, the Wild Flower Society was very generous in awarding the BSBI a grant to help towards recording for the Atlas 2000. It was decided that this was best used to fund a project targeting under-recording in a group of plants that may otherwise have been poorly covered in the Atlas. After some discussion, a project concerning mountain plants was chosen as these are traditionally under-recorded due to the difficulties of access and the paucity of recorders in upland areas. The BSBI was therefore able to employ two consultants to undertake fieldwork in remote and inaccessible areas at the

request of the local Vice-county Recorders. In all cases, these Recorders felt they would otherwise be unable to visit these areas during the Atlas project.

A total of 20 days was spent in the field: Wester Ross (9 days), Easter Ross (1 day), Kintyre (3 days), Banff (2 days) and Lanarks. (5 days). Over 14 hectads were visited in total, and some trips involved camping out overnight. Predictably, much of the recording involved getting basic hectad species lists, which, although short in species poor upland moorland, will be very valuable to the Atlas 2000. Some significant species were found, however, particularly in Wester Ross. Good records were made for *Orthilia secunda*, *Saxifraga rivularis*, *Luzula arcuata*, *Poa glauca*, *Poa alpina*, *Draba norvegica*, *Carex atrata*, *Arabis petraea* and even *Epipactis atrorubens*.

We are very grateful to the Wild Flower Society for their grant, which has considerably helped recording in some difficult and under-recorded areas.

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## CO-ORDINATOR'S CORNER

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### Introduction

Much has happened since the last issue of *News*, mostly to do with computers you'll be glad to hear! But more on that later. A successful Recorder's Conference took place in September at St Martins College, Lancaster which was much bigger than previous meetings with more than 95 delegates over the weekend. This time, the format was slightly different in that more time was allowed for just talking to other v.c Recorders. And of course, the whole emphasis of the meeting was Atlas 2000. Indeed, such was its success, it has been decided to hold another conference this next year (instead of every second year) again in September and at Lancaster (which incidentally is within 6 km of the epicentre of Great Britain and not far from the true\* centre of the British Isles - honest!). \*i.e. not London!

### NBN

Each issue, I mention the National Biodiversity Network (NBN) and this issue is no different. I'll try not to bore you with the details but there are, I feel, a number of points which need reinforcing. Whilst it is true that no-one really knows how this may progress and what role BSBI may have, it will progress with or without us for the NBN waits for no man! Better then that we are involved – even if we don't agree with everything that is planned. After all, it's a lot easier to voice an opinion from within than from the outside – something which has sadly happened too often to BSBI in past years. Furthermore, there is potentially a lot to be gained by being involved. For example – access to more grant aid for Computers or even access to other data sources which may be elusive at the moment.

Perhaps the aspect of the NBN proposals which have caused most worry is the making data available on the Internet. This needn't be a worry. It is no worse (or different really) than making data available in a published flora: in other words, it is only the data that we release which will be made available and then, only in the format in which we release it. For example, it is likely that Atlas 2000 will be published on CD ROM as well as in book form. All this means is that information can be searched for on a computer rather than flicking through pages making it in some senses, more accessible. But at the end of the day, it is still the same data. The same would then apply to data released to the NBN to put on the Internet. So, no need to worry (easy for me to say, eh?).

Since last I mentioned the NBN in *BSBI News*, the only major piece of News is the successful grant-aid funding and the subsequent setting-up of three Pilot Record Centres in Aberdeen, Powys and Cheshire. These will have the task of 'developing model ways to ensure that records are received and put into a standard format' and making data 'user-friendly and eventually accessible to both public and private sectors, through gateways ranging from local museums, libraries and the Internet' (their words not mine). Many of us I'm sure will be watching closely how things develop here. Whatever, the outcome, on behalf of BSBI, I will continue to feed into, and report back on, any further developments and would welcome any further comments from you on our potential role.

### Botanical Records

Many Recorders ask what is the minimum record acceptable for Atlas 2000. Whilst it is true that the absolute minimum is only the BRC Number, 10 km square, date, site status and recorder, this really is an absolute minimum. The Atlas will be more or less done and dusted in just over three years time – not long in botanical terms – so recorders need to think ahead. Granted this is difficult with pressures to get Atlas records in and some (?many) Vice-county Recorders struggling with computers and dealing with requests for information, etc. But, to record the minimum of information now, while you are out in the field anyway is false economy. It goes without saying that national Red Data Book, Nationally Scarce, Schedule 8 species, etc., should be recorded to six figure grid reference (100 m square) level. But what is often overlooked is an indication of the population size, a factor which is very important to plant conservation. The measurement can be an actual count within a given area or a frequency measure. It doesn't matter which so long as the method used is mentioned, with a definition of any coding or annotation of records

Also, it is useful to know what habitat the plant is growing in or other species with which it is associated. And of course, it is not just nationally Scarce and Rare plants which should be treated this way, but also, locally Rare and Scarce plants (guidelines for which appear later in this issue). So the message is, when out in the field, as much detail as possible should be recorded, particularly with rarities. If in doubt, err on the side of caution and record at the highest resolution possible within the time allowed. You'll thank me for it in years to come!

### Computers

There have been many movements and much work behind the scenes with respect to computers. Much of this to do with feeding into the development of Recorder 3.3 and towards the Windows version which is due to be released sometime next year (possibly by summer!) and with development of BioBase and Aditsite (both of which were reviewed in the last issue of *BSBI News*) to meet with the needs of botanical recorders. But also, ironing out problems with data transfer to BRC; problems which are now only coming to light with the first tranche of computer generated records.

As far as computerisation of Vice-county Recorders is concerned, the majority of Vice-counties are now covered by computer operated by the recorders themselves or by a computer link person. But as many will protest, that's not to say that all Vice-counties have their records actually on computer! This is not entirely unexpected. Many recorders are totally new to computing and computerisation is a long term process. Learning to use a computer is much like learning to drive a car (albeit a different set of skills and different set of muscles needed!) in as much as it takes many hours (months/years in some cases) to learn the multifarious skills required. No-one ever got into a car and drove away safely having never driven one previously! And of course, the key to becoming computerised is practice, something which requires a fair amount of time – a valuable resource not always in great supply. Even the most experienced computer users have problems and have to learn and relearn how to use software which they may never have used or at best, not used for a while. Nevertheless, over the last two years or so, although it may not seem so at a casual glance, there has been considerable progress and I am totally confident we will get there. Eventually!

### And finally . . .

In the latest issue of *Biologist* (Journal of the Institute of Biology) I came across the latest collection of Biological Exam Howlers. These in particular caught my attention:

- Herbivory may cause temporary destruction of the plant
- Tropical rain forests are declining at the rate of one Belgian
- The Rio conference helped in banning certain rare tree species
- A forest is defined as an area between 3000 million hectares and 6000 million hectares of tree cover
- It is important to control burning in heathland by using fire bricks
- Some species of reptile get annoyed if too much gorse is removed

Say no more!

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## RECORDERS AND RECORDING

There have been no new changes to the List of v.c. recorders or Panel of Referees since *BSBI News* 76; all the earlier changes have been incorporated into the 1998 *Year Book*.

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

## VICE-COUNTY RARE AND THREATENED PLANT REGISTERS RECOMMENDED SPECIES SELECTION CRITERIA FOR THE BRITISH ISLES

### Introduction

The following recommendations have been developed from Perring and Farrell (1996) and modified to take into account the latest edition of the GB Red Data Book for vascular plants (Wigginton, in prep.) which utilises IUCN criteria (World Conservation Union, 1994), and to allow for decline in those taxa not covered by existing national publications or legislation. The local criteria (2.-4.) are more quantitative than in previous guidelines. Whilst this may make them harder to implement, such quantifiable data are needed so that: (i) direct comparisons may be made between Vice-counties; (ii) subjectivity is reduced so they may be utilised for example in planning issues, public inquiries and for local Biodiversity Action Plans.

The criteria are arranged in a hierarchical manner so that a taxon fitting into a higher category need not necessarily be assessed for a lower one. It is accepted that for many taxa, factors such as population size, decline and actual distribution are insufficiently known to allow application of many of the criteria. However, it is recommended that within the limits of available time and resources, **as many categories as possible** should be applied to **as many taxa as possible**. It is also recommended that the resultant *Vice-county Rare & Threatened Plant Registers* are updated at least every five years.

### Geographical Area

The Watsonian Vice-county (Dandy, 1969; Webb, 1980)) has been chosen as the area of coverage for each Register since it is probably the most stable geographical unit in Britain. Local government review amongst other disruptions to county and district boundaries, has resulted in a plethora of changes many of which are not guaranteed to survive the expected life of the Register. Objections to the use of Vice-counties are mainly that they are little understood by local authorities or the general public. However, if each Register includes a definition of the Vice-county together with a clear boundary map, there can be little excuse for misunderstanding.

### Format

There should be ideally a separate Register for each Vice-county (although the criteria have been modified to allow merging where felt appropriate). It is expected that the data upon which the Register is based, will be stored on a computerised database wherever possible to allow regular updating and relative ease of data management. Camera ready copy can be produced directly from the computer reducing cost of production. The most cost effective and recommended format for the Register is a tabular layout such as that produced for Ceredigion (Chater 1995) and which would form a useful model.

The recommended minimum data columns to be included in the Register are:

- 1. Scientific Name (following Stace, 1997)
- 2. English Name (after Dony, Jury and Perring, 1986)
- 3. National Criteria (see below)
- 4. Local Criteria (see below)
- 5. National Grid Reference (this may be omitted for the most vulnerable species)
- 6. Latest Record (year only)

Additional information such as site/location name and status (e.g. NNR, SSSI) would be useful but not essential. Primarily, it is taxa indigenous to the Vice-county that should be considered for inclusion in the Register. However, it may be desirable to include uncommon aliens and hybrids. In such cases, these should be clearly marked by use of symbols after the scientific name, or in a separate column.

### The Criteria

Vascular plant taxa **occurring within the Vice-county** should be assessed using the following criteria and must fall within **at least one category** to qualify for inclusion within the *Vice-county Rare & Threatened Plant Register*.

#### National Criteria

- 1. Any taxon listed in the Red Data Book for Vascular Plants (third edition, Wigginton ed. in prep.)<sup>1</sup>, or The Irish Red Data Book (Curtis and McGough, 1988)<sup>1</sup>.
- 2. Any taxon listed as Nationally Scarce (Stewart et al 1994)<sup>1</sup> or Near Threatened (Palmer, 1996)<sup>1</sup>.
- 3. Any taxon listed on Schedule 8 of the Wildlife and Countryside Act 1981 (Great Britain)<sup>1</sup>, Schedule 8 of the Wildlife (Northern Ireland) Order 1985<sup>1</sup>, or, The Flora Protection Order 1987 (Republic of Ireland)<sup>1</sup>.
- 4. Any taxon listed, or occurring in habitats listed in the EC Habitats and Species Directive Annex IIb, IVb or Vb, Appendix I of the Bern Convention or Appendix I or II of CITES. (optional)
- 5. Any taxon endemic to the British Isles

#### Local Criteria

- 1. Any taxon having occurred formerly in the Vice-county but which is now extinct.
- 2. Any taxon occurring in 0.6% or less of the total number of 1 km squares within the Vice-county. The results may be banded as follows: <0.2% Locally Rare, 0.2-0.6% Locally Scarce.
- 3. Any taxon within the Vice-county having a known or inferred decline in population size or distribution of 25% or greater, over the previous 25 years.
- 4. Any taxon expected to fall within 1., 2. or 3. above within the next 5 years.

**Note**<sup>1</sup> This applies only to the taxa occurring in a Vice County within the area covered by the publication concerned.

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## DESIGN OF RECORD CARDS

### INTRODUCTION

Botanical records have been collected and used for centuries. Advances in technology, coupled with an ever increasing demand for more and better information, have revolutionised information handling from the original spoken or written word to the current record card and computer systems. In addition to distribution mapping for phytogeography, records are used for other purposes including conservation, planning, environmental impact assessments, changes in distribution and/or frequency with time (the BSBI Monitoring Scheme, Rich & Woodruff, 1996), etc., but the information content of many records is often low, which imposes restrictions on the way records can be used. For instance, many records collected for the *Atlas of the British flora* (Perring and Walters, 1962) are best regarded as referring to a 10-km square during the period 1954-1960: much of the date, locality and recorder information apparently relating to individual records is spurious.

Botanical record cards are a simple means of collecting, assessing, organising, storing and retrieving floristic information. Their use was popularised in Britain and Ireland during the Distribution Maps Scheme and have been widely used since. At their simplest, cards consist of a list of abbreviated species names (often with index numbers for data processing) and space for details of where, when and by whom the records were collected. There are now many different cards in circulation (e.g. those from the Distribution Maps Scheme, the BSBI Monitoring Scheme, local flora projects), and most follow the same basic design.

Experience of using botanical records during the BSBI Monitoring Scheme has shown numerous improvements to data collection which could increase the information content of the records and improve the efficiency with which they are handled. The purpose of this paper originally presented at a BSBI meeting in 1990) is to present some of these ideas, and to propose some standards and conventions to help maximise the use of information. As the record cards are central to the way data are currently collected, the ideas are here related principally to card design. The better the card design, the more time spent botanising and the less on administration. Not all the ideas are my own and further suggestions are welcome.

Those who are unaware of the importance of data about the recording in addition to the species list should read the *Flora of Ashdown Forest* (Rich *et al.* 1996) or Rich (1997).

### SUMMARISED VERSUS DETAILED INFORMATION

An initial consideration in design is the type of information to be collected on the cards (i.e. summarised or detailed). For instance, if cards are to be used only as 10 km square summaries, there is little need for details of the recorder. Note that whilst a card designed to collect detailed information can also hold summary information, a summary card will rarely take more detailed information satisfactorily. The facility to record detailed information should therefore be built into design from the outset.

### COLLECTION OF DATA

#### Species List

The species list printed on the cards is perhaps the most important feature. It should act as a guide to the local flora. It prompts and educates the readers. It dictates the type of information collected for each taxon. It should be designed for rapid use in the field and office, and should minimise extra work. It is crucial to adapt it to the local flora (and the more local, the better, e.g. a vice-county or group of 2-6 vice-counties), for four main reasons.

- First, it generally cuts down the number of species to be included, allowing the addition of locally common species and a larger print size. Generally, the larger the print size the better – names can be found and crossed off faster, and are easier to read in failing light or years. The small print on the Scottish BSBI Monitoring Scheme card resulted in some resistance to its use.
- Second, the list acts as a guide to the local flora, suggesting species to be searched for, and cutting down erroneous records (taxa not on the cards will generally be checked more carefully). The educational potential of cards is enormous – the inclusion of subspecies, aggregates and locally common and distinctive critical taxa can stimulate recorders to broaden their knowledge.
- Third, it focuses attention on taxa not included in the list as they have to be written down separately. Rarities, taxa of particular interest and those which are likely to be mis-recorded can be deliberately excluded so that

additional information about them can be obtained. There may be a case for including less frequent garden escapes instead of local specialities as the extra data obtained for the latter is potentially more valuable.

- Fourth, it improves the efficiency of data processing as less time has to be spent coding additional species and correcting errors

Selecting which species to include requires considerable skill. One approach is to adapt an existing card, but whilst it is easy to suggest additions (e.g. *Lamiumstrum galeobdolon* subsp. *argentatum* and *Lupinus* × *regalis* could be added to most British cards), deletions are less often suggested, resulting in an ever-increasing list. *Torilis arvensis*, *Sibthorpia europaea* and *Centaurea jacea* were not really frequent enough to merit inclusion on the BSBI Monitoring Scheme S England cards.

An alternative approach is to select the most frequent species using a local flora or computerised database. The *Sussex plant atlas* (Hall, 1980) lists frequency classes for each species and hence those described as occasional, frequent, common, very common or ubiquitous have been included on a new Sussex Botanical Recording Society card, whilst those described as rare or very rare were omitted. Similarly, a more up-to-date list detailing the number of records collected for each taxon in Sussex during the BSBI Monitoring Scheme could be obtained simply by interrogating the database compiled for that project. The potential of this latter approach is indicated by a comparison of the taxa listed on the Irish BSBI Monitoring Scheme card against the taxa most frequently recorded (at a 10 km square level) in Ireland for the *Atlas of the British flora*. If all species occurring in 5% or more of the 10 km squares in Ireland were to be included on a new card, there would be about 45 additions and 90 deletions to the existing card, a 20% change.

Attention must also be given to the way in which some taxa are recorded. Where subspecies or segregates are given, the species or aggregates should also be included or else recorders may tend to record more precisely than was intended. For instance, for the BSBI Monitoring Scheme, *Asplenium trichomanes* subsp. *quadrivalens* was included on the S. England card and *A. trichomanes* sensu lato excluded. Consequently, virtually all the *A. trichomanes* records were assumed to be subsp. *quadrivalens* and it is doubtful whether even one in 20 records was verified to subspecies level. Whilst this may not matter where the vast bulk of records refer to one subspecies or segregate, it adds a spurious accuracy to the data.

Given the difficulty of identifying particular taxa at certain times of year and varying levels of skill in the recorders, it might be worth including a generic aggregate for every critical genus and not just the selected ones at present, though this would lengthen the species list. An alternative approach used by Eric Philp (personal communication, 1986) is to print the aggregates in a separate box on the card where they act as a reminder that specimens or expert advice are required.

Often the abbreviated names cannot be read quickly or accurately, and hence their interpretation could be enhanced by expanding the standard 3 letter abbreviations of specific epithets to 5, 6 or 7 letters where space permits (e.g. *Carex* on the BSBI Monitoring Scheme cards). Alternatively, commoner species could be given longer abbreviations so that they are more rapidly located.

A number of taxa are occasionally crossed off in error for each other due to the similarity and proximity of abbreviated names on the cards. For instance, *Filago vulgaris* is regularly crossed off in error for *Filipendula vulgaris*. Other species pairs where this may happen are *Galium mollugo* and *Geranium molle* (G. Halliday, personal communication 1989) and *Rumex acetosa* and *R. acetosella* (P.M. Benoit, personal communication 1987). Again, longer abbreviations could be used for these taxa to avoid ambiguity.

It is best to follow a standard Flora for nomenclature to avoid confusion, and state which Flora on the card. The substitution of the nomenclaturally correct *Silene latifolia* on computer printouts for the familiar *S. alba* used on the cards and in the *Excursion Flora* resulted in many unnecessary queries during the BSBI Monitoring Scheme. Nomenclature can be updated when the standard Flora is updated.

Standardising the format in which aggregates or infraspecific taxa are presented on the species lists would also help avoid ambiguities. The following formats are widely used:

*	= aggregate	(I personally prefer the use of * rather than 'agg' as it cannot be mistaken for an abbreviated epithet)
x	= hybrid	
v	= variety	
f	= forma	
sat nig	= subspecies	
sat nig	= subspecies	

Underlining was used to indicate subspecies on the BSBI Monitoring Scheme cards, but it is not recommended as it has been confused with the crossing out of species on photocopies. An explanation of these abbreviations should be given on the card.

Further refinements to the species list are to indicate taxa for which voucher specimens are required, or species which are locally scarce or interesting (e.g. Hertfordshire Flora cards designed by Trevor James, Figure 1 below). These have the important effects of urging caution when the more critical plants are found, and

generating enthusiasm when the scarcer ones are discovered. They are particularly valuable features for recorders who are unfamiliar with the local flora.

1080 Junip	com*	1290 Mercu	ann
1082 Kickx	ela*	1291	per
1083	spu*	1296 Miliu	eff
1084 Knaut	arv	1298 Mimul	agg\$
	Koele		gut\$
1091 Labur	ana	1303 Minua	ten*\$
1094 Lactu	ser	128 Misop	oro*
1095	vir*\$	1305 Moehr	tri
862 Lamia	gal	1307 Molin	cae*
1098 Lamiu	alb	1310 Monot	hyp
1099	amp	1312 Monti	fon*\$
1100	hyb*	525	per*
1101	mac*	524	sib*
1103	pur	1315 Mycel	mur

Figure 1. Example of use of annotations indicating voucher specimens are required \* = rare \$ = specimen required (Hertfordshire Flora Survey)

#### MINIMUM INFORMATION REQUIREMENTS

The following information should be collected for each species list:

1. Geographical location (including grid reference, locality name and vice county).
2. Date.
3. Recorder.
4. Distribution status (i.e. native or introduced, where other than expected).
5. Time spent recording

The distributions status is additional to the requirements for records set out by Berry *et al.* (1988). This information can be crucial for interpreting records of some species (e.g. primroses which are often planted in churchyards) and in areas where 'wild flower' seed mixtures are sown. Such information can only be collected in the field by the original recorders, though it is not always easy to do so objectively. It should also only be noted where other than expected (i.e. there is little point in recording *Acer pseudoplatanus* as introduced at every site), and should be collected using standardised annotations (see below).

The prompts used to elicit the first three items of information need to be carefully worded to collect full, precise data first time: double checking later is very time-consuming. Suggested wordings are as follows.

#### 'Grid Reference (SW Corner)'

This is a modification of the wording on the Monitoring Scheme cards ('SW corner of square') which was included to stop grid references being given for the centre of the square: it achieved this, but resulted in grid references being given for the corner of the 10 km square irrespective of tetrad, etc. A diagram showing the standard BSBI nomenclature for tetrads (Ellis, 1986) should be printed on the card. Encouraging the use of letters for the 100 km square helps cut errors. A box or a list headed 'delete as appropriate' asking if the grid reference refers to a 10 km square, tetrad, 1 km square, 100 m square (i.e. 6 figure) or the central point of a site would help enormously in interpreting the grid reference.

#### 'Locality – please give place names on OS map from within area recorded or closest to it'

This will help standardise spelling and citation of place names and minimise use of local names which can be very time consuming to trace.

#### 'Vice-county'

The use of administrative counties is not recommended as their boundaries and names change with time.

#### 'Date(s) of Visit(s)'

This wording is to encourage recorders to note dates of all visits, and not just the first. Many cards recorded for the *Atlas of the British Flora* were given the date of the first visit and subsequent records were simply added to that list, resulting in, for example, records of *Adoxa* in the autumn.

#### 'Recorder(s) – please give your own, full initials'

Individual recorders are very inconsistent in the way in which they write their names, e.g. I use 'T. Rich', 'T.C.G. Rich', 'Tim Rich' or sometimes 'Rich' at random. In the case of distinctive names, or if the recorders are all known personally, inconsistency may seem unimportant but in the future it may not be so. Is 'P. Smith' the same as 'P.A. Smith', or 'J. Lousley' the same as 'J.E. Lousley'? Married women may consistently use their maiden or

married names, or their own or their husband's initials, but this may differ from the way someone else cites their name.

### Standardised Annotations

Where annotations by recorders are not explained, and this happens surprisingly often, they can be very misleading. Does 'N' mean native or naturalised? Does 'E' mean escape, error or early-flowering? A standard set of annotations would therefore be invaluable in interpretation of data, and the standards should be printed on the cards. Non-standard annotations increase the time taken to interpret and process the card as the meaning of each one has to be checked.

Suggested standards for recording distribution status (Macpherson 1997) are as follows:

E	=	Established introduction
S	=	Surviving
C	=	Casual
P	=	Planted

Suggested standards for correcting errors are:

?	=	uncertain, or possibly erroneous
x	=	error (better still x---x through name)

The standard DAFOR list for frequencies is as follows:

d	=	dominant
a	=	abundant
f	=	frequent
o	=	occasional
r	=	rare

qualified with 'l = locally' and 'v = very' as appropriate. These could be written in lower case to help distinguish them from distribution status annotations. The major problem with subsequent use of these data is that the categories are relative, and very dependent on the observer concerned.

### VERIFICATION AND INTERPRETATION

Before any records are used or copied it is vital that they are checked. Once erroneous records are in a system they can be very difficult to eradicate.

It is particularly important to cross check the grid reference against locality as this is a common source of error. A frequent error in citing grid references is to give co-ordinates in the wrong order (e.g. for the 100 km square '16' instead of '61': see Stewart & Briggs, 1986 for a classic example). If the 100-km square letters are used the problem is avoided. Another common source of misinterpretation results from tetrad grid references being cited as if they were 1 km squares. It is suggested that grid references should be cited as follows:

	<i>Grid Reference</i>	<i>Tetrad Letter</i>
For 10 km squares	SD/1--.5--	-
For tetrads	SD/1--.5--	W
For 1 km squares (irrespective of tetrad)	SD/19-.52-	W
For 6-figure records	SD/196.527	W

A description of the route taken whilst recording is an invaluable check that botanists were recording where their grid references suggest (e.g. BSBI Monitoring Scheme cards). Such descriptions also help to refresh memories in future years as to exactly which areas were recorded, though they may be of lesser value in refinding particular plants along that route.

Interpretation of the records can be helped by additional information describing how the recording was carried out (e.g. which habitats were visited, how long was spent botanising, etc.).

It has been customary to include space on the card for a list of habitats recorded, but the data gained have been little used. The list noted on the card can be compared with another list compiled from personal knowledge or from a map to establish how comprehensive coverage of habitats is and where further effort can be directed. A standard list with boxes to tick off when the habitats have been recorded would help collect and computerise the information (e.g. Worcestershire Flora Project cards designed by J.J. Day, Figure 2).

The recorder can be asked how thorough the recording was. This can indicate areas worth spending more time in, and in combination with the number of species recorded, can indicate species richness far better than number of species alone. Possible categories to be included on a card are:

- ± comprehensive
- good
- partial/incomplete
- selected/miscellaneous

Some indication of the quality of the area recorded can help focus attention on interesting sites. Quality is perhaps best assessed on a local or county level as these are the areas recorders tend to be most familiar with, though this is obviously subjective. The more localised the records are (e.g. to one meadow), the more use the data will be. Possible categories are:

- outstanding
- good
- average
- poor

Habitats surveyed tick as appropriate			
Woodland native	W	Marsh	M
Plantation	P	Pond / Lake	L
Scrub	S	Stream / River	R
Hedgerow	H	Streamside	T
Heath	D	Canal	C
Grassland	G	Rock / Wall	O
Road verge	V	Arable	A
Park / Churches	K	Disturbed/Waste ground	B
Railway	Y	Urban incl. Gardens	U

Figure 2. Habitats surveyed (Worcestershire Flora Project)

The number of species recorded is also related to the time spent recording, so it is essential to have this information (e.g. BSBI Monitoring Scheme cards).

As all aspects of recording are related to the quality of the recorder, gaining some idea of the recorders own assessment of their expertise can be invaluable in assessing unusual records (e.g. *Viola canina* in woodland). Botanical expertise is, however, not the same as accuracy of recording, a beginner may have little experience but be very careful about what is recorded. Possible categories for expertise are:

- beginner
- average
- good
- expert

Note that the natural modesty of most botanists might prevent them noting themselves as 'good' if only the first three categories were included!

### Card Masks

Card masks are a beautifully simple idea to help with interpretation: these, as far as I am aware, were first used for the Avon Flora Project. Selected species are cut out (literally) of a blank card, which is then laid over a field card (Figure 3); records for the selected species instantly stand out, all others being masked. By focusing attention on only the selected species, patterns and trends can be picked out very quickly, which help check and direct recording very effectively. Possible masks could be used for:

- common species (to see which have been missed)
- critical species or genera (to see if any are recorded)
- infraspecific taxa
- grasses
- interesting/uncommon species
- taxa easily confused
- species not known in a 10 km square or vice-county (to see which are additions or errors)
- specific habitats (e.g. aquatic, coastal)
- spring or autumn species (picks out areas not visited early or late)

The potential of masks for improving the quality of recording is enormous. Similar systems can be designed for computer databases.

### DATA PROCESSING

The numbers on BRC cards were designed as data processing aids – each taxon was given a unique, consecutive number. It is faster and more accurate to type a few digits into a computer than whole or abbreviated Latin names, or complex numbers indicating taxonomic relationships (e.g. those in Dandy, 1958). Computer systems which process records from selection on a menu avoid this problem and are very quick to use.

It is possible to data process numbers which indicate taxonomic relationships, but these are less efficient. For instance, Figure 4 shows part of a zoological card where each genus, and then each species within each genus, has been allocated a number. When processing records on such a card, up to 5 digits have to be typed for each taxon compared to the 3 digits actually required to uniquely identify each taxon (there are 400 taxa on the original card), an increase in typing of up to 50%. Once data have been input into a computer they can be converted automatically into a taxonomic sequence, or a taxonomic sequence can be added later if required.

Asple	adi+	185	Armor	rus	167	lae	385
	rut	192			169	nig	393
	tri	194	Artem	mar	172	otr	396
Athyr	fil	211		vul	175	ova	397
Azoll	fil	223	Arum	ita+	1771	palles	399
Blech	spi	244		mac	176	panicea	400
Ceter	off	473		neg+	1772	panicula	401
Dryop	aem	660	Aspar	off	179	pen	404
	aff	662	Asper	cyn	182	pil	405
	car	666	Ast*nov	b	201	pse	407
		661		tri	204		412
		665	Atrip	gla	212	rip	413
		712		lit	217	rostra+	414
	flu	713			218	spi	357
	pal	717			214	str+	420
	tel	721	Atrop	bet	219		421
Ophio	vul	1381	Avena	fat	220	ves	424
Oreop	lim	2051	Avenu	pra	961	Carli	vul
Phyll	sco	1466		pub	962	Carpi	bet
Polyp	agg	1544	Ballo	nig	225	Casta	sat
	vul	15442	Barba	ver	228	Centa	cal
Polys	acu	1546		vul	229		444
	set	1548			231	sca	446
		1619	Berul	ere	234		451
			Beta	vul		pul	453

Figure 3. Extract of a card mask for common species.

9501	Trypoxylon	attenuatum	11401	Mellinus	arvensia
9502		davicerum	11402		crabroneus
9503		tigulus	11501	Bembix	rostrata
9601	Crabro	cribrarius	11601	Nysson	dimidiatus
9602		peltarius	11602		interruptus
9603		scutellatus	11603		spinosus
9701	Crossocerus	annulipes	11604		trimaculatus
9702		binotatus	11701	Alysson	lunicornis
9703		capitosus	11901	Gorytes	bicinctus
9704		cetratus	11802		laticinctus
9705		dimidiatus	11803		punctatus
9706		distinguendus	11804		quadrifasciatus
9707		elongatulus	11805		tumidus
9708		exiguus	11901	Argogorytes	fargell
9709		leucostoma	11902		mystaceus

Figure 4. Extract of a zoological card where taxonomic numbering is used for data processing.

Numbering numbers consecutively for data processing is not as logical as may at first be apparent. When numbers are typed into a computer, there are inevitable errors and manual checking rarely corrects them all. By selecting every third number (e.g. 1, 4, 7, 10), up to two thirds of the errors can be picked up automatically on the computer as the erroneous numbers will not exist. Using a system which checked for erroneous numbers, 80% of the errors for the BSBI Monitoring Scheme were spotted. Note that if BRC numbers are used on regional cards this check is created automatically as only a selection of species are present.

The original consecutive BRC numbering system was modified to include infraspecific taxa, etc., by adding a decimal place (e.g. *Agrostis canna* subsp. *canna* = 35.1, *A. canna* subsp. *vinealis* = 35.2; the decimal point is not shown on the cards). This slows data input slightly and has caused problems on some personal computer databases where decimal points are not used; 35.2 *Agrostis canna* subsp. *vinealis* can be misread as 352 *Carex buxbaumii*. It may be worth considering a new standard set of BRC numbers after the Millennium.

If you are thinking of creating a new set of botanical numbers for your own data, DON'T, for three reasons.

- First, the BRC numbers are a standard, allowing transfer of information between computer databases (Rich, 1989); a new set of numbers will not be compatible and will require painstaking conversion before being usable elsewhere.
- Second, problems such as treatment of segregates and aggregates, synonyms, etc., which have been solved in the BRC numbers, may be recreated.
- Third, BRC lists are available in computerised format, avoiding a lot of unnecessary work (new numbers can be allocated for new taxa if requested).

The convention of positioning numbers to the left hand side of the names may slow down data input. When such records are typed (Figure 5a) they have to be read using up to five eye movements for each record. If the numbers are positioned to the right hand side of the names, there are only two eye movements (Figure 5b): input should therefore be quicker and less tiring.

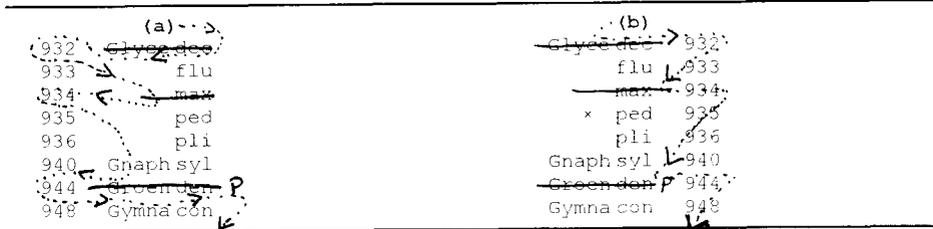


Figure 5. Pattern of eye movement (- ->- ->) when reading records for cards with (a) numbers on the left hand side of the names, (b) numbers on the right hand side of the names.

With the potential of modern technology, it should be possible to process data automatically using optical scanning, graphics tables, etc. and some systems are already available (Way, 1990) and another has been trialed (Rich & Rich, 1993). These systems are unlikely ever to cope with muddy cards annotated in the field, but they may be suitable for processing summarised data compiled afterwards.

### STORAGE AND RETRIEVAL

Care with the layout of the card can help or hinder the retrieval of a particular card from a pile. It is quickest to pick out cards on a combination of date and locality or recorder (these are usually unique) as names are easier to read than numbers. The Card Number on the Monitoring Scheme cards was originally envisaged as an indexing system but proved time consuming to administer and relatively little use. The information on which cards are to be retrieved should be placed along one margin (usually the longer margin) so that they can be read quickly whilst flicking through a pile.

It is worthwhile duplicating a set of cards for storage elsewhere as an insurance against fire or loss in the post. Photocopying provides a simple means of duplication, though if different coloured inks are used during recording, they will not be distinguished. A blank margin of 7-10 mm should be left around the edges of the cards to allow for photocopier blindness, or alternatively the margin could be filled with information on standardised annotations, nomenclatural notes, etc. which does not need to be duplicated. A contact address (e.g. BSBI, c/o The Natural History Museum, London) would be useful so that cards lost in the post or elsewhere could be returned.

If copying is planned, it is worth duplicating some recording information on the back of the card to help ensure that the correct sides of the cards have been copied together.

### OTHER ASPECTS OF DESIGN

Some physical attributes of design such as size and paper quality defer to personal preference. The traditional A5 cards (i.e. 210 × 148 mm) fit into a pocket, and can be used held against the back of a Flora. However, the print size is often small, there is little room for explanatory or additional information, and they involve endless turning backwards and forwards to cross species off unless the plants are discovered in alphabetical order!

A4 cards (i.e. 296 × 210 mm) have space for extra information and are quicker to use as the printed species list can be fitted on one side of the card. They can be folded in half to be used like A5 cards if desired, but when used flat have to be held against a clipboard or A4-sized book (e.g. *Plant Crib!*) which often attracts attention from members of the public. They may flap around in the wind, are more expensive to print and take up more storage space than A5 cards. An administrative advantage is that A4 cards are quicker and easier to photocopy.

Thin card creases, tears and wears with use, and may flap more in the wind, but can be used on an automatic feed on a photocopier. Thicker card is more costly. A gloss finish to the card will resist water better than a matt surface but is more expensive, smudges with biro and does not take pencil well. A matt or low gloss finish and a medium paper weight of about 400-500 gsm is a reasonable compromise.

