

BSBI NEWS

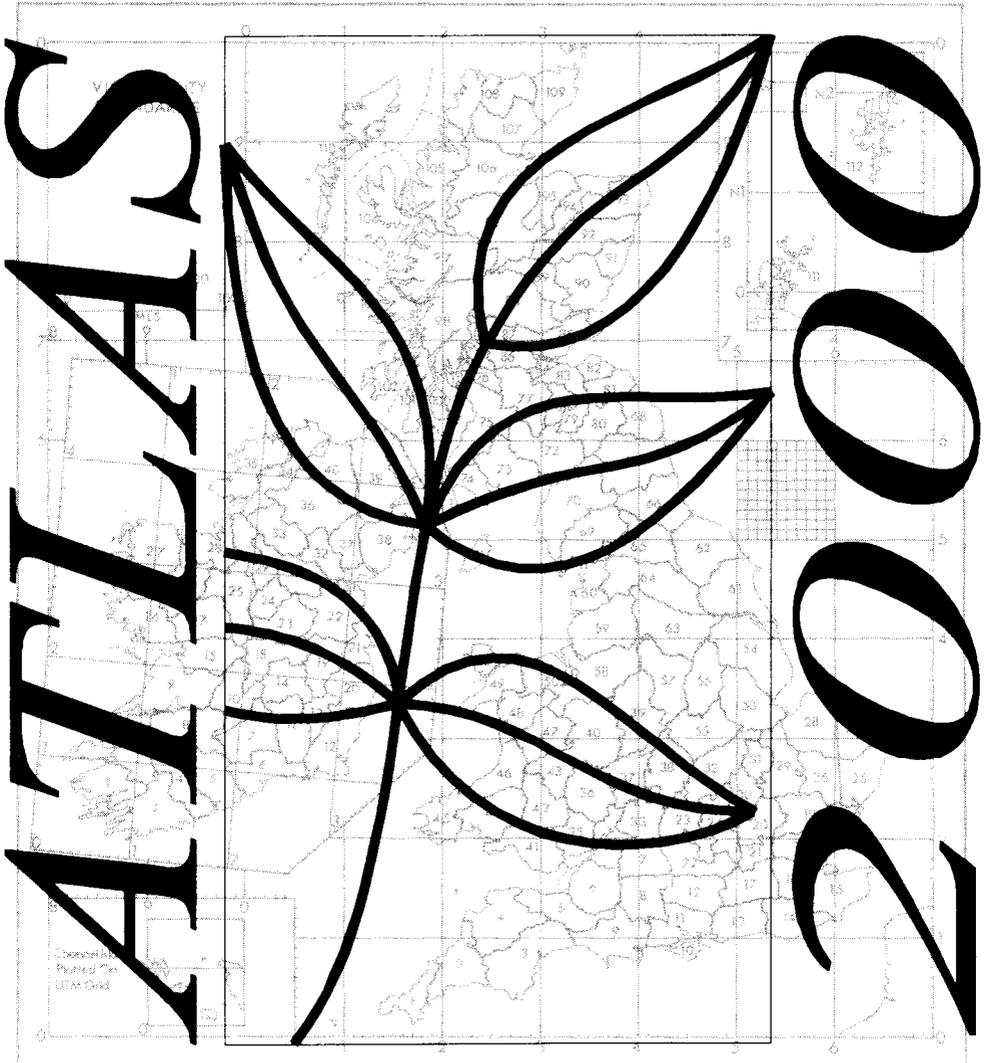
April 1996

Edited by R. Gwynn Ellis

No. 72

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Contributions intended for *BSBI NEWS* 73 should reach the Editor before JULY 28th 1996

IMPORTANT NOTICES

VISITS TO THE KEW HERBARIUM ON THE DAY OF THE AGM — 11 MAY

It will be possible for a limited number of people to consult specimens in the Kew Herbarium on Saturday 11 May. Please let me know in advance, stating which family(ies) you wish to work on. Passes will be allocated on a first come first served basis. For those who just wish to see the Herbarium, a tour will be arranged on the day.

DAVID SIMPSON, Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE

THE PRESIDENTS' AWARD

The President of the Wild Flower Society, David Bellamy, and myself, have discussed the award, which is now to be made yearly, for the most useful contribution to the understanding of flowering plants and ferns of the British Isles.

We had no hesitation in agreeing that this years award shall go to Chris Preston for his handbook *Pondweeds of Great Britain and Ireland*. I would not want to pre-empt the review in *Watsonia*, but we found it a superb study, totally comprehensive and packed with insights and pointers for future work.

I look forward very much to presenting the award and certificate at the AGM at Kew.

DAVID PEARMAN, President

ATLAS 2000

I am very pleased indeed to be able to officially launch this new Scheme, which now is at last a reality, after so much discussion and preparation.

It is funded and supported by the Department of the Environment in Great Britain by a contract to I.T.E. at Monks Wood. We also expect support from DoE (NI). ITE's representative for the duration of the project is Chris Preston, assisted by Jane Croft, and we look forward to working with them again. We feel excited to have appointed Trevor Dines, who was chosen from a very strong field of BSBI members, to whom we offer our thanks for applying and the hope that they will enthusiastically work with us on the project. The key to the success of the project is the body of vice-county recorders, who give so much time and effort. We sincerely hope that they will be supported by the members (and vice versa) and that the whole scheme brings the BSBI to a wider public, resulting in more support and more members. We have produced a new Membership leaflet to coincide with this launch, and this is available from any of the officers.

The thrust of the recording will be to accumulate records for 1987 and after. I'm sure 1987 sounds an unlikely date to many of you, but it was the start of the excellent Monitoring Scheme, and it seemed sensible to use that date. For upland areas especially we are happy to accept records for 1970 and after, but I would be very disappointed indeed if lowland areas were not able to provide records from 1987. After all, the dramatic post-war changes to the landscape did not ease until the 1980s, and by the end of the scheme 1970 will be 30 years ago.

Another main aim of the Atlas will be to record (and map) as many aliens and introductions as possible. No other body has this expertise, and with the Atlas list containing about 3000 species, of which only half are native, there is plenty of scope!

Of course this will not be the only project for the next four years. Our meetings, conferences and journals will be full of other interests, so for those members who find it anathema to record 10 km squares (or must I call them 'hectads' [Yes! You must! Ed.]) there will be much else to be involved in. But we do have a contractual obligation over the Atlas, and, categorically, it must be worth doing well. Thanks to the Red Data Book and Scarce projects we know a lot about those plants but far too little about many others.

We really are the strongest player in the field of botanical recording. With the decline of botany in our universities, our members, with their taxonomic skills, and expertise in the fields of distribution, aliens and varieties, are in a unique position to keep our society in the forefront of botany.

DAVID PEARMAN, President

ATLAS 2000 THE OFFICIAL LAUNCH

In 4 years' time, we will be celebrating the year 2000, the millennium, and the beginning of the 21st century. A host of projects will mark this auspicious event, from small community enterprises to a national festival recalling the spirit of the Great Exhibition. The BSBI will be marking this point in history with the publication of the *Atlas 2000* - a complete revision of our knowledge of the distribution of vascular plants in the British Isles. The idea of a new *Atlas* has been around for some time, but now that funding has been secured and an Atlas Organiser has been appointed (i.e. me!), it gives us great pleasure to launch this extremely exciting project officially.

The *Atlas 2000* will undoubtedly be perceived as a landmark in British botany, covering both Britain and Ireland and encompassing many, many years of plant recording. It is perhaps best viewed as a vigorous hybrid, combining data from a variety of sources. These include the original 1962 *Atlas*, the

Scarce Plants Project, the Monitoring Scheme, and specially organised field meetings. All these records will be compiled into a Vascular Plant Database, located at the Institute of Terrestrial Ecology, Monks Wood. Even after the project is finished, this database will be continually updated and available to anyone requiring it, including BSBI members. This work is therefore just the beginning and a huge number of people and organisations stand to benefit from it. In recent years, we have heard much about endangered species, biodiversity and the threat of global warming. Studies in Britain and Ireland examining these issues are often based on reliable, systematic recording and therefore rely on the many records from our members. The need for an up to date, accurate distribution atlas is immense, as it will be indispensable to recorders, conservationists, ecologists, county planners and country agencies alike.

Please do not think, however, that we will be calling on you to 'square bash' every hectad (10 km square) in Britain and Ireland, as this would be both pointless and too time consuming. In recent years, magnificent efforts have been made by members of the BSBI to complete recording schemes voluntarily. This enthusiasm, dedication and expertise is the strongest asset of the BSBI, so I hope we can all come together once more to successfully complete this unparalleled project.

We very much hope that every member will be able to get involved. Remember, it is *your* Atlas. Whether you are a recognised expert on a critical group, a competent field botanist, or have never been recording before, please join in and be part of the fun!

There are many ways in which you can get involved:

- ◆ Come to one of the organised field meetings. A list of these for the 1996 season is provided as a loose insert. Whether or not these are specifically organised for the *Atlas 2000*, they are always enjoyable and very rewarding. Please contact me for more details or the original list.
- ◆ Come to an *Atlas 2000* Workshop on difficult and critical species. These will comprise a series of short talks followed by 'hands-on' sessions (remember to take any material you have for identification). Two have been organised for this season (see field meeting insert) and *all* members are warmly invited. What better way to improve your identification abilities?
- ◆ Contact your Vice-County Recorder to help in local recording. These people are responsible for co-ordinating record collecting at a local level and have intimate experience of their own areas. They will be aware of the state of recording and can therefore advise you on how to help. Many will organise local field meetings over the course of the project and will, of course, welcome everyone.
- ◆ Help in compiling records. Many VC Recorders will have old records that need checking, new records that need compiling, or records that need to be entered onto computer disk. A large number of old records also exist in county Floras, herbaria and various Journals, all of which need to be extracted for the *Atlas*. If you think you can help in one of these vital 'non-fieldwork' areas, please contact your local recorder.
- ◆ Contact me if your local VC Recorder needs no extra help (if you live in a very well recorded Vice-County, such as Kent, for example). Remember that neighbouring VC Recorders may need help and will welcome your support!

If you are unsure of how to get involved or what you can do to help, please contact me.

Included with this issue of *News* is the *Atlas 2000 Instruction Booklet*. This is intended as your field companion while recording for the *Atlas* and includes an updated list of VC Recorders and Area Co-ordinators for your use. During the project, fieldwork will be targeted at under-recorded areas. Since these are often uplands, islands or other inaccessible locations, some travelling expenses may be available in special cases (please contact me for details). An 'ID card' is also available from me in case you have problems with site access. *This does NOT give you permission to enter a site, it simply explains who you are and the purpose of your work.* You **MUST** obtain the permission of the landowner before venturing onto any private land.

Also included with this issue is the first in a series of guides to fieldwork for *Atlas 2000*. This one, 'Notes on Identification Works and Some Difficult and Under-recorded Taxa', has been kindly prepared by Chris Preston to draw attention to such species, pointing you in the direction of suitable references. Future guides are planned for the preparation of voucher specimens and for the compilation of historical records.

In order to keep you up-to-date with the project, each issue of *News* will henceforth include an *Atlas 2000* section (immediately identifiable by its distinctive logo!). This will cover reports of field meetings, requests for help, answers to recurring questions, advice on recording, dates of field meetings and workshops for your diaries, and the occasional T-shirt offer to add variety.

Finally, I also hope this project will help improve the profile of the BSBI. Although our major strength lies in the experience and expertise of our members (making us the most important botanical society in Britain), new and exciting groups, such as PlantLife, appeal to a younger generation. Since we rely on the next generation for future members, perhaps it's time we tried to inspire them as well. The *Atlas 2000* is a bold and ambitious project. Let's use it to capture the imagination of our future botanists.

TREVOR DINES, *Atlas 2000* Principle Organiser. Curig, 91 Farrar Rd, BANGOR, Gwynedd LL57 2DU. Tel: 01248 353539; e-mail: 101667.2317@compuserve.com

ATLAS 2000 PRINCIPAL ORGANISER — THE POST IS FILLED

The BSBI has once more illustrated its efficiency by appointing its' *Atlas 2000* Principal Organiser a month early. Given the task ahead over the next 5 years, this has been a valuable extra month! Actually, a huge amount of background work for the *Atlas* has been done already and I'm simply taking over from here. In this respect, I would particularly like to thank David Green, who acted as project organiser before my appointment and from whom I will inherit many late nights and logistical nightmares!