For wet weather recording, cards can be printed or photocopied on waterproof (plasticised) paper. The main drawbacks to using such cards all the time are the higher cost (currently about 15p per sheet) and that writing tends to smudge with time, but producing at least *some* waterproof cards would be very helpful in the field (see also *BSBI News* 76).

Using coloured (rather than white) card has the considerable advantage of a reduced glare on sunny days, and makes the cards instantly recognisable. Dark colours and especially orange, pink and red, should be avoided as the cards photocopy badly on some copiers, but pale greens, blues and yellows present little problem.

## DISCUSSION

There is thus considerable scope for improving the way botanical records are collected. Such improvements will allow records to be used for many purposes in addition to distribution mapping. As the design of cards is a compromise between the different uses the card is put to, a limited trial with subsequent modifications should be carried out to test that the design is efficient. The design should also be tailored to the requirements of each individual recording project.

Once a successful design has been achieved, it is best not to change it. Printing is cheaper in bulk, data processing systems only have to be set up once, cards can be stored in one system, masks do not have to be re-cut and, most importantly of all the familiarity of recorders with their cards is not lost.

## ACKNOWLEDGEMENTS

I would like to thank Mrs R. Woodruff for much valuable discussion during the Monitoring Scheme, J. Day and T. James for permission to use parts of their record cards, and E. Nic Lughadha and C. D. Preston for numerous improvements to the original manuscript.

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## CREATING YOUR OWN FIELD RECORDING CARDS

The computerisation of the records for v.c. 110 (Outer Hebrides) has been completed, using the RECORDER package. Approximately 35,000 records have been entered, representing all known records, i.e. the published records, field records and the entire contents of the recorder's card index. By the standards of a southern English county, this is not very many records, but in the Western Isles of Scotland there are only just over 700 species to record, and very few resident naturalists (including no members of the BSBI, as far as I know).

In the summer of 1997 I had my first chance to go into the field with the complete database on a portable microcomputer. This was also the first possibility of making my own field record cards, i.e. like the familiar BSBI white Field Card from the BRC, but with lists of the latest records for each of the 10 km squares, and/or the geographical areas. Examples are shown below. Each list has the taxon name, abbreviated in the usual way, with 5 letters for the genus and 3 for the species, with a date of the most recent record in front. A plus sign means that the taxon has already been recorded in that area for the Atlas 2000. With one of these printouts, I can stand in the field and immediately know whether the plant that I am recording is

- 1) already recorded for the new Atlas
- 2) previously known (and when) but in need of re-recording
- 3) a completely new record for the area

### Examples

- a) A named area ZONE 10 (Scalpay) 214 names
- |     |                 |     |               |      |
|-----|-----------------|-----|---------------|------|
| +96 | Acer pse        | +96 | Cynos cri     | .... |
| 39  | Achil mil       | +96 | Dacty glo     |      |
| +96 | Achil pta       | 41  | Dacty fuc heb |      |
| 39  | Agros cap x vin | +96 | Dacty mac     |      |
|     |                 |     |               | .... |
- b) A 10 km square NG/0.8 Rodel 400 names
- |     |           |     |           |      |
|-----|-----------|-----|-----------|------|
| 79  | Acer pse  | 79  | Calli ham | .... |
| +96 | Achil mil | +96 | Calli sta |      |
| ••  | Achil pta | +96 | Callu vul |      |
| 79  | Aegod pod | +96 | Calth pal |      |
| ••  |           |     |           | ••   |

These lists were created by selecting the records from a given 10 km square, or geographical zone. This is quick to do, because these data fields are indexed. Since the vice-county is divided for the purposes of the Flora into 29 numbered zones, which are subdivided hierarchically into named areas, it is possible to sort out difficulties such as where a 10 km square overlaps several zones (often different islands), or the other way about, and to select the correct records. The records are then sorted by species alphabetically and by date (with the most recent first) and then the first record of each different taxon is picked out. The taxon names are abbreviated on the basis of the names already stored in the computer, so that a few of the abbreviations are not unique, e.g. *Rumex ace*, but this causes little difficulty in practice. Dates from the last century are abbreviated with two dots, e.g. for *Achillea ptarmica* in the Rodel square.

The cards have been extensively used by myself and three other recorders during 1997. We have found that our sense of achievement in recording is greatly increased, and possibly the coverage of recording is improved as well. In the case of the Outer Hebrides, it seems that many old records, i.e. up to 50 years back, can be quickly confirmed or refound, just because the recorder on the spot knows what he/she should be able to see and roughly where to look. The database in the portable, or suitable printouts prepared in advance (or your card index, if any), is then very useful so as to quickly find out where the old records came from. It seems that in this vice-county, at any rate, the flora is relatively stable over a longish period of time, and that most areas are under-recorded. As an example of this, when we visited the island of Taransay for the day, we had a list of 230 species. Of these, 130 were refound, but 50 new species were also found, so we saw 180. The flora of the island has probably not changed much, apart from the loss of some arable weeds, so we suspect that it was originally under-recorded.

I will be happy to make copies of the field cards available to anyone who is going to the islands.

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## NOTES AND ARTICLES

### VARIATION IN *RUBUS ECHINATOIDES* AND *RUBUS RADULA*: ENVIRONMENTAL OR GENETIC?

Rob Randall has recently drawn attention to the problems associated with the identification of members of *Rubus* series *hystrix* and environmental factors effecting species morphology. The placement of bramble species into appropriate series is of course an artificial arrangement designed to aid classification. Many of the Rubi which are nowadays referred to as species were once considered to be mere varieties of the *Rubus* species which had previously been described. It would of course seem logical that a proportion of those species which are most widespread in north-western Europe are presumably the ancient ancestral relatives of many of the localised and regional endemics of the British Isles.

*Rubus echinoides* is a species placed in Series *Radulae* which was originally referred to as *R. radula* var. *echinoides* by W.M. Rogers. Provided typical material of *R. echinoides* is encountered classification is in theory a simple enough procedure. A good example of the influence of environmental factors (perhaps coupled with developmental variation) presumably effecting the appearance of this species was provided when plants observed along moorland lanes to the north of Littleborough, near Rochdale late in the growing season were found to have stems which were almost eglandular. However on a return visit to the same district all the plants observed in the valley bottom early on in the growing season were observed to be characteristically armed.

Care does need to be taken to critically examine brambles which on superficial examination can appear very similar. A bramble which is a feature of the woodlands and hedgerows of the Lower Ribble. Darwen and Lostock river valleys can closely resemble *R. echinoides* on account of the narrow white notched petals, the white felting of the undersides of the leaves, and the radulian appearance of shade grown stems. The stems of plants growing in the open hedgerow habitat are however densely armed and hystriean. The identity of such plants was initially assumed to be that of *R. echinoides* and the hystriean armature of the plants was thought to be a direct response to regular cutting of the hedgerows, but on closer examination it was found that the carpels of such plants are consistently hirsute. It is currently assumed that the plants are of an undescribed taxon referred to at present as the 'Leyland hystrix'.

About Kettlethulme in Cheshire plants resembling *R. echinoides* exhibit the stem characteristics of Series *micantes*. In Cumbria plants to the south-east of Windermere are regarded as a local variant of *R. echinoides* and are characterised by the obovate leaflets and the presence of a large lobed leaf or leaflet in the panicle (see *Flora of Cumbria*).

In West Lancashire (v.c. 60) there are surprisingly few records of *R. echinoides* although a strong population of typical plants occurs in the wooded river valley at Brock Mill. A member of the Series *radulae* is however frequently encountered in the Garstang area which flowers early in the season and which shows affinities to both *R. radula* and *R. echinoides*. Somewhat further to the south another early flowering form which closely resembles *R. radula* is locally common in the Bollin valley in the Altrincham – Wilmslow district.

What processes are involved? If plants which are assumed to be atypical forms of *R. echinoides* and *R. radula* were to be grown in cultivation would the differences persist, suggesting that changes have occurred at a genetic level? Might some of the plants revert to the typical form suggesting a physiological response to the environment as might be the case with the moorland fringe plants of the upper Roch valley?

An interesting case of atypical stem armature is that exhibited by the localised Staffordshire endemic *R. daltrii* Edees & Rilstone a member of Subsection *Rubus*, the stems of which are armed with glands and pricklets and here the departure from the norm must clearly be genetic.

Factors such as the degree of stem armature of Rubi are not just of taxonomic interest, but are of relevance to economic botany. If it is the case that the stem armature of possible umbrella species such as *R. echinatoides* and *R. radula* can vary from almost eglandular to hystrician then such facies are clearly of value to the horticultural industry. Further investigations of the molecular ecology of *Rubus* speciation could ultimately lead to the production of un-armed cultivars of those members of our indigenous Rubi which yield excellent fruit but are at present of no horticultural value because of their stem armature.

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### BOTANY IN LITERATURE—9

Thomas de Quincey in his 1856 revision of *Confessions of an English opium eater*, which was first published in 1821 (Penguin Classics 1971, reprinted 1986), laments the spoliation of Grasmere by the building of an unnecessary road.

[xxi] . . . Thirty years ago, a gang of Vandals (nameless, I thank heaven, to me), for the sake of building a mail-coach road that never would be wanted, carried, at a cost of £3000 to the defrauded parish, a horrid causeway of sheer granite masonry, for three-quarters-of-a-mile, right through the loveliest succession of secret forest dells and shy recesses of the lake, margined by unrivalled ferns, amongst which was the *Osmunda regalis*. This sequestered angle of Grasmere is described by Wordsworth, as it unveiled itself on a September morning, in the exquisite poems on the "Naming of Places." From this also – viz., this spot of ground, and this magnificent crest [the *Osmunda*] – was suggested that unique line – the finest independent line through all the records of verse,

"Or lady of the lake,  
Sole-sitting by the shores of old romance."

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### RARE AND SCARCE PLANTS DOCUMENTATION IN V.C. 63 (SOUTH-WEST YORKSHIRE)

#### Projected Fieldwork

David Pearman's excellent and informative Presidential Address – *Towards a New Definition of Rare and Scarce Plants* – (*Watsonia* 21(3) 1997) must have stimulated many v.c. Recorders and other BSBI members to look critically at the distribution and status of Rare and Scarce Plants within their own vice-counties. This Presidential Address was particularly timely, coming, as it did, within the time-scale of the Atlas 2000 Project. I am in full agreement with David that, while the coarse 10×10 km grid, utilised since the *Atlas of the British Flora* (Perring & Walters 1962) has been and still is, perfectly adequate for recording the overall British Flora on a national basis, there is an urgent need to document Rare and Scarce Plants at a much more detailed, finer scale and, more importantly, to set up a regional databank or repository of information which can be regularly updated.

Present day initiatives in plant recording and nature conservation strategy are already leading to a much more detailed appraisal of the distribution of rare and scarce species and Atlas 2000 has given considerable impetus to this. Additionally, English Nature, with its Natural Areas policy, and the other Country Agencies, are also focusing directly on broader environmental issues and policies, including the need to conserve both rare and representative species and habitats. We all recognise that the SSSI (Site of Special Scientific Interest) system of designation by the Country Agencies highlights and gives a measure of protection to the best examples of a variety of habitats throughout the country.

At the same time, many administrative regions, whether they be Metropolitan Counties, Shire Counties, Wildlife Trust regions etc., have already, or are in the process of setting up a second tier

system to identify sites of nature conservation importance at a regional level. During my time as a Local Government ecologist over the past twenty years, we set up a system of SSI (Site of Scientific Interest) designation in West Yorkshire to identify and document in detail such second tier sites, which now receive a measure of protection through the Unitary Development Plan system, a 10-year planning blueprint developed by the various Metropolitan Councils throughout the county. It has become self-evident to me during this time that, in many cases, the ecologically richer and more diverse habitats within a region do contain a large proportion, though not necessarily all, of the rare and scarce species, both plant and animal, within that region. The SSI designation in West Yorkshire confirms this in terms of the major habitat types, e.g., woodland, wetland, grassland, heathland etc. For example, *Luronium natans* which occurs in one or two canals in West Yorkshire, *Epipactis phyllanthes* and *Hypericum montanum* in Magnesian Limestone woodland and *Allium scorodoprasum* which is locally frequent in two or three calcareous grasslands in the county are all examples of plants listed in *Scarce Plants in Britain* (1994) which ecologically enhance and confer rarity value to designated SSI's, and occur within existing diverse vegetation communities.

It follows, therefore, that the implementation of a Rare and Scarce Plants Documentation Scheme must be made an urgent requirement at the regional level. Now that Atlas 2000 recording and data input has got well under way in v.c. 63, and while keeping recording and the input of data as a high priority, I intend, in 1998, to initiate a Rare and Scarce Plants Documentation Survey to run in tandem with Atlas 2000 and beyond it, into the foreseeable future. The end product would serve several purposes – e.g., 1) enhance the quality of the Atlas 2000 data, 2) provide a separate Register of data which could stand alone and 3) and, in my view, most importantly, provide a hitherto unavailable baseline of data to assist in the identification and conservation of rare species and habitats.

Within a region such as v.c. 63, however, the interpretation of Rare and Scarce Plants is obviously different to the national register, as detailed in *British Red Data Books: 1. Vascular Plants* (1983) and *Scarce Plants in Britain* (1994). While some nationally Rare and Scarce species, listed in those volumes, such as *Carex vulpina*, *Pihularia globulifera*, *Rhinanthus angustifolius* and *Sonchus palustris* do occur, there are a significant number of species which can be deemed 'regionally rare or scarce', although they may be more widespread nationally and do not qualify for inclusion in the National registers. Such species, including, for example, *Cirsium dissectum*, *Carex pulicaris*, *Cladium mariscus*, *Sison amomum* and *Wahlenbergia hederacea* confer rarity value and, hence, enhance the ecological significance and nature conservation value of the sites and habitats in which they occur. It seems self-evident that the status and distribution of such 'key' species should also be accurately plotted.

On the other hand, there are a number of species listed, particularly, in *Scarce Plants in Britain* (1994), which may be rare natives in some parts of the country, but which are recurrent aliens, casuals or recognised garden escapes in v.c. 63. Such plants include, for example, *Medicago polymorpha*, *Medicago minima*, *Meconopsis cambrica*, *Aconitum napellus* and *Polemonium caeruleum*. Similarly, rare shrubs such as *Buxus sempervirens*, restricted as a native plant to the chalk and Oolitic Limestone of southern England, are widely planted in many parts of the country, including v.c. 63. Species such as these all fall outside the scope of the Rare and Scarce Plants Survey in v.c. 63.

Conversely, there are species which, although native in some parts of the country, are introduced and become sporadically naturalised, but are well established, although always scarce in the region. *Daphne mezereum*, *Hydrocharis morsus-ranae* and *Stratiotes aloides* are among those which seem to fall into this category. Such species will be included in the survey.

Bearing all these factors in mind, I would now like, firstly, to outline a scheme of implementation for Rare and Scarce species documentation in v.c. 63. Secondly, I will give a list of Rare and Scarce Plants, identified for v.c. 63, which will be targeted in forthcoming fieldwork.

It is envisaged that a detailed database will be set up for each species, with the following format.

1. Code number and name of Species - Latin and English.
  2. Vice-county.
  3. 10 km square and six figure 1 km square grid references and location (where not a recognised site).
- NB.** There may be more than one significant population of the species within a 1 km square.

- 4 Site name and status (e.g., existing SSSI, Yorkshire Wildlife Trust Reserve, SSI, Local Nature Reserve etc.) as appropriate and a precise six figure grid reference.
- 5 Date of record.
- 6 How notified – i.e. literature record confirmed, field record, etc.
- 7 Name of Recorder and of Expert/Referee (where necessary).
- 8 Field Record details of habitat type, associated vegetation or other features of ecological interest which are of importance in preserving the habitat of the species concerned.
- 9 Any observed management of the habitat concerned.
- 10 Estimate of population size of the species. (I realise that this is a very subjective area and words like dominant, abundant, frequent, occasional, rare etc., may be subject to different interpretations from different people. I am, therefore, suggesting that it may be useful to adopt the quantitative DOMIN scale of frequency used with effect in *British Plant Communities*. Vols 1 - 5. (eds. J.S. Rodwell, 1991 et seq.). In such a way, it will be possible, by taking a suitable quadrat size or (in the case of canals or rivers or other linear features) length, to arrive at a DOMIN frequency for the species concerned, and also give an indication of its relative abundance within the habitat concerned.
11. A time scale for monitoring the species and resurveying. (I suggest a minimum 5 year and maximum 10 year time span.)

**Table 1**  
**List of Rare and Scarce Plant Species – v.c. 63**

<i>Allium scorodoprasum</i> (SPIB)	<i>Impatiens noli-tangere</i> (SPIB)
<i>Althaea officinalis</i> (SPIB)	<i>Juncus gerardii</i>
<i>Anagallis minima</i>	<i>Lathyrus missolia</i>
<i>Andromeda polifolia</i> (SPIB)	<i>Ledum palustre</i> subsp. <i>groenlandicum</i> (BRDB. VP)
<i>Apera spica-venti</i> (SPIB)	<i>Legousia hybrida</i>
<i>Aphanes inexpectata</i>	<i>Lepidium latifolium</i> (SPIB)
<i>Apium graveolens</i>	<i>Leymus arenarius</i>
<i>Asperula cynanchica</i>	<i>Lithospermum purpureocaeruleum</i> (BRDB. VP)
<i>Blysmus compressus</i>	<i>Luronium natans</i> (SPIB)
<i>Bolboschoenus maritimus</i>	<i>Lycopodium clavatum</i>
<i>Bromus commutatus</i>	<i>Lysimachia thyrsoiflora</i> (SPIB)
<i>Callitriche hermaphroditica</i> (SPIB)	<i>Marrubium vulgare</i> (SPIB)
<i>Callitriche obtusangula</i>	<i>Myrica gale</i>
<i>Carex digitata</i> (SPIB)	<i>Myriophyllum alterniflorum</i>
<i>Carex dioica</i>	<i>Nymphoides peltata</i> (SPIB)
<i>Carex distans</i>	<i>Oenanthe lachenalii</i>
<i>Carex divulsa</i> subsp. <i>leersii</i>	<i>Orchis morio</i> (SPIB)
<i>Carex elata</i> (SPIB)	<i>Orobanche minor</i>
<i>Carex ericetorum</i> (SPIB)	<i>Pilularia globulifera</i> (SPIB)
<i>Carex hostiana</i>	<i>Potamogeton compressus</i> (SPIB)
<i>Carex pulicaris</i>	<i>Potamogeton ephedrus</i> (BRDB. VP)
<i>Carex viridula</i> subsp. <i>viridula</i>	<i>Potamogeton trichoides</i> (SPIB)
<i>Carex vulpina</i> (SPIB)	<i>Potentilla neumanniana</i> (SPIB)
<i>Catabrosa aquatica</i>	<i>Pyrola minor</i>
<i>Chrysosplenium alternifolium</i>	<i>Pyrola rotundifolia</i> subsp. <i>rotundifolia</i> (SPIB)
<i>Cirsium acule</i>	<i>Ranunculus fluitans</i>
<i>Cirsium dissectum</i>	<i>Ranunculus penicillatus</i>
<i>Cirsium eriophorum</i>	<i>Rhinanthus angustifolius</i> (BRDB. VP)
<i>Cladium mariscus</i>	<i>Ribes alpinum</i> (SPIB)
<i>Coeloglossum viride</i>	<i>Rumex maritimus</i> (SPIB)
<i>Cynoglossum officinale</i>	<i>Rumex palustris</i> (SPIB)

<i>Daphne mezereum</i> (SPIB)	<i>Salsola kali</i>
<i>Eleocharis acicularis</i> (SPIB)	<i>Scirpus sylvaticus</i>
<i>Eleocharis multicaulis</i>	<i>Scrophularia umbrosa</i> (SPIB)
<i>Eleocharis uniglumis</i>	<i>Scutellaria minor</i>
<i>Eleocharis fluitans</i>	<i>Selaginella selaginoides</i>
<i>Epipactis phyllanthos</i> (SPIB)	<i>Serratula tinctoria</i>
<i>Equisetum hyemale</i>	<i>Silene uniflora</i>
<i>Euphorbia serrulata</i> (BRDB. VP)	<i>Sison amomum</i>
<i>Festuca altissima</i> (SPIB)	<i>Sonchus palustris</i> (SPIB)
<i>Fritillaria meleagris</i> (SPIB)	<i>Spiranthes spiralis</i>
<i>Gagea lutea</i> (SPIB)	<i>Stellaria neglecta</i>
<i>Geranium sanguineum</i>	<i>Stellaria pallida</i>
<i>Geranium sylvaticum</i>	<i>Stratiotes aloides</i> (SPIB)
<i>Geum × intermedium</i>	<i>Teesdalia nudicaulis</i> (SPIB)
<i>Gnaphalium sylvaticum</i> (SPIB)	<i>Tetragonolobus maritimus</i> (BRDB. VP)
<i>Groenlandia densa</i>	<i>Thelypteris palustris</i> (SPIB)
<i>Gymnocarpium dryopteris</i>	<i>Tilia platyphyllos</i> (SPIB)
<i>Gymnocarpium robertianum</i> (SPIB)	<i>Trollius europaeus</i>
<i>Helleborus foetidus</i> (SPIB)	<i>Umbilicus rupestris</i>
<i>Hippocrepis comosa</i>	<i>Utricularia australis</i>
<i>Hordelymus europaeus</i> (SPIB)	<i>Utricularia minor</i>
<i>Hydrocharis morsus-ranae</i> (SPIB)	<i>Vicia sylvatica</i>
<i>Hypericum elodes</i>	<i>Viola lutea</i>
<i>Hypericum montanum</i> (SPIB)	<i>Wahlenbergia hederacea</i>

### Abbreviations

BRDB. VP The species has an entry in *British Red Data Books: 1. Vascular Plants* (1983)

SPIB = The species has an entry in *Scarce Plants in Britain* (1994)

The above list comprises those species which I would judge are Rare or Scarce in v.c. 63. In compiling the list both historical literature records and field records since 1970 have been used. It will be self-evident, therefore, that, by the very nature of the record sources, there are considerable gaps in our knowledge of the present status and distribution of a proportion of the species listed. The Rare and Scarce Plants Survey will seek to address these problems.

At the end of the day (and I do not, obviously, see a finite time span for a Survey of this nature), I envisage the establishment of a detailed regional database of Rare and Scarce Species (and habitat) information which would be of immediate use to planners, conservationists and others in the management of our semi-natural environment.

As stated above, I intend to begin work on this Survey in the 1998 field season and would like to invite all botanists in the vice-county and elsewhere, who are interested in participating in such work to get in touch with me. I hope to arrange a series of organised field excursions during the summer, and, in addition, will be progressing with the Survey on a more ad hoc basis, as time permits.

I hope this article may stimulate other vice-county recorders in Yorkshire to consider working along similar lines in the near future. I would be very pleased to meet with any one who wishes to discuss the Scheme further. It would, indeed, be marvellous if, in due course, a Rare and Scarce Plants Register could be produced for the whole of Yorkshire.

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## A QUESTION OF PRIORITIES

In Britain, limited funds are often earmarked for the conservation of rare plants, regardless of their status elsewhere in the world. Conversely, those species which are common in Britain, despite having a restricted global distribution, tend to be taken for granted. Should common plants which just happen to be rare in the British Isles be conserved at the expense of those which are generally threatened globally but thrive on our shores?

This question was recently addressed by the Countryside Council for Wales (CCW) when they awarded a research grant to the Department of Botany, National Museum of Wales, to investigate the problem. Many of our so-called common plants are endemic or near-endemic to Europe and belong to the Oceanic or Atlantic elements of our flora (Ellis 1983), and a large number find their major refuges in western Britain, Wales in particular. Admittedly, British populations may differ genetically from those on the continent and such considerations must be borne in mind. Even so, a better understanding of global distributions would allow the formulation of improved conservation strategies and the informed reallocation of available funds. Although conservation programmes must be implemented at the national level, let us not lose sight of the fact that conservation remains a global issue.

A major difficulty in the identification of priority taxa was that until recently no single, readily available, source of world distribution maps was available. Gwynn Ellis (then Head of Vascular Plants at the National Museum of Wales) suggested that the first step should be the production of maps for those taxa listed in the British *Red Data Book*, those belonging to the Oceanic or Atlantic elements, and those species occurring in fewer than 10 hectares in Wales. He subsequently produced a preliminary list of taxa which he envisaged CCW could use to target Welsh species which are globally restricted and initiate conservation programmes where they would be of most benefit.

Whilst employed on the research contract at the National Museum of Wales, Cardiff, I was able to extend this list to include 712 Welsh taxa which are endemic or near-endemic to Europe (including some North African countries) or else occur largely in Europe but having a somewhat more widespread extra-European distribution. Following an extensive literature search, preliminary hand-coloured maps were produced for these taxa. The maps suggested that 289 priority taxa warranted further investigation. Some 38 of these showed extinctions on a national scale in Europe, and according to whether they occurred in up to 50%, or more than 50%, of European countries, were assigned to Category A (16 taxa) and B (6 taxa) respectively. The remaining 16 taxa showed a restricted extra-European distribution (Category C) (see lists of taxa on page 28).

Plants in Categories D, E and F showed no evidence of extinction on a national scale within Europe and were assigned according to whether they occurred in up to 50%, or more than 50%, of European countries respectively (Category D, 157 taxa, E, 94 taxa). The 43 taxa assigned to Category F showed a more widespread extra-European distribution.

Computer-drawn world distribution maps and threat-status maps were produced for taxa in Categories A-E, while hand-drawn maps only were produced for the less threatened taxa in Categories F and G. Insufficient information was available to map a further 90 taxa (Category H) as well as the apomicts *Hieracium* (10 taxa) and *Taraxacum* (45 taxa) (Category I). Nevertheless, incomplete hand-drawn maps were produced for both these groups. No global distribution details whatsoever were available for some 3% of the taxa examined.

The maps revealed that although 5.3% of the taxa showed a diminishing trend in Europe, as evidenced by extinctions on a national scale, this is an underestimate, since another 2.3% showed unconfirmed national extinctions and a larger number of local extinctions.

Similarly, 17.9% of taxa showed signs of spreading as evidenced by naturalisations on a national scale, although, in some cases (e.g. *Aconitum napellus*) it was uncertain whether this was due to natural invasion of adjacent countries or to garden escapes. These extinctions and naturalisations appeared to occur largely in northern Europe.

Six taxa, *Aconitum napellus*, *Cirsium tuberosum*, *Illecebrum verticillatum*, *Chenopodium urbicum*, *Sedum forsterianum* and *Hottonia palustris*, whilst already extinct in some European countries, seem to be spreading into others.

Whereas few would be astonished at many of the taxa included in Category A, the most threatened group, there were some surprises. For example, in Britain, *Wahlenbergia hederacea* occurs commonly only in Wales and SW England, being rare elsewhere. Endemic to Europe, it has been recorded only from Ireland, Portugal, Spain, France, Netherlands and Belgium. However, already it seems to be extinct in the Netherlands, rare in Ireland and Belgium and 'quite common to rare' in Normandy.

*Primula vulgaris* was assigned to Category B, the second most threatened group. Although not currently endangered in the British Isles and Denmark, it is already extinct in Sweden and Mecklenburg Vorpomern, endangered in Poland and care-demanding in Schleswig-Holstein.

Perhaps the greatest limitation of this study was the general paucity of up-to-date information. By the time data appears in print, it is already out-of-date and the threat status of a given species may have changed. Even so, a literature search still remains the most practical method of determining global distribution and threat status. Whilst it is recognised that these two parameters may have changed for some species since the compilation of the Report, the latter, nevertheless, provides a useful baseline for future investigations. Moreover, since the maps were produced using computer graphics, these can be updated as further field data become available.

To conclude, we certainly have a responsibility to conserve our rare species, but this responsibility should ideally also extend to the conservation of all of Earth's rich biodiversity. Since many globally restricted taxa find their major refuges in western Britain, these too deserve our attention however abundant we consider them to be in an insular context

Copies of the four-volume report, maps and appendices are available for consultation at CCW Headquarters, Bangor and the National Museum of Wales, Cardiff.

#### Category A taxa

<i>Aconitum napellus</i>	<i>Carus verticillatum</i>	<i>Cicendia filiformis</i>
<i>Cirsium tuberosum</i>	<i>Crepis mollis</i>	<i>Hordeum marinum</i>
<i>Hottonia palustris</i>	<i>Illecebrum verticillatum</i>	<i>Luronium natans</i>
<i>Mibora minima</i>	<i>Narthecium ossifragum</i>	<i>Ranunculus hederaceus</i>
<i>Ranunculus omiophyllus</i>	<i>Saxifraga rosacea</i>	<i>Wahlenbergia hederacea</i>
<i>Sedum forsterianum</i> subsp. <i>forsterianum</i>		

#### Category B taxa

<i>Orchis ustulata</i>	<i>Primula vulgaris</i>	<i>Pseudorchis albida</i>
<i>Ranunculus baudotti</i>	<i>Sagina subulata</i>	<i>Sesleria caerulea</i>

#### Category C taxa

<i>Arabis petraea</i>	<i>Carex divisa</i>	<i>Carex limosa</i>
<i>Carex montana</i>	<i>Cephalanthera longifolia</i>	<i>Chenopodium urbicum</i>
<i>Cyperus longus</i>	<i>Dactylorhiza traunsteineri</i>	<i>Drosera anglica</i>
<i>Groenlandia densa</i>	<i>Gymnocarpium robertianum</i>	<i>Hernium monorchis</i>
<i>Hymenophyllum tumbriense</i>	<i>Lathraea squamaria</i>	<i>Persicaria vivipara</i>
<i>Pulicaria vulgaris</i>		

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**FOXTAIL BARLEY - A PREDILECTION FOR ROUNDABOUTS?**

In recent years there has been a great increase in the occurrence of Foxtail Barley (*Hordeum jubatum*) as a roadside plant. It is so distinctive that it can be identified, with confidence, from a moving vehicle. We have seen it at the side of motorways, trunk roads, other classified roads and around street furniture in built-up areas. However, in our experience, the plant is relatively more common on the roadside at roundabouts. We have noticed this occurrence particularly in Lanarkshire (v.c. 77) but also at roundabouts from Perth to York. It may be that seed is displaced by centrifugal force from a vehicle, or that mud containing the seed is squeezed out of a tyre tread as a vehicle tilts while rounding the curve.

We should be interested to learn whether others have noted a similar increased incidence of Foxtail Barley at roundabouts and if so whether they have any theories regarding the mechanism of its dispersal.

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**A NEWLY LOCATED SITE FOR *ERICA VAGANS* IN W. CORNWALL (V.C. 1)**

Whilst surveying another species, at Gear Sands (SW/773 553) on July 25, 1997, I and a friend came across an extremely stunted group of 15 plants of *Erica vagans* (Cornish Heath). The largest clump was 35 cm across and some of the smaller ones only 6-10 cm across: none were above 12 cm and most only 3-4 cm high.

Flowers were starting to open in July and most had an appreciable display by mid August, when revisited. In all plants, the flowers were typical of the usual wild form and not a more brightly coloured cultivar. The general impression was of a parent clump and surrounding seedlings, over about 1.5 m along a shallow depression. There was evidence of grazing by rabbits, and the plants were probably dwarfed by exposure and a hard-packed soil, almost certainly with heavy metal content.

Although the plants had been seen by a local botanist/photographer, who reported the find in the summer of 1996, no record was apparently made of the important discovery, and consequently the newly found, isolated colony was not mentioned in *The Red Data Book for Cornwall and the Isles of Scilly* edited by A. Spalding and published by Croceago Press in 1997.

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**MARSH-ORCHID CONTROVERSY**

The following two papers have been seen and commented on by both authors. Ed.

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## SMALL OR THE LARGE ARGUMENT . . . ?

I read with interest, and not a little amusement, the attempt by Messrs Roberts and Foley (*Watsonia* 21: 374-376, 1997) to dismiss my admittedly ambivalent attempt at a tiny slice of botanical immortality in claiming a new variety of Narrow-leaved Marsh-orchid (*Watsonia* 20: 263-273, 1995). It seems to me that in undertaking the relatively untaxing job of debunking an argument in favour of yet another variety, they have inadvertently presented a compelling case for a more profound argument, that of submerging all such minor taxa within a much larger heterogeneous group of closely related Marsh-orchids linked by their chromosome count ( $2n=80$ ), known as the Tetraploid Marsh-orchids, *Dactylorhiza majalis* sensu lato. Therein of course lies the cause of my amusement: the particular authorities involved have, both separately and together, done much to propound the opposite argument, particularly with regard to the Narrow-leaved Marsh-orchid (which I prefer to call *D. majalis* subsp. *traunsteineri*), namely that the individual members of this taxonomic group should be regarded as different species.

The method used by Roberts & Foley in their Note was to extract certain carefully selected characters (seven in all) from my Paper (which used 15 of a total of 59 characters analysed in my research), and use them to demonstrate that the population means of those data overlapped with comparable data for the Southern Marsh-orchid (*D. majalis* subsp. *praetermissa*). They used this demonstrable overlap to argue that my *D. majalis* subsp. *traunsteineri* var. *howmanii* should in fact be regarded as 'variants of the local *D. praetermissa* (sic) population'.

Of course those figures overlap with subsp. *praetermissa*. I made that clear in my original paper. Five of these seven mean values are five of eight values quoted in my paper (Table 4, p. 271) that serve to differentiate var. *howmanii* from typical var. *traunsteineri*, precisely because of that overlap in the case of some of the characters. Roberts & Foley have once again committed one of the cardinal sins so eloquently set out by Bateman & Denholm (1989), in attempting the 'identification of taxa by visual comparison of population means for a small number of characters' (p. 453), a technique which Bateman & Denholm describe as 'irredeemably flawed' and which 'should not be practised'.

Quite apart from any hidden discrepancies in methods of gathering data which may render any comparison of data collected by different workers as 'fraught with hazard' (Bateman & Denholm, *op. cit.* p. 452), Roberts & Foley furthermore conveniently ignore the considerable number of other mean values that either overlap, or are synonymous with, those of typical var. *traunsteineri*. Their selection of data to suit their argument is therefore specious and self-serving.

Other features of these very odd plants, such as the extraordinarily deeply three-lobed labellum, the extremely long central lobe, and the unusually deep colour, are well outside the parameters of normal subsp. *praetermissa* (and indeed of var. *traunsteineri*!), and serve to distinguish at a glance, from a considerable distance, plants of var. *howmanii* from the many 'normal' subsp. *praetermissa* occurring at the type site. Indeed, the clear bimodality of form apparent at this site between the two Marsh-orchid taxa present is very obvious, and is also unusual in my experience. One wonders if the gentlemen concerned have actually visited the site? If not, might I recommend the adequate photographic illustrations of these plants in my two books on the orchids of these parts (Jenkinson 1991 & 1995(2))? It may be that my artistic capabilities are not what they might be.

There is a clear ambivalence in the attempt to mark such a distinctive form with some sort of acceptable epithet, between the belief that it is worthy of recognition, and the equally strongly-held belief that all these difficult Marsh-orchid taxa should be 'lumped' together under a single specific name. It is part of the problem faced by an amateur taxonomist with no scientific training attempting to make some sense out of the myriad forms routinely encountered in Marsh-orchid populations, so that those responsible for recording such occurrences for posterity and conservation purposes can be as accurate as possible in their endeavours.

It is sad that Roberts & Foley, who may even be correct in their conclusion, have reached that conclusion for all the wrong reasons, and in so doing have shot themselves comprehensively in the foot. They have unwittingly provided support for a broader argument to which they would not wish to be seen to be adherents.

Interestingly, I find that Roberts & Foley do not criticise me for my failure in my original paper totally to eliminate the possibility of introgression from another taxon, the most likely candidate for which would have to be *D. fuchsii* on morphological grounds alone, despite the absence of leaf-markings in these plants. I freely acknowledge that failure, and the reason for it: my lack of the appropriate expertise in purely biological techniques.

At the end of the day, it is pure biological science which is now far outstripping the ability of amateur morphologists to make sense of these difficult plants. DNA analysis and the comparative study of isozymes, involving techniques beyond the capabilities of amateur botanists, is clearly pointing the way forward – and will undoubtedly eventually resolve the question of the correct taxonomy of *D. majalis* subsp. *traunsteineri* var. *bowmanii*, along with that of many other critical taxa. Hedren (1996, and pers. comms. 1994-1996) and Pridgeon, Bateman, Cox, Hapeman & Chase (1997), and others, in their continuing research in these fields are discovering deeper evidence of orchid relationships that render comparative morphometrics, whilst not totally irrelevant, a minefield of potentially serious errors, if taken uncritically in isolation from other rather more rigorous disciplines. Who after all would have considered that the Frog Orchid (*Coeloglossum viride*) was evolutionarily nested within, and therefore should be subsumed into, *Dactylorhiza* (Pridgeon *et al.*, 1997)? And there is more to come . . . It will all be sorted out eventually: we must just be patient.

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### A REPLY TO M.N. JENKINSON

Our first reaction on reading Jenkinson's note in response to our criticism (*Watsonia* **21**: 374-376, 1997) of his paper (*Watsonia* **20**: 263-273, 1995), was that it needed no reply, since the anomalies it contained would be apparent to anyone conversant with both papers. On reflection, however, as so many of his statements are so plainly untrue, we now feel that we must point them out.

The first of these appears in the second paragraph of Jenkinson's note where he states that our method 'was to extract certain carefully selected characters . . . from my paper . . . and use them to demonstrate that the population means of those data overlapped with comparable data for the Southern Marsh-orchid'.

We **did not** ‘carefully select’ the characters, whose population means are quoted in Table 1 of our paper (Roberts & Foley 1997). They were used because six out of the seven are among the ‘main diagnostic characters of *D. traunsteineri*’ listed by us on the same page as our Table 1. Even the ‘length of the longest leaf’ was included because, taken in conjunction with the ‘width of the widest leaf’, it gives an impression of the narrow, linear-lanceolate leaves which are an acknowledged feature of the Narrow-leaved Marsh-orchid, and have prompted its vernacular name.

A second error occurs in the same sentence. It states that we used these data ‘to demonstrate that the population means . . . overlapped with comparable data for the Southern Marsh-orchid (*D. majalis* subsp. *praetermissa*)’. This is a complete fallacy: we have not mentioned any data for the Southern Marsh-orchid, either as population means or individual values, anywhere in our paper. It is Jenkinson himself who now admits that ‘Of course those figures overlap with ssp. *praetermissa*. I made that clear in my original paper’. At the same time he has either forgotten or ignored the fact that four of the characters in his Table 4 (*Watsonia* 20: 271) are diagnostic characters of *D. traunsteineri*, and has failed to appreciate the significance of this fact, namely, that his var. *bowmanii* belongs to *D. praetermissa* and simply cannot belong to *D. traunsteineri*. His own data prove it.

In the fourth paragraph of his note, Jenkinson even uses the old argument that there may be ‘hidden discrepancies in methods of gathering data’ which can invalidate the comparison of data collected by different workers. But we have not used any data except those collected by Jenkinson himself, we have **not selected** data to suit our argument. As we have already shown, the data used in our Table 1 (*Watsonia* 21: 374) are for well-proven diagnostic characters of *D. traunsteineri* and the values are all from Jenkinson’s ‘control’ data for this taxon in his Table 3 (*Watsonia* 20: 265).

In his seventh paragraph he accuses us of reaching our conclusions ‘for all the wrong reasons’. In a former paper (Jenkinson 1991, 232) he expressed his conviction that in many marsh-orchid populations he had studied in Hampshire and Dorset ‘the plants selected for measurement are not clearly distinct from many more typical plants of ssp. *praetermissa* at the site, but are merely taken from the extreme end of a morphological continuum encompassing an unusually wide range of variation’. Yet, four years later, when describing the Exbury population (Jenkinson 1995, 263), he claims that ‘the population of Narrow-leaved Marsh-orchid (c. 200 plants) formed a small but distinct morphological population within a much larger colony of *Dactylorhiza* spp. consisting predominantly of *D. majalis* ssp. *praetermissa*, *D. fuchsii* and hybrids between the two’. Without any explanation, Jenkinson has changed his opinion completely. We wonder why.

He has also made much of the dangers of comparing data collected by different workers. Perhaps he can explain why Fig. 1 in his paper (*Watsonia* 1995) shows two plants of var. *bowmanii* with a stature of 21.7 cm and 23.4 cm, but his mean value shown in Table 3 of the same paper is 27.12 cm. Similarly, the drawings show five leaves and six leaves on the plants while the average leaf number in his Table 3 is 4.4.

It appears that it is Jenkinson who has reached his conclusions for the wrong reasons and we trust that anyone studying the relevant papers will arrive at the logical conclusion as to the taxonomic status of var. *bowmanii*.

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## YELLOW-EDGED FLY ORCHID FLOWERS – FINALE

On 4 June 1994, I found a single specimen of *Ophrys insectifera* (Fly Orchid) whose flowers had quite wide yellow edges in a hazel copse near Leatherhead, Surrey. Delforge (1994, the correct version) showed that several other characteristics of *Ophrys aymoninii* were not shared by these flowers so I concluded it was just a variant *insectifera*.

After R.H. Roberts (*BSBI News* 74) reported a similar find by L. Colley in Anglesey he kindly sent me (with permission) one of Colley's photographs; it seemed to be identical with the Leatherhead one. To be sure of the identification I then sent photographs of both to Pierre Delforge personally. He very kindly replied in detail, pointing out the differences between the photographed plants and *O. aymoninii* as described and illustrated in his book, though some some of them (e.g. the breadth of the labellum and the colour of the gynostegium) are not individually diagnostic; he was confident that the plants were not *O. aymoninii*, with which he is very familiar. He quoted five continental references to the same phenomenon, adding that a plant similar to ours with small yellow-edged flowers from northern Spain had been named as *O. subinsectifera* Hermosilla & Sabando but this was unjustified as well as a *nomen nudum*. Incidentally, Old Burghclere Quarry is noted for the variation in its Fly Orchids and I have photographs of specimens from there with abnormally broad labella (?var. *subbombifera* Ruppert p. form.), with white specula and with labella speckled with yellow all over, as well as peloric specimens.

Furthermore, even my credulity (which extends to various adventive orchids written off by some authors as deliberately introduced) would be over-stretched by the appearance of a new British species which (in all cases surrounded by normal *O. insectifera*) cropped up singly in two wooded sites in Surrey (the other by A. G. Hoare, *BSBI News* 75), singly on chalk grassland in Hampshire (S. Moore, *BSBI News* 76) and in very small numbers in a marsh in Anglesey (R.H. Roberts, *BSBI News* 74), when it is native to one small hot stony area near Aveyron in southern France.

This hare has run its distance. [AMEN! Ed.]

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## BIENNIALS OR PERENNIALS?

My faith in the written word of Floras used to be so great that it took me years to accept that they can occasionally be wrong, costing me hours of wasted field work.

Admiring the architecturally magnificent Angelicas (*Angelica sylvestris*) which regularly poked through the *Festuca rubra* (Red Fescue) on a nearby headland in north Pembrokeshire, I once dug one up for my garden where I only grow wildflowers. All right, I know I shouldn't have, especially in a National Park, but on this one occasion I sought to bypass the slow process of growing from seed, and as my flora said *Angelica* was a perennial, this approach seemed straightforward. But how mistaken I was, for the large, chunky root simply died.

Puzzled by this I visited the same headland several years in succession to observe what actually happened. I even tied string around the dead flowering stems to confirm that eventually new leaves would appear at their base the following summer, for I had noticed that in the off-season dead flowering stems and fresh basal leaves never occurred together. But all these stems got blown out to sea by ferocious winter gales as I should have expected. Yet year after year new plants emerged through the thick mat of *Festuca rubra*, which puzzled me.

I did eventually identify 'seedlings', though rarely, for here and there the thick grass carpet was breached by badger-digging, sheep-tugging or gale-killing. Then it clicked! *Angelica* is monocarpic. Hence the new leaves which mysteriously appeared every year belonged to plants which had been struggling to reach 'adulthood' for many years, their beginnings as seedlings having occurred years previously from 'seed beds' no longer visible.

In one's mind the term 'perennial', even when applied to herbaceous plants, means that they survive more or less indefinitely: one is reluctant to qualify the term.

I subsequently confirmed all this in a more typical *Angelica* habitat, a marsh, where the tap roots of sturdy seedlings penetrated the black organic earth and their stems and cotyledons benefited from late-winter gaps in the *Filipendula ulmaria* (Meadowsweet) cover and not one dead flowering stem was attached to a live root.

A similar problem occurred in the case of *Heracleum sphondylium* (Cow Parsnip). My Flora said it was a biennial. We all know that biennials exploit disturbance, e.g., *Digitalis purpurea* (Foxglove) in woods after felling or thistles after a farmland operation, but local *Heracleum* normally grew along established grass verges with no sign of ground disturbance. Yet I had spent a year or so trying to relate *Heracleum*'s appearance to mole, badger or other disturbances of the ground cover in previous years. This time the Flora was simply wrong: it is not a biennial. It is a perennial, sometimes monocarpic, sometimes polycarpic.

Hence after far too many years I have learnt my lesson. Terms like biennial or perennial when applied to herbs should be taken with 'a large pinch of salt'. Even the biennial *Digitalis* can take 3 years to flower (see *BSBI News* 73: 30 and 74: 20) and Pembrokeshire's abundant coastal *Daucus carota* (Wild Carrot) is probably often triennial, while the magnificent *Lavatera arborea* (Tree Mallow), so determined to die at the end of its second summer, can no doubt be dissuaded by damage.

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### A HANDSOME AND VIGOROUS HYBRID RAGWORT

Early last summer I observed a small 'weed' which had established itself beside the 'wheelybin' in my front garden. It had bright green, very pinnatisect leaves spirally arranged up the stem and at first I thought it was just an ordinary Ragwort (*Senecio jacobaea*). However, as the weeks went by it continued to elongate until it reached to the lid of the 'wheelybin', at which point I felt the time had come to measure it as it was most certainly not a common Ragwort. By the time it had stopped growing, its strong, leafy stem was a good 1½ metres tall and very erect. Soon after this it produced a corymbose cluster of flower-heads, at first composed only of tubular florets, thus resembling a huge groundsel plant, but later each of the composite heads developed a ring of bright yellow, ligulate florets over a period of several days. The end result was a very handsome flowering plant but one quite unknown to me and impossible to identify from any of my own Floras, so I called on the help of my good friend, Mr Ronald Rutherford of the Botany Department, University of Reading. After consulting Stace and after a certain amount of head-scratching, Ronnie decided that it was a hybrid between *Senecio jacobaea* (Common Ragwort) and *S. cineraria* (Silver Ragwort). He told me that *Senecio* has a tendency towards promiscuity and that he had noticed several similar hybrids in various other front gardens in this area.

When it finally came into fruit in early August, each achene was equipped with a fine pappus. I shall be interested to see what sort of plants will appear next year: will the next generation revert to one or other of the parents? will there be other hybrids of the same or of different kinds? Or will the seeds prove sterile? I shall await the spring and summer of 1998 with lively anticipation!

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

### GRASPING THE NETTLE – A 'MACHO' PURSUIT IN BEDFORDSHIRE

Following the latest of a series of notes on *Urtica galeopsifolia* in *BSBI News* 76, this additional observation may be of interest.

On a Bedfordshire Natural History Society visit to wet broad-leaved woodland and meadows beside the River Ouse at Bromham Mill Beds (TL/013.508, 6 July 1996), a rather soggy afternoon was,

nonetheless, enchanting for the unusually lush situation and the peculiar range of nettle forms that was present.

I haven't seen a key that separates *U. galeopsifolia* from *U. dioica*, but at one point I found myself being dared to handle nettles in a patch I was certain wouldn't sting me. To me they scarcely looked like nettles at all: they were more narrowly upright, less branched, and had a stem bloom reminiscent of raspberry canes. The long, narrow leaves also gave the plants something of the appearance of Hemps-agrimony and the whole were softly downy. The plants would not sting me, even on the upper lip – which is normally sensitive enough even to get a reaction from some 'dead' nettles.

This discovery led to something of a masochistic 'hunt the stinging nettle' session and, in fact, we found it difficult to find any nettles, of any form, in the area, in wood or meadow, which would give us a good sting!

My curiosity thus stung (sorry), and sensing a potentially useful find (to propagate and encourage people to grow as a painless version of this butterfly food plant), I brought home a nettle from the original patch that had caught my attention, and planted it in my garden (dry clay). Disappointingly, it grew into a clump of nettles that was indistinguishable from the rest in the garden, and just as stingy.

So I wonder: have other *galeopsifolia* hunters tried growing on their finds? *BSBI News 76* also included a note on adaptations of nettles to drought: might *galeopsifolia* be an adaptive form, of some wet situations, that reverts to normal in the dry? In consequence, might not some determinations prove a little rash? (sorry)

STEVE HAWKINS, 60 Peartree Road, Stopsley, Luton, LU2 8BA. Tel.: 01582 424068

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## CALCULATING GRID REFERENCES

I was interested to read that plastic grids, for, easy map reference plotting, are now available. Not knowing this I had made my own, because on the 1:25000 series maps an 8 figure ref. gets you right on top of the plant (though I worry that, if such accuracy was published, scarce plants might disappear all the more quickly(?)). My additional refinement was to find a small cheap calculator (credit card sized and stick it beside my grid, so that the figures could be stored on the display whilst leaving both hands free to hold the map and grid together. I was congratulating myself on this solution to the 'three hand problem when somebody else turned up with a GPS . . .

Only the one grid is necessary – for 1:50,000 maps sufficient accuracy is easy using a quarter of this one. Now all I need is for the O.S. to put the numbers on the grid lines more often and stop putting all the good sites on the edges of two maps or the corners of four!

What I would really like would be full national coverage with 1:25000 (orange) maps like the 'Explorer 2' of the North Chilterns. This is a super format which combines the best of three 'Pathfinders' on to one side of a sheet the same size as the 1:50000 series. This format eliminates much infuriating folding back and forth of floppy 'Pathfinder' maps in the wind and rain, and would make an excellent complementary series of orange 2½ inch maps to go with the standard red 1 inch ones. Should BSBI and others be lobbying the O.S. for such a series?

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## GAUDINIA FRAGILIS – IS IT NATIVE?

Every recent major flora calls *Gaudinia fragilis* (French Oat-grass) an introduction in the British Isles (*Flora Europaea*, Stace, CTW, Sell & Murrell). Apart from the fact that they all use much the same wording, suggesting they might have merely copied one another, our own experience of *G. fragilis* has persuaded us that its status as a 'presumed introduction' needs to be critically reassessed. Certainly,

fellow botanists usually/always talk about finding it in high quality habitat (including several grassland SSSIs and NNRs), where it looks to be very much part of the natural vegetation.

There was a major summary of its occurrence in the British Isles in *Watsonia* 9: 143-146 by David McClintock in 1972, but since then there has been little written about the plant other than two notes in *BSBI News* in 1989 and 1990.

Simon Leach, of English Nature's botanical service and I propose to collect all the data we can find and hope to publish the results in *Watsonia*. Would members be prepared to help, please, by supplying their records for each site, with the following details:

- i. Grid reference and location, date, and finder.
- ii. Associate species/NVC if they have this. If not an indication of the type of habitat – e.g. 'good neutral meadow', 'waste ground', etc. If any quadrat data is available or could be acquired in the next year then that really would be a major help.
- iii. Their opinion of its British status.

SIMON J. LEACH & DAVID PEARMAN The Old Rectory, Frome St Quintin, Dorchester, Dorset,  
DT2 0HF.

## TERRESTRIAL FORM OF *MYRIOPHYLLUM ALTERNIFLORUM*

Botanical monitoring has been carried out during the last two years by English Nature on areas where encroaching tall scrub has been cleared adjacent to Little Sea, a freshwater lake in Studland Heath National Nature Reserve, Dorset. During this monitoring the terrestrial form of *Myriophyllum alterniflorum* (Alternate Water-milfoil) has been recorded in quadrats located in damp hollows near the margins of the lake. The terrestrial form differs markedly in appearance from the better-known aquatic form, having shorter and firmer shoots, shorter and narrower leaves, fewer and wider leaf segments, and the leaves are coloured grass-green compared to the olive-green of the aquatic form. In the plants examined the leaves of both terrestrial and aquatic forms occurred in whorls of three.

### Data from plants sampled in and near Little Sea, Dorset (All data relate to mature leaves, and all measurements are in mm)

	Terrestrial form	Aquatic form
Number of segments in leaves	6-12	12-16
Length of leaves	8-12	18-31
Width of leaves	4-8	18-30
Width of leaf axis (near base of leaf)	0.4-0.6	0.1-0.3
Width of leaf segments	0.2-0.4	0.1-0.2

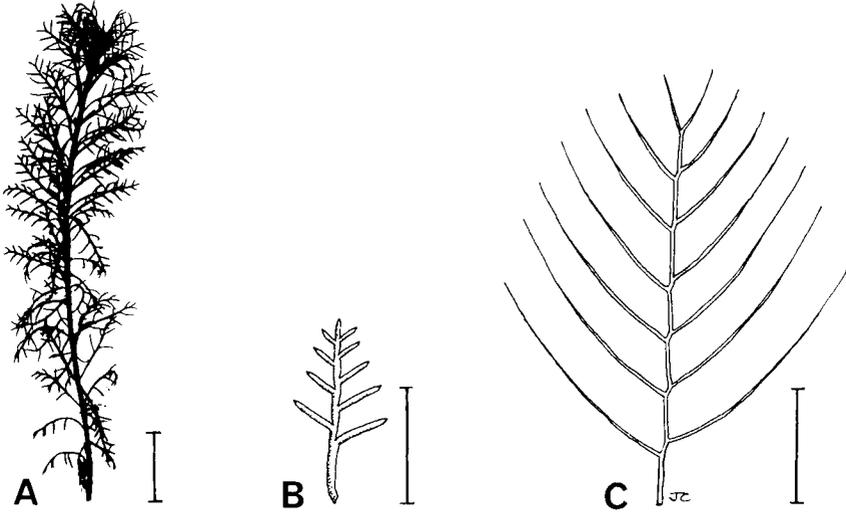
Associates of the terrestrial form near Little Sea include *Agrostis canina*, *Carex nigra*, *Hydrocotyle vulgaris*, *Hypericum elodes*, *Molinia caerulea*, *Potamogeton polygonifolius* and *Sphagnum auriculatum*. The largest patch covered an area of approximately 19×12 cm, and was located more than a metre from the edge of the lake. The aquatic form of *M. alterniflorum* is abundant in the adjacent waters of the lake, and it appears likely that most examples of the terrestrial form originate from vegetative fragments of the aquatic form left stranded by receding water levels. Waterfowl might also act as carriers of such fragments.

Both the native *Myriophyllum spicatum* (Spiked Water-milfoil) and *M. verticillatum* (Whorled Water-milfoil) may also occur as terrestrial forms if left stranded, as may the introduced *M. aquaticum* (Parrot's-feather), (Preston & Croft 1997). A reduction in the number of leaf segments in the terrestrial form has also been recorded in *M. verticillatum* (Stace 1997).

**References**

- Preston, C.D. & Croft, J.M. (1997). *Aquatic Plants in Britain and Ireland*. Harley Books, Colchester.  
 Stace, C.A. (1997). *New Flora of the British Isles*. (Second Edition). Cambridge University Press, Cambridge.

JONATHAN COX, English Nature, Slepe Farm, Arne, Wareham, Dorset, BH20 5BN



*Myriophyllum alterniflorum* A – Shoot of terrestrial form (photocopy). B – Leaf of terrestrial form.  
 C – Leaf of aquatic form. Scale bars 1 cm (A), and 5 mm (B & C).

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**MELAMPYRUM IN HERB. A.J.E. SMITH AT NMW**

The *Melampyrum pratense* specimens used by A.J.E. Smith for his postgraduate research at Oxford and the basis for his paper in *Watsonia* (Smith 1963) have been incorporated into the **NMW** herbarium at the National Museum and Gallery of Wales, Cardiff (accession number NMW.V97.40). There are 453 sheets of *M. pratense* collected from localities throughout Britain, often with a number of specimens from each site to show the variation. Visitors are welcome to consult the specimens.

**References**

- Smith, A. J. E. (1963). Variation in *Melampyrum pratense* L. *Watsonia* **5**: 336-367.

TIM RICH, JESSICA CAREY & TONY SMITH, Department of Biodiversity and Systematic Biology,  
 National Museum and Gallery of Wales, Cardiff CF1 3NP

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## MEGA SPREAD FOR MICRO PLANT?

*Sagina maritima* (Sea Pearlwort) is not a plant with many friends. It is tiny, scruffy and not rare enough to attract the 'twitchers'. In v.c. 81, Berwickshire, it was not recorded between 1896 and 1994 almost certainly because no one looked. Others have done rather better: Halliday's '*A Flora of Cumbria*' 1997, maps 26 coastal tetrads. It has always been found by the sea.

*Sagina maritima* has now joined the army of plants colonising our salted road verges. In 1996 I found it in quantity at 350 m on Soutra Hill in v.c. 81 on the A68. In 1997 I found it also on the A1 in v.c. 81, well inland, and in the Lothians in v.c. 82 on the A68. The habitat is gravel, with fine material amongst it, often a metre or so back from the tarmac, further back than the *Spergularia marina* and *Puccinellia distans* zone. This is much the same habitat frequently colonised by its look-alike *Sagina apetala* subsp. *erecta*, so don't forget your lens if you are planning an outing.

Experience with other annuals colonising road verges suggests this plant will either be found to be already widespread on Britain's roads or will soon become so. Please join the search – but take care on those verges, this one cannot be done from the comfort of a car at 60 mph.

MICHAEL BRAITHWAITE, Clarilaw, Hawick, TD9 8PT

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## NEW ROADS AND FLOWERS

I would like to add some comments on the new roads and flowers subject raised by Derek Turner Ettlinger in *BSBI News* 76. Whilst motorways and other new roads can provide useful habitats for relatively mobile plants such as Bee Orchid (*Ophrys apifera*), they undoubtedly also generate more traffic. This results in increased emissions of carbon dioxide from car exhausts, contributing to global warming.

The changes in weather patterns likely to be caused by emissions of greenhouse gases threaten to eradicate some of the plant communities most highly valued by botanists in this country. Our arctic-alpines and western Atlantic species will not unfortunately be able to flee along new motorways as the planet heats up. There will be nowhere for them to escape to.

JANET LISTER, 14 Partridge Way, Cirencester, Glos. GL7 1BQ

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## BEAUTIFUL KILLER

This was the title of a leaflet I picked up on a recent visit to southern Ontario, Canada. The killer in question is Purple Loosestrife (*Lythrum salicaria*) which has invaded wetlands and is causing serious concern among naturalists, anglers and hunters.

*Lythrum* was accidentally introduced into North America from Europe in the 1800s and has since spread across eastern Canada and also in British Columbia. In other areas it has escaped from gardens. It is replacing native plants and destroying the habitat of much native wetland wildlife.

The public are urged to report and destroy the plant. Control methods include hand pulling, cutting and weed killer. For severe infestations biological control is being used in the form of the beetle *Galerucella*, a European predator which feeds only on *Lythrum*.

The many other introduced species do not seem to cause the same sort of concern, probably because their habitats are less vulnerable. In urban areas a large part of the flora is of European origin, particularly notable is carrot (*Daucus carota*), which covers waste ground and roadsides much as *Anthriscus sylvestris* does here.

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

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## THE BLACK POPLAR IN OLD ENGLISH POETRY

Oliver Rackham in examining the Anglo-Saxon Runic Poem (*BSBI News* 76-40) attempts to see what the words themselves say. However, when a word has more than one meaning, it is more reasonable to apply a meaning that makes sense. 'Birch be without branch' does not make sense; a tree in its normal state is not without branches. Dickens, and others, translate as 'Birch is without fruit', no doubt because this is the only translation that provides any sense to the first half-line of the poem.

The second half-line does not begin with the interjection 'lo!' (OE 'la'), this does not appear in the original poem. This seems to be an incorrect translation of 'theah'. When translated correctly the next two half-lines refer back to, and confirm the word 'fruit' in, the first half-line of the poem. Thus, we have, 'Nevertheless without offspring it bears only shoots'. This, together with the 'laden with leaves' and the great height of the tree, twice mentioned in the poem, suggests that the description is of poplar rather than birch.

Old English poetry is not as constrained by alliteration to the extent suggested by Oliver Rackham. All that is required in order to remain within the 'rules' is that one of the stresses of the first half-line must alliterate with the first stress of the second half-line. It is not a matter of cramming as much alliteration into the poem as possible.

Irrespective of the supposed shortcomings of schoolteachers, the Old English vocabularies, roughly of the same date as the poem, in which 'Birch' is glossed with 'Poplar', do provide an explanation as to why the verse headed 'Birch' in the runic poem reads like a description of poplar. I do not think that these glosses demonstrate an inability to distinguish birch from poplar; bearing in mind that the Anglo-Saxons were country people and expert carpenters this would be most unlikely. I believe it has more to do with the fact that in Anglo-Saxon times and later the naming of plants was not an exact science. Of course if we simply assume that early writings are nonsense or erroneous then historical research becomes impossible.

In my earlier article (*BSBI News* 73. 28) I give reasons for believing that the tree described in the Anglo-Saxon Runic Poem is Black Poplar. This large native tree would have been known to the Anglo-Saxons, and, in view of its long association with folklore, it would not be surprising to find it appearing in a Runic Poem together with such trees as Oak, Ash and Yew.

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## ORCHIDS, ANDREWS AND SLOANE

Although there are large collections of Orchidaceae at The Natural History Museum – the non-European holdings, which are currently being databased, amount to c.34,000 specimens – no member of the Museum staff has a specialist interest in the family. Consequently the Museum is always pleased to encourage colleagues from Kew and elsewhere to use the collections.

However Sarah Thomas's account of orchids in the herbarium of Joseph Andrews (*BSBI News* 76. 17-21) contains an error which needs correcting. Ms Thomas states that the Andrews material is incorporated in the Sloane Herbarium, whereas, in fact, it is a separate collection that has never formed part of Sloane's collections. The Sloane Herbarium and other Sloane collections, were bequeathed to the nation in 1753, to form the nucleus of the British Museum. The Herbarium and other natural history objects in the Sloane collections were moved to the newly built Natural History Museum, in South Kensington, in 1881, and remain there. The Sloane Herbarium has always remained a separate collection, to which no additions have been made. Thus the Andrews collection, which came to the Museum in 1889, is not part of the Sloane Herbarium.

Presumably the confusion in the *BSBI News* article results from the fact that the Andrews collection, like the Sloane Herbarium, is in book form, and is kept separate from the Museum's main herbarium, which consists of loose sheets, and developed from the collections of Sir Joseph Banks. The

Museum has a number of such bound volumes, which include its oldest specimens that are to be found in a German volume compiled at the end of the sixteenth century.

The Sloane Herbarium contains material from many parts of the world, including the British Isles. A brief summary of the British material, by Phyllis Edwards then Botany Librarian at the Museum, is given in *Proc. B.S.B.I.* 4: 136-141 (1961).

ROY VICKERY, Curator of Flowering Plants, The Natural History Museum, London, SW7 5BD.

## NATURAL NURSEMAIDS

On the 14th September 1997, I held a field meeting for the Devonshire Association Botanical Section on Roborough Down near Plymouth. The aim was to advertise a small population of *Sorbus devoniensis* (Whitebeam) and thus assist in the future survival of the trees which I considered fragile from vigorous competition with *Quercus robur* (Oak), *Crataegus monogyna* (Hawthorn) and other common trees. The mature *Sorbus* trees were often within small copses and looked overshadowed and crowded out by the commoner species, often only a small section of canopy showing to the sun. In several situations a specimen of *Crataegus monogyna* grew intimately entwined with a *Sorbus* tree, the trunks touching. My inclinations had been that I might intervene on the side of the rarer tree and ring the bark of the commoner one so that the *Sorbus* would survive more successfully. An easy way to do this, I suggested to some of the group, was to tie a piece of wire around the offender's trunk and let the growth of the tree initiate its own strangulation. A discussion then followed which produced from one member of the party, a striking idea which had not occurred to me and seemed to explain a few observations that had been vocalised earlier.

Roborough Down is, like most of Dartmoor, notable for the excessive grazing pressure produced by the overstocking of sheep and possibly ponies. On the Down, the small copses of well grown trees include *Sorbus*, but the surrounding area noticeably lacks any *Sorbus* seedlings or saplings, even though the abundance of fruit is quite astonishing in many years. This is even more remarkable when, according to T.R.A. Briggs in *Flora of Plymouth* (1880), the fruits are quite viable, as he states on page 145: 'I have found seeds vegetate rather readily.' Presumably fruits that fall in the clear areas under the mature trees are eaten by sheep (they are very palatable, even to man) and even if they survive and germinate, the saplings soon succumb as well.

When *Sorbus* saplings are found they are invariably in the centre of an impenetrable brake, surrounded by a thorny defence of *Crataegus monogyna*, *Ulex europaea* (Gorse) and *Rubus* sp. (Bramble). The brake as a whole seems to mature as a unit, so that it is noticeable that the larger saplings are all roughly the same height. A member of the party described these brakes as nurseries for the young *Sorbus*, the defending plants keeping the ponies and sheep at bay. As these brakes develop over the years, the maturing trees outgrow the reach of the grazers. However, in the mature copses the protective embrace of the nursemaid *Crataegus* about its charge, a *Sorbus*, remains quite obvious. I therefore decided not to strangle the nursemaids!

Thanks to Bill Tucker and Mark Pool for their original ideas.

RAY GOULD, 40 Ferrers Road, St Budeaux, Plymouth PL5 1TX

## A PENNINE 'SALTMARSH' FLORA

In September 1994, while travelling on the Penrith to Alston road in Cumberland (v.c. 70), I stopped at the Hartside Café, the highest point at 575m. The small stone built cafe is on the site of an old mine building with a large unsurfaced car park. I hoped to add a number of ruderals to this upland tetrad for the Flora of Cumbria survey.

To my amazement I found *Juncus gerardii* (Saltmarsh Rush) to be a dominant species over some 25 square metres within the fenced west facing bank below the viewpoint and car park overlooking the Eden Valley. Plants were fruiting abundantly and vigorous in appearance but more stunted and sparser on the moist level area above the bank where water, saline in winter from road surface treatment, drains from the car park. A few fertile plants of *Plantago maritima* (Sea Plantain) were present on the flat trampled terrace below the viewpoint wall.

The site was visited several weeks later when *Glaux maritima* (Sea-milkwort) was noted in the flat run-off area below the car park. *Sagina nodosa* (Knotted Pearlwort) and a *Euphrasia* sp. (Eyebright) were associates. Finding *Glaux maritima* raised the suspicion that the simple explanation of introduction by road traffic was probably erroneous. Indeed, the owner of the site told me that the surroundings of the car park and cafe had been landscaped about 10 years previously with turf from the Solway coast. It appeared that the contractor had used turf with a large proportion of *Juncus gerardii* with other maritime species.

A dry ski run had been made about 50 metres to the east of the cafe but abandoned some 30 years ago. This resulted in narrow vertical scarrings of the slope where the matting was laid and unaffected by run-off from the car park. On these grazed and comparatively bare strips, stunted specimens of all three of the maritime species occurred. They appear to have colonised these sites from seed and indeed fertile *G. maritima* was seen in 1995. Flowering *Potentilla anserina* (Silverweed) also occurred here.

A visit to the site in 1997 showed the status of all three species to be unchanged within the fenced car park area. However, sheep grazing made it impossible to find fertile *Juncus gerardii* outside the fence and *Glaux maritima* appeared to have gone. *Plantago maritima* was still present.

The relative lack of competition helped by the saline conditions of the car park has allowed all three species to survive. *Plantago maritima* is a well known maritime and montane species and would be expected to survive but *Juncus gerardii* and *Glaux maritima* are predominantly coastal species in the British Isles so it is of note that they too are able to survive the harsh conditions of the Northern Pennines and seem able to reproduce. The main threat to survival is the intensive sheep grazing. I hope to monitor the site over the coming years.

I wish to thank Mr F. Shepherd for details of the Hartside Cafe site.

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## MESPILUS GERMANICA IN SUSSEX

By a coincidence, the day before *BSBI News 75* with Mr Kevin Pyne's interesting note on *Mespilus germanica* (Medlar) arrived, I had found a specimen growing in a hedge in East Sussex. Since then I have seen more. Two of these were definitely cultivated while at two of the sites the trees could have been native.

One tree was at Slinfold, West Sussex, possibly the same one as that recorded by Wolley-Dod, 'Planted at Slinfold.' (Wolley-Dod, 1937). This tree was obviously grafted as *Crataegus monogyna* (Hawthorn) shoots were sprouting from the base.

Another planted tree was seen in a garden at Five Ashes, near Mayfield, East Sussex. Hawthorn could be seen shooting from the stock and there were no medlar suckers, nor did it have thorns. The owner told me that her father had grafted it onto hawthorn, probably in the late 1930s - early 1940s. He apparently used often to graft medlar scions onto young thorns, either digging up and transplanting the hawthorn or grafting onto a suitable seedling *in situ*, then when the graft had taken, moving it to a suitable place. It is possible that if this was a common practice, it might well be the origin of medlars in hedgerows - some might have been forgotten or left to provide a convenient source of fruit. Seed dispersal could have been done by squirrels, which had been observed carrying off the fruit, or badgers.

*Mespilus* was also found in hedgerows during the summer of 1997. One of these was near Etchingham in E. Sussex in a mixed, probably old, gappy hedge between a lane and a narrow strip of woodland

and arose from a stool. As there was some dead wood at the base, possibly the original had gone and suckers had arisen from the roots. This bush had thorns and had been trimmed quite hard with the rest of the hedge. It was about 0.5 km from each of two farms.

The second site was at Oxley's Green near Brightling, E. Sussex. There were two trees, about 3 m apart and both about 3 m high. They were growing in an untrimmed, mixed, old-looking hedge of much the same height and flowering well. Again they had suckers and thorns and were growing quite close to a farm. The hedge has since been trimmed to about 2 m in height.

It is quite possible that further medlar plants exist hidden amongst the many old hedges in this part of the country.

### Reference

Wolley-Dod, A.H. (1937) *The Flora of Sussex*. Hamilton, Adams & Co.

RACHEL NICHOLSON, Summerhill, Five Ashes, Mayfield, E. Sussex TN20 6JG

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## MISTLETOE SURVEY

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### MISTLETOE SURVEY – ANOTHER UPDATE

Analysis and mapping of the mistletoe data continues apace. The data entry is still incomplete, though it won't be long now(!). Data validation is another matter – I am currently reviewing anomalies and oddities in both the BSBI and Plantlife data and quite a few dots are moving around as a result.

The maps shown here are still provisional. If your dot(s) is still not on and you sent your data in, don't worry, it or they will appear eventually. If your dot isn't on because you didn't send your card in there's still a chance to include it . . .