So, who am I? Well, a highly motivated and very keen botanist for one thing (at least that's what I said on my application). I come from an agricultural background, having spent my childhood on farms in Wiltshire and Hampshire. Here I would botanise for hours on end, especially on the local chalk downland. By the time University came around, a change of scene was required. So I moved to Bangor, fell in love with North Wales, it's mountains and beaches, and have been here ever since. It's a fantastic area for a botanist and I was soon helping our Vice-County Recorder, Nigel Brown, taking field-trips and maintaining plant collections at the University Botanic Garden, Treborth. Academically, I suppose I'm a plant anatomist and morphologist. I specialised in these subjects and, in 1994, completed my PhD on the branching architecture of the Solanaceae (and, let's face it, there aren't many plant architecturalists around!). After an extended period of travel in S.E. Asia collecting seed for Treborth Botanic Garden, I returned to N. Wales and was thrilled to be appointed Principal Organiser a few months later. The rest, as they say, will be history.

So, what, exactly, are the tasks ahead? Basically, I'm here to co-ordinate work for *Atlas 2000*. There are 153 vice counties in Britain and Ireland, and the state of recording in each varies considerably. The Vice-County Recorders and I will assess this variation, enabling a recording and data input strategy to be developed for each one. I will arrange special field meetings to target particularly under-recorded areas and, where records are held by other organisations (such as the Country Agencies or Wildlife Groups), help to extract these. I will also assist Cameron Crook (the BSBI Co-ordinator) in the computerisation of records and in the transfer of records to the Biological Records Centre, Monks Wood. Finally (and most importantly), I'm in charge of publicising the *Atlas*, recruiting volunteers for recording, and enthusing everyone enough to maintain the momentum of the project for its duration. There is an awful lot of work to be done, but it is such an exciting project that I am sure we can all come together and complete it without difficulty. As I mentioned earlier, much work for the *Atlas* has been done already. The official launch, however, comes with this issue of *BSBI News* — a copy of the *Atlas 2000 Instruction Book* is included with this mailing.

As if this were not already enough, I will continue training as a computer programmer at Adit Ltd. of Anglesey, a software company that produces (amongst other things) the *Aditsite* wildlife recording and mapping package. This is one of several such programmes that have been approved by the BSBI Computer User Group as suitable for recording for *Atlas 2000*.

Finally, I would like to reiterate the point that this is *your* Atlas. Without your help, support and feedback, nothing will be achieved. So, if you have an axe to grind or a useful piece of advice, a productive idea or an offer of help, a problem with recording or a problem with your *Silybum*, please don't hesitate to drop me a line and I'll do all I can to help. That is, after all, what I'm here for!



Me holding a Birdwing butterfly in Malaysia. Photo © T. Dines

TREVOR DINES. Curig, 91, Farrar Rd, BANGOR, Gwynedd. LL57 2DU

Tel: 01248 353539; e-mail: 101667.2317@compuserve.com

MINOR CHANGES TO BSBI RECORDING CARDS

BSBI regional recording cards were revised and reprinted in 1994 in anticipation of the *Atlas 2000* project. Stocks of these cards are now very low, so we have reprinted the British cards in time for the start of the field season. (Irish cards will be reprinted shortly.) The new cards are easily separated from the 1994 printing as they bear the *Atlas 2000* logo in a prominent position in one corner of the card.

The species lists on the new cards are very similar to those on the 1994 version. These lists were drawn up by David McCosh using the results of the BSBI Monitoring Scheme. However, a few changes have been made in the light of comments which we have received from users of the cards. It may be useful to list the main changes here. The cards are referred to here by their numbers; a complete list equating the numbers to the regions covered is provided in the *Atlas 2000 Instruction Booklet* included with this issue of *BSBI News*.

The following species or aggregates have been added to the cards listed in square brackets.

35	Agros *can	[all cards except RP30]
131	Aphan *agg	[all cards except RP30]
175	Artem vul	[RP30]
2641	Campa pos	[RP26]
7117	Carex *vir	[all cards except RP30]
833	Filip ulm	[RP30]
868	Galeo *tet	[all cards except RP30]
882	Galiu *pal	[all cards except RP30]
1057	Juncu *buf	[all cards except RP30]
1095	Lactu vir	[RP26]
1247	Medic ara	[RP26]
4444	Oenot *agg	[all cards except RP25]
2247	Phleu *pra	[all cards]
7533	Rosa *cae	[all cards except RP29 and 30]
1879	Sedum for	[RP26]
1958	Sorbu ari	[RP29]
2100	Trifo suf	[RP26]
2180	Veron *ser	[RP30]
2516	Vicia *sat	[all cards]

The following alterations have been made to replace segregates by aggregates:

303	Calli *ham	<i>replaces</i> 303.1	Calli ham	[all cards except RP30]
821	Festu *ovi	<i>replaces</i> 822.1	Festu ovi	<u>ovi</u> [all cards]

We have altered the abbreviation for one name:

2383	Bromu x pse	<i>becomes</i> 2383	Bromu x p'th	[all cards except RP30]
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We have also added a paragraph to the cards headed 'Consent to release of records':

The records collected by the Atlas 2000 project will be sent to BRC on the understanding that the information provided by the recorder-compiler-determiner will be entered onto a computerised database and will be used for publication in an updated atlas, and subsequently for nature conservation, research and education and will be available for public information.

The information remains the intellectual property of the recorder-compiler-determiner at all times.

This has been done to ensure that all recorders are aware of the basis on which the records are being compiled.

I would like to thank all those who commented on the cards, and Alison Stewart for updating the cards for the printer.

C.D. PRESTON, ITE, Monks Wood, Abbots Ripton, Huntingdon, Cambs. PE17 2LS

DIARY

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

1996

May

18	A memorial for G.C. Druce, Oxford (see page 47)
31	Deadline for pre-publication offer for <i>Alien Grasses</i> (order form with this mailing)

September

17-20

European lowland wet grasslands, International Conference, Czech Republic
(see *BSBI News* 71: 52)

1997

June 21-July 6

Azores Field Meeting (see page 49)

See also pages 51-52 for dates of other 1996 Conferences and Symposia and the leaflet distributed with this mailing for extra *Atlas 2000* field meetings and workshops.

EDITOR

EDITORIAL

This seems to be a good time to congratulate some people for milestones reached. Mike Walpole has just written his 25th Treasurers Report, Mary Briggs has put the finishing touches to her 24th Annual Report, and the Perrings have completed 20 years of BSBI Books. As well as congratulating them we should also add our thanks for the enormous amount of work they carry out on our behalf. Mary also mentions several long-standing members of the Society in her HGS Notes on page 9.

It cannot have escaped your notice that there is a major change to the list of Officers on page 2. A certain name is notable by its absence and its place taken by a markedly inferior one. It is often that a person 'will be a hard act to follow' but for once it is true. Mary has **been** the BSBI to so many people for so many years that her retirement from the role of HGS was unthinkable, and now that it has happened it is a great loss to us all. The only consolation is that, as she writes in her last HGS Notes, she will be around for some time to come and I know that I will make frequent calls on her wise counsel and unrivalled experience. More news at the AGM!

My thanks to Keith Hyatt for pointing out the following error in *BSBI News* 70. On page 12, in the antepenultimate line of 'Grid square nomenclature' is 'measurement of 100 acres, a much smaller unit'. This should be '100 ares', hence hectare, 100 ares.

Inserts: There should be 13 items included in this mailing: 1) *BSBI News* 72; 2) Annual Report for 1995; 3) Atlas 2000 Instruction Booklet; 4) Fieldwork for Atlas 2000, Notes on identification works and some difficult and under-recorded taxa Booklet; 5) Pteridophyte supplement to last booklet; 6) Atlas 2000 Field and Workshop meetings leaflet; 7) BSBI Data Transfer Standards leaflet; 8) Habitats & Vegetation of Sussex pre-pub. offer; 9) Flora of Cumbria pre-pub. offer; 10) Welsh Ferns pre-pub. offer; 11) & 12) Botanical Society of Scotland Symposium leaflet and separate booking form; 13) Alien Grasses pre-pub. offer.

Following a recent savage (but justified) mauling from Arthur Chater over a note I put in the latest *Welsh Bulletin* on Welsh vice-county boundary square allocations for Atlas 2000, I wish to make a full retraction. I foolishly suggested that records from squares with more than one vice-county should be sent directly to the vice-county recorder who has been allocated that square. As Arthur, with flared nostrils and jabbing finger forcefully reminded me, members should send all their records from a particular vice-county to the recorder for that vice-county who will then be responsible for forwarding records from boundary squares to the appropriate recorder. I am still having nightmares over the incident; a roused Chater is a rare but terrifying sight.

Finally, for only the second time since I became Editor of *News* there is no alien on the front cover and only one page of Alien News inside. I was persuaded that for the launch of Atlas 2000, The Logo should take pride of place and there was a dearth of alien notes. Alien lovers may rest assured that all will return to normal next issue with, hopefully, a bumper crop.

EDITOR

HON. GENERAL SECRETARY'S NOTES

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

Edgar Milne-Redhead, 1929; Mr J.N. Frankland, 1930; David McClintock, 1935; Mr R. Lewis, 1942; Mr R.H. Hall, 1943; Duggie Kent and Francis Rose, 1944; Peter Green and Donald Pigott, 1945. Professor Sir John Burnett, Dr A.G. Lyon, Peter Taylor, Chris Townsend and Primrose Warburg, 1946.

Some of the longest memberships are botanical libraries and Societies:

Carlisle Museum & Art Gallery and Conservatoire et Jardin Botanique Bibliotheque, Geneva, Switzerland, 1946; New York Botanical Garden Library, 1935; The Library, Botany School Cambridge, 1931; London Natural History Society, 1930; Botanical Garden & Museum, Oslo, 1926; Leicester Museums, 1924; Darlington and Teesdale Naturalists' Field Club and the South London Botanical Institute, 1923; Birmingham Natural History Society, and Nottingham Natural History Museum, 1919; and the 'oldest' member of all is the Botany Library BM (Nat. Hist.), Cromwell Road, London SW7 5BD, 1914.

... to Edgar Milne-Redhead awarded the M.B.E. for his services to conservation. 'M-R' was involved in this field long before it became a widely acknowledged and popular concern, and with the BSBI he pioneered the 'Battle for Teesdale' through Parliament. Although Edgar refers to this as 'his failure', and we did indeed lose the battle, it has since been acknowledged as a turning point — when a need to fight for our native wild plants was first highlighted. Through the years since, researchers, many from overseas, have contacted us for details of procedures, the Parliamentary debates and the part played by the BSBI. Edgar was Chairman of the BSBI Conservation Committee for many years, and in 1967 he convened the *Cypripedium* Committee, against opposition at the time but which now, 29 years later, has achieved the original plan to safeguard, and to secure by cultivation our rarest orchid. (See Margaret Lindop's report on page 45.) Now in his 'retirement' home, M-R has his desk and files and he continues to collate the records for his Black Poplar Project.

... to David McClintock awarded the Victoria Medal of Honour of the Royal Horticultural Society. This highest RHS award is well-deserved by David. Both Edgar and David are past-Presidents of the BSBI, and David's lasting legacy to this Society is *BSBI News* — which he initiated during his Presidency.

... to Gren Lucas on his appointment as Head of the new Information Services Department at the Royal Botanic Gardens Kew, on his retirement as Keeper of the Herbarium. Gren tells me how pleased he is to accept this new challenge, and we send our good wishes for the success of the project.

... to Joyce Stewart, appointed as Director of Horticulture, RHS Garden, Wisley, and to Simon Thornton-Wood, appointed as botanist there. Simon is now the contact name for horticultural queries at Wisley (see *BSBI Year Book 1996*: 40).

Annual Report

From time to time members of the Society, including some who have been members for many years, say that they do not know how the BSBI is organised — I do hope that these members will make time to read the *Annual Report*, sent with this mailing, which summarises the management by Council and the work of all the Committees, in the past year.

Tailpiece — My last Hon. Gen. Sec.'s Notes!

The first were in *BSBI News* 1 No. 2 (July 1972) with notes on difficulties caused by a British Rail Go Slow, which prevented some members from joining the AGM Excursion to Warley Place, Essex that year. Also a comment on the closing of the Piccadilly Kardomah, frequented then by Committee members before meetings, and 'a good deal of unofficial BSBI business must have been sorted out in the Kardomah through the years!'

The very first 'Notes from the Secretary' in Volume 1 No. 1 (January 1972) were written by my predecessor Keith Ferguson. He comments: 'The Code of Conduct has been my major task in the past six months . . .' Keith had supervised this edition revised for general distribution, and 110,000 had been sent to 'innumerable bodies and individuals including County Trusts, Natural History Societies, Field Centres, Women's Institutes, Schoolteachers, to mention but a few!' Guess what is waiting on my desk as the next task when *BSBI News* and *Annual Report* copy is safely off to Gwynn . . . ? The 1996 revision of the Code of Conduct for the Conservation of Plants!

P.S. I shall still be around, assisting with general information, etc. Same address (and tel. no.) . . .

MARY BRIGGS, Hon. General Secretary

RECORDERS AND RECORDING

AMENDMENT No. 1 to *BSBI YEAR BOOK 1996*

VC Recorders

Corrections and amendments to *BSBI Year Book 1996*, and changes since December 1995:

CHANNEL ISLANDS

113	Guernsey	Mrs B.J. Ozanne, Les Mouettes, Pont Vaillant, Vale, Guernsey C.I.	
			ZZ1 1GB
	Alderney	Mr B. Bonnard, The Twins, Le Petit Val, Alderney C.I. GY9 3UU	
	Sark	Dr R.M. Veall, 1 Plants Close, East Wellow, Romsey, Hants SO51 6AW	
25 & 26	E. & W. Suffolk	Mr M.N. Sanford, 78 Murray Road, Suffolk IP3 9AG and Mr F.W. Simpson, 40 Ruskin Road, Ipswich, Suffolk IP4 1PT (all correspondence to M.N. Sanford)	
31	Hunts.	Mr T.C.E. Wells, 94 High Street, Upwood, Huntingdon, Cambs. PE17 1QE	
37	Worcs.	Mr J.J. Day, 26 Brickhouse Lane, Stoke Prior, Bromsgrove, Worcs.	B60 4LX
40	Salop	Mr I.C. Trueman, School of Applied Science, Univ. of Wolverhampton Wolverhampton WV1 1SB	
41	Glam. (East)	Dr P.S. Jones, Llwyn On, Heol Broom, Mawdlam, Bridgend, Mid- Glamorgan CF33 4PN	
49	Caerns.	Mr G.H. Battershall, 15 Rhodfa'r Grug, Upper Colwyn Bay, Conwy,	LL29 6DJ
52	Anglesey	Mr N.H. Brown, Treborth Botanic Garden, University College of North Wales, Treborth, Bangor, Gwynedd	
55	Leics. & Rutland	Mr M.B. Jeeves, 239 Long Furrow, East Goscote, Leics. LE7 3ST	
65	N.W. Yorks.	Mrs D.J. Millward, Manor House, Thornton Rust, Leyburn, N. Yorks. DL8 3AN (1995)	
72	Dumfriess.	Dr C. Myles, Braeside, Lockerbie DG11 2LL	
87	W. Perth	Mr N.W. Taylor, Glenfender Cottage, by Amulree, Dunkeld, Perthshire PH8 0BY	
92	S. Aberdeen	Mrs K.M. Fallowfield, Ben A'an, Kindrochit Drive, Braemar AB35 5YW	
95	Moray	Mr I.P. Green, Farewells, Wayford, Crewkerne, Somerset TA18 8QG	
103	Mid Ebudes	Miss L. Farrell, R.A.S.D., S.N.H., 2 Anderson Place, Edinburgh EH6 5NP	

105	W. Ross	Prof. D.M. Henderson, Larachan, 54 Lonemore, Gairloch, Ross-shire IV21 2DB
107	E. Sutherland	Mrs M.E. Murray, Davoch, Rogart, Sutherland IV28 3XD
109	Caithness	Mr J.K. Butler, Seaside Cottage, Thurso East, Caithness KW14 8HN
H14	Laois	To be appointed
H20 & H35	Co. Wicklow & W. Donegal	Dr T.G.F. Curtis, 35 Ryecroft, Church Road, Bray, Co. Wicklow, Ireland

A welcome to seven new VC Recorders:

Bridget Ozanne, Guernsey; Brian Bonnard, Alderney; Roger Veall, Sark; Geoff Battershall to VC 49 Caerns.; Chris Myles to VC 72 Dumfriess.; Lynne Farrell to VC 103 Mid Ebudes (Mull, Coll & Tiree); Mrs Morven E. Murray to VC 107 E. Sutherland.

and a new appointment: Ian Green to VC 95 Moray: Ian also remains as Recorder for VC 6 N. Somerset.

Sincere thanks for good work over many years to four retiring Recorders:

Dick Roberts, VC 52 Anglesey since 1965; Dr Marian Hughes, VC 72 Dumfriess. since 1993 (and earlier for VC 101 Kintyre); Neil Batchelor, VC 109 Caithness since 1989, and Peter Foss, H14 Laois since 1985.

A special thank you to Dick Roberts for being the custodian of the records for Anglesey for **thirty** years.

Nigel Brown leaves VC 49 Caerns. and takes over as Recorder for VC 52 Anglesey. John Edelsten leaves VC 95 Moray, but remains as Recorder for VC 94 Banffs. Ken Butler leaves VC 107 E. Sutherland and is now Recorder for VC 109 Caithness.

My apologies to the Recorders whose addresses were published incorrectly in the *Year Book*, and to Deborah Millward, VC Recorder for 65 N.W. Yorks. since spring 1995, but inadvertently not in *Year Book 1996 List*.

David Pearman, as Chairman of the New Atlas Subcommittee has offered to keep this list of VC Recorders updated and he will take this on from now — publishing amendments in *BSBI News 73* and in the *Year Book 1997*.

The Treasurer plans to 'flag' the VC Recorders in his List of Members so that changes of address will be passed on when he is notified for his computerised membership list. David too is regularly in touch with the Recorders, so that the future of the List of VC Recorders will be in safe hands.

MARY BRIGGS, Hon. General Secretary

Panel of Referees

Mrs Schilling has resigned from refereeing coniferous and broad-leaved trees. This change has already been made to the 1996 *Year Book*, but we would like to thank Mrs Schilling for all her help with these over the last few years. Cameron Crook has kindly undertaken to cover these groups.

The following alterations should be made to the addresses on pages 24-26 of the *Year Book* (which are the ones to be used for sending material to referees — they are not always the same as the addresses in the full members' list).

Nelson. Dr E.C., Tippitiwichee Cottage, Hall Road, Outwell, Wisbech, Cambs. PE14 8PE
Nethercott, Mr P.J.M. — the postcode should be BS9 1PU and not BS8 1UP

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

PLANT RECORDS

Unfortunately, the 1995 Plant Records will not appear in *Watsonia* 21(2). I have been unable to finish the typescript by the copy date because of the pressure of other work (notably *Atlas 2000!*) All being well, the 1995 records should be in *Watsonia* 21(3)

Apologies to eager Plant Records readers for the delay.

C.D. PRESTON, ITE Monks Wood, Abbots Ripton, HUNTINGDON, Cambs. PE17 2LS.

VICE-COUNTY ABBREVIATIONS

In response to the editorial in *BSBI News* 71 asking for views on abbreviating vice-county, I would only use capitals for a specific vice-county, e.g. Vice-County 17, Surrey; or V.C. 17, Surrey; or VC 17, Surrey. When referring to vice-counties in the generic sense, then lower case every time. Oxford University Press doesn't use hyphens in abbreviations for vice-chairman, vice-chancellor, or vice-consul, so therefore, the same for vice-county, which the *Concise Oxford Dictionary* doesn't list. Similarly, ranks and titles have lower case as in 'John Smith was promoted to sergeant', but in addressing him by title, 'Sergeant John Smith'. As with my note in an earlier *BSBI News*, consistency throughout the particular paper or issue is the most important maxim.

As to plurals, in full I would use vice-counties, but Vice-Counties 16 and 17, or VCs 16 and 17, or V.Cs. 16 and 17. I personally don't like VCC and wouldn't need to use vcc, as in the latter case I would spell it out in full, as vice-counties. Finally, as is normal nowadays, the full stops are omitted from upper case abbreviations, e.g. NAAFI, RAF, NATO, BBC, BSBI, and so on, so, VC,

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ABBREVIATIONS FOR THE PREFIX VICE-COUNTY

Having noticed the diversity in the use of abbreviations for the term vice-county I did some research into those used in BSBI publications, minutes and handbooks and in a random selection of floras published by members.

v.c. was by far the most common abbreviation found. This form is used in *Watsonia*, *BSBI Abstracts*, *BSBI News*, *Welsh Bulletin*, *Year Book* and in the minutes of the Executive and Conservation Committees and the Database Advisory Subcommittee. It is also to be found in *Docks and Knotweeds* (Lousley and Kent 1981) as well as in the *Sussex Plant Atlas Supplement* (Briggs 1990), *Flowering Plants and Ferns of Selkirkshire and Roxburghshire* (Corner 1985), *Flowering Plants of Wales* (Ellis 1983), *Checklist of the Plants of Perthshire* (Smith et al 1992), *Flora of North Aberdeenshire* (Welch 1993) and *Flora of Flintshire* (Wynne 1993).

v.-c. is to be found in the *Atlas of the British Flora* (Perring and Walters 1962) and in *Roses of Great Britain and Ireland* (Graham and Primavesi 1993).

vc is used in some recent Council Minutes.

V.C. is to be found in *The Botanist in Skye* (Murray 1973) [as well as in the *Glasgow Naturalist*].

VC is that utilised in the *BSBI Scottish Newsletter* and also in some recent Council Minutes.

VC immediately followed by the number without an intervening gap (e.g. VC77) has been used in that section of the Meetings Committee Minutes dealing with Field Meeting Reports.

The vice-county number is simply given in bold without prefix in the *Flora of Northumberland* (Swan 1993).

The custom in many spheres is to write out the title in full on the first occasion followed by the abbreviation in brackets. Capital letters are used for the initials and in recent years there has been a move to dispense with hyphens and periods. I consider that the most visually obvious method of indicating a vice-county is by using the upper case letters, VC, followed by one space, then the number, e.g. VC 77. As indicated above I use this in the *Scottish Newsletter* and have been interested to note that this form has appeared in recent Council Minutes. The abbreviations VC and BSBI are of course so well known in the Botanical Society of the British Isles that in our own publications there is no real need to have the term in full plus abbreviation in brackets on the first occasion that either of them is used. In 1994 the Editor of *BSBI News* stopped using periods between the initial letters of the title.

However, all versions are perfectly understandable and although BSBI might consider having a recommended form I think it would be a mistake to seek uniformity.

In order to reduce the length of this paper full references are not given.

This article was actually in an advanced state of preparation before the invitation to comment on the subject appeared in the last *BSBI News* (Ellis 1996).

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USING RECORDER FOR TETRAD RECORDS

It seems that several county recorders have bought, or are considering buying, Recorder as their database. We have been using it with some success in Shropshire for several years, but it does have its drawbacks when it comes to producing an atlas. The main stumbling block for those who want to produce, say, an atlas with tetrad distribution maps is that it can be very slow to analyse your data if you have more than about 100,000 records. This can be largely offset if you set up your system to manage the problem from the very beginning. One way of doing that is to make your hectads (10 km squares) into 'sites'. This makes the most use of the facilities in the program — for example, it will automatically check your grid references. Most importantly, it will automatically index all your records, making it quick and easy to produce a species list (the difference on our system is about 5 minutes for an indexed analysis against an hour or two for an unindexed one). We would suggest, therefore, that any county recorder starting out with a new copy of Recorder should first 'create' sites for all the hectads in their vice-county, and then carefully make sure that all the records they input are within one of those hectad sites. Honestly, it will save you hours!

Recorder — an environmental recording package for local record centres — is available from the Joint Nature Conservation Committee, Monkstone House, City Road, Peterborough, PE1 1JY at a cost of £75 to county recorders.

ALEX LOCKTON, Shropshire Flora Group, In association with the Shropshire Wildlife Trust, 66 North Street, Castlefields, Shrewsbury SY1 2JL

PLANT STATUS NOMENCLATURE

We are grateful to the members who wrote, giving their opinions with regard to various categories and offering suggestions, in response to the invitation to do so published in *BSBI News* (Macpherson 1995). All submissions have been considered by the Working Party.

We have modified our definitions in the light of some of the submissions but, in the interest of producing a concise set of definitions, we have not been able to accept them all. As might be expected, some submissions were at variance with others.

As well as giving the recommended definitions, we consider it appropriate to provide also explanatory details and these are given after our recommendations.

Plant Status Nomenclature

Definitions

Native

- 1] Present in the study area, without intervention by man, whether intentional or unintentional, having come from an area in which it is native;
or
- 2] Arisen de novo in the study area.

Endemic

A taxon found native, only in the study area.

Alien (A)

- 1] Brought to the study area by man, intentionally or unintentionally, even if native in the source area,
or
- 2] Come to the area without man's intervention, but from an area in which it is alien

Categories of alien

- a] Established (E)
A taxon which has been present in the wild for (say) \geq five years and is spreading vegetatively or is effectively reproducing from seed.
- b] Surviving (S)
A taxon which has been present in the wild for (say) \geq five years and is neither spreading vegetatively nor reproducing effectively from seed.
- c] Casual (C)
A taxon which is briefly (say $<$ five years) or intermittently present.
- d] Planted (P)
A taxon which has been deliberately planted in a wild situation and is not established.