The first map compares the two data-sets: BSBI and Plantlife. The differences are surprisingly numerous and I hope they will reduce as the data is finalised. It is possible that some are computer errors – some of my software has been behaving in mysterious ways. Nevertheless the map is intriguing, especially in areas such as western Berkshire where Plantlife data predominates. This may genuinely reflect more recording by the general public. Contrary to what I said in *BSBI News 75* I now hope to carry out a thorough comparison of the two data sets when everything is finalised.

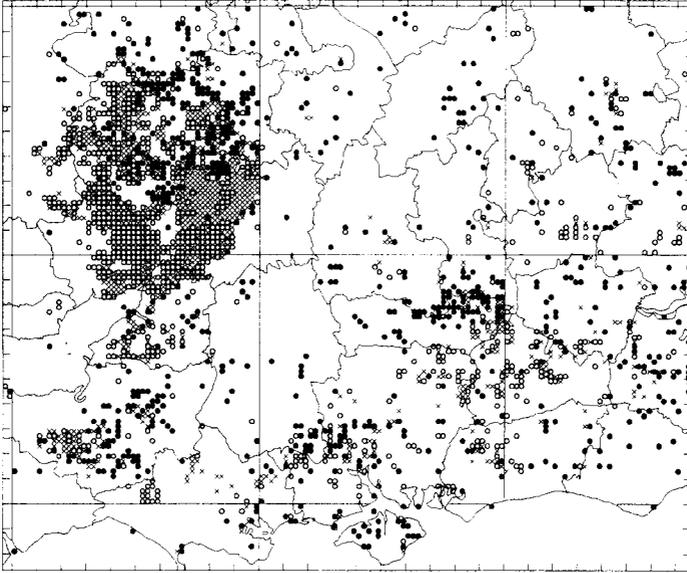
The other two maps show just Apple and Lime records respectively. The Apple map confirms that tree's dominance as a host and reflects the national distribution pattern. The Lime map also reflects the national pattern but there are interesting differences to Apple, particularly in Surrey and western Berkshire (again – what is it about Berkshire?). In these areas Lime tetrads appear to outnumber Apple.

That's all for now. Usual apologies for delays in data processing and incomplete maps. It will all be finished soon . . .

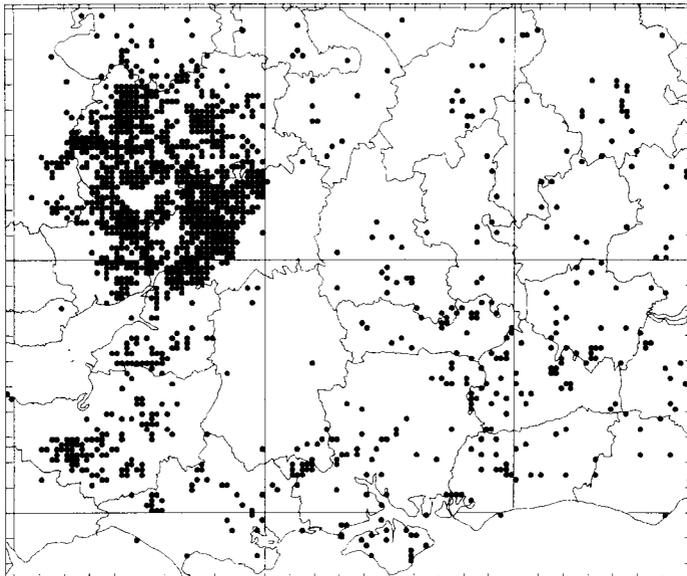
I'm hoping to set up a web page displaying some of the maps. A link to this page will be available from the BSBI web site.

JONATHAN BRIGGS, Mistletoe Survey, 2 Ledgemoor, Watledge, Nailsworth, Gloucestershire  
GL6 0AU

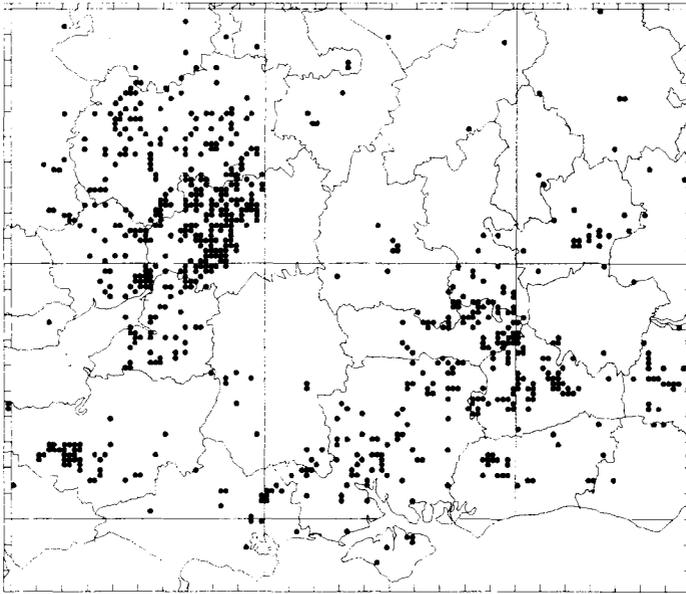
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Map. 1: Provisional comparison of Plantlife and BSBI data. Symbols indicate sightings within a 2×2 kilometre square: × = Both; ● = Plantlife; ○ = BSBI



Map, 2: 1994-96 Provisional Map, showing mistletoe distribution on Apple. ● symbols indicate sightings within a 2×2 km square



Map, 3: 1994-96 Provisional Map, showing mistletoe distribution on Lime. ● symbols indicate sightings within a 2x2 km square

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## CONSERVATION NEWS

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### MILLENNIUM SEED BANK PROJECT

The Millennium Seed Bank Project report mentions some of the BSBI members who have in 1997 collected seeds of special interest for the Bank:

*Lavatera cretica* (Smaller Tree-mallow) from Scilly, by Rosemary Parslow, BSBI Recorder for v.c. 1b  
*Carex flava* (Large Yellow-sedge) from its only British site by Ian Taylor, English Nature warden and member of BSBI Conservation Committee.

*Potentilla neummanniana* (Spring Cinquefoil) from Midlothian by Phil Lusby, BSBI.

*Sonchus palustris* (Marsh Sow-thistle) by Peter Lawson, Suffolk Wildlife Trust and BSBI.

*Orchis ustulata* (Burnt Orchid) from E. Sussex by David Lang, BSBI.

*Galium parisiense* (Wall Bedstraw) from W. Norfolk by Gillian & Ken Beckett, BSBI recorders for v.c. 28.

*Meconopsis cambrica* (Welsh Poppy) from Brecknock by Ray Woods, Countryside Council for Wales and BSBI.

*Lithospermum purpureocaeruleum* (Purple Gromwell) from Somerset by Liz McDonnell (see below).

If any member would like to collect seed for this project please contact: Mrs E.J. McDonnell, Dungeon Cottage, Cocklake, Wedmore, Somerset. Liz is the BSBI co-ordinator for the Millennium Seed Bank Project.

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## CONSERVATION HEADLANDS FOR ARABLE WILD FLOWERS

With the kind co-operation of the owners of the Ditchley Estate, near Charlbury, west Oxfordshire, a conservation headland for arable wild flowers was set up on cultivated land that for the past forty or fifty years has grown a variety of crops (wheat, barley, oil-seed rape, flax, broad beans and peas) and been treated in the conventional manner with chemical fertilisers, pesticides and herbicides. Known as Broad Asserts, this large field was probably assarted in the fourteenth or fifteenth century from surrounding woodland known to have been part of the ancient royal hunting forest of Wychwood. The underlying rock is Jurassic Oolitic limestone.

In the late summer of 1996 a strip measuring approximately 365 x 4 m along the entire length of the north side of the field was ploughed and levelled but not sown with rape seed and, later, not sprayed with herbicides. The results in this first season (April – October 1997) have been astonishing. Seventy-nine species (in flower or in a vegetative state) have been recorded. Roughly half of these are plants associated with arable land and half with the flora of adjacent grassland and woodland edge.

Bracketed figures in the following species list refer either to low counts (1-10 plants) or to exceptionally large or unusual numbers of plants. Others are broadly categorised as Occasional (Occ.), Frequent (Fr.) or Abundant (A.).

|                                                           |                                                             |                                                     |
|-----------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------|
| <i>Aethusa cynapium</i> (Fr.)                             | <i>Alopecurus myosuroides</i> (7)                           | <i>Anagallis arvensis</i> (Fr.)                     |
| <i>Anagallis arvensis</i> (blue-<br>flowered form) (59)   | <i>Anthemis arvensis</i> (2)                                | <i>Aphanes arvensis</i> (2)                         |
| <i>Arctium minus</i> (1)                                  | <i>Arenaria serpyllifolia</i> (4)                           | <i>Atriplex patula</i> (Occ.)                       |
| <i>Capsella bursa-pastoris</i> )<br>(A. in one area only) | <i>Carduus nutans</i> (1)                                   | <i>Centaurea nigra</i> (2)                          |
| <i>Cerastium glomeratum</i> (5)                           | <i>Chaenorhinum minus</i> (9)                               | <i>Chenopodium album</i> (8)                        |
| <i>Chenopodium polyspermum</i> (6)                        | <i>Cirsium arvense</i> (Occ.)                               | <i>Cirsium vulgare</i> (Occ.)                       |
| <i>Clematis vitalba</i> (5)                               | <i>Clinopodium vulgare</i> (1)                              | <i>Convolvulus arvensis</i> (Occ.)                  |
| <i>Corylus avellana</i> (1 - seedling)                    | <i>Crepis capillaris</i> (5)                                | <i>Dactylis glomerata</i> (2)                       |
| <i>Dipsacus fullonum</i><br>ssp. <i>sylvestris</i> (3)    | <i>Epilobium tetragonum</i> (2)                             | <i>Equisetum arvense</i><br>(10 – in a damp area)   |
| <i>Euphorbia exigua</i> (Occ. - Fr.)                      | <i>Euphorbia helioscopia</i> (4)                            | <i>Fallopia convolvulus</i> (Fr.)                   |
| <i>Fumaria officinalis</i> (4)                            | <i>Galium aparine</i> (Fr.)                                 | <i>Geranium dissectum</i> (Fr.)                     |
| <i>Geranium pusillum</i> (2)                              | <i>Heracleum sphondylium</i> (2)                            | <i>Hypericum perforatum</i> (2)                     |
| <i>Kickxia elatine</i> (Occ.)                             | <i>Kickxia spuria</i> (Fr.)                                 | <i>Lactuca serriola</i> (1)                         |
| <i>Lamium album</i> (4)                                   | <i>Lamium amplexicaule</i> (Occ.)                           | <i>Lamium purpureum</i> (6)                         |
| <i>Lapsana communis</i> (2)                               | <i>Legousia hybrida</i> (14)                                | <i>Matricaria discoidea</i><br>(Fr. in a damp area) |
| <i>Melilotus</i> sp. (2)                                  | <i>Myosotis arvensis</i> (A. in one<br>area, Fr. in others) | <i>Odontites verna</i> (Fr.)                        |
| <i>Papaver dubium</i> subsp. <i>lecoqi</i> (2)            | <i>Papaver rhoeas</i> (Fr.)                                 | <i>Pastinaca sativa</i> (1)                         |
| <i>Persicaria maculosa</i> (Occ.)                         | <i>Picris echioides</i> (1)                                 | <i>Plantago lanceolata</i> (Occ.)                   |
| <i>Plantago major</i><br>(A. in a damp area)              | <i>Poa annua</i> (Occ.)                                     | <i>Polygonum aviculare</i> (Fr.)                    |
| <i>Polygonum rurivagum</i> (Occ.)                         | <i>Primella vulgaris</i> (7)                                | <i>Rumex crispus</i> (Occ.)                         |
| <i>Rumex obtusifolius</i> (Occ.)                          | <i>Senecio erucifolius</i> (1)                              | <i>Senecio jacobaea</i> (4)                         |
| <i>Senecio vulgaris</i> (7)                               | <i>Sherardia arvensis</i> (Fr.)                             | <i>Silene latifolia</i> ssp. <i>alba</i> (Fr.)      |
| <i>Silene noctiflora</i> (541)                            | <i>Sinapis arvensis</i> (A.)                                | <i>Sisymbrium officinalis</i> (5)                   |
| <i>Sonchus asper</i> (Occ.)                               | <i>Sonchus oleraceus</i> (Occ.)                             | <i>Stachys arvensis</i> (18)                        |
| <i>Stellaria media</i> (5)                                | <i>Trifolium</i> sp. (2)                                    | <i>Valerianella dentata</i> (3)                     |
| <i>Verbascum thapsus</i> (1)                              | <i>Veronica arvensis</i> (Occ.)                             | <i>Veronica persica</i> (Fr.)                       |
| <i>Viola arvensis</i> (Fr.)                               |                                                             |                                                     |

The biggest surprise was the abundance of Night-flowering Catchfly (*Silene noctiflora*). Most of the 541 plants were unusually tall and bushy; one was found to have 250 flowers and buds. It was also surprising to find 59 plants of the blue-flowered form of the Scarlet Pimpernel (*Anagallis arvensis*). A specimen of Cornfield Knotweed (*Polygonum rurivagum*) was confirmed by Dr John Akeroyd, who wrote the account of this species for *Scarce Plants in Britain* (Ed. D.A. Pearman, C.D. Preston and A. Stewart, JNCC, 1994). The Charlock (*Sinapis arvensis*) was either pulled by hand or topped off by machine while still in flower, and thistles were beheaded.

This conservation headland will be ploughed and levelled in the late autumn 1997, then left unsown and unsprayed. It is hoped to continue this experiment for a few years.

A shorter conservation headland elsewhere on the estate is being similarly managed with a view to increasing the present very small population of Red Hemp-nettle (*Galeopsis angustifolia*). Another scarce arable wild flower, Corn Parsley (*Petroselinum segetum*), survives along the edges of a few unmanaged arable borders.

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## PUTTING THE WILD BACK INTO WILDFLOWERS

I read the article 'Flora Locale: Putting Wild Plants Back Where They Belong' (*BSBI News* 76: 42) with interest and have since seen copies of the guidance notices referred to in it. I had hoped that our wild flora was at last being taken seriously but it soon became clear that it is not. It is just a further refinement of what we have seen happen over the years. The underlying premise is still that introducing plants is okay. The message must be that it is not. It should be a matter of absolute last resort and essentially an admission of failure, that the surrounding environment is so devastated that it is impossible for a sufficient diversity (whatever that means) of wild propagules to colonise.

The guidance notes are an improvement on anything I have seen so far but as they stand they are yet another way for the planters and the habitat creators of the world to justify their activities. As nature conservationists our first concern I would hope is truly wild wildflowers. Wildflowers that do it for themselves. The prevailing attitude seems to be that sometime around 1963 trees and wildflowers forgot how to reproduce sexually. Since then there's been no plant progeny. Except, of course, for those midwived by humanity.

### Urban areas

I want to particularly focus on urban areas where for some reason the fact that they are urban is seen as a reason for a laissez faire approach. This is a general disease in the conservation world.

To quote from the guidelines 'Natural regeneration is not normally a suitable approach for urban schemes because of the time-scale needed.' Whoever wrote this has not the slightest understanding of urban wildlife communities. The reality is the exact opposite of what is stated. This statement would be more appropriate to areas of the countryside where the agricultural industry has totalled the landscape. On urban sites natural regeneration is rapid. There are hundreds of examples in London, I focus on two below.

It is also asserted that it is okay, for educational reasons, to plant a mixture of native and alien species. That really depends on whether children are to be taught about the real ecology, the really wild wildlife of where they live or whether they are to be taught about gardening.

Each urban area has a local alien flora that is an important part of its local distinctiveness. On many sites, particularly wastelands (or derelict land, or the more current 'brown field' sites), native species usually outnumber aliens, that said many of the native species present are often 'alien' to that locality anyway.

These sites often support 15 or more species of butterfly and even species of bird on the red and amber lists, for instance, black redstart and linnets. Floristically they can knock the species diversity of

chalk grassland into a cocked hat and as for the farmed landscape it barely warrants comparison. Yet it is these 'brown field' sites that organisations such as Council for the Preservation of Rural England are suggesting should be built on instead of the large areas of degraded countryside out there.

The guidelines do not make people face up to the real issues of conservation which are the continual haemorrhage of the wildlife resource and the lack of management of that resource. For some reason habitat creation is seen as something positive for the environment. It actually soaks up enormous resources that would be far better used in other ways. One of the reasons that habitat creation and tree planting are so sexy is that they are capital items and capital is far more readily available than revenue which is what is needed.

Nature conservation is riddled with well meaning people wanting to save the planet who have not the slightest idea about what they are doing. Their approach is essentially anti nature and particularly anti local wildlife. They rarely find out about the nature of the existing local resource and how to work with it. They act as if it is year zero for the bit of land they are focusing on and hardly ever consider the local context.

The non native element of our flora has a story to tell of our ecological imperialism whether for reasons of trade, collecting or gardening and the hitch hikers picked up on the way. The landscapes they help mould are part of the human story of this country. They are as much a part of our culture as country houses, music, art, meadows, hedgerows and heathland.

There are many other concerns about the guidance notes that have been produced. Is the NVC really an appropriate tool to decide what to plant where? I don't think so. An experienced local conservationist is needed to advise on any such schemes that arise, only they will know the local context.

## Gargoyle Wharf

Gargoyle Wharf lies by the Thames at Wandsworth. I have a 1990 aerial photograph of the site at that time. There was a distillery and an oil storage depot on the site and practically no vegetation. In that year the site was demolished and graded with crushed brick and concrete and in some areas chalk and sand were spread. It was then left. This site was surveyed over the summer period of the year of the painted lady, 1996. 310 species of flowering plants and two pteridophytes were recorded. The site was bulldozed so we will never know exactly how many species utilised it.

Nearly two thirds of the flora was of native origin, the remainder largely coming from Europe, North America and China. Over two thirds of the species were perennial. There were hundreds of trees on the site of over 30 species. These included Hawthorn (*Crataegus monogyna*), Ash (*Fraxinus excelsior*), Silver Birch (*Betula pendula*), Holly (*Ilex aquifolium*), Tree-of-heaven (*Ailanthus altissima*), London Plane (*Platanus × hispanica*) and Manna Ash (*Fraxinus ornus*). The most populous were poplars, there was a riot (nightmare?) of hybrids on the site which were never determined. *Buddleja* was the dominant shrub with 26 other species occurring. A handful of brambles, cotoneasters, Spanish Broom (*Spartium junceum*), Bladder-senna (*Colutea arborescens*), Shrubby Scorpion-vetch (*Coronilla valentina*), Japanese Quince (*Chaenomeles speciosa*), Dog-rose (*Rosa canina*), Sweet-briar (*Rosa rubiginosa*), Broom (*Cytisus scoparius*) and Gorse (*Ulex europaeus*) were among them.

This is just a taste of the extraordinary and diverse flora that had become established there. I would hope that sites like these would set some example to those that would softly enter the roots of enslaved plants but I somehow doubt it. Nature conservation is infested with gardeners.

## Deptford Creek

Deptford Creek is where the clear water of the River Ravensbourne meets the silt laden water of the North Sea, where fresh water meets salt water. It debouches into the Thames at Greenwich and has been a neglected backwater for decades.

There is a thin green line of flowering plants growing on the vertical walls of Deptford Creek. They grow above the low high water mark on ledges and in crevices, cracks and crannies in and between concrete, brick, steel and wood. There are over a hundred species present, a mixture of wetland, dry

land, wall and wasteland species. Trees include Ash, Alder (*Alnus glutinosa*), Sycamore (*Acer pseudo-platanus*), Holm Oak (*Quercus ilex*) and, would you Adam and Eve it, a Wild Fig (*Ficus carica*).

Garden Angelica (*Angelica archangelica*) is abundant as is Hemlock Water-dropwort (*Oenanthe crocata*). Gypsywort (*Lycopus europaeus*), Pendulous Sedge (*Carex pendula*), Remote Sedge (*C. remota*), Water Figwort (*Scrophularia auriculata*), Celery-leaved Buttercup (*Ranunculus sceleratus*) and Reed Canary-grass (*Phalaris arundinacea*) are among the wetland phalanx. Sea Beet (*Beta vulgaris*) and Sea Aster (*Aster tripolium*) are the only representatives of salt marsh.

I won't go on about the remaining flora, the above is just to set the scene. Many of the walls that support the community of plants present need to be repaired or replaced for flood defence purposes over the next three years. The approach that is being adopted is firstly to move what can be moved and then to install features such as ledges, crevices, cracks and crannies that will enable natural regeneration. And as sure as eggs are things that come out of the rear end of chickens that will happen. The main focus is to hasten the process.

Habitat creation is a non issue even in the wider Deptford area, which is a highly urbanised part of an Inner London borough. Until the wildlife resource here is better protected, better understood, better interpreted and better managed, which seems as far off now as it ever did, it won't be.

### **Towards an introduction to the guidelines**

Could I suggest the following set of questions that should be asked before any habitat creation is considered:

- *Why do you want to do it?*

Is what you are proposing an ego trip? Do you have sufficient knowledge about the local context, local wildlife communities, to do a competent job? Are you trying to recreate a notional past?

*What wildlife communities exist on the site already?*

Have you had the site surveyed by a competent local field botanist, entomologist, etc.? Many habitat creation schemes have been done on sites with an existing wildlife interest and destroyed that wildlife interest.

- *Do you actually need to plant anything?*

In most cases wildlife communities establish rapidly, yes, even on bare ground. The issue you need to focus on is the long term management of the community/ies that become established. Have you considered the impact of what you propose to plant on local wildlife communities?

- *Is what you propose relevant in the local context?*

Have you spoken to people with knowledge about the locality? For instance would your resources be better placed to reinforce knowledge of what the local wildlife resource is; manage a local wildlife resource; campaign for those under threat; produce education materials for local people and in particular local decision makers – there is too much of a focus on schools education, kids will not be blind to the inherent hypocrisies of what they are taught (assuming that what they are taught about their local wildlife communities is of a high enough quality – a big assumption) and what happens in reality.

NICK BERTRAND, Conservation Works, 441 New Cross Road, Deptford SE14 6TA.

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## ALIENS

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### ALIEN RECORDS

Due to lack of space, I am afraid I have had to hold over several pages of Alien Records until the next issue. My apologies to all those who have sent in records.

EDITOR

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## BLACK CHOKEBERRY

Recording for the Atlas 2000 can sometimes be rewarding! While walking along the north bank of the Leeds and Liverpool Canal near Pennington Flash (v.c. 59) on the 28th August 1996, Audrey Locksley and I were intrigued to see a small bushy shrub about a metre high. It was covered in shining black purplish fruits standing in the middle of a bleak and boggy landscape. It must have been bird-sown in this situation – one other plant was found about 100 m. away. Having checked in Stace I came to the conclusion it might be *Aronia melanocarpa* (Michaux) Elliott. This indeed was confirmed by Eric Clement, who pointed out it was only the third British record.

*Aronia* belongs to the Rosaceae and is a genus close to *Sorbus*, from which it differs in having 5 styles. It is a native of eastern North America and has been grown in Britain for over two centuries. It must make an attractive garden shrub with its eye-catching fruits and polished dark green leaves, which turn a glorious colour in the autumn. The flowers in May are equally pleasing. However its suckering habit – not apparent at the site – might put (choke!) the gardener off.

When visiting the area the following year we were dismayed to see a bulldozer and huge piles of earth nearby. Miraculously the *Aronia* had survived. The land which was originally owned and tipped on by the Coal Board was being drained. Let us hope that the *Aronia* will not now succumb to drought.

As a sequel to this I should mention that I was in North Wales in September 1996 and by an odd coincidence we were staying very near Llyn Hafod-y-llyn (Caerns.) where *A. melanocarpa* was first recorded. I was eager to find the original but after an extensive search was disappointed to find no trace of it. Yet there, growing by the Llyn, was a very similar shrub covered in black fruit. A sample was sent to Eric Clement who identified it as *Vaccinium corymbosum* L. (Blueberry). Had somebody lived there who had a taste for North American shrubs or was it a case of mistaken identity?

I am most grateful to Margaret Brown for her very clear drawing (see front cover) and to Eric Clement for his prompt identifications.

### References

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 Clement, E.J. and Foster, M.C. (1994). *Alien Plants of the British Isles*. BSBI. London.  
 Stace, C.A. (1991). *New Flora of the British Isles*. Cambridge.

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## THE GENUS *FALCARIA* – A REVIEW

*Falcaria vulgaris* Bernh. is moderately well-known to British botanists. Although its natural range is continental, where it is super-abundant on roadsides in west-central France for instance, we do have a scattering of naturalised colonies in Britain. The location best known to me is on Cryers Hill, near High Wycombe in v.c. 24, where the colony extends over several hundred yards on the clay between the cycle track and the carriageway, being notably absent from the chalk bank behind. In the years of closely-shaven municipal verges the *Falcaria* was scarcely visible but as the mowing regime eased the extent of colonisation became apparent and in warm summers, starting in 1976, viable seed was produced.

The ability to prosper when no flowers or fruit are achieved is due to the perennial network of creeping rhizomes, a feature associated more readily with *Aegopodium podagraria*. There was a dense circular colony (which could have been just one plant, I suppose) on an island of soil in the ballast of the railway which ran along the western edge of Staines Moor, but this appears to have been annihilated by the M25.



*Gongylosciadium falcarioides* del C. Hogg © 1997

I was recently told that *F. vulgaris* has been found to produce, under certain conditions, a scarce chemical which hitherto has been industrially synthesised at considerable cost. Whether we shall therefore find fields of *Falcaria* alongside the rape, flax and lupins remains to be seen.

So much for *F. vulgaris*. There is, or was, another species – *Falcaria falcarioides* (Bornm. & Wolff) Wolff. Odd name, this, on the daring assumption that any *Falcaria* will be falcaria-like. It is known, but not well-known, from Turkey and Iranica. As the *F. vulgaris* seen in Turkey looks rather unlike the plant in Western Europe, having shorter leaf-lobes, one's first thought is that this must be *F. falcarioides*. Only when one is confronted with the real thing, and has finished thinking that it is a species new to science, does the textbook confusion give way to order:

*Flora of Turkey* IV: 428 says, of *F. falcarioides*, 'Glaucous biennial, . . . altitude 380m to 1250m'. Plants seen flowering in October '97 were green and perennial, and were plentiful in saltmarsh near Koycegiz, Turkey C2 at about 20 m above sea level, in clumps of *Juncus* and *Rubus*. The root-system and branching of the plant are not mentioned in the *Flora*, but both were profuse. The leaves were very few, spatulate and simple. The most remarkable thing is that, although this plant has ovate or sub-globose fruit, it has been in the same genus as a plant – *F. vulgaris* – which has linear fruits.

In *Flora Iranica* 162: 508, Prof. Rechinger rightly removes the species from *Falcaria*, and gives it the splendid name of *Gongylosciadium falcarioides* (Bornm. & Wolff) Rech.fil. 'Gongylo' implies ball-like features and I initially assumed that this referred to the fruits, but the description begins 'Radix napiformis'. The creeping rhizomes of the plants at Koycegiz were functioning in the manner of *Acropodium* and did not suggest turnip-like tendencies. However, I have to say that some of the specimens at E do show a modest thickening just below the junction with the stem. Presumably the creeping rhizomes were the basis of the former inclusion in *Falcaria*. (The frequent generic suffix 'sciadium' is Greek for parasol/umbrella).

Because of the root-form confusion, the incorrect pairing of the two species in *Falcaria*, and because *Falcaria* and *Gongylosciadium* wrongly remain adjacent in *Flora Iranica*, the identity of *G. falcarioides* can be very difficult to ascertain when first met with. But as it was in flower in mid-October, the problem may not be faced by visiting botanists very often. For anyone who does encounter putative *Gongylosciadium*, I hope the accompanying illustration will be useful.

I am grateful to Miss J.M. Lamond for confirming the determination of *G. falcarioides*.

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## JAPANESE KNOTWEED, INDIAN BALSAM AND GIANT HOGWEED

I read with interest the letters (*BSBI News* 76: 61-63) from Mr C.J. Bruxner of Preston, Mr P.J. Pope of Llanelli and Dr Oliver Gilbert of Sheffield, and I am grateful to have their responses to the report on this subject published in *BSBI News* 75: 51-54. In so far as invasive alien plants do, or may, 'pose a threat to our native flora', (rare, scarce or even common species), it is my understanding that the Society's Conservation Committee already has this matter under consideration (*BSBI News* 72: 44, & 73: 36-37), as it would be expected to do – the UK is a signatory to the Rio 1992 Convention on Biological Diversity. Members may learn more about the Convention from any County Council Local Agenda 21 contact, and influence local policy at the consultative phase of their County Biodiversity Action Plan (BAP).

I have been asked to substantiate some of the tentative quantitative and other aspects of the report in *BSBI News* 75: 51-54, and members of the Society may help with this by sending in any information they may have on the following:

- a) records of recent (last 5-10 years) invasions by these species of new habitats – suburban or rural – (particularly woodlands, but also of any non-industrialised wetlands),
- b) observations/case histories in their local area of site to site spread of these species, and of their MEANS of spread,

- c) records of the rate(s) of aerial growth of stands site by site; for Japanese Knotweed, particularly, any information on the age of individual clone/stands, large (i.e. old) or even quite small, would be invaluable.
- d) details of decline, replacement, pathology or death of these species (particularly Japanese Knotweed); policy and practice on control measures if any.

JOHN R. CHARTER, Dunston Woodwatch, 16 Spring Wood Close, Dunston, Chesterfield, Derbyshire S41 8BS Tel. 01246 274349 after 11 am; Fax: 0114 2760159

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## INDIAN BALSAM AND SYCAMORE

As a manager of a local nature reserve, I would like to respond to C.J. Bruxner's article on Indian Balsam (*Impatiens glandulifera*) and Sycamore (*Acer pseudoplatanus*), and I have to admit that my experience of these two aliens within the Upper Calder Valley of West Yorkshire is not as positive.

Whilst agreeing that sycamore is a grand tree and has its uses when grown in the open, particularly around our upland farms, as a constituent of woodland it quickly dominates a substantial area with its large leaves, vigorous growth and, particularly, its enormous branch structure.

Sycamore finds the damp Calder Valley cloughs much to its liking and is rampant there. The light level is naturally low in these steep sided cloughs, but the extra shade cast by sycamore robs them of all pleasantness and makes for a much impoverished ground flora and shrub layer. It often grows where Ash (*Fraxinus excelsior*) would otherwise be and comes into leaf 4-6 weeks earlier. This early leafing gives it a competitive advantage and the resultant closure of the woodland canopy in early spring often leads to bare soil beneath. When sycamore is thinned from our local woods, the transformation from cave-like gloom is amazing.

I venture to suggest that we do not have to put up with species poor woods; let us get sycamore under control and return to sylvan glades again, where oak, ash, birch, etc., are at least given a sporting chance with the resulting rich ground flora and shrub layer.

With Indian Balsam, I pulled up an acre of it just before it went to seed; two metre high stems even under the shade of trees with totally bare soil beneath.

The following year, all manner of grasses were flowering and their roots were binding the soil together. With the result that when it rained there was no longer any soil washed down into the highway grates, blocking them up.

Maybe the Calder Valley is a special case, but . . . !

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## HAS BASSIA SCOPARIA REACHED LONDON?

The late summer and autumn of 1997 has produced an even greater flush of the new roadside weed Summer Cypress (*Bassia scoparia*) along the side of the motorways in Yorkshire and Lincolnshire than occurred in 1996. This vigorous and conspicuous species is now abundant in the salt burn zone of the main roads around the Humber Estuary (Kirby & Eades 1997).

It has spread out into cracks in the tarmac of roads in the centre of Hull, and is thinly spread on a few waste sites in the docks of Hull and Goole, associated with Yellow Bristle-grass (*Setaria pumila*),

Common Amaranth (*Amaranthus retroflexus*), Millet (*Panicum miliaceum*) and Cockspur (*Echinochloa crusgalli*). These docks are presumably the source of the original introductions.

A drive down south to Heathrow airport on August 17th gave me a chance to look at roadside plants whilst my wife kindly did the driving. *Bassia scoparia* was abundant along the A63, M62, M18 and M180. A new hectad for me was Maltby, SE/5.9. Joining the A1(M), this species continued on the verges until the motorway finished at Blyth, SE/6.8 also a new hectad. *Atriplex littoralis* was abundant here, but *Bassia* finished and I saw no more plants along the A1 and A1(M) throughout the East Midlands.

Nearing the influence of London, at junction 8 near Stevenage, TL/2.2, I started to see a few plants which looked like *Bassia scoparia*. They were about 30 cm tall, so only half grown, with the distinctive pale green tone and conifer shape of this species. However, the car was travelling too fast for definite identification. Scattered specimens of what I believe to be *Bassia scoparia* were seen at Welwyn Garden City, TL/2.1 and also one putative plant on the M25 to the west of Junction 1, Watford, hectad uncertain.

These cannot be regarded as definite identifications, as I have found that at speeds of over 30 mph smaller plants of this species cannot be identified with certainty. However, I believe my identification to be correct, and would ask motorway botanists to look out for this distinctive species in the London area.

Peter Cook (1997) said 'I have never witnessed such a sudden appearance of a plant in such quantity, with such a rapid rate of spread' and 'I can see no reason why this species should not spread further and become well established'. If my identification is correct, then a rapid colonisation of the London motorway network can be predicted.

## References

- Cook, Peter J (1997). Summer Cypress (*Bassia scoparia*) on Yorkshire roadsides. *BSBI News* 74: 48-49.
- Kirby, Paul R, & Eades, Ray (1997). Spread of Summer Cypress (*Bassia scoparia*) along road verges in North Lincolnshire. *BSBI News* 74: 50.

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

## ***EUPHORBIA ROBBIAE* ALIVE AND WELL (AT LEAST IN THE HOME COUNTIES!)**

I support Eric Clement's sympathy (*BSBI News* 76: 58) for the view that *E. robbiae* is a distinct species and that it is poorly known (at any rate in much of the British Isles).

However, in the area more or less corresponding with the London Natural History Society's recording area (20 miles from St Paul's Cathedral) it seems to me not infrequent. For W. Kent (v c 16) I give some further records of mine which have occurred since the two locations I mentioned in *BSBI News* 40: 26.

- a) Extensive by footpath in alleyway, Sutton-at-Hone, TQ/5.6, 1990-95, until sprayed by the local authority.
- b) Seedlings on asphalt pavement, Eynsford, TQ/5.6, 2/6/93 (with seedlings of *Lonicera nitida* & *Brumera macrophylla*).
- c) Roadside, New Barn, TQ/6.6, 3/10/93, of fairly good status.
- d) Patches on roadside, and wooded banks, Horton Kirby, TQ/5.6, 30/12/93 & 28/2/95.
- e) Weed of good status near villages like Farningham and Hextable, 1994-95.

When I began to realise it was fairly frequent I gave up recording it, but Rodney Burton holds a number of records for other vice-counties within the LNHS area, from various contributors.

I think that to the field botanist, *E. robbiae* will always appear distinctive from yards away, with its broader, dark-green, evergreen leaves and patch forming habit.

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

### *LUDWIGIA* × *MUELLERTII* Hort. NEW TO BRITAIN

When a very rare native plant long known as being restricted to S. Hants and one that is ill adapted to dispersal (see E.J. Salisbury, *Watsonia* 9: 33-37 (1972)), suddenly appears in new localities from widespread places such as Surrey, E. Sussex, Dorset (in 1996), S. Essex and S. Lancs (an older record, from near Liverpool) one naturally suspects that some impostor is involved.

On 6 Oct. 1997, Elizabeth Norman very kindly visited the Surrey locality – a round pond on Putney Heath (GR TQ/237 733) where '*Ludwigia palustris*' is now abundant after being found by U. Sutcliffe in 1995 – and sent me a voucher specimen (**Herb. EJC**) for reappraisal. It grows with the dreaded *Crassula helmsii* as company.

The plant did, indeed, closely resemble vigorous *L. palustris* (Hampshire Purslane), but several subtle differences were apparent on closer inspection. The ± sessile flowers in the leaf axils had (1-)4 minute (0.5 mm), ± spatulate cream petals; the ovary was narrower, longer, uniformly pale green and not swelling; the two bracteoles were longer (1-1.5 mm), some nearly reaching a mid-ovary position; the leaves tended to be broadest nearer to the apex. True *L. palustris* (L.) Elliott (*L. repens* J.R. Forster) has no petals, the ovary soon swells into a subrotund shape revealing 4 dark green longitudinal rupture lines and the bracteoles are minute (up to 0.6 mm).

This deviating taxon has long been known (since 1945?) amongst aquaria enthusiasts as '*L. mullertii*', but this name has unfortunately never been validly published. (Who was Mr Mullert?). It is apparently unknown in the wild and might have arisen in cultivation. It is always sterile and from its morphology presumably equates to the hybrid *L. natans* × *L. palustris*.

*L. natans* Elliott (*L. repens* Sw. (1797), non J.R. Forster (1771)) has fugacious yellow petals, typically 3-5 mm long, and its longer fruiting capsules lack greenish bands. It is a native from southern USA to C. Mexico and the W. Indies. In the northern part of its range it overlaps with native *L. palustris*. Confusingly, petal size may not be a good diagnostic character since in the Carolinas the petals are said to be 'absent' (or had they dropped off early?).

*L. natans* is not mentioned in *Flora Europaea* 2: 308, but it has been recorded as a 'neophyte' (the ecologists' term for a recently introduced plant) in recent years from at least Germany, Austria and Spain. The Hanover record of 1995 is described in *Flor. Rundbr.* 31: 9-12 (1997), but the colony did not persist. The photograph therein shows petals, described as yellow, but they appear to be less than 2 mm long and the leaves lack the obovate to oblanceolate shape of typical, pure *L. natans*. I suspect that this plant might be another nothomorph of *L. natans* × *L. palustris*.

Our Surrey record of *L. × mullertii* is new to Britain: indeed it might even be the first published record in the world for this plant in a natural habitat! Doubtlessly, other British records belong here – e.g. *BSBI News* 64: 13-14 describes the *Ludwigia* above Seaford (E. Sussex) as a probable exotic aquatic. It is conceivable that all material of *L. natans* and *L. palustris* in modern commerce is, in reality, this nameless, superior hybrid. Specimens are easiest to name when fresh and even then a ×20 lens is preferable when searching for the petals that so quickly detach (open the flower buds!).

I predict that a very hard winter will eventually eliminate this and other colonies – but some enterprising shopkeeper will probably reintroduce it so that a good stack of fresh material is readily available for display and sale; one honest proprietor at Kingston-upon-Thames (Surrey), back in 1978, confessed this fact when he generously gave me a piece of ? pure *L. natans* for my herbarium. I never expected, then, that one day it would be of concern to British field botanists!

ERIC CLEMENT, 54 Anglesey Road, Alverstoke, Gosport, Hants PO12 2EH

## ***SEDUM VILLOSUM* var. *GLABRATUM* IN COUNTY CORK**

A small colony of a crassulaceous plant was noticed as one drove past a wet roadside runnel on a lesser road to the north of Bandon (H4) during work preliminary to a scheduled meeting of the Irish Regional Branch BSBI – Bandon, 7-8 June 1997 (leader M.J.P. Scannell). On a day of torrential rain the runnel was a small stream some yards from a residence with a good garden. The plants in the stream derived from the garden.

The specimen collected was identified later via *The European Garden Flora* (1995) as *Sedum villosum* L. (Hairy Stonecrop), native in Lancashire, Yorkshire, Perthshire, found also in W and C Europe extending to Finland and N. Italy. In this work the plant is described as 'glandular hairy'.

*S. villosum* is described in the *Flora of the British Isles* (1987), – 'glandular-pubescent' with alternate linear-oblong leaves, not spurred, having 5-petalled pink-mauve, stalked flowers borne in a lax inflorescence. The Bandon plant however was not in accord with this description, it was completely glabrous. Surprisingly, *The European Garden Flora* includes varieties and subspecies but, in the case of the species concerned, there is no departure from the type description. In *Flora Europaea* 1 (1964): 362 (D.A. Webb *et alia*) all is explained, 'usually glandular-pubescent all over (but occasionally glabrous in subarctic Europe, var. *glabratum* Rostrup)'.

R.Ll. Praeger in 'An account of the genus *Sedum* as found in cultivation' (*J. Royal Hort. Soc.* 46 (1921): 1-314), describes *S. villosum* in detail, 'leaves blunt, downy . . .' (the line-drawing by Eileen Barnes shows a very hairy plant), the var. is not noted. Praeger adds, 'of no horticultural interest' and, 'According to Kerner, the plant is a partial carnivore, capturing insects by means of glandular hairs'.

In *BSBI News* 58(1991): 14-15, R.W. Corner states, 'the name Hairy Stonecrop is usually given to *Sedum villosum* as a direct translation from the Latin . . . I have never been impressed with its hairiness'. The arrival on the scene then of the Bandon plant satisfies the interest of two botanists.

I have not seen *S. villosum* var. *glabratum* in cultivation in gardens about Dublin.

MAURA SCANNELL, Raglan Road, Dublin 4.

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## **NOTICES (BSBI)**

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### **ABSTRACTS OF POSTGRADUATE THESES**

There is a feeling that a significant amount of research work carried out by students following Masters and Doctoral programmes is never published. Rather than allow this work to lie on library shelves gathering dust we would like to promote this work by including abstracts from such theses in '*BSBI Abstracts*'.

Any student wishing to submit an abstract of their thesis for publication should:

- a) note that the topic must fall within the broad framework adopted for *Watsonia*, this being 'on British and Irish vascular plants, their taxonomy, biosystematics, ecology, distribution and conservation as well as topics of a more general or historical nature'; and
- b) send their abstracts to: Dr Richard J. Gornall, Department of Botany, University of Leicester, Leicester, LE1 7RH.

It must be emphasised that submission of an abstract will not guarantee publication in *Abstracts*.

BRIAN S. RUSHTON, School of Applied Biological and Chemical Sciences University of Ulster,  
Coleraine Northern Ireland, BT52 1SA

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## MIMULUS: 180 YEARS OF CONFUSION – A CORRECTION

Table 3 in Alan Silverside's paper, *Mimulus*: 180 years of confusion, pps. 59-64 in Perry, A.R. & Ellis, R.G., *The common ground of wild and cultivated plants. Introductions, invasions, control and conservation*. National Museum of Wales, Cardiff, 1994, was inadvertently omitted during the course of editing. Many apologies to Alan. The Table in its entirety is reproduced below. If anyone would like a copy of it for insertion in the paper please contact me at the address below.

### Table 3. HYBRIDS OF THE '*MIMULUS LUTEUS* COMPLEX' IN BRITAIN

N.B.: Crosses between the S. American taxa (*M. cupreus*, *M. nummularius* and *M. variegatus*) are usually at least partially fertile; crosses between this species complex and the N. American *M. guttatus* are usually sterile.

***M.* × *maculosus*** T. Moore (= *M. cupreus* × *nummularius*)

First shown by W. Bull in 1863, now rarely cultivated. An established escape in three areas in Scotland.

***M.* × *smithii*** Paxt. (= *M. nummularius* × *variegatus*)

In cultivation by 1834, known as an escape by ca. 1850 at Reay, Caithness. Now rarely grown, but established in a number of localities in N. England and Scotland.

***M.* × *hybridus*** hort. ex Sieb. & Voss (= *M. cupreus* × *nummularius* × *variegatus*)

Usually annual or short-lived, much grown as a bedding plant. A rare and transient escape.

***M.* × *burnetii*** S. Arnott (= *M. cupreus* × *guttatus*)

Origin uncertain, but in cultivation by the latter part of last century and still frequently grown. Locally naturalised in northern Britain and in the Faeroes. The 'hose in hose' variant (var. *duplex* (Sieb & Voss) comb. ined.) also sometimes naturalised, often in ditches by old crofts in N. Scotland.

***M.* × *robertsii*** Silverside (= *M. guttatus* × *nummularius*)

Commonly grown, often as the cultivar 'A.T. Johnson', of wild, Welsh origin. Widely naturalised along streams, especially in northern and western Britain where it is often the commonest taxon, rare or under-recorded in Ireland, not known elsewhere. Probably first arose in the wild.

***M.* × *polymaculus*** Silverside, ined. (= *M. cupreus* × *guttatus* × *nummularius*)

Occasionally cultivated, naturalised in a few scattered localities in Britain and the Faeroes.

***M.* × *caledonicus*** Silverside, ined. (= *M. guttatus* × *nummularius* × *variegatus*)

Probably of wild origin (hybridisation of *M. guttatus* with *M.* × *smithii*), but occasionally grown in Scottish gardens and naturalised in scattered localities in Scotland and N. England.

ROY PERRY, BioSyB, National Museum & Gallery of Wales, Cardiff, CF1 3NP.

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## ABSTRACTS 21 – A CORRECTION

Owing to an editorial error, the page number references to the 'New' names in the Flora of the British Isles that are listed in *Abstracts* part 27, p. 96 are incorrect. For the correct page number reference please add **two**.

RICHARD GORNALL, Biology Dept., University of Leicester, Leicester, LE1 7RH BSBI

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## SPECIES IDENTIFICATION TRAINING

This year has seen the formation of a very fruitful partnership between the BSBI, the University of Birmingham and the Field Studies Council. This has led to a series of courses held at Field Studies Centres around the country, accredited by the University of Birmingham and acknowledged by the BSBI as providing sound identification training in a whole range of plant groups.

### **What courses are available?**

In 1998 we are running a wide range of courses including weekends on Sedges, Crucifers, Yellow Composites, Pondweeds, Male-ferns, Grasses, Buttercups and Geraniums (plus many other groups). There are more general week-long courses on wild plant identification, fungi, bryophytes and aquatic macrophytes. There are also specialist courses on the use of Recorder, DMap and Biobase computer programmes, plus a general course on biological recording techniques (how to record for Atlas projects, use of referees, preserving specimens, etc.). The emphasis within the courses is on accurate identification by use of keys, a combination of field and lab-based techniques, including microscopy where appropriate, and there is emphasis on validation of specimens by recognised referees.

### **Who are the tutors?**

The tutors are all recognised experts within their fields and above all, they are good communicators. Tutors for 1998 include Chris Preston, Nigel Holmes, James Merryweather, Franklyn Perring and Ailsa Burns.

### **What do the courses lead to?**

All of the courses accredited by the University of Birmingham can be studied for credit; this involves carrying out between one and three short pieces of assessed work, usually involving informal identification tests, use of keys, writing up identification journals based on field notes, etc., and most, if not all, of these can be completed within the duration of the course. The courses each carry a number of credits, usually ten credits for a five-day course. If you collect a total of 60 credits, including the biological recording course, this leads to a Post Experience Certificate in Biological Recording and Species Identification, awarded by the University of Birmingham School of Continuing Studies. You can join the Certificate at any point – the courses run from April to October each year.

### **Who are the courses aimed at?**

Professional ecologists and botanists who need to specialise or update their field skills, and amateur botanists who are involved in recording schemes and wildlife surveys. However, it must be emphasised that these courses are open to anyone and that credit is not compulsory, although a number of places are reserved on each course for credit students. The courses are recognised by the Natural History Museum as providing suitable training for a range of IDQs (Identification Qualifications).

### **How do I find out more?**

A Certificate course brochure and further details are available from Sarah Whild (University of Birmingham) on 01743 343789 (phone & fax). All individual courses are listed in the Field Studies brochure available from the Field Studies Council (01743 850674).

SARAH WHILD (Academic Adviser in Ecology), School of Continuing Studies, The University of Birmingham, Edgbaston, Birmingham B15 2TT. E-mail Continuing-Studies@hham.ac.uk

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## NOTICES (NON BSBI)

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### AND SUDDENLY IT'S SPRING!

'Action for Biology in Education' has proposed a Megalab experiment for National Science Week in March to celebrate the arrival of spring as measured by living things in the environment and to compare the results with earlier records and climatic data. It is hoped that the main participants will be young people aged 5-25, their teachers and parents.

The aim will be to record nationwide flowering period and leaf emergence of selected plant species, emergence of butterflies and arrival of a migrant bird species and then to compare results with earlier data from Marsham records 1736-1947, and other data held at Institute of Terrestrial Ecology. Records will be examined in relation to data on global and national climate data; a picture will be built up of ten days' growth and activity in nature; and an attempt made to determine what the results indicate in the context of global warming.

Participants will adopt 1-3 local plants or animals in their garden, backyard, playing field, roadside, public woodland, wasteland, etc., and record relevant numeric data over the ten days (flower heads in bud, half open, fully open, shrivelled, with ripening seeds). Standard recording sheets to be used throughout (illustrated recognition guides for the plants and animals are needed).

If any one would like more information on the project, which at this stage is still only a proposal, or would like to help in any way they are asked to contact:

Mrs VIRGINIA PURCHON, 54 Gondar Gardens, London NW6 1HG. Tel. 0171 813 3652; Fax. 0171 794 8693; E-mail: [abe@purchon.co.uk](mailto:abe@purchon.co.uk)

### IDENTIFICATION OF AQUATIC MACROPHYTES

Richard Lansdown will be leading a course in the identification of difficult and critical aquatic macrophytes, based on Anglesey from July 20-23, 1998. The course will cover British *Callitriche*, *Potamogeton* and Batrachian *Ranunculus*, together with charophytes and an introduction to the identification of riverine bryophytes. It will also include a visit to Llyn Idwal in Snowdonia to look at upland lake species.

**For details, please contact:**

TIM PANKHURST, 44 The Avenue, Leighton Bromswold, Huntingdon, Cambs. PE18 0SH.  
Tel/Fax: 01480 890702; e-mail: [106314.1031@compuserve.com](mailto:106314.1031@compuserve.com)

### SAVE BRITISH SCIENCE SOCIETY

If any member would like more information on the above Society, which was launched 10 years ago and is now a leading lobby for science in the UK, they should contact:

SBS, Box 241, Oxford OX1 3QQ. Tel: 01865 273407, Fax: 01865 511370, email: [sbs@dial.pipex.com](mailto:sbs@dial.pipex.com)

## FUTURE CONFERENCES AND SYMPOSIA

### THE RELATIONSHIPS BETWEEN THE FLORAS OF SE ENGLAND AND N FRANCE

16-19 July 1998

The Centre Botanique National de Bailleul, about 10 miles N of Lille, is one of six Regional Centres covering the whole of France. CBNBL is responsible for mapping the flora of their region which extends from the Belgian border westwards to the Cotentin Peninsula and south to the Seine. From the data gathered an Atlas (including Belgium) is about to be published. The Centre is also working on the preparation of Red Data Books for different départements and has a very sophisticated computerised database for storing all the locality details. But the work does not end there. Autecological work is being carried out on several endangered species including *Gentianella uliginosa* and *Liparis loeselii*, the results of which could be relevant to conservation action in this country. A two ha experimental garden has recently been opened where many of their threatened taxa are now in cultivation.

In addition, this autumn, a new building has been opened which houses the unique library of books and papers on phytosociology collected by Prof. Braun-Blanquet. The Centre's own library contains a magnificent collection of Floras from all over the world (including most British local Floras) collected by Prof. Jehu, the Director.

To draw the attention of BSBI members to the richness of this research centre, now only 2½ hours by train from Waterloo, and to bring together people working on similar problems about the same species which grow only 21 miles across the Channel, a meeting is planned from Thursday 16 to Sunday 19 July 1998 with the following outline programme.

Thursday: Arrive mid-afternoon. Guided tour of Centre – laboratories, gardens, database, library and herbarium. Evening talk about the Centre and the present role of the other five Conservatoires Botaniques Nationaux in France.

Friday: Conference which will cover themes of mutual interest with contributions from French and English delegates – Methodology of Atlas Preparation, Declining and Spreading Species, *in situ* and *ex situ* Plant Conservation, Exchange of French and UK Botanical Data on the Internet.

Saturday: Excursions to various habitats, especially near the Channel coast.

Sunday: Excursions to other habitats in the Lille/Bailleul area before early afternoon train back to London.

Accommodation will be in a comfortable hotel in Bailleul.

We hope that as many as 35 delegates from this country, including speakers, will wish to participate. Those wishing to attend the excursions only will be welcome. If you are interested, please register your interest to either:

STEPHEN JURY, Dept of Botany, Plant Science Laboratory, Whiteknights, PO Box 221, Reading

RG6 6AS Tel.: 0118 986 9080; Fax: 0118 975 3676; E-mail: s.l.jury@reading.ac.uk

FRANKLYN PERRING, Green Acre, Wood Lane, Oundle, Peterborough PE8 5TP. Tel. 01832

273388; Ansaphone: 01832 274892; Fax: 01832 274568

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## THE NATIONAL FESTIVAL OF BRITISH WILDLIFE MILTON KEYNES, 24–26 JULY

This first Festival is planned to be a three day event allowing the general public to meet, discover, and learn about the numerous bodies involved in the study, conservation and recording of all aspects of British wildlife.

For further information contact:

GORDON J.L. RAMEL, c/o J.G.E.R., North Wyks, Devon EX20 2SB.

Tel.: 01837 82558, Fax: 01837 82139, e-mail: Gordon.Ramel@bbsrc.ac.uk.,

web site: <http://www.ex.ac.uk/~gjramel/fbw1998.html>

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## REQUESTS

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### PINK SPORTS ON YARROW

I was in the Dicksons garden at Westerfield near Ipswich in August. In the wilder back part was an abundance of Yarrow, *Achillea millefolium*, with the normal whitish flowers. But on two of the plants were side shoots with pink flowers. Surely this is unusual? A voucher is in the BM.

DAVID McCLINTOCK, Bracken Hill, Platt, Sevenoaks, Kent TN15 8JH

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## TOOTHWORT MANAGEMENT

I manage a small ancient wood which has a very respectable population of *Lathraea squamaria* (Toothwort). The site has considerable areas of neglected hazel coppice and one of the management aims is to reinstate coppicing.

I have discussed this with the local office of English Nature and they advised that:

- Coppicing work should be carried out in the autumn to avoid damage to the Toothwort as it would be close to the surface and very susceptible to physical damage later in the winter.
- Toothwort may be preferentially parasitic on old coppice stools so some old stools be left un-coppiced
- Toothwort may disappear from newly coppiced areas due to increased UV levels but remain underground and reappear once the canopy closes over.

They also suggested that a request in *BSBI News* may elicit some useful information as little seems to be known about Toothwort with any degree of certainty.

I am not a botanist, nor a member of BSBI but I would be most grateful for any advice on how to ensure the continued survival of our Toothwort population.

JOHN K. CROSS, 62 Hulbert Road, Bedhampton, Havant, Hants. PO9 3TG.

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## SPECIAL REQUESTS

The following requests for information, help, or advice, have been received recently by the editor. If any member is able to offer assistance of any kind will they please contact the enquirer, not the editor!

**Miss K.M. Scott** is studying a local nature reserve in Huddersfield and is interested in *Chamerion angustifolium* and *Epilobium hirsutum*. She asks for help with management, germination studies or general information. Replies to Kim at: 18 Pinfold Lane, Mirfield, West Yorkshire WF14 9HZ (01924 494900).

**Miss Sian Aubry** has a project looking at soil structure, and flora and fauna distribution in woodland, bog and heathlands, focused on the New Forest in Hampshire (a tall order!) but any offers of help would be appreciated by Sian at 22 Kings Road, Chandlers Ford, Hampshire SO53 2EX.

**Renata Platenberg** is working on slow-worms and would like to compare their distribution patterns with those of vegetation and soil types. If you would like to help Renata with her PhD, please write to her at: Reptile Ecology Unit, Ecology Research Group, Christ Church College, The Mount, Stodmarsh Road, Canterbury CT3 4AQ. Tel.: 01227 782657, Fax: 01227 786501, email: r.j.platenburg@cabt.ac.uk

Finally, **Lord Lucas of Crudwell** writes that he was 'distressed to see that the Collins guide that [he] was brought up on is now (a) softback only and (b) split into two.' He wants a book for his grandchildren 'that they can carry with them and use to identify anything they are likely to meet and which will last them through rain and mud for as many years as my Collins did.' Any suggestions to Lord Lucas of Crudwell, House of Lords, London SW1A 0PW. He also asks if members would care to lobby Collins to restore the single hardback?

EDITOR

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## NEW WEB SITE

Visit the new site at [www.ec-uk.com](http://www.ec-uk.com) and look up the new *Directory of Environmental Organisations of the UK* in which BSBI is listed.

EDITOR

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## OFFERS

### WEST DOWN SEED LIST, 1997

Small amounts of the following seeds are available FREE on receipt of small labelled packets and an s.a.e. I would like to thank all those who sent me seeds last year.

<i>Adonis aestivalis</i>	<i>Galtonia candicans</i>	<i>Oenothera missouriensis</i>
<i>Agastache mexicana</i>	<i>Geranium pratense</i>	<i>Onobrychis viciifolia</i>
<i>Agrostemma githago</i>	<i>Gilia capitata</i>	<i>Onopordon acanthium</i>
<i>Ajuga chamaepitys</i>	<i>Gladiolus communis</i>	<i>Papaver argemone</i>
<i>Allium nigrum</i>	<i>Glaucium corniculatum</i>	<i>Papaver dubium</i>
<i>Anagallis arvensis</i> (blue)	<i>Hyacinthoides non-scripta</i>	<i>Papaver hybridum</i>
<i>Avena strigosa</i>	<i>Impatiens balfourii</i>	<i>Ranunculus lingua</i>
<i>Briza minor</i>	<i>Imula helenium</i>	<i>Ranunculus sardous</i>
<i>Bupleurum rotundifolium</i>	<i>Knautia macedonica</i>	<i>Roemeria hybrida</i>
<i>Camassia leichtlinii</i>	<i>Lathyrus latifolius</i>	<i>Salvia glutinosa</i>
<i>Campanula alliarifolia</i>	<i>Lathyrus sativus</i>	<i>Salvia pratensis</i>
<i>Campanula persicifolia</i>	<i>Lavatera arborea</i>	<i>Salvia reflexa</i>
<i>Centaurea cyanus</i>	<i>Lavatera trimestris</i>	<i>Salvia sclarea</i>
<i>Cephalaria gigantea</i>	<i>Leonurus cardiaca</i>	<i>Salvia verticillata</i>
<i>Chenopodium quinoa</i>	<i>Linaria amethystea</i>	<i>Setaria pumila</i>
<i>Chrysanthemum segetum</i>	<i>Linaria dalmatica</i>	<i>Silene armeria</i>
<i>Clinopodium ascendens</i>	<i>Lychnis chalcedonica</i>	<i>Silene noctiflora</i>
<i>Cynoglossum germanicum</i>	<i>Lychnis coronaria</i>	<i>Silene pendula</i>
<i>Dianthus barbatus</i>	<i>Malva alcea</i>	<i>Silybum marianum</i>
<i>Dianthus deltoides</i>	<i>Marrubium vulgare</i>	<i>Stachys germanica</i>
<i>Dierama pulcherrima</i>	<i>Nepeta cataria</i>	<i>Telesia speciosa</i>
<i>Digitalis ferruginea</i>	<i>Nicandra physalodes</i>	<i>Thlaspi alliaceum</i>
<i>Digitalis lutea</i>	<i>Nicotiana langsdorffii</i>	<i>Thlaspi arvense</i>
<i>Dipsacus fullonum</i>	<i>Nicotiana sylvestris</i>	<i>Verbascum nigrum</i>
<i>Dracocephalum parviflorum</i>	<i>Nigella damascena</i>	<i>Verbascum phoeniceum</i>
<i>Eryngium giganteum</i>	<i>Nigella sativa</i>	<i>Verbena officinalis</i>
<i>Euphorbia platyphyllos</i>	<i>Kickxia elatine</i>	<i>Veronica spicata</i>
<i>Euphorbia serrulata</i>		<i>Vicia cracca</i>
<i>Farsetia clypeolata</i>		<i>Vicia sylvatica</i>
<i>Francoa ramosa</i>		<i>Viola tricolor</i>
<i>Galeopsis angustifolia</i>		<i>Viola tricolor</i> (Bowles Black)

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

### SEEDS FROM WARE

Here is a small list of mostly British aliens which all matured well in my garden this year and whose seeds I collected for BSBI enthusiasts.

All are free, but a stamped addressed envelope would be appreciated.

<i>Aconitum napellus</i> (Howsham woods, York)	<i>Amaranthus viridis</i> (Java)
<i>Arabis glabra</i> (Waterford, Herts.)	<i>Bidens bipinnata</i> (Wool alien, Beds.)
<i>Bidens pilosa</i> (Wool alien, Beds.)	<i>Chenopodium ambrosioides</i> (Hackney, London)
<i>Chenopodium berlandieri</i> (Grain alien, Belgium)	<i>Chenopodium foliosum</i> (Wool alien)

<i>Chenopodium striatum</i> (Wool alien, Beds.)	<i>Chenopodium urbicum</i> (Essex)
<i>Conyza bilbaoana</i> (Southampton)	<i>Cucubalus baccifer</i> (Hungary)
<i>Datura innoxia</i> (Cult.)	<i>Datura quercifolia</i> (Cult.)
<i>Datura stramonium</i> (Wool alien, Beds.)	<i>Dipsacus fullonum</i> (Birdseed alien)
<i>Erodium cicutarium</i> (Wool alien, Beds.)	<i>Erodium cygnorum</i> (Wool alien, Beds.)
<i>Euphorbia segetalis</i> (Tenerife)	<i>Hibiscus trionum</i> (Birdseed alien)
<i>Iva xanthifolia</i> (Birdseed alien)	<i>Lepidium densiflorum</i> (Hungary)
<i>Lepidium pinnatifidum</i> (Wool alien, Hants.)	<i>Melilotus infestus</i> (Cult.)
<i>Meum athamanticum</i> (Cult.)	<i>Physospermum cornubiense</i> (Burnham Beeches)
<i>Potentilla rupestris</i> (ex Wales)	<i>Rumex × lousleyi</i> (Walthamstow, London)
<i>Rumex maritimus</i> (R. Lea, Ware)	<i>Sigesbeckia serrata</i> (Wool alien)
<i>Solanum chenopodioides</i> (Bermundsey, London)	<i>Solanum scabrum</i> (Sewage works, Herts.)
<i>Solanum villosum</i> (Sewage works, Herts.)	<i>Thapsia villosa</i> (Spain)
<i>Torilis nodosa</i> (Birdseed alien)	<i>Xanthium strumarium</i> (Birdseed alien)
	<i>Phytolacca heteropetala</i> (Cult.)

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

### BOOKS FOR SALE—1

John G. Dony – *Bedfordshire Plant Atlas* (1976) – mint condition, complete with overlays, copy signed by the author, £5.00

David A. Stroud and others – *Birds, Bogs and Forestry, the peatlands of Caithness and Sutherland*. Nature Conservancy (1987) – near mint, £2.00

Price to include postage

JOHN SOUTHEY, 2 Old Butterleigh Road, Silverton, Exeter, Devon EX5 4JE. Tel.: 01392 860437.

### BOOKS FOR SALE—2

Stella Ross-Craig – *Drawings of British Plants I–XII + XVIII*. Softbacks. Any reasonable offer to:

CAROL BENNETT, The Haven, 25 Lambert Road, Sprowston, Norwich NR7 8AA.

Tel.: 01603 408467

## BOOK NOTES

### NEWS FROM OUNDLE BOOKS

As members you should now have received my 21st catalogue including all BSBI publications and many local Floras written by members.

Since its preparation in the heat of August a few errors have been found of which the saddest is that the new edition of Chris Page's *Ferns* is £40 not £28.95! Also *Plant Variation & Evolution* paperback is £22.95 and *Historical Ecology in the British Flora* is now £29.99.

*British Plant Communities* Vols. 1-4 will be issued in paperback early in 1998 but Vol. 5 will not be published until late 1999!

Several books are already out of print:

*Flora and Fauna of Exmoor National Park*, *Atlas of the Kent Flora*, *Handbook of European Sphagna* and *Flowering Plants of the World*.

Happily, however, those four invaluable 'Polunin' guides are back in print: *Flowers of Europe* £35 (hardback), *Flowers of Himalaya* £18.95, *Flowers of South-west Europe* £14.95 and *Flowers of Greece and the Balkans* £14.95 (all paperbacks).

Derek Turner Ettlinger's erudite new book on orchids (p.11) was, of course, published in 1997 – there are no colour plates.

MARGARET PERRING, Green Acre, Wood Lane, Oundle, Peterborough PE8 5TP. Tel 01832 273388, Ansaphone 01832 274892; Fax: 01832 274568

### SALIX IN CARMARTHENSHIRE (V.C. 44)

A paper entitled '*Salix* (willows) In Carmarthenshire – a guide to identification' by Dr George Hutchinson of the Dept of Botany, National Museum of Wales, appears in issue no. 2 of the *Llanelli Naturalists Bulletin*. 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.

Copies of the *Bulletin* are now exhausted but photocopies of the article are available from the Hon Treasurer, Llanelli Naturalists, 30 Glevering Street, Llanelli, Carmarthenshire at £1.00 each inclusive of postage.

RICHARD PRYCE, Trevethin, School Road, Pwll, Llanelli, Dyfed, SA15 4AL

### BSBI HANDBOOKS

No 7 *Roses of Great Britain and Ireland* by G.G. Graham & A.L. Primavesi (1993)

A.L. Primavesi has sent me the following amendments to this Handbook, many of them necessitated by two nomenclatural changes – *Rosa ferruginea* Villars for *R. glauca* Pourret and *Rosa caesia* subsp. *vosagiaca* (N. Desp.) D.H. Kent for *R. caesia* subsp. *glauca* (Nyman) G.G. Graham & Primavesi (see D.H. Kent (1996), *List of vascular plants of the British Isles . . . Supplement 1*: 14).

- Page 9, line 4 up: 'subsp. *vosagiaca*' for 'subsp. *glauca*'.
- Page 11, line 15: 'subsp. *vosagiaca*' for 'subsp. *glauca*'.
- Page 14, line 4: Insert 'but one' between 'and all' and 'of the alien species'.
- Page 18, line 22: 'Fig. 2c' for 'Fig. 2b'.
- Page 18, line 25: '(Fig. 2b)' for '(Fig. 2c)'.
- Page 21, line 12: Delete 'as in Fig. 6b'.
- Page 21, line 15: Insert '(Fig. 6c)' after 'base'.
- Page 23, line 15: 'subsp. *vosagiaca*' for 'subsp. *glauca*'.
- Page 27, last line: Insert '(g) Pyriform.' after '(f) Urceolate'.
- Page 29, line 3 up: '(Fig. 15b)' for '(Fig. 13)'.
- Page 37, line 1: Insert 'and Staffordshire and into the Welsh mountains' after 'Peak District in Derbyshire'.
- Page 37, line 2: 'elsewhere' for 'further south'.
- Page 37, line 9: 'proceeds' for 'proceed'.
- Page 37, lines 11, 13: '*vosagiaca*' for '*glauca*'.
- Page 45, line 25: '8. \**R. ferruginea* Villars' for '8. \**R. glauca* Pourret'.
- Page 45, lines 3-2 up: '13b. Subsp. *vosagiaca* (N. Desp.) D.H. Kent' for '13b. Subsp. *glauca* (Nyman) G.G. Graham & Primavesi'.
- Page 47, line 27: '8. \**R. ferruginea* Villars (*R. glauca* Pourret; *R. rubrifolia* . . .)' for '8. \**R. glauca* Pourret (*R. rubrifolia* . . .)'.
- Page 48, lines 2, 36: Insert '*R. × rothschildii* Druce' in the last column.
- Page 48, line 7: '13b. Subsp. *vosagiaca* (N. Desp.) D.H. Kent' for '13b. Subsp. *glauca* (Nyman) G.G. Graham & Primavesi'.

- Page 50, line 16: 'Three hybrids' for 'Two hybrids'; 'two of them occur' for 'they occur'.
- Page 51, line 2: '**8. R. ferruginea**' for '**8. R. glauca**'.
- Page 51, lines 8, 10: '**R. caesia** subsp. **vosagiaca**' for '**R. caesia** subsp. **glauca**'.
- Page 53, last line: '**13b. R. caesia** subsp. **vosagiaca**' for '**13b. R. caesia** subsp. **glauca**'.
- Page 80, line 1: '**8. Rosa ferruginea** Villars' for '**8. Rosa glauca** Pourret'.
- Page 90, line 5: '1.5–4 × 1–1.8 cm' for '1–1.8 × 1.5–4cm'.
- Page 96, line 11: 'subsp. **vosagiaca**' for 'subsp. **glauca**'.
- Page 102, lines 9, 14: 'subsp. **vosagiaca**' for 'subsp. **glauca**'.
- Page 102, lines 17–18: '**13b. Rosa caesia** subsp. **vosagiaca** (N. Desp.) D.H. Kent' for '**13b. Rosa caesia** subsp. **glauca** (Nyman) G.G. Graham & Primavesi'.
- Page 104, lines 1, 19: '**vosagiaca**' for '**glauca**'.
- Page 104, line 16: 'the following hybrid' for 'the previous hybrid'.
- Page 104, line 20: 'subsp. **vosagiaca**' for 'subsp. **glauca**'.
- Page 106, line 1: '**vosagiaca**' for '**glauca**'.
- Page 108, line 3 up: 'subsp. **vosagiaca**' for 'subsp. **glauca**'.
- Page 114, line 5: Insert 'glandular-' between 'irregularly' and 'biserrate'.
- Page 114, lines 6–5 up: Move 'especially on chalk,' to follow 'In the South,'.
- Page 117, line 7: 'subsp. **vosagiaca**' for 'subsp. **glauca**'.
- Page 119, line 8 up: '**R. agrestis** Savi' for '**R. agrestis** Desv.'.
- Page 164, line 2: '**vosagiaca**' for '**glauca**'.
- Page 169, line 1: '**R. caesia** subsp. **vosagiaca** 13b' for '**R. caesia** subsp. **glauca** 13b'.
- Page 200, line 6: Insert 'STACE, C.A. 1975. What is a hybrid? In Stace, C.A. (ed.) *Hybridization and the Flora of the British Isles*: 2–6. London'.
- Page 204, line 7: Insert 'Map 12,' before '**11 × 12, 12 × 11**'.
- Page 204, line 25: Insert ', comb. illegit.' after 'Primavesi'; delete 'Map 23.'; '= **13b**' for '**13b**'.
- Then insert 'subsp. **vosagiaca** (N. Desp.) D.H. Kent' Map 23, **13b**'.
- Page 204, line 7 up: Delete '**canina × micrantha 12 × 19**'.
- Page 205, line 1: Insert 'Map 20,' before '**12 × 15**'.
- Page 205, line 2: Insert 'Map 9,' before '**5 × 18, 18 × 5**'.
- Page 205, line 12: Insert 'Maps 17 & 18,' before '**12 × 13, 13 × 12**'.
- Page 205, line 14: Insert 'Map 19,' before '**12 × 14, 14 × 12**'.
- Page 205, line 15: Insert '**ferruginea** Villars' **8**' before '**gallica** L.'.
- Page 205, line 16: '= **8**' for '**8**'.
- Page 205, line 19: Insert 'Map 6,' before '**5 × 12, 12 × 5**'.
- Page 205, line 22: Insert 'Map 7,' before '**5 × 16, 16 × 5**'.
- Page 206, line 11: Delete 'Map 20,'.
- Page 206, line 12: '= **16 × 5**' for '= **5 × 16**'.
- Page 206, line 21: Insert 'Map 3,' before '**4 × 11, 11 × 4**'.
- Page 206, line 7 up: Insert 'Map 8,' before '**5 × 17, 17 × 5**'.
- Page 206, line 5 up: Insert 'Map 20,' before '**12 × 15, 15 × 12**'.
- Page 207, line 9: Insert 'Map 28,' before '**16 × 17, 17 × 16**'.
- Page 207, line 21: '= **4 × 12, 12 × 4**' for '= **12 × 4, 4 × 12**'.
- Page 207, line 13 up: Insert 'Map 20,' before '**15 × 12**'.
- Page 207, line 10 up: Delete 'Map 20,'.
- Page 207, line 6 up: Insert 'Map 4,' before '**4 × 12, 12 × 4**'.