Method of arrival of an alien in the study area

- | | | | |
|----|----------------------------------|---|------------|
| a] | By natural dispersal | — | migrant |
| b] | By unintentional activity of man | — | accidental |
| c] | By intentional activity of man | — | hortal |

Acceptable additional terms could include such entities as — garden escape, garden throw-out / fly tipping, pet food, wool alien.

Explanatory Details

We wish to make it clear that study area may be anything from (say) the British Isles to a small site within a vice-county.

We consider that for recording purposes it would be helpful to have accepted symbols which could be included on the card and computer records for the alien categories. Where no other information is available 'A' would represent Alien but in general one would simply use 'E' for Established, 'S' for Surviving, 'C' for Casual and 'P' for Planted. There would of course be no necessity to include these symbols where the status was clearly that described by Stace (1991).

There will be many instances in which the recorder cannot be sure which category should apply, with regard to:

- i] whether or not the plant is native
- ii] whether it is established, surviving or casual
- iii] the method of arrival in the study area
- iv] whence it came

In these cases it will be appropriate to use 'apparently' or 'probably'

Further, when a plant in the study area can be allocated to more than one status category, each should be stated.

We have decided against having a cut-off date after which a species cannot be considered to be native, believing that over the centuries natural spread has been an ongoing process — in other words a Native is of natural occurrence.

A definition of Endemic is not strictly relevant in the context of our remit but we consider it appropriate as other professions (e.g. medicine) define the term differently from that used in a natural history sense.

Established / Naturalised. These terms have sometimes been regarded as synonyms and on other occasions as distinct entities, though frequently defined differently by different authors. As there was a difference of opinion as to whether Established or Naturalised should be recommended it was originally thought that either might be used depending on the preference of the author. However, there was a strong feeling that only one of these terms should be adopted. We have therefore recommended that Established should be the term used as the symbol 'N' for Naturalised might be confused with Native.

With regard to the length of time which should have elapsed before a taxon may be regarded as Established or Surviving, we think that approximately five years is a reasonable compromise. We have not been dogmatic on this point leaving it to the discretion of the author who should be in the best position to assess the status, by taking into consideration a combination of the age (or estimated age) of the population or plant and the local factors.

A migrant plant has arrived in the study area by natural dispersal but, from an area in which it is an alien.

An accidental introduction implies not deliberately brought to the study area (e.g. contaminant, such as wool-alien) or if brought intentionally to the area, not for the purpose of growing (e.g. birdseed).

A hortal introduction is that in which the taxon was deliberately brought to the study area for the purpose of cultivation, even if it subsequently spreads within the study area by natural means.

The term introduction should not be used without qualification.

An alien comes into two subgroups depending on its category and method of arrival. The term that justifies the taxon's inclusion should always come first —

- e.g. naturalised, migrant
- naturalised, hortal [introduction]
- casual, accidental [introduction]

With regard to accidental and hortal, the appropriate additional term may be used, e.g. pet food, etc., as above. (A more complete list is given by Clement and Foster (1994).

Complete categorisation of an accidental or hortal introduction could then be —

- e.g. casual, (accidental) wool-alien
- naturalised, (hortal) garden escape

We do not of course, consider it necessary to use all terms in an individual case.

We have been asked to consider giving synonyms, e.g. for Native – Indigenous, Alien – Exotic, Adventive: the reason suggested, being that when one is reading literature published prior to the acceptance of

our recommendations, that a point of reference would be available. However, the synonyms quoted and other previously used terms have been defined differently by various authors.

The BSBI Council set up the Plant Status Nomenclature Working Group with the remit to produce definitions of the various categories of status of plants growing wild in the British Isles in the anticipation that the nomenclature will be adopted by members in their botanical publications.

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P. MACPHERSON, J.H. DICKSON, R.G. ELLIS, D.H. KENT, C.A. STACE

NOTES AND ARTICLES

'BOTANIST LIVED HERE' PLAQUES

Two letters came in response to my request in *BSBI News* **69** (April 1995) for information on commemorative plaques to botanists, and photos of 25 Wilton Place, London from John Topp.

Dr Alan Woods wrote describing this plaque to George Bentham (1800-1884) who lived at Wilton Place 1864-1884. Alan says that he walks past this most days on his way to work, and he wonders if there is a plaque somewhere to commemorate Sir J.D. Hooker also?

Mr J.K. Jackson sent notes from the book *Behind the Blue Plaques of London, 1967-1994: The Complete Guide*, by Alan Symms. Mr Jackson has some misgivings on the accuracy of some of the descriptions, but he has extracted for us a list of the botanists:

BANKS, Sir Joseph. 1743-1820. 32, Soho Square, Soho, W1.

BENTHAM, George. 1800-1884. 25, Wilton Place, Belgravia, SW1.

BLIGH, William. 1754-c.1817. 100, Lambeth Road, Lambeth, SE1.

Of 'Bounty' fame. However he has claims to be a botanist, and lists of plants he collected are in the Museum of Garden History in Lambeth, near where is his tomb. The Latin name of the Akee apple, *Blighia sapida*, is in his honour.

BROWN, Charles. 1809-1882. Biological Sciences Building, University College Buildings, Gower Street, WC1.

Darwin's work as a botanist tends to be rather overlooked; however in such works as *The Effects of Cross and Self Fertilisation in the Vegetable Kingdom* and *The Fertilisation of Orchids* he was a pioneer in scientific experimentation with plants.

DON, David. 1800-1841. (on same plaque as Banks).

LOUDON, Jane. 1807-1858. 3, Porchester Terrace, Bayswater, W2.

Collaborated with her husband (see below) in writing *The Lady's Companion to the Flower Garden*.

LOUDON, John Claudius. 1783-1843. 3, Porchester Terrace, Bayswater, W2.

Author of *Arboretum et Fruticetum Britannicum* among many other works.

SLOANE, Sir Hans. 1660-1753. Kings Mead, King's Road, Chelsea, SW3.

Author of the *Natural History of Jamaica* and founder of the Chelsea Physic Garden.

WALLACE, Alfred Russell. 1823-1913. 44, St Peter's Road, Croydon.

In addition to his better known works, author of *Palm Trees of the Amazon*.

Mr Jackson also mentions some travellers who have plants named after them, naturalists and a landscape garden. Of these David Allen suggests that Sir John Lubbock (Lord Avebury) 'counts' as a botanist as his experimenting is well-known to have extended to plants — as well as ants. I do not yet have the details of his plaque.

My thanks to these correspondents — Are there more plaque recorders in the Society?



George Bentham's old home in Wilton Place, photo © J. Topp 1995

MARY BRIGGS, Hon. General Secretary

OENOTHERA SUBGENUS OENOTHERA: THE TAXONOMY

INTRODUCTION

Oenothera (Evening-primroses) are not like other flowers. In many respects these New World biennials do not conform to Mendel's Law of Heredity: as Raven puts it in *Flora Europaea* (1968), 'any new combination of chromosomes produces, in effect, a new "species"'. Individual plants are therefore able to breed true and perpetuate their exact genetic composition indefinitely. In Europe, *Oenothera* is 'a critical genus where species limits are a matter of opinion' (Stace 1991: p.531), notably in subgenus *Oenothera* which 'has long presented difficulties to the systematist' (Cleland 1972: p.227).

There is pressure to revise the European taxonomy. In view of promiscuous hybridisation in British sub-genus *Oenothera*, this paper examines some of the problems.

OENOTHERA IN BRITAIN

There are five recognised species: non-hybridising *O. stricta* Ledeb. ex Link (Fragrant Evening-primrose) and, from subgenus *Oenothera*, *O. glazioviana* Micheli ex C. Martius (Large-flowered Evening-primrose), *O. biennis* L. (Common Evening-primrose), *O. cambrica* Rostanski (Small-flowered Evening-primrose), and the rare *O. fallax* Renner (Intermediate Evening-primrose) described as the stable derivative of female *O. glazioviana* and male *O. biennis* (Stace 1991: p.532), in my opinion a first generation cross best treated as a hybrid.

The earliest British record of *O. biennis* dates from c.1650 and the earliest wild-collected specimen of *O. glazioviana* from 1866 (Rostanski 1982). Both were cultivated in gardens; the former would have been mostly superseded by the latter. *O. cambrica* probably came to South Wales from Canada in the 18th century (Rostanski 1982) in ships' ballast (Cleland 1972: p. 303) where it found ideal habitats.

The mainly coastal subgenus *Oenothera* population has for many years been dominated by hybrid swarms but only rarely does one of the abundant annual crop of potential new strains succeed in establishing a homogeneous colony.

I know only one: a form of *O. biennis* × *O. cambrica* in a corner of a disused gravel pit near Temple Balsall in West Warwickshire. Since 1985, twelve taxonomically identical specimens from an annual population of less than a hundred have among other similarities the same-shaped upswept and twisted leaves, and hairs of the same types in the same places and, as far as I can tell, in the same quantities. They also have identical slightly pinched ovaries not noticed elsewhere.

This strain, if widespread, would be as good a 'species' as either progenitor. Conversely, our recognised 'species' are no more than successful strains. Cleland (1972 p.316) is quite definite: 'Obviously, the individual true-breeding lines . . . are not worthy of being called species'.

The Temple Balsall colony is almost certainly derived from South Wales where most plants are forms of this hybrid (which include the green-stemmed *O. cambrica* var. *impunctata* Rostanski (Bowra 1992)). *O. biennis* has never been recorded in South Wales (Rostanski & Ellis 1979) but was probably grown in gardens and escaped (even before the arrival of *O. cambrica*) to be, as at Emscote (Bowra 1992), rapidly hybridised out of existence.

Distribution supports this view. The first record of *O. cambrica* in the Island of Jersey dates from 1867. The only record of *O. biennis* is in a hybrid with *O. glazioviana* from 1871; a 1957 plant was very close (Le Sueur 1984); (but apparently not recorded as a hybrid). It is very likely, therefore, that the present substantial Jersey population of *O. cambrica* is as hybridised as that of South Wales. In contrast, out of *O. cambrica*'s range in North Wales and England, mostly in small pockets, *O. biennis* persists.

O. cambrica is a good example of a species 'acting as a "museum", so to speak, preserving the remains of a species' (Stace 1975: p.52). The South Wales mixture has been spread mostly by railway over much of England: in Warwickshire, for example, there are at least four well-separated railway sites with apparently 'pure' *O. cambrica* among the hybrids but no 'pure' *O. biennis*.

Many of these colonies (in Wales and elsewhere) have been invaded by the more recent *O. glazioviana* and triple-hybrids are not uncommon. Elsewhere, *O. glazioviana* hybridises with *O. biennis*: from the descriptions (Stace 1975: p.265), most if not all the many plants on the dunes of Cheshire and Lancashire are such hybrids.

COMPARISON WITH NORTH AMERICA

In his 1972 monograph which includes a chapter on the *Oenothera* Flora of Europe, Cleland does not mention hybrid swarms. In his Chapter on North American subgenus *Oenothera*, he agrees that the group 'presents an almost endless array of phenotypic variations' but denies that it is "a hopelessly confused and freely hybridising group" as described in the North American 8th edition (1950) of Gray's *Manual of Botany* (p.227). He stresses that plants mostly self-pollinate and rarely hybridise (p.228), and that 'there is little doubt that the enormous number of isolated lines in nature is to a considerable extent the result of occasional or rare outcrossing between pre-existing lines' over very long periods of time (Cleland p.230).

In contrast, most British *O. biennis* have been hybridised out of existence and, as a direct result, the great majority of our subgenus *Oenothera*, perhaps 90%, are in swarms of two and quite often three species. Transformation can be rapid: the Emscote 'main area' colony of more than two thousand plants on the site of a power station dismantled about five years before, mostly a large group of *O. biennis* flanked by small groups of *O. glazioviana* and the South Wales *O. cambrica* × *O. biennis* mixture, became a hybrid swarm of three species in less than eight years (Bowra 1992). The only indication of self-pollination is *O. cambrica*'s ability to survive in hybrid swarms: up to 20% apparently

'pure' plants have been found but often much less. *O. biennis* and *O. glazioviana* are seldom if ever found in established swarms.

In Europe, the position is unclear. Rostanski says that hybrid swarms may be found in numerous places where 'American newcomers' come in contact with European *O. biennis* and that in a colony near Katowice in Poland, *O. biennis* has disappeared (pers. comm. September 1992). Dietrich does not mention hybrid swarms but cites '20 strains of European *biennis* from various countries (Switzerland, Russia, Hungary, Germany, France), . . . maintained by self-pollination for many generations' (pers. comm. June 1995).