Further amendments to the dichotomous key to native and alien species on pp. 50–52 are also required. The following changes avoid a complete renumbering of the sections within the key.

3. Leaflets very large, usually 3 (rare alien)
3. Leaflets smaller, 5 or more

## 2. *R. setigera*

4a

- 4a. Styles pubescent (rare alien or escape) **3. R. luciae**
- 4a. Styles glabrous 4b
- 4b. Climbing plant with strong arching stems; flowers and hips numerous,  
in clusters of 10 or more (rare alien or escape) **1. R. multiflora**
- 4b Weakly trailing plant, or, if climbing, with ends of stems hanging downwards;  
flowers and hips few together (common except in the north) **4. R. arvensis**
6. Taller; prickles less numerous and more robust, ...
15. Stems with numerous mixed prickles and acicles 16a
15. Acicles absent 17
- 16a. Prickles glabrous; sepals short, c. 10 mm, triangular, lobed, reflexed after  
flowering (rare alien or escape) **10. R. gallica**
- 16a. At least some of the larger prickles pubescent at base; sepals long and narrow,  
2–3 cm, simple, erect or spreading-erect after flowering 16b
- 16b. Hips large, 2 cm or more, depressed-globose; pedicels curved after flowering;  
sepals usually erect (alien or escape, often planted) **6. R. rugosa**
- 16b. Hips smaller, 2 cm or less, globose; pedicels straight; sepals usually  
spreading-erect (alien or escape) **7. R. 'Hollandica'**
22. Prickles straight; stems straight; leaflets dark green; sepals more or less simple,  
fleshy and often red at base, persistent until the hips rot **17. R. mollis**

It is stated on p. 47 of this Handbook ('List of species and hybrids noted in the text') that the female parent is listed first when a hybrid formula is given in the list, but it should have been made clear that this applies also in the descriptive part of the Handbook. For example, on p. 66 the description of  $4 \times 11$  relates to plants which have species 4 as the female parent, but on p. 88 the description of  $11 \times 4$  relates to plants which have species 11 as the female parent. The term 'non-directional records' used in listing the distribution of hybrids by vice-counties refers to records in which it was not determined which parent was female. The maps for hybrids contain all accurately determined records irrespective of which species was the female and which the male parent.

No 9 *Dandelions of Great Britain and Ireland* by A.A. Dudman & A.J. Richards (1997)

Since the publication of four corrections to this Handbook in *BSBI News* 76, examination of reprints from relevant journals held at the Cambridge University Herbarium has revealed errors in the dates of valid publication (but not of the authors) of four *Taraxacum* species. In particular, although M.P. Christiansen provided the first Latin descriptions of *T. aequisectum* and *T. acutifidum* in 1936 (as also of *T. subcyanolepis* and *T. lunare*), his brief Danish descriptions in C. Raunkiaer's (1934) *Dansk Ekskursions-Flora*, ed. 5, are valid because they were published before 1935. The following corrections are therefore required.

- Page 201, line 1 'M.P. Christ. in Raunk. (1934)' for 'M.P. Christ. (1936)'  
(for **76 T. aequisectum**).
- Page 219, line 1 'Markl. (1925)' for 'Markl. (1926)' (for **82c T. leptodon**).
- Page 221, line 1: 'Markl. (1925)' for 'Markl. (1926)' (for **84 T. lingulatum**).
- Page 271, line 1: 'M.P. Christ. in Raunk. (1934)' for 'M.P. Christ. (1936)'  
(for **103b T. acutifidum**).

No amendments to the references are required, since C. Raunkiaer's (1934) *Flora* is already included there, other species are correctly attributed to M.P. Christiansen (1936), and the date of G. Marklund's paper 'Nya *Taraxaca*' is correctly given as 1925 (the date on the paper itself as opposed to that on the reprint cover).

PHILIP OSWALD, Editor of BSBI Handbooks, 33 Panton Street, Cambridge CB2 1HL

## REVIEWS OF RECENT BSBI PUBLICATIONS

The Publications Committee recently agreed that lists of reviews of BSBI publications should be published in *BSBI News*. I should be grateful for details of any other reviews of these publications that are known to members.

### 1. *Alien plants of the British Isles* by E.J. Clement & M.C. Foster (1994)

*Berichte der Bayerischen Botanischen Gesellschaft*, **66/67**: S. 355–356 (1996) by W. Lippert (in German).

*Botanical Journal of the Linnean Society*, **117 (3)**: 261–262 (1995) by D.M. Moore.

*Botanical Journal of Scotland*, **48 (2)**: 289–290 (1996) by Douglas R. McKean.

*Bulletin of The Irish Biogeographical Society*, No. 19 (2): 204–206 (1996) by E. Charles Nelson.

*Candollea*, **51 (1)**: 274–275 (1996) by Alessandro Natali (in French).

*Glasgow Naturalist*, **23 (1)**: 65 (1996) by P. Macpherson.

*Gorteria*, **21 (1/2)**: 74 (1995) by R. van der Meijden (brief note in Dutch).

*Krypto News*, No. 46: 12.8470 (1995) (brief note quoting from pp. vii–viii).

*London Naturalist*, No. 75: 114 (1996) by Rodney Burton (jointly with 3).

*Taxon*, **45 (3)**: 590 (1996) (brief notice).

*Urban Nature Magazine*, Autumn 1997: 123 (1997) by Martin Spray (jointly with 3).

*Watsonia*, **21 (1)**: 142–143 (1996) by R.M. Burton.

*Willdenowia*, **26**: 342–343 (1996) by Thomas Raus (in German).

### 2. *Pondweeds of Great Britain and Ireland* by C.D. Preston (1995)

*Aquatic Botany*, **54**: 347–348 (1996) by Robert R. Haynes.

*Archiv für Hydrobiologie*, **137 (1)** (1996) by Elisabeth M. Gross.

*Berichte der Bayerischen Botanischen Gesellschaft*, **66/67**: S. 383 (1996) by Th. Franke (in German).

*Botanical Journal of Scotland*, **48 (2)**: 292–293 (1996) by P. Lusby.

*British Ecological Society Bulletin*, **27 (2)**: 139 (1996).

*Bulletin of The Irish Biogeographical Society*, No. 19 (2): 202–204 (1996) by David W. Nash.

*Candollea*, **52 (1)**: 221–222 (1997) by Adélaïde L. Stork (in French).

*Edinburgh Journal of Botany*, **53 (2)**: 281 (1996) by D.R. McKean.

*Glasgow Naturalist*, **23 (2)**: 65 (1997) by A. McG. Stirling.

*Gorteria*, **22 (1/2)**: 53 (1996) by R. van der Meijden (brief note in Dutch).

*Irish Naturalists' Journal*, **25 (7)**: 270–271 (1996) by Ralph S. Forbes.

*Krypto News*, No. 49: 66.7772 (1996) (brief note listing contents).

*Lutukka*, **12 (2)**: 61 (1996) by Marja Koistinen (in Finnish).

*Preslia*, **68**: 189–191 (1996) by Z. Kaplan (in Czech).

*Watsonia*, **21 (2)**: 217 (1996) by C.D.K. Cook.

*Wetlands*, **16 (2)**: 251–252 (1996) by David F. Spencer.

*Wild Flower Magazine* (Wild Flower Society), Spring 1996: 40 (1996) (brief note).

*Willdenowia*, **26**: 355 (1996) by Thomas Raus (in German).

### 3. *Alien grasses of the British Isles* by T.B. Ryves, E.J. Clement & M.C. Foster (1996)

*Berichte der Bayerischen Botanischen Gesellschaft*, **66/67**: S. 389 (1996) by W. Lippert (in German).

*Glasgow Naturalist*, **23 (2)**: 64–65 (1997) by P. Macpherson.

*Gorteria*, **22 (5)**: 136 (1996) by R. van der Meijden (brief note in Dutch).

*Irish Naturalists' Journal*, **25 (10)**: 390–391 (1997) by Sylvia Reynolds.

*London Naturalist*, No. 75: 114 (1996) by Rodney Burton (jointly with 1).

*Urban Nature Magazine*, Autumn 1997: 123 (1997) by Martin Spray (jointly with 1).

**4. Dandelions of Great Britain and Ireland by A.A. Dudman & A.J. Richards (1997)***British Ecological Society Bulletin*, **28** (4): 289 (1997)*Gorteria*, **23** (4): 115 (1997) by R. van der Meijden (brief note in Dutch, ending 'Een *must* voor Paardebloem-kenners.')*London Naturalist*, No. 76: 82 (1997) by Rodney Burton.

PHILIP OSWALD, Editor of BSBI Handbooks, 33 Panton Street, Cambridge CB2 1HL

**REPORTS OF FIELD MEETINGS — 1996 & 1997**

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

**1996****WIRRAL COAST, MERSEYSIDE (v.c. 58). 2nd JUNE**

A small party of five met at the old lighthouse near Moreton and walked west along part of the North Wirral Coast reserve to the site of *Cotula coronopifolia* (Buttonweed), thought to have been originally planted by the lighthouse keepers. A hybrid willow, probably *Salix* × *sericans* was found by one of the party. This area is changing all the time, due to the building of the new sea defence wall and digging of scrapes to try to encourage the Natterjack Toad. In one of these dry scrapes we found a good range of early 'clovers' such as *Trifolium micranthum* (Slender Trefoil), *T. dubium* (Lesser Trefoil), *T. ornitho-odiodes* (Bird's-foot Clover), *T. striatum* (Knotted Clover), *Ornithopus perpusillus* (Bird's-foot) and other dune annuals such as *Aphanes arvensis* (Parsley-piert), *Aira praecox* (Early Hair-grass), *A. caryophyllea* (Silver Hair-grass) and *Phleum arenarium* (Sand Cat's-tail). Leaves of *Samolus valerandi* (Brookweed) and *Sagina marina* (Sea Pearlwort) were found. Other notable plants in the area included *Anagallis tenella* (Bog Pimpernel), *Honckenya peploides* (Sea Sandwort), *Euphorbia cyparissias* (Cypress Spurge), *E. paralias* (Sea Spurge) and *Eryngium maritimum* (Sea Holly).

We then drove to the Wallasey Dunes for lunch where we were joined by Graham Kay, the Cheshire v.c. recorder, and I would like to thank him for his help in the afternoon. *Coincya monensis* subsp. *monensis* (Isle of Man Cabbage) was just coming into flower and *Viola canina* (Heath Dog-violet) was also found.

Moving on to the Red Rocks dunes at Hoylake, a reserve of the Cheshire Wildlife Trust, we crossed the golf course by the public footpath and found *Salvia verbenaca* (Wild Clary) and *Helictotrichon pubescens* (Downy Oat-grass), both very rare in Cheshire. *Ornithogalum umbellatum* (Star-of-Bethlehem) was in fine flower this year. *Equisetum* × *trachyodon* (Mackay's Horsetail) is now abundant and spreading across a drying marsh area as the sea retreats (due to development of new dunes and saltmarsh). Introduced plants are interesting on the dunes and include *Erigeron glaucus* (Seaside Daisy), *Cerastium tomentosum* (Snow-in-Summer), *Papaver orientale* (Oriental Poppy) and a Virginia-creeper, possibly *Parthenocissus quinquefolia* but with no adhesive discs in the absence of a solid surface to climb on. Although too early for most of the saltmarsh flora, *Cochlearia anglica* (English Scurvygrass) was in good flower and the remains of last year's *Carex extensa* (Long-bracted Sedge), *Juncus maritimus* (Sea Rush) and *Triglochin maritimum* (Sea Arrowgrass) were seen. On the way back to the cars a good colony of *Anthriscus caucalis* (Bur Parsley) was found.

G. K. WATSON

**1997****STOCKBRIDGE, N. HAMPSHIRE (v.c. 12) 24th & 25th MAY**

For me, the season got off to a superb start with this Atlas 2000 meeting. Twenty two members participated over the two days, and these ranged from well known experts to complete beginners. The setting could not be better – Stockbridge is a quiet village straddling the valley of the River Test, and the combination of water-meadows, chalk grassland, beech woodland and arable fields promised many rewarding species. We were not disappointed!

The water-meadows were indeed rich, although May was a bit early for many aquatic species. The famous Stockbridge North Fen lay meters from where we met, but we did not visit it because it's been so well recorded recently. Nice finds included *Oenanthe aquatilis* (River Water-dropwort) in the River Anton (SU/3.4) and *Azolla*

*filiculoides* (Water Fern) in the River Test (SU/3.3 - a new hectad record). This area is remarkable for the dominance of *Veronica* × *lackschewitzii* (*V. anagallis-aquatica* × *V. catenata*) over either of its parents and is very distinctive once you've seen it (SU/3.4 and SU/3.3). *Rumex pulcher* (Fiddle Dock) was also found in water-meadows (SU/3.4) along with probable hybrids with *R. obtusifolius* (Common Dock), but it was far too early to determine the hybrid!) and also nice plants of *Ophioglossum vulgare* (Adder's-tongue).

Chalk grassland and roadside verges proved very productive. Notable species, all in SU/3.3, included *Lathyrus nissolia* (Grass Vetchling), *Cirsium eriophorum* (Woolly Thistle - rare in N. Hants), *Filipendula vulgaris* (Dropwort), *Juniperus communis* (Juniper, some large plants next to a golf course), *Marrubium vulgare* (White Horchound), *Ornithogalum angustifolium* (Star of Bethlehem, several localities), and a forest of about 200 plants of *Orobanchae elatior* (Knapweed Broomrape) – the latter another speciality of the area.

Woodland on the chalk is always rich, and we were rewarded with fine stands of *Cephalanthera damasonium* (White Hellborine, SU/4.3), *Neottia nidus-avis* (Bird's-nest Orchid, SU/3.3) and *Polygonatum multiflorum* (Solomon's Seal, SU/3.3).

N. Hants is a particularly fine area for arable weeds. Two Scarce fumitories were found – *Fumaria parviflora* (Fine-leaved Fumitory) and *Fumaria densiflora* (Dense-flowered Fumitory) – in the same hectad (SU/3.3). *Chenopodium ficifolium* (Fig-leaved Goosefoot, SU/3.3) was also seen, and one group was treated to a visit to a known site for *Teucrium botrys* (Cut-leaved Germander, SU/3.4), although *Ajuga chamaepitys* (Ground Pine), known to grow with it, could not be found.

A great meeting, then, with lots of good records for the Atlas 2000, lots of interesting species seen, and lots of good beer downed in the 'Mayfly' on the banks of the River Test – a stunning setting for a pint! Many thanks to all those that came, to Pete Selby for co-leading the meeting and to the Hampshire Flora Group for supporting the meeting so well.

T. D. DINES

NORFOLK BRECKLAND, THOMPSON COMMON AND CRANWICH HEATH. W NORFOLK (v.c. 28).

30th MAY–1st JUNE

The party of 20 met on Friday evening, getting to know each other over a buffet supper which was followed by a short talk on the area, and plans for the weekend.

On Saturday, the party visited Thompson Common, spending all day on this 150 ha reserve belonging to the Norfolk Wildlife Trust. It is a maze of water filled hollows and pools formed in periglacial conditions (pingoes) and separated by rims of dry grassland, occasionally alkaline, but mostly neutral to acid. Some areas have been used as meadow, others as rough grazing and we met the Trust's herd of Shetland ponies which moves around the site. Other areas have become densely scrub covered and the warden, Bev Nichols, was able to explain the present policy of clearance as well as to prevent us from getting lost in this very large and complex site. Some of the deeper pingoes held water crowfoots (*Ranunculus aquatilis*, *R. peltatus* and *R. trichophyllus*), others large stands of *Hottonia palustris* (Water Violet) and many were ringed with big tussocks of *Carex elata* (Tufted Sedge) which largely replaces *Carex paniculata* (Greater Tussock-sedge), as the main tussock-former. *Carex diandra* (Lesser Tussock-sedge) and *C. appropinquata* (Fibrous Tussock-sedge) were also seen while the merely damp hollows, and the water table is at present very low, held pools of brilliant yellow flowering *Rorippa amphibia* (Greater Yellow-cress) and carpets of white *Rorippa microphylla* (Watercress). *Ranunculus lingua* (Greater Spearwort) was frequent though not yet flowering and plants of the wettest area ranged from *Peucedanum palustre* (Milk Parsley) and *Cladium mariscus* (Saw Sedge) to *Eriophorum angustifolium* (Common Cottongrass) and a dense colony of *Equisetum telmateia* (Great Horsetail), over a spring. Although four species of *Dactylorhiza* were seen, their numbers were very low, in marked contrast to their performance in moister years. The last pingo looked at closely held *Calamagrostis stricta* (Narrow Small-reed), just far enough advanced to be able to note the relative lengths of lemmas and hair-tufts.

Sunday was spent on Forest Enterprise land, the morning on dry, acid soils at Santon where the tracks held patches of bright red *Crassula tillaea* (Mossy Stonecrop) and many spring ephemerals already becoming shrivelled in the drought. *Medicago minima* (Bur Medick), was already in fruit, but a fine stand of *Arabis glabra* (Tower Mustard) was just opening its first flowers. A passing Cream-spot Tiger-moth and an obliging Common Lizard which remained to be photographed were distractions and a final crucifer, just showing flower, was almost certainly *Hirschfeldia incana* (Hoary Mustard), but will need to await fruiting for final confirmation. A brief stop to admire a superb flowering stand of *Viola tricolor* subsp. *curtisii* (Sand Pansy) was made before moving to a second site.

The afternoon was spent at Cranwich where the ground, though still very dry and sandy, is far more calcareous, something immediately apparent from the large purple patches of *Astragalus danicus* (Purple Milk-vetch). *Silene conica* (Sand Catchfly), had already shed its petals while *Silene otites* (Spanish Catchfly), was still barely in bud, but *Medicago minima*, abundant here, was in contrast in full flower. The last couple of hours was spent

in forest rides with patches of *Herniaria glabra* (Glabrous Rupturewort) encouraging a succession of prostrate botanists to study its flowers and a bonus in the shape of a good colony of *Hypochaeris glabra* (Smooth Cat's-ear), its flowers already closed for the day and another plant of *Arabis glabra*, both new to the tetrad. Both these plants were growing in an area which has been under pine plantations for fifty years until its clearance about five years ago and have presumably derived from the seed bank. Finally a fine stand of the rare *Phleum phleoides* (Purple-stem Cat's-tail) was admired before the day ended.

The weekend was blessed with perfect weather and passed far too quickly.

GILLIAN BECKETT

THIRSK, N. YORKS (v.cc. 65 & 62). 12th & 13th JUNE

The market town of Ripon formed the base for this meeting, and 16 members arrived to record for the Atlas 2000. Unfortunately, no one told me it was actually *market day*, but it was enjoyable to watch participants arrive and circulate the market square looking for somewhere to park! However, everyone got sorted out eventually, and a good few days recording was done.

The area around Thirsk and Ripon was mostly lowland agricultural habitat on the valleys of the rivers Swale and Ure. Aquatic species were therefore well represented, and provided a few specialities such as *Lysimachia thyristiflora* (Tufted Loosestrife, SE/4.8), *Zanichellia palustris* (Horned Pondweed, SE/4.8) was also found, along with the distinctive spiral-leaves of *Butomus umbellatus* (Flowering Rush, SE/4.8). The rhizomes of this plant were collected by Chris Preston, and have the honour of being the first British native plant of this species to have its chromosomes counted (by John Bailey at Leicester, and it was found to be triploid,  $2n = 39$ , by the way!)

The nicest find of the meeting was undoubtedly *Hordelymus europaeus* (Wood Barley), found growing on a well wooded, and presumably ancient, hedgebank by Dorothy Brookman and David Dupree. This was a new 10 km square record for this Scarce species (SE/4.7).

Aliens were well represented in the area, with churchyards being particularly productive. *Oxalis exilis* (Least Yellow-sorrel) was found, well established, in several localities (SE/3.8 and SE/4.8) and a fine double form of *Chelidonium majus* (Greater Celandine) was encountered in the churchyard at Kirby Wiske (SE/3.8). *Aconitum napellus* (Monk's-hood) cropped up on a wooded river bank, and *Lychmis coronaria* (Rose Campion, SE/4.8), *Antirrhinum major* (Snapdragon, SE/3.8) and *Aubrieta deltoidea* (Aubrieta, SE/4.8) turned up elsewhere. Several hybrids were also notable. *Salix* × *reichardtii* (*S. cinerea* × *S. caprea*) was recorded from several localities (both in SE/4.8), and *Crataegus* × *macrocarpa* (*C. monogyna* × *C. laevigata* – Hybrid Hawthorn) was also seen in this hectad.

A final good find was spotted on a road verge from the car. Despite the speed, I'd seen enough to register something odd, and the familiar 'stop and reverse' tactic bought us opposite a fine colony of *Chenopodium bonus-henricus* (Good King Henry, SE/4.8). Not a particularly rare plant, but one of my favourites, and a nice species on which to end a pleasant meeting. Many thanks to all those that attended.

T. D. DINES

SLEDMERE, EAST YORKS (v.c. 61). 14th & 15th JUNE

Ten members attended this meeting to record for the Atlas 2000. There were no post 1986 records for this hectad (SE/9.6), apart from some dewpond work by Dr Eric Chicken (*BSBI News* 72). Most of the land belongs to the Sledmere Estate and we are grateful to Sir Tatton Sykes Bart., his agent and his tenant farmers for their permissions and assistance.

The grand total for the day was 306 taxa. Arable species were confined to gateways and manure heaps, latter sustaining *Fumaria parviflora* (Fine-leaved Fumitory) in one locality, a scarce species and our best find in this habitat. The walls and gardens of Sledmere were also examined but found to be virtually sterile! A single specimen of *Marrubium vulgare* (White Horehound) was recorded as a 'Garden weed'. Given that this is a rare species in v.c. 61, we wonder whether it really was a weed or not. Other highlights were *Glyceria declinata* (Glaucous Sweet-grass) and *Eleocharis palustris* (Common Spike-rush) in a nearly dry pond. In such a dry hectad on the chalk wolds, such species are, indeed, highlights!

We had access to the oldest woodland on the Sledmere estate, and searched in vain to update old records of *Actaea spicata* (Baneberry) and *Convallaria majalis* (Lily-of-the-valley). *Helleborus viridis* (Green Hellebore) and *Philadelphus coronarius* (Mock-orange) were located, but much of the woodland was very overgrown. *Listera ovata* (Common Twayblade) was found in an adjacent hedgebank. *Viola* × *scabra* (*V. odorata* × *V. hirta*) was found on an abandoned railway track and some very good chalk grassland provided highlights such as *Helictotrichon pratense* (Meadow Oat-grass), *Thymus pulegioides* (Large Thyme) and some fine *Filipendula vulgaris* (Dropwort).

Roadside halophytes also provided some interest, with *Puccinellia distans* (Reflexed Saltmarsh-grass) on a farm track and *Atriplex prostrata* (Spear-leaved Orache) on a road verge. The best finds of the meeting, however, were by Mr Michael Braithwaite. On a visit to Kirby Grindalythe gypsy race, he recorded *Carex spicata* (Spiked Sedge) and *Poa humilis* (Spreading Meadow-grass). The latter is probably overlooked by many, and it provided our one and only Vice-county First for the meeting!

Despite many factors (draught, village cleaning, season, lack of good habitats), we did very well. Thanks must go to Mr Frank Kennington, without whom many of us would have fled from a very large, unhappy bull (Frank is a retired dairy farmer and assured us he wouldn't charge!). We are grateful to Dr Crackles for advising us on prime habitats to visit and copious notes on what to look for, to English Nature for arranging permission to several SSSI and especially to Peter J Cook for all the organisation and work that made the meeting such a success.

T D. DINES

#### PRINCES RISBOROUGH, BUCKS (v.c. 24). 21st JUNE

It is suggested that report writers do not include too many details on the weather or the gastronomic delights of lunch – so, I won't, except to say that we did have rain (too much of it for some people!) and that liquid refreshment was provided in the shelter of the local Scout Headquarters.

18 of the expected 24 visitors arrived for the morning session of collecting records for the Atlas 2000 project. Groups of 2-4 people were equipped with a record card and map and asked to visit just one tetrad. In all, seven were visited and yielded 1176 records. Not all of these were new, needless to say, but, as the *Year Book* hinted, a few surprises were discovered.

A roadside leading to a farm had, unexpectedly, *Carex acuta* (Slender Tufted-sedge) and the same tetrad produced × *Festulolium loliaceum* (Hybrid Fescue), *Rumex* × *pratensis* (a hybrid dock) and a row of *Populus nigra* subsp. *betulifolia* (native Black Poplar). Another farm, in a nearby tetrad, yielded *Ceratochloa cathartica* (Rescue Brome) and *Phalaris aquatica* (Bulbous Canary-grass), species I'd never seen before, let alone in Buckinghamshire! Two small plants of *Descurainia sophia* (Flixweed) were found by Richard Fitter – and he hadn't seen it in Buckinghamshire since 1958. Also in his tetrad were *Bromus racemosus* (Smooth Brome), *Cynoglossum officinale* (Hound's-tongue) and *Rosa micrantha* (Small-flowered Sweet-briar). Those of us who stayed near the town were surprised to see *Scandix pecten-veneris* (Shepherd's-needle) and *Sorbus hybrida* (Swedish Service-tree) in garden plots of an old folk's home and *Mimulus* × *burnetii* (Coppery Monkeyflower) in a gravel-covered front garden. *Carex divulsa* subsp. *leersii* (Grey Sedge) was recorded from two roadsides. × *Festulolium loliaceum* was seen a different tetrad from that mentioned above as were two other hybrids – *Salix* × *sericans* (Broad-leaved Osier) and *Populus* × *canadensis* (Italian Black-poplar).

The pride of the day was to view *Cephalanthera rubra* (Red Helleborine). One further participant joined us for this having, unfortunately, had vehicle trouble in the morning. However, there were still five of our anticipated party missing; I hope they are not still looking for Princes Risborough! The chalk grassland near the orchid site is good for *Juniperus communis* (Juniper) and *Arabis hirsuta* (Hairy Rock-cress) and other species, but we found one large specimen of *Fagus sylvatica* (Beech) to be most useful for shelter before venturing to the helleborine. Eight spikes were in flower in one patch and another one separate from the patch. Photographs were taken and due homage paid, but we tarried little.

Thanks to Alan Showler (as co-leader) arranging the use of the scout hut for us, we were able to sort out some of the problem specimens before going our separate ways. My thanks to all who attended and produced lots of new and useful records.

ROY MAYCOCK

#### CERRIGYDRUDION, MERIONETH (v.c. 48). 21st & 22nd JUNE

A foul morning greeted the eight members that met to record boundary hectads between Merionethshire and Denbighshire for the Atlas 2000. Despite the conditions, however, spirits were high, we covered a lot of ground, and we found many interesting species. On the first day, we examined the mostly acid, upland pastures and flushes around Cerrigydrudion and Sarnau. The best find was undoubtedly *Teesdalia nudicaulis* (Shepherd's Cress, SH/9.4) on a shady roadside outcrop by Geoff Battershall. Although not common in Wales, this species does have a stronghold in this area, but it's status as a native at some sites has been questioned. Another plant frequent in this area is the scarce species *Euphrasia rostkoviana* subsp. *rostkoviana* (an Eyebright), and this distinctive taxon was found on a roadside verge (SH/9.4).

Several alien taxa were also notable. Several Spiraeas (*Spiraea* agg. - identity not yet determined!) were particularly abundant in many of the hedgerows, and were obviously spreading rapidly (SH/9.4 and SH/9.3). *Sedum spurium* (Caucasian Stonecrop) was also recorded near a chapel (SH/9.4), and a fine clump of *Aconitum*

*napellus* (Monk's-hood) was found in a wood (SH/9.3). The clump was well established, but, since it was not increasing or visibly reproducing, it was recorded with an S for Surviving. The same applied to a single plant of *Geranium* × *magnificum* (Purple Crane's-bill) found on a roadside (SH/9.3).

Much of the first day was spent hunting for *Dryopteris oreades* (Mountain Male-fern) which is often found at the base of dry-stone walls in this area. Probable specimens were eventually found (SH/9.3) and later confirmed by Arthur Chater. *Ceterach officinarum* (Rustyback) was also found on a mortared wall (SH/9.4).

On the second day, we headed south to the Llyn Celyn reservoir (a site of riots during its construction as an entire village had to be drowned – the water is piped to Liverpool and this caused obvious friction with the local population). On its banks (SH/8.4), we found a single spike of *Platanthera bifolia* (Lesser Butterfly Orchid) in a wet flush along with *Euphrasia scotica* and *Festuca vivipara* (Viviparous Fescue), the latter not that common in Wales. *Euphrasia rostkoviana* subsp. *rostkoviana* was again seen on a roadside, and, being away from the coast, *Catapodium rigidum* (Fern-grass) was a surprise find.

Moving away from the reservoir, *Salix* / *multinervis* (*S. aurita* × *S. cinerea*), *Crepis paludosa* (Marsh Hawk's-beard) and *Carex* × *fulva* (*C. viridula* × *C. hostiana*) were recorded (SH/8.4). The latter appears to be widespread and probably under-recorded – it is very distinctive once seen. *Carex* actually became quite a feature of the day, with 14 taxa being recorded. The stars of the show were found in the blanket bog at Arenig (SH/8.3), where the scarce *Carex magellanica* (Tall Bog-sedge) was found in wet hollows (with *Erica tetralix* (Cross-leaved Heath) and *Narthecium ossifragum* (Bog Asphodel)) and *Carex dioica* (Dioecious Sedge) was recorded around its edge.

An enjoyable and productive meeting, then, and Arthur Chater's offers of tea and cake at the end of each day have never been so welcome! Many thanks to all that came.

T. D. DINES

#### ISLE OF MULL, MID-EBUDES (v.c. 103). 21st–24th JUNE

Nine members met for four day's excellent botanising, covering squares in the west, north east and south west of the island. The first day saw us on the west coast near Kilninian with both the exposed, rocky coast and the inland heath and burns being explored. Treshnish Point yielded *Vicia orobus* (Wood Bitter-vetch) and *Meconopsis cambrica* (Welsh Poppy) whilst the burns near Ensay proved rich in their lower reaches with 8 spikes of *Hammarbya paludosa* (Bog Orchid) being re-found in this square.

A change of scene was provided on the second day when the Ross of Mull was visited. The northern shores near Kintra added useful records but the more interesting areas were south of the Bunessan - Fionnphort road at Pottie where *Cladium mariscus* (Great Saw-sedge), *Hypericum elodes* (Marsh St John's-wort), *Nymphaea alba* (White Water-lily) subsp. *alba* and *Potamogeton lucens* (Shining Pondweed) were found floating around in the shallow lochs. South of Bunessan itself Loch Assapol was disappointing but the coastal flushes, rocks and sandy patches around Garbh Eilean were well worth careful inspection. Good stands of *Carex lasiocarpa* (Slender Sedge) and *Hypericum elodes* were found, with other species of note being *Catapodium maritimum* (Sea Fern-grass), *Isolepis setacea* (Bristle Club-rush), *Drosera anglica* (Great Sundew), *Festuca filiformis* (Fine-leaved Sheep's-fescue) and *Osmunda regalis* (Royal Fern).

To celebrate St Columba's birthday and to update the records, we were on Iona on the third day. The party split up and covered all the tetrads between them. Hot-spots proved to be Loch Staoineig in the south and Nunnery ruins in the east. Loch Staoineig has obviously been modified as a reservoir area and is fenced off, so excluding grazing and less adventurous tourists, but not intrepid botanists: *Isolepis cernua* (Slender Club-rush), *Hypericum elodes*, *Ophioglossum vulgatum* (Adder's-tongue), *Catabrosa aquatica* (Water Whorl-grass), *Carex* × *fulva*, *Apium inundatum* (Lesser Marshwort), *Arenaria serpyllifolia* (Thyme-leaved Sandwort) and *Cerastium semidecandrum* (Little Mouse-ear) were found in the wetter areas and on the tracks and raised causeway running through the loch. Records reconfirmed at the Nunnery included *Asplenium maritimum* (Sea Spleenwort), *A. rutamuraria* (Wall-rue), *A. trichomanes* (Maidenhair Spleenwort), *Cochlearia officinalis* (Common Scurvygrass), *Cymbalaria muralis* (Ivy-leaved Toadflax), *Geranium sanguineum* (Bloody Crane's-bill) and *Umbilicus rupestris* (Navelwort).

The final day saw some of the group around Tobermory but the best find was at Glengorm of nine spikes of *Orobancha alba* (Thyme Broomrape) and nearby Port Chill Bhraonain with a large population of *Vicia sylvatica* (Wood Vetch).

Altogether it was a very enjoyable and productive meeting adding many new post 1970 records for the island. There are still many areas to visit before 2000, so any volunteers are welcome. The island is so varied in its climate and topography that anything might turn up.

LYNNE FARRELL

## RHICONICH, WEST SUTHERLAND (v.c. 108). 28th–30th JUNE

A satisfactorily large party of 18 including the leaders Pat and Ian Evans, met at Rhiconich on Friday evening to plan for the next day. This was an Atlas meeting but we were not primarily concerned with 'polishing off' 10 km squares, rather concentrating on some important habitats requiring attention and significant records which needed updating.

Gordon Rothero led a party of 9 up Meall Horn on Saturday in what seemed to those of us on lower ground to be reasonable weather. It is a long walk in to this hill and we were fortunate to be able to field a large enough party to achieve a reasonable coverage once there. The weather did not hold good, but their persistence across a patch of difficult ground in a spell of driving rain was rewarded and they found three species not recorded from this hill since 1957 (and therefore languishing in the lowest date class): *Draba norvegica* (Rock Whitlowgrass), *Saxifraga nivalis* (Alpine Saxifrage) and *Poa glauca* (Glaucous Meadow-grass). The basic rocks also produced *Polystichum lonchitis* (Holly-fern) and *Saxifraga oppositifolia* (Purple Saxifrage) and two members of the party, determined to make it to the summit, were rewarded by *Loiseleuria procumbens* (Trailing Azalea) and *Sibbaldia procumbens* (Sibbaldia).

A second group set off that day for the John Ridgway Adventure School at Ardmore! Compared to Meall Horn this was a physically undemanding exercise but necessary nonetheless as Ardmore has the only five hectares of deciduous woodland in the entire 10 km square. It proved to contain a good variety of tree and shrub species and the ground flora, although limited, included *Dryopteris expansa* (Northern Buckler-fern) and *D. aemula* (Hay-scented Buckler-fern). The best record of the day however was *Equisetum hyemale* (Rough Horsetail) found in a stony flush below the road at Portlevorchy right beside the car park.