'COLLECTIVE' SPECIES

In North America, strains of *Oenothera* are grouped into 'collective' species each 'comprised of a few to numerous true-breeding phenotypes that share common genetic and certain related phenotypic characteristics' (Dietrich 1991); for example, North American *O. biennis* consists of hundreds if not thousands of strains (Cleland p.304). There is pressure for Europe to adopt the North American taxonomy but Rostanski strongly opposed it and still does (pers. comm. September 1992). Europe, he wrote in *Watsonia* (1982), follows the concept of Linnaeus and species have constant phenotypes.

A new list of 'collective' species was expected in 1991 (Dietrich 1991) but has been delayed. *O. biennis* (to include *O. cambrica*) and *O. glazioviana* are likely to be designated species; all crosses would be hybrids. But it is a measure of the differences in the populations that in Britain, this taxonomy would not reduce hybrids to anywhere near the low levels of North American accounts: half the population, perhaps, would still be forms of *O. × fallax*.

COMPARISON WITH ROSA

Rosa has also long presented difficulties to the systematist (Graham & Primavesi 1993: pp. 9-14). *Rosa* Section *Caninae* and *Oenothera* subgenus *Oenothera* have several unusual similarities: both are genetically exceptional with peculiar (but different) methods of reproduction; plants can cross- or self-pollinate; and reciprocal hybrids have different forms. And, like *Rosa* only a few years ago, promiscuous hybridisation in subgenus *Oenothera* in Britain is only now being accepted by professional botanists.

For British roses, a pragmatic taxonomic solution permits 'some degree' of introgression, considered 'essential . . . if we are to be able to record species at all' (Graham & Primavesi 1993: p.13). But according to Stace (1975: p.49), 'introgression can be looked upon as taking place when conditions are not conducive to the establishment of hybrid swarms'. This, and the fact that significant numbers of 'pure' subgenus *Oenothera* exist and are likely to continue to do so for many years, would seem to preclude as an option any degree of introgression.

OTHER OPTIONS

Despite genetic differences, Cleland considered that 'there can be little doubt' that European *O. biennis* is a strain of modern North American *O. biennis* (p.316). I have found no records of cytogenetic research on British material; but if, as I suspect, *O. cambrica* is a true strain of North American *O. biennis* (with chromosomes in a ring of 14) come across the Atlantic, and British *O. biennis* is the European plant (with rings of six and eight), possibly a much older strain with different characteristics, come the other way round the globe (Harte 1994; Bowra 1995), there is a reasonable case for giving it separate 'collective' status, especially if it could be shown that the Far East Asian *O. biennis* genetically resembles it.

A unified taxonomy would have distinct advantages, especially for determining occasional British casuals at present virtually unidentifiable. A 'collective' European *O. biennis* might also remove some European objections. Inevitably, unless all three species are put into one 'collective', abundant British hybrids will remain. But we would at least be able to record well into the future the true-bred remnants of three historical 'species'.

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JOHN C. BOWRA, 29 George Road, Warwick, CV34 5LX

KINCARDINESHIRE (VC 91) RECORDS IN SCARCE PLANTS IN BRITAIN

Kincardineshire, Renfrew and Stirlingshire are black-listed as vice-counties from which 'no records were received' in the introduction to *Scarce Plants in Britain* (Stewart, Pearman & Preston (1994) and in subsequent reviews, e.g. by McKean (1995).

This is true for Kincardineshire in the sense that my predecessor as recorder did not return the print-outs and draft distribution maps circulated by BRC during 1991-1992. However, records for Kincardineshire have been sent to BRC at various times since 1970, and in particular during the 1987-1988 Monitoring Scheme. For example, sea kale (*Crambe maritima*) was found near Stonehaven in 1988, and duly received a dot for NO88 in its distribution map. In my opinion the maps published are not seriously inadequate although having some deficiencies.

For the species dealt with in *Scarce Plants in Britain*, I give in the table below their current status in Kincardineshire. Like my predecessor, I have not been able to obtain or see the individual species cards held by the recorder active in the 1960s and 1970s, hence losses of species could be slightly exaggerated.

In total 52 'scarce' species have at some time been recorded in Kincardineshire, and 24 of them have 1970+ records, although for 7 of these the 1970+ records are not shown in *Scarce Plants in Britain*. Discounting introduced plants, Kincardineshire has 45 'scarce' species, 19 with 1970+ occurrences, equivalent to 42% of the total. Further discounting species not now classed as scarce, Kincardineshire has 33 scarce species, 14 with 1970+ records, also equivalent to 42% of the total. But Table 3 in *Scarce Plants in Britain* gives 32% for VC 91 as the percentage of native scarce species recorded since 1970, and 28 as the total of these species at some time recorded.

Many species in the list with no 1970+ records have declined generally in Britain, being arable weeds or plants of open water. Their disappearance in Kincardineshire is real, e.g., *Elatine hexandra* (six-stamened waterwort), *Ptilularia globulifera* (pillwort) and *Subularia aquatica* (awlwort) grew in the Loch of Park which long ago was drained.

With thorough searching, I would expect perhaps 4 of the lost species to be refound, the most likely being *Equisetum pratense* (shade horsetail), *Goodyera repens* (creeping lady's-tresses) and *Sedum villosum* (hairy stonecrop). Even taking this possible number into account, the percentage decline

for the vice-county would still be about 50% which is somewhat higher than the average for lowland vice-counties given in *Scarce Plants in Britain*. It is my belief that Kincardineshire has suffered serious losses to its flora because of the preponderance of arable land in its relatively small area, and the recent deficiencies in recording should not be allowed to mask this.

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Status of 'scarce' species in Kincardineshire, giving in brackets 10 km squares for which there are 1970+ records (all are NO unless shown NJ).

Species seen in VC 91 after 1969, and with 1970+ records in Scarce Plants atlas

- | | |
|--|--|
| \$ <i>Aconitum napellus</i> (69, 76) | <i>Lathyrus japonicus</i> (NJ 90) |
| <i>Brassica oleracea</i> var. <i>oleracea</i> (76) | <i>Lycopodium annotinum</i> (58, 68) |
| <i>Callitriche hermaphrodita</i> (66) | \$ <i>Meconopsis cambrica</i> (66, 67+, 69, 79+, 88+, NJ80+, 99) |
| \$ <i>Cardamine bulbifera</i> (78) | <i>Meum athamanticum</i> (69) |
| <i>Carex maritima</i> (88) | <i>Pyrola media</i> (69) |
| <i>Crambe maritima</i> (88) | \$ <i>Ribes alpinum</i> (66+, 69, 79) |
| <i>Dianthus deltooides</i> (69, 76) | <i>Salix myrsinifolia</i> (66) |
| <i>Epilobium alsinifolium</i> (77) | <i>Silene mutans</i> (76) |
| <i>Festuca arenaria</i> (76) | |

Species seen in VC 91 after 1969, but with no 1970+ records in the atlas

- | | |
|---|--|
| <i>Cochlearia scotica</i> (88+) | \$ <i>Hyoscyamus niger</i> (76+) |
| <i>Corallorrhiza trifida</i> (69+, 99+) | <i>Isoetes echinospora</i> (67+) (1988 record is on BRC print-outs!) |
| <i>Fumaria densiflora</i> (76+) | <i>Juncus filiformis</i> (NJ 90+) |
| <i>Gnaphalium sylvaticum</i> (68+, 87+) | |

Species formerly present in VC 91, but with no 1970+ records in atlas or known to the author

- | | |
|---|-----------------------------------|
| \$* <i>Allium oleraceum</i> | <i>Juncus balticus</i> |
| <i>Allium scorodoprasum</i> | <i>Limosella aquatica</i> |
| <i>Briza minor</i> (likely error for old record in Atlas) | <i>Linnaea borealis</i> |
| <i>Centaurea cyanus</i> | <i>Lycopodiella inundata</i> |
| <i>Crepis mollis</i> | <i>Melampyrum sylvaticum</i> |
| <i>Deschampsia setacea</i> | <i>Mertensia maritima</i> |
| <i>Elatine hexandra</i> | <i>Orthilia secunda</i> |
| <i>Equisetum pratense</i> | <i>Papaver argemone</i> |
| <i>Equisetum variegatum</i> | <i>Pitularia globulifera</i> |
| <i>Euphrasia rostkoviana</i> | \$ <i>Scandix pecten-venensis</i> |
| <i>Festuca altissima</i> | <i>Sedum villosum</i> |
| * <i>Goodyera repens</i> | <i>Subularia aquatica</i> |
| <i>Hammarbya paludosa</i> | * <i>Teesdalia nudicaulis</i> |
| <i>Hypochaeris glabra</i> | <i>Vaccinium microcarpum</i> |

\$ Considered an introduction in the calculations.

* Has a 1970+ record in a 10 km square shared by VC 91, but outside.

+ Record for 10 km square is not given in *Scarce Plants Atlas*.

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FROTHY SAP

Following the recent very cold weather, with temperatures below zero even during the day, we visited the wood which we are currently surveying. Here we found three ash trees, which were apparently exuding streamers of white froth about 2 cm wide and up to 12 cm long, between half and one metre above the ground. It was not possible to see any crack or wound. The froth was like that produced by frog-hoppers, but with larger bubbles. It was about the same viscosity.

If anyone can suggest an explanation for this phenomenon we should be most interested. Tentatively we wondered if the sap had been frozen, and cracked the bark or pushed into a lenticel, and then on thawing dissolved gases had forced out the sticky sap, blowing bubbles in it.

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POSSIBLE *LEMNA* : PROTOZOA SYMBIOSIS

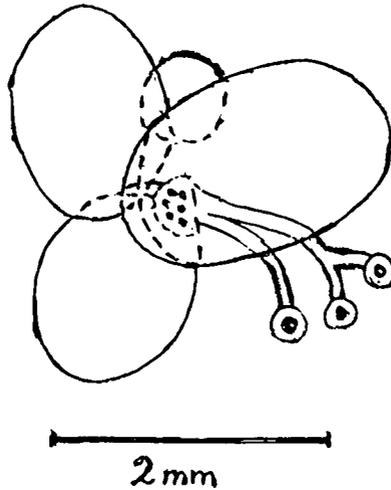
Local populations of *Lemna minor*, the small-frond variant of Common Duckweed (Rich & Rich 1988) have been healthy and persistent, staying continuously on the surface for 4½ years despite freezing into the ice in some severe winter frosts. However in June 1995 infection (presumed bacterial or fungal) was spreading across a pond colony. The fronds were going pale brown and dying. Under $\times 10$ or $\times 30$ magnification it was seen that parenchyma and epidermal cells were losing chlorophyll and coalescing. The top surfaces of the thalli then split away from the under-surfaces along the margins, like the grim smiles of old drying-out British Rail sandwiches (before Cling-film).

Some of these moribund fronds had structures which to the naked eye looked like flowering or fruiting bodies, hence the microscopy (see fig.). In the basal and sub-frond pockets, now mostly brown, were small concentrations of large protozoa, like *Paramecium*, but 0.07 mm long or more, and much more obvious than the multitudinous tiny and more freely circulating protozoa. The big *Paramecium*-like protozoans had three red spots, but these might have just been food vacuoles with red contents as a consequence of digestion.

All the big fronds succumbed and were about to be thrown out. A last look through a microscope to try to re-find and draw the giant protozoans in the sub-thallic pockets (the dotted lines on the figure) revealed a surprise. In some frond groups, tiny green healthy buds, surgically cleaned, had survived in some pockets. These have persisted to form a new dividing surface colony, with no brown or sticky fronds!

Tentative suggestions are as follows. The big 'surgeon' protozoans, and perhaps the smaller protozoa too, should be seen as *Lemna* allies, **not** as pathogens, just because they are concomitants of dying surface colonies. The protozoan *Vorticella*, which can concentrate on the roots of *Lemna minuta* (Least Duckweed) where this has formed dense rather anoxic sub-surface layers (Oliver 1993) seemed to be mopping up noxious bacteria. It could be another protozoal symbiont of the Lemnaceae. Landolt (1986) referred to the 'Special affinities' noted between *L. minor* and the ciliate protozoans *Vorticella convallaria*, *V. microstoma*, *Pyxidium invaginatum* and *Chilodonella uncinata*.