A further party successfully located the two sites for *Rhynchospora fusca* (Brown Beak-sedge) reported in 1980 and went on to examine some recently enclosed woodland on the south side of Loch Stack.

The hill objective on Sunday was Foinaven, not renowned for its botanical interest, apart from the western end where some gneiss lightens the unrelieved quartzite of the remainder. The objectives were to re-find an old record of *Carex saxatilis* (Russet Sedge) and, with Dr Corner as a member of the party, to revisit the site for *Luzula arcuata* (Curved Wood-rush) which he had found in 1969. Both objectives were achieved. In addition a second site was found for the *Luzula*, and *Arabis petraea* (Northern Rock-cross) was noted again on that hill after 50 years. The walk up was described as a gentle stroll in the sunshine; the fact that the last part of the descent was achieved on a compass bearing is a testimony to the fickleness of the weather in the north-west highlands!

A group who visited the limestone lochs of Croispol and Borrallie at Durness found a good range of calcicoles including *Phyllitis scolopendrium* (Hart's-tongue), *Galium sternerii* (Limestone Bedstraw), *Carex capillaris* (Hair Sedge) and desiccated but recognisable *C. rupestris* (Rock Sedge) on one broken rock face. 'Bonsai' woodland sheltered in the grykes of some small patches of limestone pavement. The Potamogeton spp. are already known from these lochs so no time was wasted flinging grapnels and the party returned via Loch Lanlish to update a record of *Juncus balticus* (Baltic Rush).

A third party spent a profitable day in NC/3.3 in the vicinity of Kinloch at the head of Loch More. This is a square from which there are few recent records. Working through a variety of habitats: tracksides – *Juncus foliosus* (Leafy Rush), aquatic – *Isoetes lacustris* (Quillwort), gorge – *Sanicula europaea* (Sanicle), plus *Allium ursinum* (Ramsons), north-facing crags – *Oxyria digyna* (Mountain Sorrel) and high level moorland – *Arctostaphylos alpinus* (Arctic Bearberry), they amassed a total of over 200 species which has made the square look much more respectable.

On the last day a small group went to Faraid Head where the walk in driving drizzle was somewhat compensated by recording the 'goodies' of the area including *Carex maritima* (Curved Sedge) and of course *Primula scottica* (Scottish Primrose).

The rest of the party headed for Sandwood Loch and Bay where they divided into 4. One group did a useful survey round the cliffs at the south-western end of the bay finding *Carex capillaris* (Hair Sedge) in the process; a second party went across the bay to the north eastern end where low cliffs with some broken ground are studded with *Silene acaulis* (Moss Campion) and *Saxifraga oppositifolia* (Purple Saxifrage). The two who recorded on the shores of Sandwood Loch and the dune slacks at its northern end found impressively large stands of *Juncus balticus* (Baltic Rush) and sheets of minuscule plants of *Botrychium lunaria* (Moonwort). The pair who elected to do the ground at the head of the loch (marked rather ominously on the map as Lòn Mór, the Great Morass) must be congratulated on re-finding a 1948 record of *Carex paniculata* (Greater Tussock-Sedge) along with *C. limosa* (Bog Sedge) and *C. lasiocarpa* (Slender Sedge). The ground turned out to be a seriously wet mire and was reported to be more suited to recording from a 'Lilo' than on foot!

The help given by landowners over access and car parking was much appreciated.

## KELSO, ROXBURGHSHIRE (v.c. 80). 3rd &amp; 4th JULY

A total of 19 members participated in this field meeting and some 1250 records were made from 5 hectares at the eastern end of Roxburghshire. Members split up into groups and met up at the end of the day to discuss their records.

On the first day *Dianthus deltooides* (Maiden Pink) was added to two hectads which was an excellent start. *Potentilla argentea* (Hoary Cinquefoil) was an associate at one of the sites and has only two other extant localities in the vice-county. *Carex muricata* subsp. *lamprocarpa* (Prickly Sedge) was common to all the sites and was typical of these dry sunny habitats. Whitton Loch produced *Potamogeton pusillus* (Lesser Pondweed) but, alas, a possible rare hybrid was later determined as an odd form of *Potamogeton crispus* (Curled Pondweed). It was good to re-find *Blysmus compressus* (Flat-sedge) last seen on the Kale Water over 25 years ago, in greater quantity. It has only a handful of Border records and is decreasing. Adders were a potential hazard here, 4 being seen over 25 yards of hillside. The farmer whom we met later was unaware of them on his land. Linton Loch was visited by another group. It has magnificent tussocks of *Carex paniculata* (Greater Tussock-sedge) and new to the vice-county was the hybrid (*Carex* × *boeninghausiana*) (a hybrid between the Greater Tussock-sedge and Remote Sedge) found by Olga Stewart. *Ranunculus lingua* (Greater Spearwort) and *Berula erecta* (Lesser Water-parsnip) were also seen here. *Carduus nutans* (Musk Thistle) and *Verbascum nigrum* (Dark Mullein) occurred at the nearby farm of Burnfoot. On the Cheviot Burn, which drains the highest ground in the vice-county, possible *Equisetum* × *rothmaleri* (a hybrid between the Field and Marsh Horsetail) was found but needs confirmation as it would be a new vice-county record. *Sedum villosum* (Bog Stonecrop) was not uncommon and *Saxifraga granulata* (Meadow Saxifrage) was seen at the unusually high altitude of 610 m.

On the following day the groups set out in drier conditions. Carter Fell on the Northumberland border was reached after an energy sapping and fly-ridden climb up the overgrown track through the Sitka Spruce forest to Carter Quarry. This old limestone quarry produced *Listera ovata* (Greater Twayblade) with *L. cordata* (Lesser Twayblade) under *Calluna vulgaris* (Heather) nearby. *Ophioglossum vulgatum* (Adder's-tongue) was found lower down under bracken where yet another but more aggressive adder almost bit one of the party. I believe the plant and the reptile aren't usually associated!. Basaltic outcrops supported good clumps of *Huperzia selago* (Fir Clubmoss) with *Dryopteris oreades* (Mountain Male-fern) but *Cryptogramma crispum* (Parsley Fern) was rare. The party exploring in the same hectad at Southdean discovered a species-rich haugh by the Jed Water. *Carex acutiformis* (Lesser Pond-sedge), *C. pallescens* (Pale Sedge), *C. paniculata* (Greater Tussock-sedge), *Cirsium heterophyllum* (Melancholy Thistle), *Dactylorhiza fuchsii* (Common Spotted-orchid), *Geranium sylvaticum* (Wood Geranium), *Prunus padus* (Bird Cherry) and *Salix purpurea* (Purple Willow) were among some of the more conspicuous species present in what is becoming an increasingly rare sight.

The surprise of the meeting awaited those who visited the hills and burns at the southern extremity of the Kale Water which had no previous v.c. 80 records as most of this hectad is in v.c. 67. *Coeloglossum viride* (Frog Orchid) associated with *Helianthemum nummularium* (Common Rock-rose) and *Helictotrichon pratense* (Meadow Oat-grass) was noteworthy on one hillside as the orchid is virtually extinct from this type of habitat in the vice-county. *Dactylorhiza incarnata* subsp. *incarnata* (Early Marsh-orchid) was found in flushes and was indicative of the strongly basic conditions. It is most commonly found around the flushed margins of the richer Border mires. *Eriophorum latifolium* (Broad-leaved Cottongrass) was also present. The geology of this part of the Kale Water consists of more permeable and basic sedimentary Silurian strata compared with the harder and more acid igneous andesite rock lower down the valley and it is this different geology which must account for the floristic richness.

It had been a successful meeting and I would like to thank all those who took part. I also thank Trevor Dines for help with the organisation and Chris Preston for checking the Potamogetons.

R.W.M. CORNER

## LOCH LEVEN, KINROSS (v.c. 85). 5th JULY

The purpose of this meeting was twofold, to re-survey the landward area of the NNR last visited 22 years ago and to obtain post-1986 Atlas records for the two relevant squares. So as to get as wide coverage as possible, the party of 20 was split into six groups, most of which were transported by two SNH boats to various parts of the lochside; this saved a considerable amount of time, and was repeated in the afternoon. A reconnaissance a week earlier had indicated that a number of areas around the loch had become subject to encroachment by scrub and rank vegetation, not helped by an unusually high water level. Thus unfortunately some of the sites visited proved to be disappointingly devoid of some of the hoped-for rarities – but this was compensated for by good recording for the Atlas, while some unusual v.c. 85 species were seen including *Festuca pratensis* (Meadow Fescue), new to the NNR, *Carex aquatilis* (Water Sedge) and *Platanthera bifolia* (Lesser Butterfly-orchid). The two parties exploring the SE corner of the loch fared best. Paradoxically, one of the best fens in the v.c. is located in the public access area of Findatie and it was here that *Dactylorhiza incarnata* (Early Marsh-orchid) and *D.* ×

*venusta* were seen, along with *Parnassia palustris* (Grass-of-Parnassus), *Eleocharis quinqueflora* (Few-flowered Spike-rush), *Selaginella selaginoides* (Lesser Clubmoss) and various sedges. Nearby, another party came across two of the Loch's specialities: *Hierochloa odorata* (Holy-grass) and *Juncus filiformis* (Thread-leaved Rush) (a disturbing feature was that the latter was not found in its three other localities) together with some other less common species. Several rarities were not observed on the day, and it was left to another visit, on 22nd August when the water level was much lower, to reveal such unusual plants as *Baldellia ranunculoides* (Lesser Water-plantain), *Eleocharis acicularis* (Needle Spike-rush), *Lythrum portula* (Water Purslane) – these three in quantity – *Limosella aquatica* (Mudwort) and that long-known Kinross speciality, formerly *Ranunculus reptans*, now *R. × levenensis* (Loch Leven Spearwort). It was especially gratifying to find at least four flourishing colonies of the last, now benefiting from the construction of sheltering gabions some years ago. Some 300 taxa were recorded all told, a satisfactory total. Especial thanks are due to the two SNH staff, Alan Lauder and Paul Brooks, who manned the boats and were a great help; and also to the RSPB Vane Farm Centre for accommodation.

G. BALLANTYNE

#### ROMAN RIVER & HAMFORD WATER, N ESSEX (v.c. 19), 11th – 13th JULY

We assumed that the curse of Essex had struck i.e. the generally held opinion that the county is a wildlife-free zone) when only five people, including the two leaders, turned up for the Friday introductory talk on the flora of Essex. However, fears were allayed on a foggy Saturday morning at Friday Wood in the Roman River Valley when 12 of us gathered for the first field session. The Roman River is a large SSSI, owned by the Ministry of Defence, on the outskirts of Colchester, encompassing a mosaic of habitats from grass heath, scrub and ancient woodland to fens and flood meadows.

Our first plant was the rarest, two plants of *Filago gallica* (Narrow-leaved Cudweed) at one of the re-established sites, here in its last native locality. The dry plateau was full of mini-delights, including *Ornithopus perpusillus* (Bird's-foot), *Trifolium arvense* (Hare's-foot Clover) and *Spergularia rubra* (Sand Spurrey). Moving downhill, spring lines, where the gravels overlay London Clay, supported *Ranunculus hederaceus* (Ivy-leaved Crowfoot), with just a few flowers still showing, *Alisma plantago-aquatica* (Water-plantain), and several rushes, including the hybrid *Juncus conglomeratus* × *J. effusus*. Scrambling over the scrub were several brambles (this site is noted for its *Rubus* flora), including a large-flowered, unnamed local endemic.

By tracks in the valley bottom, *Lepidium heterophyllum* (Smith's Pepperwort) was abundant, with *Potentilla anglica* (Trailing Tormentil) and another hybrid *Potentilla reptans* × *P. erecta*, and *Salix purpurea* (Purple Willow) was found in the osier bed. Growing on the river bank, several splendid specimens of *Dipsacus pilosus* (Small Teasel) were growing, at one of only a handful of local sites; the showy damselflies *Calopteryx splendens* and *C. virgo* were also noticeable here, unusually with both species flying together.

After lunch we headed up into the wood, where the springs had *Scirpus sylvaticus* (Wood Club-rush), *Carex laevigata* (Smooth-stalked Sedge), *C. pseudocyperus* (Hop Sedge) and a spreading introduction *Lysimachia punctata* (Dotted Loosetrife). A few White Admirals performed in the clearings, although Purple Hairstreaks were typically more elusive. Deeper into the site, a little *Calluna vulgaris* (Ling) had survived the management onslaught, with *Galium saxatile* (Heath Bedstraw), sheets of *Gnaphalium uliginosum* (Marsh Cudweed) and a few *G. sylvaticum* (Heath Cudweed), rediscovered here in 1996, after an absence of several decades. A final stroll through the flood meadows produced *Catabrosa aquatica* (Water Whorl-grass) and *Rumex maritimus* (Golden Dock), together with numerous dragonflies and damselflies, followed by a long trek back to the cars, picking up *Agrimonia procera* (Fragrant Agrimony) and *Melampyrum pratense* (Common Cow-wheat) en route.

Sunday consisted of a walk on the salt marshes, sand dunes and sea walls of Hamford Water, south of Dovercourt. The saltings were just turning purple under drifts of *Limonium vulgare* (Common Sea-lavender), typically showing clonal variation, although we could not be sure of any 'pure' *L. humile* (Lax-flowered Sea-lavender). *Spartina maritima* (Small Cord-grass), *Sarcocornia perennis* (Perennial Glasswort), *Suaeda vera* (Shrubby Seablite) and *Inula crithmoides* (Golden Samphire) were also locally obvious, the latter at its extreme northern locality on the North Sea coast.

The fringing low dunes provided a very different habitat, with *Cakile maritima* (Sea Kale), *Salsola kali* (Prickly Saltwort) and *Helianthus annuus* (Sunflower) on the drift line, and *Glaucium flavum* (Yellow Horned-poppy), *Calystegia soldanella* (Sea Bindweed), *Crithmum maritimum* (Rock Samphire) and *Eryngium maritimum* (Sea Holly) in flower on the main ridge. A single plant of *Euphorbia paralias* (Sea Spurge) was the first record from this site for more than five years. Where the sand grades into the marsh, a large population of *Limonium binervosum* subsp. *saxonicum* (Rock Sea-lavender) was present, this being a subspecies endemic to north-east Essex; breeding Ringed Plovers (with chicks) and Little Terns were also seen.

The sea walls and associated dykes were rich in insect life (Roesel's Bush-cricket, Emperor Dragonfly, Essex Skipper, for example), and supported numerous local and scarce plants, *Hydrocotyle ranunculoides* (Large

Pennywort) and *Crassula helmsii* (New Zealand Pigmyweed) were present in small areas, no doubt poised to become a problem, and *Apium graveolens* (Wild Celery) and *Bolboschoenus maritimus* (Sea Club-rush) were indicative of the brackish nature of the water in the dykes. A brood of Mute Swans were noted to have a mixture of normal and 'Polish' cygnets. The clay sea walls were dominated by *Elytrigia atherica* (Sea Couch), along with *Puccinellia rupestris* (Stiff Saltmarsh-grass), *Hordeum marinum* (Sea Barley), *Trifolium squamosum* (Sea Clover), *T. fragiferum* (Strawberry Clover), *Bupleurum tenuissimum* (Slender Hare's-ear) and *Lathyrus nissolia* (Grass Vetchling). One recently seeded stretch of wall produced *Apera spica-venti* (Loose Silky-bent) and a single spike of *Parentucellia viscosa* (Yellow Bartsia); the latter was undoubtedly introduced with the seed mix, and is probably the first record from the county. Our final speciality, here at one of only four broad locations in Britain, was *Peucedanum officinale* (Hog's-fennel), just coming into flower and a fitting end to a wonderful, diverse weekend of plants, butterflies (16 species), dragonflies and damselflies (10 species) and all sorts of other natural delights.

C. GIBSON

#### DTEO SITE, ABER-PORTH, CARDS (v.c. 46), 12th JULY

Twelve members and friends met at this Ministry of Defence site on a coastal headland to record in three tetrads. We were guided by Jim Allwood, current chairman of the DTEO Conservation Committee which had been founded at the site in 1981. The coastal fringe of some 41 ha was scheduled as a SSSI in the following year, chiefly for its cliff oak woods, coastal heath and the grasslands which are among the most calcareous in this predominantly acidic county. The site was largely arable farmland until 1937 when it was taken over by the MOD, and the heath and grassland that has developed since then has been regularly mown, parts once a year, other parts more often, and very occasionally burnt to control scrub, but not grazed.

We did an anticlockwise walk, starting through tall grassland with abundant *Helictotrichon pubescens* (Downy Oat-grass) and *Trisetum flavescens* (Yellow Oat-grass) and down to the sea cliffs at the east tip of the site, dominated by *Festuca rubra* subsp. *juncea* (Red Fescue) and a giant form of *Carex flacca* (Glaucous Sedge). We went down the funicular railway into Cribach Bay and saw fruiting *Vicia sylvatica* (Wood Vetch) straggling over the heathers, and botanising was interrupted by the spectacle of three Bottle-nosed Dolphins disporting themselves close inshore. Recently disturbed areas on the cliff top had *Ranunculus parviflorus* (Small-flowered Buttercup), *Anchusa arvensis* (Bugloss) and other arable weeds brought up from the pre-1937 seed-bank, and further west Jon Turner found a slightly flushed, disturbed shaley area with *Anagallis minima* (Chaff-weed) and *Euphorbia exigua* (Dwarf Spurge), the latter not seen here since the digging of a trench brought up buried seed of 21 arable weeds in 1978 (Chater, A. O. 1982. *Sanctuary* 9: 11-13). Nearby, Steve Chambers found a late-flowering *Trifolium ornithopodioides* (Fenugreek), new for the site, in another shaley area.

By a small artificial pond we saw a colony of *Brachypodium pinnatum* (Tor-grass), occurring in natural grassland in Cards only on this headland. The leader confidently demonstrated *Eloдея nuttallii* (Nuttall's Waterweed) in the pond, but was luckily corrected by Richard Pryce who recognised it as in fact *Lagarosiphon major* (Curly Waterweed). How often is this mistake made, I wonder? After peering over a cliff to see a colony of *Sorbus torminalis* (Wild Service-tree) growing with *Populus tremula* (Aspen) we ended up at the west end of the headland, looking down at *Euonymus europaeus* (Spindle) in the windblown oak wood and seeing abundant *Viola lactea* (Pale Dog-violet), hybridising here with *V. riviniana* (Common Dog-violet). In all we added ten new taxa to the site list, bringing the total to 414, and more importantly we all learnt some new species.

A.O. CHATER

#### HUNGERFORD, BERKSHIRE (v.c. 22), 14th & 15th JULY

Fourteen members attended this meeting to record in some glorious countryside in the west of Berkshire. In fine weather, we split into groups and headed off to different parts of various hectads, meeting again at the end of the day in a very pleasant pub on Hungerford common to discuss our finds. Four hectads were examined in detail, and we turned up several interesting species.

Habitats were quite diverse. Arable fields proved productive for weeds, with *Legousia hybrida* (Venus's-looking-glass), *Euphorbia exigua* (Dwarf Spurge), and the scarce *Fumaria parviflora* (Fine-leaved Fumitory – SU/4.7) all being recorded. Waste ground was, typically, rich in an alien and weed flora. Good finds included *Genista tinctoria* subsp. *tinctoria* (Dyer's Greenweed), *Onopordon acanthium* (Cotton Thistle), *Echium vulgare* (Viper's Bugloss) and *Cannabis sativa* (Hemp).

Chalk grassland was scarce in the area, most of it having been lost to agriculture, but there were a few good fragments. The spectacular scenery around Coombe Gibbit (an ancient hangman's post on the top of a chalk escarpment) was good for the basic downland species, including some large plants of *Campanula glomerata* (Clustered Bellflower), *Anacamptis pyramidalis* (Pyramidal Orchid) and *Gymnadenia conopsea* (Fragrant

Orchid). Roadside verges also often supported similar vegetation, with *Erigeron acer* (Blue Fleabane), *Orobancha minor* (Common Broomrape) and *Orobancha elatior* (Knapweed Broomrape) being recorded, the latter often in spectacular large colonies.

Woodlands also provided a few nice species. A potential hybrid *Dryopteris* hybrid was found in an acidic woodland, while *Milium effusum* (Wood Millet), *Campanula trachelium* (Nettle-leaved Bellflower) and *Polygonatum multiflorum* (Solomon's-seal) were all recorded from more base rich woodland.

There were two particularly nice finds. The first was a population of about 100 plants of *Ornithogalum pyrenaicum* (Spiked Star-of-Bethlehem) in a hedgerow (SU/3.6). Although it flowers early June, the inflorescences of this scarce species were long over, and were setting abundant seed. The second find was *Galeopsis angustifolia* (Red Hemp-nettle) in a woodland clearing (SU/2.7). The woodland had only recently been planted; the area was previously an arable field and this is the more typical habitat of this species. This find is particularly nice as it updates the pre-1970 record in the Scarce Plants Project.

A very enjoyable and productive meeting, therefore, in a lovely area and with good weather throughout. Many thanks to all those that participated!

T.D. DINES

#### ISLE OF ISLAY, SOUTH EBUDES, (v.c. 102). 19th–26th JULY

Between 5 and 12 members spent a gloriously sunny week surveying various habitats on Islay in order to gather data for the Atlas 2000. The preceding weeks had been extremely dry. It is therefore probable that some plants were very small in size and likely to have been overlooked. Similarly some species may not have flowered very profusely in 1997.

On the first day we explored the northern part of the Oa, starting from Kintra Farm. Our destination was a narrow gully in the cliffs where we found *Vicia sylvatica* (Wood Vetch), *Saxifraga aizoides* (Yellow Saxifrage), *Sedum rosea* (Roseroot), *Trifolium medium* (Zigzag Clover), *Schoenus nigricans* (Black Bog-rush) and *Helictotrichon pubescens* (Downy Oat-grass). *Beta vulgaris* subsp. *maritima* (Sea Beet) was found close to the shore, a plant which had not been recorded on the Oa since 1845, and has only one other known station on Islay. *Eupatorium cannabinum* (Hemp-agrimony) was found on the next gully to the west.

The walk through stunted heather moorland revealed *Parnassia palustris* (Grass-of-Parnassus) and *Pinguicula lusitanica* (Pale Butterwort) in wet flushes while the grassy cliffs between the sandy bays had *Carex* × *fulva*. In a flush above two bays were some plants of *Vaccinium oxycoccos* (Cranberry) which is known from only 2 other hectads in v.c. 102.

On Sunday morning we visited Killinallan dunes to look for *Epipactis palustris* (Marsh Helleborine) and were delighted to find over 60 plants in full bloom, along with *Gymnadenia conopsea* (Fragrant Orchid), one plant of which was a very pale pink. Also found were *Carex paniculata* (Greater Tussock-sedge) and a fine stand of *Juncus subnodulosus* (Blunt-flowered Rush). This latter species occurs in several areas of flushed vegetation just above the shore on Islay.

*Gymnadenia conopsea* (Fragrant Orchid), *Dactylorhiza maculata* (Heath Spotted-orchid), *D. fuchsii* (Common Spotted-orchid), *D. purpurella* (Northern Marsh-orchid) and *Listera ovata* (Common Twayblade) were all flowering in a nearby flush. Drier sandy areas yielded an extensive stand of *Anacamptis pyramidalis* (Pyramidal Orchid) together with *Coeloglossum viride* (Frog Orchid), but *Gentianella amarella* (Autumn Gentian), although present, was badly affected by the drought. Beside a burn was a clump of *Festuca arundinacea* (Tall Fescue). In the afternoon we visited Ballygrant Woods and Loch where *Potamogeton lucens* (Shining Pondweed) was found in a new site, only its second on Islay.

On Monday we split into three groups. One explored a wooded gully which leads down to the sea beyond Ardtalla on the east coast. *Equisetum sylvaticum* (Wood Horsetail), *Corylus avellana* (Hazel), *Quercus robur* (Pedunculate Oak), *Sorbus aucuparia* (Rowan) and *Oreopteris limbosperma* (Lemon-scented Fern) were found here.

The more athletic of our party climbed Islay's highest hill, Beinn Bheigeir, 491 m, where they found *Huperzia selago* (Fir Clubmoss), *Diphasastrum alpinum* (Alpine Clubmoss), *Empetrum nigrum* (Crowberry), *Vaccinium vitis-idaea* (Cowberry) and *Thalictrum alpinum* (Alpine Meadow-rue). On the route up they also found *Asplenium trichomanes-ramosum* (Green Spleenwort), *Cystopteris fragilis* (Brittle Bladder-fern) and *Rubus saxatilis* (Stone Bramble).

A third group explored an area of lochs and outcropping limestone south of Ballygrant. Pleasing finds were *Lobelia dortmanna* (Water Lobelia) and *Nymphaea alba* (White Water-lily). The latter, although abundant on the Hebridean islands is worthy of mention as it looks particularly striking when in bloom.

A further evening trip took us to Claddach on the south west coast of the Rhinns where *Eryngium maritimum* (Sea-holly) and *Calystegia soldanella* (Sea Bindweed) were flowering profusely together. *Ligusticum scoticum* (Scots Lovage), *Polygonum oxyspermum* (Ray's Knotgrass), *Coronopus didymus* (Lesser Swine-cress) and

*Coronopus squamatus* (Swine-cress) were also present. The latter, a new Islay record, was found on the stony ground adjacent to the wave generator. *Carex distans* (Distant Sedge) was growing on nearby rocks.

On Tuesday one group followed the Laggan River upstream and discovered *Festuca arundinacea* (Tall Fescue) near the bridge of the B8018 road. On the banks of the Kilennan River, just east of the C road, they found *Gentianella campestris* (Field Gentian) and *Coeloglossum viride* (Frog Orchid). Two kilometres east of the C road, *Asplenium trichomanes-ramosum* (Green Splenwort) was located in a new hectad where it was well below its previously known site on Beinn Bheigeir.

A second group visited Laggan Point west of Bowmore where they recorded *Hypericum elodes* (Marsh St John's-wort) (fairly widespread through v.c. 102 although curiously not included on the BSBI recording cards for Scotland). *Spergularia rupicola* (Rock Sea-spurrey) was noted on the cliffs.

In the evening we were caught in a thunderstorm, but nevertheless ventured along the edge of the dunes at Kilchoman where we were rewarded with a new plant for Islay – *Euphorbia paralias* (Sea Spurge). On consulting the Atlas of Scarce Plants we discovered that we had extended its known range by finding what is now its most north westerly station in the British Isles.

Also present at Kilchoman was an almost white *Vicia cracca* (Tufted Vetch) by the burn and along the shore we found an impressive *Juncus* with decumbent rooting stems, probably the hybrid between *Juncus acutiflorus* and *J. articulatus*. *Ononis repens* (Common Restharrow) was seen at its only known Islay location close to the path which leads to the shore.

On Wednesday one group walked from Ardbeg, up over rough moorland to Loch Uigeadail, which was surrounded by small, sharp stones with little vegetation other than *Juncus bulbosus* (Bulbous Rush) and *Huperzia selago* (Fir Clubmoss). The wet land alongside the outflow burn contained *Carex hostiana* (Tawny Sedge); lower down, the burn ran through a deep gully full of *Corylus avellana* (Hazel), *Sorbus aucuparia* (Rowan) and *Lonicera periclymenum* (Honeysuckle), with *Equisetum sylvaticum* (Wood Horsetail) nearby. A rocky outcrop close to the ruined croft at Solam yielded *Hymenophyllum wilsonii* (Wilson's Filmy-fern) while *Mentha × villosa* (Apple-mint) still survived in the tiny walled garden.

The energetic group explored the partly wooded area with some limestone east of Loch Lossit where they found *Ribes spicatum* (Downy Currant), both in the woodland and by the sea shore. *Carex × fulva* and *Festuca gigantea* (Giant Fescue) were seen in woodland above the cliff line with *F. arundinacea* (Tall Fescue) at the same location and also in an inland wood. *Hymenophyllum wilsonii* (Wilson's Filmy-fern) was found by a waterfall near the coast.

In the evening we visited the *Cirsium dissectum* (Meadow Thistle) site at Port Charlotte and a fern-rich gully farther down the coast of the Rhinns.

Thursday's visit to Jura was an organisational nightmare due to the breakdown of the ferry enforcing a crossing in a fishing boat only to find that the regular bus service had also been curtailed. However, the varied habitats on and near the north shore of Loch na Mile (Corran Bay) and the headland at Sron Gharbh yielded *Bidens tripartita* (Trifid Bur-marigold), *Stellaria graminea* (Lesser Stitchwort), *Ranunculus sceleratus* (Celery-leaved Buttercup), *Hymenophyllum wilsonii* (Wilson's Filmy-fern) and *Sedum rosea* (Roseroot). On the shore itself was *Juncus foliosus* (Leafy Rush), the first record for this taxon in the vice county.

On Friday the energetic group power walked up to Rubh a Mhail. Two sites for *Vicia sylvatica* (Wood Vetch) and two sites for *Equisetum × rothmaleri* (*E. arvense* × *E. palustre*) were discovered; and *Carex laevigata* (Smooth-stalked Sedge) was seen growing by the banks of the Margadale River. A sortie up Beinn Tart a Mhail on the Rhinns revealed a paucity of interesting plants and was particularly heavy going through very tall *Calluna vulgaris* (Heather).

The sun still shone on Saturday, our last day for recording. The high ground west of Sanaigmore produced a record for *Leontodon hispidus* (Rough Hawkbit), an extremely rare plant on Islay, though apparently more abundant in the past, and *Carex paniculata* (Greater Tussock-sedge) near Dun nan Nighean, but no other major records. On the coastline between Sanaigmore and the southern end of the Ardnave dunes was a gully with *Polypodium interjectum* (Intermediate Polypody). There is an apparent scarcity of recent records of the less common species of *Polypodium*, i.e. *P. interjectum* (Intermediate Polypody) and *P. cambricum* (Southern Polypody). One explanation may be the palatability of all three species which could result in the members of the genus declining during periods of increasing sheep numbers and greater grazing pressure.

On the side of a further gully was a plant of *Juniperus communis* (Juniper) bearing a great number of female cones while another gully was lined with *Osmunda regalis* (Royal Fern). Small depressions in the peat near Loch Laingadail Beag held all three species of *Drosera*. The upper layer (*Sphagnum*) of these depressions had dried out completely. This meant that the normal pattern of distribution with *D. intermedia* (Oblong-leaved Sundew) in the deeper water in the centre of the pool, *D. longifolia* (Great Sundew) on the pool margin and *D. rotundifolia* (Round-leaved Sundew) on the adjacent moorland was particularly easy to observe. The surrounding peat bog held large quantities of *Rhynchospora alba* (White Beak-sedge). Around Ardnave Loch, *Baldellia ranunculoides* (Lesser Water-plantain) was grazed right down with the flowers at ground level, quite different from the vigorous plants in the outflow ditch.

Overall, it was a most enjoyable and rewarding week, with two new species for Islay being discovered and I would like to thank everyone who took part. However, Islay still remains very patchy in the quality of its plant records and any assistance with further recording for the Atlas 2000 will be greatly appreciated. At present it is planned to organise a similar week-long meeting on Jura in July 1999 (possibly renting Jura House which has accommodation for 15), again to gather information for the Atlas 2000. If anyone is seriously interested please get in touch as bookings need to be made well in advance.

The owners, trustees, factors and keepers for the Ardalla, Dunlossit, Islay and Laggan Estates are thanked sincerely for granting permission for access to their lands.

## R. GULLIVER

### SEVERN ESTUARY AND REENS, MONMOUTHSHIRE (v.c. 35). 26th–27th JULY

The only three booked members met the leader at the M4 service station near exit 23a in rain that was to persist all day. All set off in the leader's car to the first stop at Bowleaze Reen to search for a fruiting stem on the early flowering *Carex elata* (Tufted Sedge). Though there is 30 metres of it along the bank here, it occurs nowhere else in the v.c. On the opposite side of the road a graptol dragged out *Ranunculus circinatus* (Fan-leaved Water-crowfoot) and *Potamogeton trichoides* (Hairlike Pondweed), the former showing an occasional flower. 100 m along the road was a reed choked with *Hydrocharis morsus-ranae* (Frogbit). On, and at Goldcliff Pill a walk was necessary along its eastern bank. Immediately, a reed yielded the following Duckweeds: *Lemna gibba*, *L. minor*, *L. trisulca* and *Spirodela polyrrhiza*. Another had *Medicago arabica* (Spotted Medick) bearing flowers and coiled and spiny fruits. On climbing over the sea-wall a number of saltmarsh plants were found on the edge of the pill. These included *Oenanthe lachenalii* (Parsley Water-dropwort), *Trifolium fragiferum* (Strawberry Clover) and a number of common halophytes. Nearer the raised bank *Bupleurum tenuissimum* (Slender Hare's-ear) started to appear and soon each had found their own plant. Closer to the mouth of the pill and near to the raised bank, numbers of *Althaea officinalis* (Marsh Mallow) were found. Before heading towards a large plant with its top branches curved to resemble large horns, *Trifolium squamosum* (Sea Clover) was examined but only fruits could be found. As the large plant was approached, the smoky yellow flowers and the numerous, tightly packed, flask-like fruits indicated that it was *Hyoscamus niger* (Henbane). Many smaller ones grew nearby. A walk along the top of the sea-wall eastwards meant passing through thousands of Slender Hare's-ear to where a bare patch was occupied by a small number of plants of *Puccinellia rupestris* (Stiff Saltmarsh-grass), the branches of which spread horizontally, characteristic of plants of well-trodden areas. The stiff inflorescence separated it from other similar grasses that are usually flattened due to similar pressures.

As the rain had not abated after lunch, we made a quick stop at a reed by Salt-marsh Lane to drag out some greenery containing *Wolffia arrhiza* (Rootless Duckweed), which could be felt as gritty particles when gently rubbed between finger and thumb. The next stop was well to the west of Newport at Broadway Reen, Marshfield to see two large patches of *Hydrocotyle ranunculoides* (Floating Pennywort) which so far has escaped the attentions of CCW. The rain eased a little for a long walk along Rumney Great Wharf which revealed thousands of *Hordeum marinum* (Sea Barley), many *Carduus tenuiflorus* (Slender Thistle), two patches of *Tarlis nodosa* (Knotted Hedge-parsley) and a plant of *Rumex crispatus* (Greck Dock). During this walk Mrs P Millman enquired as to the identity of a patch of rather dried up grass. A closer look showed it to be *Catapodium maritimum* (Sea Fern-grass), a new v.c. record.

The rain began to intensify again so we returned to the service station and said our goodbyes as none of them intended to return on Sunday.

I was now faced with a dilemma: as no-one else had booked for the weekend should I visit the service station on Sunday morning or not? The weather was fine so I made the trip to find two members waiting for me. Both had set off the previous day, the first on a bicycle from Bristol and the other by car from Barry and both had had to turn back because of problems, so I decided it was only fair to give them a guided tour. This time the first stop was a wet meadow with a reed with a rich flora, the highlights of which were a fine covering of Frogbit and a margin lined with *Carex pseudocyperus* (Cyperus Sedge) and *Rumex hydrolapathum* (Great Water-dock). Another dock, which I first thought was Marsh Dock proved on closer examination to be a form of *Rumex obtusifolius* (Broad-leaved Dock), its tepals having longer teeth than usual. A wet field that in the seventies had numerous plants of Common Meadow-rue provided not a single one, though we did find *Galeopsis bifida* (Bifid Hemp-nettle). Visits were made to reens, Goldcliff Pill and Saltmarsh Lane as per Saturday, but a site near Middle Reen, Whitson had *Lepidium latifolium* (Dittander) covering a patch of waste ground.