The second tentative hypothesis is that here is a process to help explain the sequences of invasiveness, followed by decline, and subsequent sporadic recurrences of alien aquatics such as *Azolla filiculoides* (Water Fern), *Elodea canadensis* (Canadian Pondweed), *E. nuttallii* (Nuttall's Pondweed) and *Lemna minuta*. The alien aquatic conquers, reigns for a few years, is eventually struck down by a primary pathogen (bacterial, fungal or other), but survives to recur with the help of a protozoal ally or symbiont. Many (most?) terrestrial plant species, especially trees, need a friendly mycorrhiza to thrive, otherwise they sicken or fail in competition. Lemnaceae may likewise need friendly protozoa to renew their colonies after the rigours of a primary pathogenic attack, or to overcome secondary pathogenic invasions following frost, poisoning, or the depredations of herbivores such as some types of water snail.



Dying fronds of *Lemna minor* (small frond variant) with the pseudo-fruitlet body. Largest protozoans only in the pockets shown by dots or dashed lines. Del J. Oliver

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DANISH SCURVYGRASS — A RATHER EARLIER INLAND RECORD

Michael D'Oyly's note on early records of *Cochlearia danica* (Danish Scurvygrass) inland in Britain (*BSBI News* 71) should be seen in the light of one from over two centuries earlier, which I wrote up in *Nature in Wales* **14**: 270-271 (1975). On 25 May 1726 the Rev. Littleton Brown recorded it on the walls of Tregaron church in Cardiganshire (see G.C. Druce & S.H. Vines, *The Dillenian Herbaria*, Oxford, 1907, p. lxxiii) under the polynomial *Cochlearia marin. folio angulosa parvo*. It is still there, chiefly on the 14th century tower. Did it get there with sand used for the mortar? And how does an annual with no special seed dispersal mechanism persist so successfully high up on a vertical wall? In 1973 the churchyard was cleared and reseeded, and the following spring many thousands of plants of the Scurvygrass appeared amongst the grass, obviously from dormant seed fallen from the tower over many years or decades. They all disappeared once the new turf had developed. The tower is currently being restored, but we are hoping that the Scurvygrass will survive to continue to delight the inhabitants of Tregaron and to puzzle future botanists.

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THE EARLIEST RECORDS OF DANISH SCURVYGRASS, *COCHLEARIA DANICA*, ON INLAND RAILWAY TRACKS

As *Cochlearia danica* was the first of the several maritime species to be discovered in quantity on inland sites in Britain since the Second World War, the dates of the original finds on railway tracks may help in resolving the long-standing mystery of how it came to colonise these.

Michael D'Oyly's note in *BSBI News* 71 had already prompted me to start searching the back literature to this end when a letter arrived from him enclosing photocopies of some correspondence I had on this subject with Ted Wallace almost fifty years ago! This had been found by David Porter tipped into a second-hand copy of the *Computer-mapped Flora of Warwickshire* (1971), which had presumably once been owned by Wallace. This timely windfall has made it possible to reconstruct events with significantly greater exactness:-

May 1946: a train on which E.C. Wallace is travelling is halted by signals outside Rugby station, VC 38, on looking out to see the cause of the hold-up, he is startled to see what he recognises at once as this species growing beside the track (bare details published in 1948: *B.E.C. Report for 1946-47* 13: 284).

June 1946: P. Falk and a group from Rugby School N.H.S. find an unknown crucifer in abundance along the Rugby-Coventry line west of Brandon station, later identified by him as this species (record published in 1948: *Rugby School N.H.S. Report for 1947*: 18).

1947: further finds by members of Rugby School N.H.S. on the Leamington line south-west of Rugby station and on the London line at Hillmorton (published in 1949: *Rugby School N.H.S. Report for 1948*: 17).

1947: John Dony finds it on railway ballast at East Hyde, VC 30 (published in 1949: *Watsonia* 1: 38). By 1953 (*Flora of Bedfordshire*, 215) he knew it in three places in that vice-county: two miles south of Luton station and at Willington and Flitwick.

1948: Victor Jacobs, a Birmingham botanist who soon after emigrated to Australia, finds it on a track at Hamstead, near West Bromwich, VC 39 (published in 1951: *Watsonia* 2: 37). The next find in that vice-county was not till 1957 (E.S. Edees, *Flora of Staffordshire*).

The irregular sequence in which these records were published had the effect of obscuring the bunching of the discoveries. That Midlands botanists had not altogether neglected their local railway tracks in the decades previous to the Second World War is shown by records for that other coloniser of that habitat, Small Toadflax, *Chaenorhimum minus*. It thus seems likely that it was the suspension during the War years, because of shortage of labour, of the previous regular spraying of the tracks with weedkiller that provided *C. danica* with the chance to become established.

But how did it arrive in the first place? The explanation favoured by the Rugby botanists was that seeds of it had dropped in sand from violently shunted wagons filled with that brought from the coast (bearing in mind the enormous quantities required inland early in the War for filling protective sand-bags). John Dony later argued for a much simpler origin: colonization naturally, directly and more or less continuously from the coast — on the assumption that the species had merely been overlooked. Although he dismissed it from the very start, a third possibility would nevertheless seem to deserve consideration as well, namely introduction with material from the seashore used for repairing the tracks. The best evidence for this is the fleeting Wartime appearance on the track at Peel Road station in the Isle of Man, VC 71, of Small Toadflax, a species unknown in the island before or since. Though transporting material for repairing a railway track across the Irish Sea to an island naturally well-supplied with stones sounds like carrying coals to Newcastle, I am content to leave it to experts on track design and upkeep to probe the feasibility of this further possible alternative.

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DANISH SCURVYGRASS ON A WORCESTERSHIRE ROAD

I refer to notes in *BSBI News* 69: 17 & 71: 25, on the spread of Danish Scurvygrass (*Cochlearia danica*) by inland roadsides.

In the spring of 1995 I noticed for the first time a length of some 2 km of roadside bright with the flowers of this plant. Being in a traffic jam I had opportunity to take specimens for positive identification. The road was the A450 near Hagley in north Worcestershire, and I reported the occurrence to the Worcestershire Wildlife Trust. I understand that there have been other similar reports for roads around Birmingham.

It seems to me that the spread of this plant along inland roads is simply due to the use of salt and gravel (incidentally carrying seeds) from seaside sources, on icy roads; and that there is no necessary connection with the nature or number of carriageways (the A450 has one) nor with the road drains or the absence of hypothetical predatory organisms. The grass edge is sprayed by the wheels of passing vehicles, and finding a suitable habitat and weather conditions, the seeds germinate and the plants flower; for the incidental enjoyment of passing botanists.

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TILIA CORDATA IN LEAF IN DECEMBER

We were out in the cool drizzle of a December day, walking up a track well known to us, near Chalkney Wood, Essex, when we were brought up short by the sight of a Small-leaved Lime, *Tilia cordata*, in full young leaf! We brought a shoot home to examine, and although the leaves were slightly chlorotic, it was in all other respects like a late spring tree. The newly extended leaf-bearing shoots were soft and green. However, the terminal buds remained closed, and so did one or two of the laterals. These buds were green rather than the more usual red. There were other small-leaved limes in the area, none of which showed this extraordinary precocity. In nearby Witch Wood, the Aspen, *Populus tremula*, buds were showing the soft catkin between the bud scales, and the Goat Willow, *Salix caprea*, had very large yellow buds, but the sight of a tree in full leaf was still astonishing.

This tall, coppiced, hedgerow tree did not leaf at this time last year. It has not been recently cut, and is not in a markedly sheltered position. What possible explanation can there be?

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PROGRESS WITH THE STUDY OF *RUBUS FRUTICOSUS* IN THE SHIRE COUNTIES OF NORTH WEST ENGLAND

Since the last article on this subject in *BSBI News* 66 the objectives of visiting each 5 × 5 km square in South Lancashire and in excess of 900 tetrads in the Liverpool and Manchester environs have been achieved. The Liverpool/Manchester data, amounting to almost 11,000 1 km records has been entered onto Dbase at LIV. Provisional maps were kindly produced by Angus Gunn for the Annual Exhibition Meeting at Leicester but unfortunately a series of complications prevented attendance.

Not surprisingly all the continued survey work was most productive. No new vice-county records for Cheshire, but several discoveries of new populations of species such as *Rubus newbouldii*, *R. rufescens* & *R. intensor* on the Wirral, for example.

Major new records were however made in Lancashire. Within a few kilometres of Manchester City Centre, *R. adspersus* and *R. accrescens* were found, whilst a major surprise was that of *R. segontii* (a recently described Welsh species). Matching species from Urmston, Leyland and Lytham St Annes were found to be *R. cissburiensis*. This species was first observed at Maghull, near Liverpool by A. Newton. At Hale, (not too far from Liverpool) *R. sciocharis* was discovered.

Further north, *R. mucronulatus* was found at Padiham Heights and along the VC border at Foulridge (A. Turner may well have collected this species from Foulridge but his specimen has yet to be traced) and *R. adenanthoides* was found to be locally common in woodlands between Preston and Blackburn.

From a small area of VC 63 to the east of Oldham, field records for *R. errabundus*, *R. criniger* and *R. intensor* were made, whilst further north at Kelbrook, near Earby, a fine population of *R. subtercanens* was discovered.

An August foray in the Parbold district with A. Newton confirmed the presence of *R. painteri* in South Lancs. (this species having been collected earlier from this area by Vera Gordon). Records indicate that this species could well be a common member of the bramble flora of the West Pennine Moors. At nearby Harrock Hill a specimen was determined as *R. lanaticaulis*.

My thanks to A. Newton for the determination and confirmation of specimens, to Angus Gunn at LIV for map production and to Pat Francis at Bolton for specimen presentation.

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SAND LEEK — AND SLUGS

I read with interest Alan Newton's account of *Allium scorodoprasum* (Sand Leek) in *BSBI News* 71. Last summer this plant appeared in profusion in a neighbour's garden in West Sussex. There had apparently been no sign of it prior to 1995 and according to the *Atlas of the British Flora* it has not previously been recorded south of the Wash. I understand that in spite of determined efforts by the gardener the plant is growing in even greater numbers this year!

One more theory about *Cochlearia danica* (Danish Scurvygrass) on central reservations, (Simon Leach, *BSBI News* 71): Perhaps the central reservation gets more salt spray due to the faster-moving traffic. Slugs do not like salt, *Cochlearia danica* does . . .

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BERKSHIRE CHURCHYARDS AND CEMETERIES PROJECT

Records have been received from 72 burial grounds. The recording form used listed 207 taxa which were expected to be found — some in lots of churchyards, some in a few. Some of the plants on the list have not been recorded, but some 268 others have! There are also over 50 instances where plants have been identified to genus only. It is thus very obvious that, between them, the churchyards where records have been made have a high number of taxa. 25 volunteers have sent in records from one or more sites.

The number of records received showed great variation: the least with 17, the most with 137, but there were 20 with over 100. It is also pleasing that one recorder just sent in moss and liverwort records from his sites.

Churchyards are strange in that the plants found there will include native species growing 'naturally', but also many others that have got there by the hand of man. This may, or may not, be obvious as some plants naturalise and produce viable seed and so maintain their populations. Virtually all of the

trees and shrubs will have been planted but few will have produced offspring. Management of the site can also be extreme and so affect the species present.

Berkshire, Buckinghamshire and Oxfordshire are the three counties of the local Wildlife Trust (BBONT) and all of the churchyards in Buckinghamshire and Oxfordshire have already been visited and their vascular plants recorded, so it is interesting to see how those in Berkshire differ from those in the other two counties. Its heathy soils probably influence the main differences. For example, *Carex ovalis* (Oval Sedge), *Danthonia decumbens* (Heath-grass), *Erica cinerea* (Bell Heather), *Hypericum humifusum* (Trailing St John's-wort), *Lathyrus linifolius* (Bitter-vetch), *Plantago coronopus* (Buck's-horn Plantain), *Polygala serpyllifolia* (Heath Milkwort), *Rumex acetosella* (Sheep's Sorrel) and *Senecio sylvaticus* (Heath Groundsel) were not recorded (or only extremely rarely) in Buckinghamshire or Oxfordshire. *Saxifraga granulata* (Meadow Saxifrage), too, is much commoner in Berkshire, as is *Coronopus didymus* (Lesser Swine-cress).

On the alkaline soils, species like *Atropa belladonna* (Deadly Nightshade), *Brachypodium pinnatum* (Tor-grass), *Carex divulsa* (Grey Sedge), *Campanula glomerata* (Clustered Bellflower) and *Helianthemum nummularium* (Common Rock-rose) have been recorded, but much less frequently.

Agrimonia eupatoria (Common Agrimony) for some reason(s) is very rare in churchyards and, so far, Berkshire confirms this, with only one sighting.