As on the previous day, the leader was thanked and all departed for home.

T.G. EVANS

## CAMELFORD, EAST CORNWALL (v.c 2) 1st–3rd AUGUST

The deluge and the botanists arrived at Camelford together, but despite the former, the latter won! The number attending was eventually to be 19, some just for a day, others for the whole of this very wet weekend.

On Friday evening we were able to meet in a village hall at St Teath thanks to the kind help of Mary and Tony Atkinson. Over tea/coffee we discussed the programme ahead of us: to add to the number of species recorded for each of the four Bodmin Moor hectads (no easy task) to update the moderately-recent records and to target species that hadn't been seen for years.

Saturday was very successful. One group searched Davidstow Moor and nearby farms, another chose three rather under-recorded areas on Bodmin Moor – Buttern Hill, Bray Down and marshes to the south-west of Bowthick while the third went searching for lost records. The previously under-recorded *Oreopteris limbosperma* (Lemon-scented Fern) was found by several streams. Records for *Euphrasia anglica*, *E. confusa*, *E. micrantha* and *E. nemorosa* (Eyebrights) were updated. *Montia fontana* subsp. *amportana* (Blinks) was identified while *Festuca ovina* subsp. *hirtula* (Sheep's-fescue) a first for East Cornwall, was noted in three tetrads within the hectad SX/1.8. *Callitriche brutia* (Pedunculate Water-starwort), which is proving more common on Bodmin Moor than at first realised, was seen in a new site. The damp grassland by various tracks supported *Chamaemelum nobile* (Chamomile), but *Cystopteris fragilis* (Brittle Bladder-fern) could not be refound at Slaughterbridge, north of Camelford, despite much searching. This was one of the old records made by R.W. David.

Sunday brought torrential rain, yet new records continued to be made. *Dryopteris carthusiana* (Narrow Buckler-fern) was refound in two hectads, while 16 new species were added to the total for SX/2.7. One determined group walked the valleys and roads south of Camelford, finding a new site for *Dryopteris aemula* (Hay-scented Buckler-fern) and 2 sites for *Poa humilis* (Spreading Meadow-grass). At the same time they increased the hectad total by 29 species. Dripping wet, they sought refuge in a church to redo their card for the day!

By 4.00 p.m. on Sunday we were making our way to Boscastle to celebrate the success of our efforts with a Cornish Cream Tea. But this was not to be the end of the weekend. On Monday, in still more rain, a few of us visited Dozmary Pool to see *Isoetes echinospora* (Spring Quillwort), this proving to be both abundant and in good spore. Lunch at the famous Jamaica Inn was followed by a survey of stream banks and bogs near a small moorland village. Here was more *Chamaemelum nobile* (Chamomile), *Drosera rotundifolia* (Round-leaved Sundew) in flower and an unusual fern whose name is not to be found either in Kent or Stacc, but it was there and was another first for Cornwall!

ROSE J. MURPHY

## ULLAPOOL, WESTER ROSS (v.c. 105), 2nd–6th AUGUST

Set in the spectacular scenery of Wester Ross, this Atlas 2000 meeting proved to be the most enjoyable and productive of the whole year for me. Week long wall-to-wall sunshine contributed to the high moral of the group, and we visited a total of 13 hectads (10 km squares). Twenty-six members joined the meeting through the week, and these came from far and wide. We were very fortunate to be joined by Clive Jermy from the Natural History Museum, who bought a Landrover with him; this meant we could do twice as much recording as otherwise would have been possible. We were also joined by members of the Loch Broom Field Club, who were very enthusiastic and helped enormously with their wealth of local knowledge.

On day one, we decided to stick close to Ullapool and after introductions and initial splitting into groups, we headed up towards the Rhidorroch Forest, with groups being placed along the way. The lower groups, in NH/1.9, examined the area around Loch Achall, reporting *Nymphaea alba* subsp. *occidentalis* (White Water-lily), *Oxyria digyna* (Mountain Sorrel) and four species of *Euphrasia* (*E. arctica*, *E. confusa*, *E. nemorosa* and *E. micrantha*). Higher up the valley, in NH/2.9, the area around Loch an Daimh was examined and proved to be much more species rich. *Goodyera repens* (Creeping Lady's-tresses) was found in a small patch of pine woodland, while *Saxifraga aizoides* (Yellow Saxifrage), *Rhynchospora alba* (White Beak-sedge), *Vicia sylvatica* (Wood Vetch), *Eriophorum latifolium* (Broad-leaved Cottongrass) and *Polypodium × mantoniae* (*P. interjectum* × *P. vulgare*) were all reported from various small gorges. A particularly nice base-rich outcrop yielded *Asplenium viride* (Green Spleenwort), *Pseudorchis albida* (Small-white Orchid) and *Gallium boreale* (Northern Bedstraw). *Platanthera bifolia* (Lesser Butterfly-orchid) was found on the edge of the loch, and *Betula nana* (Dwarf Birch) and *Arctostaphylos alpina* (Mountain Bearberry) were found on the open moorland. Although surprised at the species diversity of this first day, it really set the scene for the whole meeting.

Day two was the big day for arctic alpine species, as the whole group launched an attack on Beinn Dearg in NH/2.8. We split into two groups, one approaching the mountain from the West, the others using the Landrover and coming in from the North-east. In all, 18 Scarce species and 1 Red Data Book species were recorded on the day from one square (is this a record?). The West group were blessed with a steady walk-in to the mountain, and

a wealth of good species being found right next to the path, including *Minuartia sedoides* (Cyphel), *Carex saxatilis* (Russet Sedge) and *Juncus biglumis* (Two-flowered Rush). The dripping ledges of the valley sides, however, proved most productive, with *Saxifraga nivalis* (Alpine Saxifrage), *Draba norvegica* (Rock Whitlowgrass), *Carex atrata* (Black Alpine-sedge) and *Polystichum lonchitis* (Holly Fern) relishing the conditions. On the other side of the mountain, more scarce species were recorded from grassy slopes (*Juncus castaneus* (Chestnut Rush) and *Alchemilla wickuriae*) and rock ledges (*Poa glauca* (Glaucous Meadow-grass), *Salix lapponum* (Downy Willow) and *Cerastium arcticum* (Arctic Mouse-ear)). The highlight for them, however, was *Artemisia norvegica* (Norwegian Wormwood) on the summit plateau. Unfortunately however, all good things must come to an end, and whilst we were enjoying a beer back in Ullapool, they were having an epic of a journey home (see *Short Cuts at Seana Bhragh, BSBI News 77: 9*).

Not wanting to drop the pace of the meeting, we decided to tackle the Fannichs, to the South of Ullapool, on the third day. From the main road (A853), we headed up to Loch A'Mhadaidh and then split into three groups to cover two hectads. The walk up, through NH/2.7, was rewarding with occasional patches of *Betula nana* (Dwarf Birch) and *Arctostaphylos alpina* (Mountain Bear-berry) in the exposed moorland. Unfortunately, two (rather fitter) members who offered to press on to Loch Li to update the old records of Scarce species were unable to do so, but they were rewarded with *Lycopodium annotinum* (Interrupted Clubmoss) just above the Loch. Square NH/1.7 also proved productive, with nice populations of *Subularia aquatica* (Awlwort) in Loch A'Mhadaidh, *Carex saxatilis* (Russet Sedge) on damp ledges, and plentiful *Rubus chamaemorus* (Cloudberry) in fruit to provide relief in the very hot sun!

By now we needed a change of scenery, so we headed to the coast West of Ullapool on the fourth day. We began with a very enjoyable diversion, lead by Clive Jermy, to see the gametophyte of *Trichomanes speciosum* (Killarney Fern) in a small cave (i.e. a tight squeeze in on your stomach!) in Gruinard Bay (NG/9.9). We then split into groups to examine the rest of the Rubha Mor peninsular, with its cliffs and numerous lochs. Finds of the day included *Ajuga pyramidalis* (Pyramidal Bugle) on a cliff near Opinan, *Carex limosa* (Bog Sedge), *Cladium mariscus* (Great Fen-sedge) and *Deschampsia setacea* (Bog Hair-grass) on moorland (all in NG/8.9).

The final day saw a distinct spit in tactics. Two groups headed to the north of Ullapool to record the coast, gorges and moorland of that area, while a more masochistic group decided to pop up An Teallach. The former groups had a good day, recording *Asplenium viride* (Green Spleenwort), *Trollius europaeus* (Globe Flower) and *Cirsium heterophyllum* (Melancholy Thistle) around Langwell (NC/1.0), and *Osmunda regalis* (Royal Fern), *Calamagrostis epigejos* (Wood Small-reed) and *Mentha pulegium* (Pennyroyal) near Achiltibuie (NC/0.0). The latter species, a VCC-county first, was inexplicably growing in a lay-by – its origins are a mystery. The second group attacked An Teallach and had a great day in perfect walking conditions. Although we didn't re-find an old record for *Saxifraga caespitosa* (Tufted Saxifrage), we did find extensive populations of *Saxifraga rivularis* (Highland Saxifrage), a Red Data Book species, and also recorded *Cerastium arcticum* (Arctic Mouse-ear), *Draba norvegica* (Rock Whitlowgrass) and *Deschampsia caespitosa* subsp. *alpina* (Alpine Hair-grass). Excitement on the day was provided by one of the group disappearing down a wet gully, followed by the sound of extensive rock-fall. Although he caused the fall, he fortunately wasn't actually part of it!

A stunning meeting then, with great plants, great weather, great company and superb food and drink. I'd like to thank all those that participated for making the meeting a success. Clive Jermy for joining us and providing his expertise and the Landrover, and both Douglas Henderson and Colin Scoullier for their help in arranging the meeting.

T D DINES

#### WIGAN FLASHES and HIGHFIELD MOSS (v.c. 59). 9th AUGUST

Twelve members, including the leader, met at the Orrell Water Park and amalgamated into three cars to visit the complex of flashes (waterbodies resulting from mining subsidence) in the south-east corner of hectad SD/5.0 and a relict primeval mossland habitat on the western edge of hectad SJ/6.9.

The towpath of the Leigh branch of the Leeds & Liverpool canal winds through a whole series of flashes, allowing the party access to the edges of Westwood Flash and Pearson's Flash and views across others, principally Scotsman's Flash. This complex of open water and marshy areas hosts a wide range of aquatics and marginals set in a landscape heavily affected by tipped acidic colliery shale. Particularly fine were dense flowering stands of *Eupatorium cannabinum* (Hemp Agrimony) studded with butterflies, also of note were blue-grey clumps of *Typha x glauca* (Hybrid Bulrush) and *Schoenoplectus tabernaemontani* (Grey Club-rush). These wetlands greatly diversify this typically acid region with further diversity found around the northern banks of Westwood Flash which are greatly affected by pfa (pulverised fuel ash), tipped from the former Westwood power station. Once famous locally for its vast sea of marsh orchids and hybrids there has been strong colonisation by willow scrub, thinning out these orchids considerably. However, in some glades and around the canopy edges, many *Epipactis palustris* (Marsh Helleborine) were still flowering; patches of *Pyrola rotundifolia* (Round-leaved Wintergreen) were also evident. Also scattered were erect seed-heads of *Monotropa hypopitys* (Yellow

Bird's-nest), in places almost hidden by dense carpets of non-flowering *Epipactis palustris* which forms the dominant ground-cover in places. It is notable that these interesting species are not normally found in the acidic hinterland but on the calcareous dunes of the Sefton coast about 30 km to the west.

In contrast to these heavily culturally impacted vegetation communities, formed in the last 100 or so years, the final area visited survives from thousands of years of *Sphagnum* growth and peat accumulation. Lowland peat bog, known locally as mossland, was once a major habitat type in South Lancashire with huge areas now developed for agriculture or subsumed by industrial development. Highfield Moss is highly modified, Stephenson's Liverpool to Manchester railway line (1830) cuts it in two, it is partially cut-over and drained but still holds a suite of species representative of lowland peat bog and has SSSI designation. The last locally surviving plant of *Vaccinium oxycoccos* (Cranberry) was re-found along with other species native to the Lancashire plain but now rare. Happily, one of the species to survive local extinction is *Gentiana pneumonanthe* (Marsh Gentian), with over a hundred blue trumpets found fanfaring from the dense *Molinia caerulea* (Purple Moor-grass), so typical of drying mossland, both north and south of the railway line.

P. S. GATELEY (leader)

#### PORTHMADOG, CAERNARFONSHIRE (V.C. 49). 9th-10th AUGUST

Six members attended the meeting, which was favoured by hot and dry weather. The main object was to record in hectad SH/4.3 for the Atlas 2000 Project.

Most of the Saturday was taken up with recording in the sand dune system of Morfa Bychan. In front of the immature dunes nearest the sea were typical foreshore plants such as *Cakile maritima* (Sea Rocket), *Salsola kali* (Prickly Saltwort) and various species of *Atriplex*, which were not mature enough to positively identify. Further inland were *Euphorbia paralias* (Sea Spurge), *Calystegia soldanella* (Sea Bindweed), *Rosa pimpinellifolia* (Burnet Rose) and *Ononis repens* (Common Restharrow). Also present were two species of Evening Primrose, namely *Oenothera cambrica* and *Oenothera glazioviana*. There was the faint possibility of hybrids but this was not confirmed. What really impressed us were the magnificent stands, over fifty of them, of the nationally scarce plant, *Juncus acutus* (Sharp Rush), with its needle-sharp stiff leaves.

Unfortunately there were no genuine dune-slacks but further inland the terrain became very marshy, the dominant plant being *Juncus acutifolius* (Sharp-flowered Rush), which tended to crowd out lower-growing species. However, there were magnificent displays of *Lythrum salicaria* (Purple Loosestrift). The most spectacular plant in the marsh was *Rumex hydrolapathum* (Water Dock), a rare plant in North Wales. There were half a dozen or so of them in a ditch, projecting above the rest of the vegetation.

The latter part of the day was spent around Borth-y-gest looking at waste ground and salt marsh. Typical plants of the latter habitat were seen, including *Glaux maritima* (Sea-milkwort), *Aster tripolium* (Sea Aster), *Cochlearia anglica* (English Scurvygrass) and *Carex extensa* (Long-bracted Sedge). On the waste ground we found *Geranium pusillum* (Small-flowered Crane's-bill), *Artemisia absinthium* (Wormwood), *Linaria repens* (Pale Toadflax) and *Chelidonium majus* (Greater Celandine).

The Sunday morning was spent exploring a marsh, occupying the site of the now dried up Llyn Ystumllin. It was not as interesting as we had hoped, but we did see *Bolboschoenus maritimus* (Sea Club-rush), *Lychnis flos-cuculi* (Ragged Robin) and *Potentilla palustris* (Marsh Cinquefoil).

We left the 'piece de resistance' to the final afternoon, which was spent on the Glaslyn Marshes, an SSSI. These are entirely man-made and are on land reclaimed from the sea in 1805, when William Maddocks built the cob across the Glaslyn Estuary. The main interest in the site was the presence of two red-data plants, namely *Eleocharis parvula* (Dwarf Spike-rush) and *Limosella australis* (Welsh Mudwort), both of which were seen. A dozen or so clumps of the *Eleocharis* were found in the mud in a corner close to the river. Apparently the populations vary tremendously from year to year and the habitat is not entirely safe for the plant. The *Limosella australis* was present in large numbers and over a wide area. It may be the only extant site in Britain now.

In all 12 new hectad records were made and over 30 post 1987 records were noted.

G. BATTERSHALL

#### 35th WELSH AGM and FIELD MEETINGS. MONS. (v.c. 35). 29th AUGUST-1st SEPTEMBER

Twenty-four members arrived for Friday dinner and evening field meeting. Mr T.G. Evans pointed out the large colony of *Petasites japonicus* (Giant Butterbur) on the edge of the Berthin Brook just outside the gates of the Gwent Tertiary College, Usk, where the meeting was being held. Two alien grasses were observed outside a large wheeled refuse vehicle. They were *Setaria viridis* (Green Bristle-grass) and *Echinochloa crusgalli* (Cocksspur), that are often seen where bird seed is used. In this case a look inside the vehicle revealed cleanings from bird houses, the obvious source. A short walk towards the River Usk brought the party to a weedy field, where many

plants of *Sinapis alba* (White Mustard) were growing. Arthur Chater was able to demonstrate the difference between two species of wild oats. The border of this field with the river was lined with a row of *Heracleum mantegazzianum* (Giant Hogweed) that impressed many in the party with their size. Another large plant was *Agrostis gigantea* (Black Bent), which could be confused with *A. stolonifera* though the former lacks stolons, its panicle branches remain patent after flowering and it has a truncate ligule. An alien Poplar plantation on the river bank created interest as did *Populus trichocarpa* (Western Balsam-poplar) planted near the picnic site. In fading light *Pteris hieracitoides* (Hawkweed Oxtongue) was noted on the roadside before return to the college.

On Saturday morning the field trip started at Pen-fford-goch Keepers Pond at 475 m. A short walk past the pond led the party to Pwll Du, a disused limestone quarry above which were *Calluna vulgaris* (Heather), *Empetrum nigrum* (Crowberry) and *Juncus squarrosus* (Heath Rush) and in the quarry *Campanula trachelium* (Nettle-leaved Bellflower), *Aquilegia vulgaris* (Columbine) and *Briza media* (Quaking Grass). In v.c. 35 there are only three sites for *Gymnocarpium robertianum* (Limestone Fern), here it grew among rocks c. 4 m above the path and a frond was brought down so that members could look at the greenish petiole and the minute glands on the underside of the leaf that distinguish it from Oak Fern. Paul Day found *Asplenium viridus* (Green Spleenwort), a new tetrad record, growing in the rocks at boot level. *Hieracium pellucidum* (a hawkweed), well past its best, grew above head level further along the track. Two Whitebeams were examined; one was *Sorbus anglica* and the other *S. porrigentiformis*, though one of the v.c. 42 forms of the species. After lunch at the pond car park, Julian Woodman demonstrated the sterile hybrid rush *Juncus × diffusus* growing between its parents *J. effusus* (Soft-rush) and *J. inflexus* (Hard Rush). It was larger than both parents, its colour was intermediate and its pith was slightly interrupted but nowhere near as much as in *J. inflexus*. A short drive took us to a path that led to another limestone quarry just to the west of Pwll Du. The path led past a colony of *Chenopodium bonus-henricus* (Good-King-Henry) to numerous but scattered *Gentianella amarella* subsp. *amarella* (Autumn Gentian) and *Cirsium acule* (Dwarf Thistle). *Euphrasia confusa* and *E. micrantha* (Eyebrights) were frequent among the short grass and in a wet area the leader was able to show members the fruits of *Hydrocotyle vulgaris* (Marsh Pennywort), hiding amongst the foliage. On the way back to the college a quick stop was made near Coed-y-prior to find *Circaea × intermedia* (Intermediate Enchanter's-nightshade) by a small brook. The short inflorescence was forming poor fruit which was not developing and most had fallen off. Pink stolons were very much in evidence, as was the leaf margin with pointed teeth, and the petioles had hairs on one side only. Only the common parent *C. lutetiana* was present nearby.

Sunday's field trip started at Saltmarsh Lane. Grapnels dragged out duckweeds so that *Wolffia arrhiza* (Rootless Duckweed) could be examined. On the edge grew a Bur-marigold which caused some discussion, but Graeme Kaye referred to Stace which showed it to be *Bidens frondosa* (Beggars Ticks). The second stop, to walk along the east side of Goldcliff Pill, was greeted by distant rumbling and a discussion as to the cause. A reen produced the Duckweeds *Lemna gibba*, *L. minor*, *L. trisulca* and *Spirodela polyrrhiza*, and a green patch of *Azolla filiculoides* (Water Fern) among the duckweeds. On the bank a large stand of *Arctium lappa* (Greater Burdock) faced across to an even larger one of *Stachys palustris* (Marsh Woundwort). Into a field and where a short time ago there was a large patch of *Medicago arabica* (Spotted Medick) the cattle had trampled the area and only the leaves of one plant could be found. At this point the cause of the distant rumblings became clear by an almighty crash of thunder which began a pyrotechnic display, which will long remain in the memory.

On climbing over the earthen bank on to the saltmarsh by the side of the pill it was obvious that the sheep and cattle between them had eaten or trampled the plants so neither of the clovers *Trifolium fragiferum* or *T. squamosum* could be found. A remnant of *Oenanthe lachenalii* (Saltmarsh Water-dropwort) was all that remained of a colony of the previous week. *Bupleurum tenuissimum* (Slender Hare's-car) had somehow escaped but was in decreased numbers. Many common halophytes were observed but more unexpected was the large plant of *Hyoscyamus niger* (Henbane), still with some flowers though mostly in fruit; over 30 more were scattered close by. A walk eastwards along the top of the sea-wall revealed 1000s more Slender Hare's-car and under a stile an unusually erect plant of *Puccinellia rupestris* (Stiff Saltmarsh-grass) had survived due to the shelter offered. The skies must have shed all the rain they could hold because during lunch it stopped and it was decided to continue with the meeting. The rain must have affected the reen north of Goldcliff for the leader failed to find the red patches of Water Fern previously seen, though green clumps were visible. A brief stop to the SW of Llanwern Steelworks was made to see a waste area of land covered with *Lepidium latifolium* (Dittander). The rain had also affected two reens normally covered with flowering *Hydrocharis morsus-ranae* (Frogbit) only one or two tatty flowers remained. 30 m of *Carex elata* (Tufted Sedge) next received attention because of its scarcity. Opposite, a reen was dragged to produce half-decayed bits of *Ranunculus circinatus* (Fan-leaved Water-crowfoot) and *Potamogeton trichoides* (Hairlike Pondweed) and some *Ceratophyllum demersum* (Rigid Hornwort). Unlike the first piece to be hauled out near Saltmarsh Lane which branched once only, this branched twice. The seventh stop involved another walk from the north end of Minnett's Lane eastwards along a forest track through a wood over limestone. The highlights of this wood were the large number of plants of *Lithospermum officinale* (Gromwell) in flower, though some shiny white seeds were visible on last years plants. *Calamagrostis epigejos* (Wood Small-reed) lined the track in several places and hundreds of Autumn Gentians bordered the track where the vegetation

was thin. Columbine, Wayfaring Tree, Common Spotted-orchids and Ploughman's-spikenard were among the many other plants growing there. One final stop was made near the Brockwells Farm to seek out *Allium oleraceum* (Field Garlic) with its bulbs and limp, withered flowers.

T G EVANS

A YORKSHIRE WEEKEND, MID-WEST YORKSHIRE (v.c. 64), 30th–31st AUGUST

The first day of the weekend was spent at Bramham Park near Wetherby. The formal gardens and parkland created in the 18th century as a miniature copy of Versailles do not perhaps suggest an area of any great botanical interest but two major rock types, Millstone Grit and Magnesian Limestone, outcrop in the Park resulting in considerable floristic diversity.

Fourteen members met for this private visit calling initially at the bowling green. Close inspection of the seemingly immaculate turf revealed that grass was by no means the dominant species. The creeping stems of *Anagallis tenella* (Bog Pimpernel) were initially a puzzle in such an unusual habitat. Spikes of *Gentianella amarella* (Autumn Gentian) were also a marvel in the way that they managed to flower below the reach of the mowers. Also thriving in this hostile environment was a large colony of *Spiranthes spiralis* (Autumn Lady's-tresses), recorded here by F.A. Lees over a hundred years ago (Lees, F.A. *Flora of West Yorkshire*, Leeds, 1888). Unfortunately most of the spikes were detached from their roots and laid on the surface but the colony does seem to survive this regular mowing regime.

Progressing from the formal gardens into the woodland rides several specimens of the rare *Gnaphalium sylvaticum* (Heath Cudweed) were found, also a patch of the hybrid *Potentilla × mixta* in the more acidic soils. Specimens of *Aconitum napellus* (Monk's-hood) and its cousin *Aconitum vulparia* (Wolf's-bane) were located growing on opposite sides of one of the rides. A contrasting calcareous flora included *Hebanthemum nummularium* (Common Rock-rose), *Epipactis helleborine* (Broad-leaved Helleborine) and *Colchicum autumnale* (Meadow Saffron). *Ophioglossum vulgatum* (Adder's-tongue) was an unexpected bonus found whilst moving aside stray vegetation to photograph the latter. The damper rides and marshy zones supported large populations of *Calamagrostis epigejos* (Wood Small-reed), several species of rush (*Juncus* spp.), *Viola palustris* (Marsh Violet) and *Lychnis flos-cuculi* (Ragged Robin).

On Sunday morning 14 members and a guest met beside the Leeds and Liverpool canal at Apperley Bridge and walked along the towpath as far as the tip at Esholt sewage works where Yorkshire Water dump gravel from the street drains of Bradford.

*Sagittaria sagittifolia* (Arrowhead), in flower and in fruit, was virtually ubiquitous along the canal and *Sparganium emersum* (Unbranched Bur-reed), *Potamogeton natans* (Broad-leaved Pondweed) and *P. perfoliatus* (Perfoliate Pondweed) were plentiful.

The first plant to arouse taxonomic interest was *Epilobium roseum* (Pale Willowherb) which was growing on each side of a lock. Having dealt with that, the leader bravely launched into an exposition of the finer points of narrow-leaved pondweeds and tried to demonstrate those of *Potamogeton trichoides* (Hairlike Pondweed), which had previously been determined with the aid of a microscope and was duly returned to the canal. The plant with greatest aesthetic appeal was *Butomus umbellatus* (Flowering-rush) but it was on the far, south, side of the canal in v.c. 63! It took an entomologist (who now has a standing invitation to revisit the vice-county), to spot *Carex pseudooaxillaris*, growing appropriately between its parents *Carex remota* (Remote Sedge) and *C. otrubae* (False Fox-sedge). This is only the second vice-county record, the first dating from 1950. A puzzle plant growing on a stump at the edge of the canal, thought at the time to be, possibly, *Spergula arvensis* (Corn Spurrey), was not that species since the underside of the leaf was not furrowed. The best contender appears to be a very lush form of *Sagina apetala* (Annual Pearlwort).

The tip produced a mixture of plants resulting from kitchen waste and of species, which are also seen in the 'shoddy' fields, presumably coming directly into the drains from the wool waste at the mills. The tomatoes, water melons and marrows were all unripe. The upside-down flowers of *Trifolium resupinatum* were given a higher rating than those of *T. fragiferum* (Strawberry Clover). *Erodium cicutum*, *Carthamus tinctorius* (Safflower) and *Setaria pumila* (Yellow Bristle-grass) appealed too, and *Brassica juncea* (Chinese Mustard) was new to most of us. The rain held off until all previous unknown plants had been identified and then soaked us as we trekked the 2 km back to the cars.

We are grateful to Mr & Mrs George Lane-Fox for their kind permission to visit Bramham Park and to George Palfreyman, Waste Water Operations Manager at Yorkshire Water, who gave us permission to visit the tip at Esholt.

PHYL ABBOTT & J. TAYLOR

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### HOLIDAY IN IRELAND

If you are thinking about a relaxing holiday, with great food, friendly people and magnificent scenery come to County Donegal. On the 25th and 26th July 1998, Dr Tom Curtis will be leading Field Trips to the Slievetooley and Blue Stack Mountains. Meeting in the Diamond, Ardara outside The Nesbitt Arms Hotel (G/735.907) on Saturday 25th July at 11.00 a.m. and at the Highlands Hotel, Main Street, Glenties (G/820.943) on Sunday 26th July also at 11 00 a.m.

If you are on holiday in the area and can stay for a while the Field Meeting may be extended for a few days before or after the weekend. As this area is very popular and this is a peak holiday time, early booking of accommodation is advised. A contribution towards some travelling expenses may be available.

For further details (s a e. appreciated) contact:

ALAN HILL, 2 Woodgrange, Holywood, Co. Down, Northern Ireland BT18 0PQ (01232 424444)

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### STOP PRESS

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#### ***PRIMULA FARINOSA* AND *LYCHNIS ALPINA* IN BRITAIN AND ÖLAND, SWEDEN**

Report of a research field visit to Öland, Sweden, June 22 – July 6 1997

This visit, partly funded by the BSBI Bequest Fund, had two aims. Firstly for Elizabeth Arnold (University of Newcastle) to investigate the occurrence of the stemless form of Bird's-eye Primrose (*Primula farinosa* var. *acaulis* Ahlq.), and secondly for Beverley Arnold (University of Stirling) to make seed and soil collections for a study on soil specificity of the Alpine Catchfly (*Lychmis alpina* L.).

Two weeks were spent on the island of Öland, at the Ecological Research Station of the University of Uppsala near Skogsby. The island is situated in the Baltic sea, off the south east coast of Sweden. It is about 120 km long and between 8-15 km wide, and is connected to the mainland by a spectacular 12 km bridge. The geology of the area is complex, but there are areas of limestone pavement known as

Alvar. In the south of the island, this unique habitat covers much of the land area (The great Alvar or Stora Alvaret) and is a large expanse of limestone pavement. A first glance gives an impression of a vast uniform area of grassland and scrub, which has been described as a 'wasteland'. Closer observation reveals different vegetation growing in the grikes, on the thin mineral soil, on almost bare rock, and in areas where glacial deposits provide a deeper substratum. The main settlements on this part of the island are close to the coast where cultivation of the land was possible, and the Alvar was traditionally used for grazing animals. More recently the number of grazing animals has declined, and few sheep and herds of cattle are now seen. The wooden windmills are a distinctive feature of the island. Originally each farm did its own milling. Although the mills are no longer in use, they are a spectacular reminder of past traditions, and testament to the fact the island is extremely windswept. On the open Alvar in particular, the ground is very exposed and many low growing plants that occur only in alpine habitats in the rest of Europe survive here. The island has a fascinating flora with elements from the Arctic, north west Europe and southern Europe occurring at the edge of their range here. Grazing has been reduced in modern times, and many areas are returning to forest. Shrub covered areas are dominated by *Potentilla fruticosa* and *Juniperus communis*. On this visit, three *Sedum* species were observed in abundance on the Alvar, *S. acre*, *S. reflexum* and *S. album*, also the last few flowers of *Helianthemum oelandicum*, the emblem of the island were seen. Many different orchid species were also observed, including swathes of *Orchis militaris* even on roadside verges. Also two species of Butterfly-orchids (*Platanthera chlorantha* and *P. bifolia*), Musk Orchid, (*Herminium monorchis*), Fly Orchid (*Ophrys insectifera*), Fragrant Orchid (*Gymnadenia conopsea*) and Marsh-orchids (*Dactylorhiza majalis*, *D. incarnata*).

#### **Bird's-eye Primrose (*Primula farinosa*)**

There are many populations of *Primula farinosa* on the island. Seven were studied. Population estimates and morphological measurements of plants were taken, and where possible some seed was collected. The populations studied included two in the marshland areas of the Midland forest which is the dominant vegetation in the central section of the island. One population on the east coast where the land slopes into the Baltic sea was also looked at, and the remaining four were close to lakes on the Alvar plateau itself. In the Midland forest areas, plants were found in similar marshy habitats to those I have observed in Britain. The populations on the Alvar existed in much drier habitats, with very shallow soil and sometimes growing directly on the rock.

EA's Ph.D. research project, involves investigating the stemless form of this species that occurs in Upper Teesdale, England. The purpose of the visit was to compare the Swedish and British stemless forms. From this investigation, it appears that, unlike Teesdale plants, the so-called 'stemless' form on Öland does have a stem, although very short, and these plants also had lengthened pedicels compared with the 'normal' form. The plants were in seed when visited, so it is possible that the pedicels elongate in fruit, and that plants in flower originally have a 'stemless' appearance. The 'stemless' form was found as a small percentage of each population, in contrast to the Teesdale situation, where there is a single population with stemless plants, where the stemless form dominates. It is probable that the Öland form is under different genetic control from that found in Teesdale, and may even be an environmentally induced phenotypic effect. Further investigations will be made using plants grown from seed collected during this visit.

#### **Alpine Catchfly (*Lychnis alpina* L.)**

The aim of the trip with reference to *Lychnis alpina* was to carry out a comparison between two different populations: i) a Scottish population on Meikle Kilrannoch, Angus, where *L. alpina* grows at around 810 m on ultramafic soil and ii) populations on Öland that grow at just above sea level on limestone. The ultimate goal was to compare morphological differences between the two populations and also the germination and subsequent seedling growth of seed collected from the wild. The seed will be germinated on the soil collected in Sweden and Scotland to investigate specificity of plants to their native soil type.

In Britain, *L. alpina* now grows at only two confirmed sites, both of which can be described as remote. The visit to Öland provided a unique opportunity to look at *L. alpina* in a different habitat. In the northern Scandinavian mountains, this species is more abundant than in the UK. It is quite rare on

the mainland of southern Sweden where it occurs at sites near the south west coast where the bedrock is acidic but a covering of shell deposits gives calcareous conditions at rooting depth (pers. comm.). The Alvar habitat for this plant is unusual and quite specific. Alvar plants include Juniper (*Juniperus communis*), Shrubby cinquefoil (*Potentilla fruticosa*), Chives (*Allium schoenoprasum*) and Swallow-wort (*Vincetoxicum hircundinaria*) grow. The plants were found on areas of the Alvar where the soil is slightly deeper due to glacial deposits, and was almost always found on anthills, both current and abandoned. Once the *Lychnis* 'microhabitat' was recognised, it became relatively easy to locate three different populations from which to collect data. The easy accessibility of the Alvar and the profusion of flowers of many different species make it an exciting place to visit.

Immediately following the trip to Sweden, the Scottish population was revisited, and differences in morphology were observed. Flower colour was markedly different. In Sweden the flower is a pale pink, in Scotland, a deep pink. The Scottish plants stand out against the hillside giving vibrant flashes of colour. From analysis of morphological data, plants from Sweden had significantly longer stalks and more flowers per flowering head and seeds per fruiting head. In both countries the plants occur in defined areas, but with a greater density at the high altitude Scottish site. Measurements of flower diameter indicate no significant differences. Overall the results show significant differences in the morphology of the populations on Öland and Meikle Kilrannoch.

Over the next year I will further analyse the data collected and using soil and seed samples collected on the trip consider questions of soil specificity. Wild collected seed from the two countries will be germinated and grown on three soil types, collected in Sweden and Scotland, and a standardised control. Weights of plants will then be used to compare growth in the native versus non native soil. The work carried out on Öland and subsequent experimentation will be used to form my final year honours project at Stirling University

Special thanks are given to the BSBI, the Alpine Garden Society and the University of Newcastle for funding the visit, and also to Johan Ehrlen from Uppsala university, Honor Prentice from Lund, and everyone at the Ecological Field Station for their invaluable help.

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### A FLORAL BAPTIST

I wish to draw attention to a major inaccuracy concerning the name of St John's-wort. The usual explanation given for the origin of this name is that the plant flowers around St John's Day, June 24th. However, June 24th is the commemoration of the birth of St John the Baptist, who is never known simply as St John.

St John (not the Baptist) was one of the twelve disciples and the author of the fourth gospel, and he is commemorated on December 27th.

Species of the genus *Hypericum* should therefore properly be called St John the Baptist's Wort [or in BSBI-speak St John-the-Baptist's-wort. Somehow, I don't think it will catch on. Ed.]

OWEN LEIGH WILLIAMS (Rev.), 309A Church Road, Fryerning, Basildon, Essex SS14 2NE

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