Aphanes arvensis (Parsley-piert) has two records. It would be interesting if recorders could search for *Aphanes inexpectata* (Slender Parsley-piert) on the heathy soils. Other segregates which could be sought are the two subspecies of *Arenaria serpyllifolia* (Sandwort) and *Ranunculus ficaria* (Lesser Celandine). Species of Snowdrop (other than *Galanthus nivalis*) are probably overlooked; *Galanthus elwesii*, for example, turned up much more frequently than was originally expected in Oxfordshire. Similarly, *Hyacinthoides hispanica* (Spanish Bluebell) is frequently planted and readily hybridises with native *H. non-scripta* and these are to be sought when further recording is carried out in sites where other woodland species are present.

Apart from the planted species, of particular interest are: *Allium vineale* (Wild Onion — 7 sites), *Arctium lappa* (Greater Burdock — 1), *Briza media* (Quaking-grass — 1), *Cirsium palustre* (Marsh Thistle — 3), *Claytonia perfoliata* (Spring Beauty — 1), *Clinopodium ascendens* (Common Calamint — 1), *Cynosurus cristatus* (Crested Dog's-tail — 1), *Dactylorhiza fuchsii* (Common Spotted-orchid — 1), *Eupatorium cannabinum* (Hemp-agrimony — 1), *Galega officinalis* (Goat's-rue — 1), *Gnaphalium uliginosum* (Marsh Cudweed — 1), *Lactuca virosa* (Great Lettuce — 2), *Lathyrus nissolia* (Grass Vetchling — 1), *Linaria repens* (Pale Toadflax — 1), *Orobancha minor* (Common Broomrape — 2), *Oxalis exilis* (Least Yellow-sorrel — 1), *Papaver dubium* (Long-headed Poppy — 1), *Ribes uva-crispa* (Gooseberry — 4), *Scrophularia vernalis* (Yellow Figwort — 1), *Senecio viscosus* (Sticky Groundsel — 1), *Sherardia arvensis* (Field Madder — 1), *Symphytum orientale* (White Comfrey — 1) and *Viola reichenbachiana* (Early Dog-violet — 3).

It will be interesting to see what turns up in the sites visited this year. There are still about half of the churchyards to be visited as well as most of the other burial grounds.

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PLANTS AND CALCAREOUS SOILS

I read with interest Richard Toff's piece about the possible preference of mistletoe for calcareous soils (*BSBI News* 70: 26) and Phyl Abbott's comments about Thistle Broomrape (*Orobancha reticulata*) growing on limestone and chalk in East Yorkshire (*BSBI News* 70: 13). Many orchids also show a preference for calcareous soils in the British Isles, e.g., *Orchis militaris* (Military Orchid) and *Orchis simia* (Monkey Orchid), although this is not true on the continent of Europe, where the species are more abundant. I wonder whether the apparent preference for calcareous soils in these species is really because calcareous soils are free draining and warm up quickly in the spring, and so the soil

For example, when excavation of a Special Verge for the pipelines and cables of public services was unavoidable the Highway Engineer arranged early consultation with the contractors to examine possible protective measures. Now, based on the advice of the contractors, they have become a mutually acceptable routine, usually quickly agreed for each site well before work begins.

A greater threat was the fact that if a farmer was unaware of the presence of a Special Verge on his boundary, there was nothing to stop him unnecessarily destroying it in minutes. Once informed, however, farmers have been the source of essential information about past management and future stability. They also helped solve what was an apparently intractable management problem in the early eighties.

From the beginning Essex County Council were not able to undertake any specially timed management. In 1980 further limitations of manpower, machinery and finance made effective monitoring and controlled management of any part of the verges impossible. Verge cutting became the lowest priority, reduced to one full width cut in the summer as far as the money allowed and starting in a different area each year. More than half the eighty or so Special Verges were in the north west (Uttlesford Division) of the county and here local farmers agreed to manage the more important sites to such effect that the County Council eventually agreed to use it as a pilot area and agreed to the small increase of cash needed for our recommended routine. This is based on an all-over autumn cut alternate years in opposite halves of the area. The farmers then undertook the alternate years' management and by the time the planning Department had made an annual grant of £600 available to pay for this from the Landscape Improvement Fund, the future of the Special Verges began to look much brighter. Especially as both public and professional complaints ceased almost overnight.

The arrangements for extra management and use of the grant are the responsibility of the eight Volunteer Verge Representatives. Originally recruited from the County Wildlife Trust Local Groups in 1980, they are also responsible for co-ordinating local liaison connected with the verges including processing details of new sites and sending an annual report to the County Council.

They have access to advisers on status of species, farming and parish matters (including the difficult to trace names of adjacent farmers and parish clerks). At first reports went through Uttlesford and the West Essex Area Highway Manager, but it is a good sign that the three Managers now ask for closer local co-operation and direct communication with the Representatives in their areas.

These Representatives meet once a year at the end of the summer to look into remedies for any problems for top level consideration by the Area Managers and a representative of the County Planning Department at a Special Verges meeting early in November. These four officials are responsible for controlling and directing the scheme and their decisions are made known before the start of the new season's activities. The rest of us come from diverse background interests and so have to concentrate our evidence, adapting our recommendations to the needs of others where we can, and relying on their goodwill to do the same.

On asking for advice on management of the sites in the early 1980s, farmers were advised by the N.C.C. (Derek Wells) and the I.T.E. (Dr Terry Parr who followed Dr Way's original work on verge management) to base it on on-the-spot observation and aim at habitat rather than individual species. Generalisations and research reports were not enough. It was excellent advice which has obviously been followed and as a result we can draw on over ten years experience of some of the sites including those of *Melampyrum cristatum* (Crested Cow-wheat) and of *Trifolium ochroleucon* (Sulphur Clover).

On one of the *M. cristatum* sites the farmer has had consistently impressive results, giving up boundary territory inside the hedge. Next summer, under his guidance, there are plans to restore one or two ghost sites. These are short lengths of verge with only one or two plants and differences in shading. The adjacent farmers have been told of the opportunity, making it quite clear that there will be no hard feelings if they do not take it up. Where a farmer is not available a well-informed 'conservation' contractor is employed,

About half a dozen stabilised sites for *T. ochroleucon* are due for special monitoring this year. It appears to be able to establish colonies at the junction between the summer marginal cutting and the rest of the site on wide verges. If this is confirmed, so long as the margin is regularly cut it could do away with the expense of any extra full width cutting in the summer on the richer grass verges. The newly privatised Council contractors are co-operative and we hope the operators will be able to leave a

message at the Highway Depot or the local museum whenever they cut the margins of these sites in the summer. Local monitors can then record any effects on next year's crop.

For all those involved, verge matters are still a low priority and having attracted their interest and co-operation we try to retain it by reducing commitments to the minimum. Recording for the Council need only refer to increase (+), stability (=) or deterioration (-), with a simple linear assessment (adapted from Oliver Rackham's woodland methods) for the more important sites.

The Department of the Environment Survey for 1990 classed verges with streams and hedges as 'linear habitats' and noted their increasing importance as seed banks and as attracting species which are now disappearing from broader habitats. In Essex the roadsides mostly harbour species dependent for survival on their position on the fringes of human occupation. As linear sites they are particularly sensitive to changes in their boundary territory and have already survived the impact of the machine and the Common Agricultural Policy. Now, with on-the-spot treatment supplied by one neighbour linked conveniently to the regular routine of the other we can hope to carry them forward into the twenty-first century, not as relics, but as relatively uncontroversial, economically managed, active fellow travellers: a focus for corporate conservation and open to public access at all times.

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UPDATE ON THE RESEEDING OF NEW ROADSIDE VERGES IN VC 73

In the Scottish Newsletter 1995 I wrote an article on the local Council's policy in VC 72 and VC 73 of reseeding new roadside verges. This they had done for 50 yards along the A711 just north of Dalbeattie in 1994. I had noticed it as there was a display of Poppies (*Papaver rhoeas*) a flower that is only seen in the county as a rare casual. I surveyed the area, got in touch with the road engineers and eventually the Local Council. I found out that the council gives a standard specification of the seed mix that should be used: '84% Low Grass Cultivars — British Seed Houses A4 mixture, 2% Red Champion (*Silene dioica*), 2% Knapweed (*Centaurea nigra*), 2% Meadow Buttercup (*Ranunculus acris*), 2% Oxeye Daisy (*Leucanthemum vulgare*), 2% Poppy (*Papaver rhoeas*), 2% Meadow Vetchling (*Lathyrus pratensis*), 2% Yellow Rattle (*Rhinanthus minor*) and 2% Sheep's-sorrel (*Rumex acetosella*)'. I had found in my roadside survey that besides the flowers from the seed mix, there were Cornflowers (*Centaurea cyanus*) which have never been recorded in VC 73 before, Corn Marigolds (*Chrysanthemum segetum*), Corncockle (*Agrostemma githago*), a plant of *Downingia elegans* (Californian Lobelia) and *Lotus corniculatus* var. *sativus* (Bird's-foot-trefoil).

In 1995 I resurveyed the same stretch of roadside verge. There was not a sign of a Poppy, which did not surprise me, as Poppies in VC 73 are always casuals, and have disappeared within a year or two at the most. Neither were there Cornflowers or any other field weed. There were still Oxeye Daisies, but the plant that was fairly dominant was the alien form of Bird's-foot-trefoil, which obviously came in the previous year's seed mixture, though should not have been present. Another plant I've seen on roadside verges where roadworks have taken place is *Polygonum boreale* (Northern Knotgrass). The first times it was recorded in VC 73 was in 1990 in my vegetable patch at New Abbey and in a turnip field south of Lochinvar Loch. It has continued to appear every year since then, I have tried to work out how it came to grow there, and the two suppositions were, that the seed arrived with the manure from my neighbour's farm or as a contaminant in among my vegetable seed. I have looked for it all round the farm without success, so it must have come in with the seed. This, I think, has been corroborated by its appearance recently on roadsides where roadworks have taken place in two places, one near Lauriston and the other near Ken Bridge. Next year I will see if it is still present in those places. At Southerness by the golf course is another site. Here it has been weeded for the past two summers, but seems to survive. I have also found it on a disused railway in close proximity to a field with a new crop, Maize. There also, the surrounds of the field were covered with Black Nightshade (*Solanum nigrum*), a new county record.

Besides the local Council having had a policy of reseeding verges, the Forestry Commission have also done so. In 1993 I had an exhibit showing the plants that had appeared on the banks surrounding a newly made carpark. These included *Plantago arenaria* (Branched Plantain), *Sanguisorba minor* (Salad Burnet) and a dainty form of *Daucus carota* (Wild Carrot), which I learnt was a seed mixture for 'heavy loam and clay' from a Cheltenham firm. That same summer the banks were weedkilled and covered with grass turf. The *Plantago arenaria* has disappeared but one can still find a plant or two of the *Sanguisorba minor*. In 1995 I stopped off at a lay-by near Clatteringshaws reservoir on A712 within Forestry Commission Property. They had made this carpark a few years previously, and there I found several plants of *Leucanthemum vulgare* and seven plants of *Sanguisorba minor*, not plants of heathy hill country, obviously introduced with seed. It seems that the contaminants often last a lot longer than the original seed, which are usually grass seed mixtures, where the Forestry Commission are concerned and not Wild Flower mixtures.

I have written to the Dumfries and Galloway Council and requested that if they are going to reseed again that they use seed merchants who are in the BSBI and JNCC approved list for sale of Wild Flower seed from the British Isles.

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CHANGES IN THE FLORA OF INDUSTRIAL TEESIDE

In his notes on the Flora of North Yorkshire (1863), J.G. Baker gives a substantial list of 'the rarer plants of the salt-water ditches, sandhills and saltmarshes of this part of the coast'. He also mentions 'the thriving town of Middlesbro' with its docks and blast-furnaces, [which] stands upon the Yorkshire shore just where the river begins to open out into an estuary. A list of the introduced plants of the ballast hills in the neighbourhood of the town will be given hereafter'.

Looking at his list there are only a very few which could fit into the category of ballast hill 'introductions'. These are *Sinapis tenuifolia* (now *Diplotaxis*) (Perennial Wall-rocket), *Salvia verbenaca* (Wild Clary) and *Carlina vulgaris* (Carline Thistle). The other sixty species would be ascribed to the coastal habitats mentioned.

It would be interesting to imagine the terrain in the days when Baker carried out his surveys in the area, possibly in the late 1850s. The town of Middlesbrough was founded in 1830 as a coal port. Nine years later the first ironworks were established. These works, and those established during the remainder of the nineteenth century, used ore from local ironstone deposits. The waste products from the manufacturing processes provided the raw material for the construction of breakwaters on either side of the mouth of the Tees in order to create a safe harbour for the increasing number of ships using the river. That on the Yorkshire side became known as the South Gare. Work on its construction did not begin until 1861 and it was not officially opened until 1881.

The waste slag from the first works at Middlesbrough was used to infill the Tees marshland stretching east towards Redcar where further blast furnaces were subsequently built on the reclaimed land.

At what stage of industrial development Baker visited the area is not clear but seemingly the three lime-loving plants mentioned had already become established on the increasing areas of slag waste.

I have not found *Salvia verbenaca* on the Yorkshire (VC 62) side of the estuary since I started recording the plants in the early fifties. In fact, there are only a few plants to be found in the Hartlepool area to the north (VC 66). These have survived the passage of time at the side of a long-established track at the edge of Hartlepool's industrial area.

Because limestone is used in the production of iron the waste slag is rich in calcium and magnesium carbonates and where the industrial terrain is left relatively undisturbed, and this is especially so in the vicinity of the South Gare breakwater, a flora rich in calcicoles has developed.

When the retaining walls of the breakwater were built, a dune system gradually became established on the seaward side, and, in places, saltmarshes were formed inside these walled areas giving rise to the development of an interesting saltmarsh vegetation.

So despite the fact that this area is man-made, a unique flora has built up over the years. An S.S.S.I. has now been established on a large proportion of the Gare and associated dunes in an attempt to protect the flora and nesting birds. Unfortunately, the dune system is under threat by expanding leisure activities.

Industrial waste areas, therefore, surround this unique area and this gives rise to a wealth of plants from the Tees Bridge at Middlesbrough extending eastwards towards Redcar.

Since Baker recorded *Diploptaxis tenuifolia* on the so-called ballast hills, this plant is now perhaps the commonest species in the industrial Teesside area along with *Senecio squalidus* (Oxford Ragwort), which has invaded the dunes along with the Marram-grass. Other species which are now a feature of these 'lunar' landscapes are *Blackstonia perfoliata* (Yellow-wort), *Erigeron acris* (Blue Fleabane), *Reseda lutea* (Mignonette), *Sedum acre* (Biting Stonecrop), *Silene vulgaris* (Bladder Campion), *Melilotus altissima* (Tall Melilot), *Hieracium vulgatum* (Hawkweed), *H. vagum* (Leafy Hawkweed), *Chamerion angustifolium* (Rosebay Willowherb) and *Conium maculatum* (Hemlock).

Since the 1960s, *Lactuca virosa* (Great Lettuce) has literally 'taken off' and is now spreading rapidly giving the landscape an even more bizarre appearance. *Sisymbrium orientale* (Eastern Rocket) is likewise on the increase and seems to like the deposits of hot ash which are dumped outside the Redcar steelworks.

Two interesting recently established plants are *Hirschfeldia incana* (Hoary Mustard) and *Rapistrum perenne* (Steppe Cabbage). The former first appeared on the Middlesbrough Riverside Industrial Estate in 1984 and is now abundant there and spreading eastwards as well as into the northern part of Middlesbrough itself. The latter established itself in one or two places along the railway network. It does not appear to be spreading on a large scale. The rail system has also brought in *Conyza canadensis* (Canadian Fleabane) and, in two places, *Linaria repens* (Pale Toadflax), one of the very few south-western species to become established here, most of them being of a more south-eastern distribution in this country. It is thought that some of these may well have come with ore ships from northern Spain.

Quite remarkable in these last ten years or so is the appearance of *Ophrys apifera* (Bee Orchid) on the industrial scene, and in large numbers. This orchid first appeared around the edges of the Cleveland Golf Course near Redcar in 1985. Since then it has turned up in the railway marshalling yards at Thornaby (around 100 plants in 1994) and on industrial waste sites in at least two other places in the area. *Gymnadenia conopsea* subsp. *densiflora* (Fragrant Orchid) has been known here for some time but in recent years colonies of up to one thousand spikes have been seen on I.C.I. and British Steel sites along with *Dactylorhiza purpurella* (Northern Marsh-orchid) in similar numbers in both wet and dry situations and occurring with *D. fuchsii* (Common Spotted-orchid) with the resultant hybrid (*D. × venusta*).

These are some of the plants which have found their way into an ever-changing industrial scene here at Teesside. Constant monitoring is required especially regarding the more fragile relict saltmarsh species which are very much reliant on human activities in this present day climate.

The forthcoming two day meeting based at Redcar should help in this respect.

Fortunately, the major industries are very much aware of the delicate balance of the existing wildlife and are anxious to play their part in its preservation.

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FORGETTING TO DIE

In a garden where I work one day a week at Chedglow, near Malmesbury, I have come across examples of Foxglove (*Digitalis purpurea*) and Woad (*Isatis tinctoria*) which have survived flowering and setting seed. They have gone on a further two seasons, flowering and setting seed. Other biennials such as Hemlock (*Conium maculatum*) and Great Mullein (*Verbascum thapsus*) seem much surer of their biennial status. I would much like to know what controls the suicidal impetus of plants and to hear of other examples of biennials that have misread their manuals.

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BOTANISTS AND BOTANY IN LITERATURE — 2

B.E. Smythies of Redhill points out that Dickens, in *Nicholas Nickleby*, gives a useful definition of Botany through the lips of Mr Squeers;

‘Where’s the second boy?’

‘Please, sir, he’s weeding the garden’ replied a small voice.

‘To be sure,’ said Squeers, by no means disconcerted. ‘So he is. B-o-t, bot, t-i-n, tin, bottin, n-e-y, ney, bottinney, noun substantive, a knowledge of plants. When he has learned that bottinney means a knowledge of plants, he goes and knows ‘em. That’s our system, Nickleby; what do you think of it?’

‘It’s a very useful one, at any rate,’ answered Nicholas.

Mr Smythies also draws attention to the botanical content in Kipling’s story ‘Fairy-Kist’, from ‘Limits and Renewals’. His own researches into certain references to four well-known botanists in the story deserve fuller treatment than there is space for here.

Now for some more less than laudatory references to those of us who botanise. Wordsworth appears to equate botanising with cold-heartedness:

‘A fingering slave,

One that would peep and botanise

Upon his mother’s grave?’ (*A Poet’s Epitaph*)

G.K. Chesterton felt that attending to wild plants had a detrimental effect on Thomas Hardy’s character:

‘Hardy went down to botanise in the swamp, while Meredith climbed towards the sun . . . Hardy became a sort of village atheist brooding and blaspheming over the village idiot.’ (*The Victorian Age in Literature*)

Dr Johnson had little time or patience for the subject:

‘Are you a botanist, Dr Johnson?’

‘No, Sir, I am not a botanist, and (alluding no doubt to his near sightedness) should I wish to become a botanist, I must first turn myself into a reptile.’

And I wonder why W.H. Auden cast the botanist as arch-villain, in the epilogue to his *Look, Stranger*:

‘For the wicked card is dealt, and

The sinister tall-hatted botanist stoops at the spring

With his insignificant phial, and looses

The plague on the ignorant town.’

— Clearly, one should look out for one’s companions’ head-gear when botanising near a reservoir.

Many thanks for suggestions from a number of members; but to keep the subject within bounds I think that quotations should be limited to those mentioning 'botany' or 'botanising' or 'botanist' by name, or at least dealing with our subject as such, and not with plants in general. I look forward to receiving further material!

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ASPERGER'S SYNDROME AND CHURCHYARD LICHENS

I am afraid I have no ready literary botanists to hand but if Jack Smith is prepared to widen his brief for botanical references, there was a letter to *The Times* in the winter of 1992 which described a rare medical condition known as Asperger's syndrome — 'newly diagnosed sufferers tend to be loners and to devote themselves to such esoteric pursuits as 16th century Spanish wars or churchyard lichens'. I should add that it was an amused lichenologist to whom I am indebted for this insight.

For the flippancy section (*Botanical Jokes*) may I submit:

- Q What did the old pondweed say to the newcomer?
A Elodea.

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TREES IN 1995 IV

Calculated editorial cunning separated the three articles on the unseasonable behaviour of trees in 1995 in five English counties (Leics., Warks., Gloucs., Oxon. & Wilts., *BSBI News* 71 Jan. 1996) on pp. 16, 35 & 78. The authors, Martin Cragg-Barber, Tony Primavesi and myself posed similar questions and gave partial answers to each other.

An abbreviated summary (omitting exotics) of the three articles would be as follows. Ash (*Fraxinus excelsior*), Elder (*Sambucus nigra*) and Beech (*Fagus sylvatica*) restarted leafing in June when devastated by late frosts. Ash, Elder, Beech, European Larch (*Larix decidua*), Common Lime (*Tilia × vulgaris*), Hawthorn (*Crataegus monogyna*) and Rowan (*Sorbus aucuparia*) had often been defoliated during the summer drought and restarted leafing in autumn. The two Rosaceae members, Hawthorn and Rowan, sometimes restarted flowering again in October and November.

I can add to this list some young Silver Limes of three species, which did not even start their initial annual leafing until Sept. 1995. The buds of Oliver's Lime (*Tilia oliveri*), European Silver Lime (*T. tomentosa*) and European Silver Pendant Lime (*T. petiolaris*) began to expand during the light warm September rains in this part of Wiltshire (Marlborough Downs and Upper Kennet Valley) to put on a spectacular leafing display lasting from 20th September to mid-December 1995.

Last year (1995) was climatically a very odd year — according to the trees.

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A CHLOROTIC *EPIPACTIS HELLEBORINE* IN AN EDINBURGH HOUSING ESTATE.

The three stems attached to a single rhizome were approximately 12 cm high and were growing on a closely mown grass verge in the Craigmount area of Edinburgh. They failed to flower but as shown by the photograph (below) managed to reach the budding stage with obvious flower bracts. Major Anthony Jack informed the Royal Botanic Garden of this find and carefully parked his car over the orchid so that they could not be mown before we managed to examine them. Richard Bateman, one of our orchid specialists who has seen similar such plants only twice before in the south of England, confirmed the plants identity. *Epipactis helleborine* ((Broad-leaved Helleborine) had not been recorded in this area before but the species was known from the adjacent Barnton area since last century. Hence the chlorotic plant was likely to have been growing in this area in a suitable habitat before the houses were built about thirty years ago. We could see no reason why chlorosis should be caused unless the mowing had weakened the plants sufficiently to allow some other agent to cause the sickness. All other plants in the area seemed perfectly healthy. Sadly the orchid stems withered away before flowers were fully developed.

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Chlorotic *Epipactis helleborine* Photo © D. McKean

RARE PLANTS IN THE AVON GORGE, BRISTOL CONTAMINATED WITH HEAVY METALS

Rare plants in the Avon Gorge at Bristol, one of the richest botanical localities in the country, have been severely contaminated by heavy metals following restoration work on the Clifton Suspension Bridge. The contractors used a copper slag abrasive to shot-blast old paint off the bridge before it was repainted, and the spent slag was allowed to fall into the Avon Gorge below, resulting in heavy deposits over ledges in St Vincent's Rocks and in Leigh Woods. The slag is a fine (0.2-2 mm), glassy waste product of copper smelting and contains 200-300 times normal soil levels of copper and zinc, and other metals including cadmium, titanium and lead.

A provisional survey in January 1996 showed that large amounts of the copper slag occurred within 80 m to the south of the bridge and smaller amounts up to 130 m. Up to 2 cm of slag occurs on some ledges with rare plants, and drifts 8 cm deep occur at the base of the rocks. Finer dust has been found at least 250 m from the bridge; the contamination thus probably affects at least half a kilometre or the gorge. The resultant heavy metal concentrations in soils are currently being analysed.

The Avon Gorge is an SSSI, a proposed Special Area for Conservation (SAC) and part is a National Nature Reserve. Two statutorily protected plants (round-headed leek and spiked speedwell) and at least ten other rarities are significantly affected (Table 1).

Round-headed leek (<i>Allium sphaerocephalon</i>)	80% of the British population affected
Spiked speedwell (<i>Veronica spicata</i>)	100% of population in gorge affected
Autumn squill (<i>Scilla autumnalis</i>)	100% of population in gorge affected
Long-stalked orache (<i>Atriplex longipes</i>)	100% of population in gorge affected
Rock stonecrop (<i>Sedum forsterianum</i>)	100% of population in gorge affected
Bloody crane's-bill (<i>Geranium sanguineum</i>)	90% of population in gorge affected
Little Robert (<i>Geranium purpureum</i>)	90% of population in gorge affected
Southern polypody (<i>Polypodium cambricum</i>)	70% of population in gorge affected
Rock Hutchinsia (<i>Hormungia petraea</i>)	50% of population in gorge affected
Spring cinquefoil (<i>Potentilla neumanniana</i>)	50% of population in gorge affected
Dwarf mouse-ear (<i>Cerastium pumilum</i>)	25% of population in gorge affected
Compact brome (<i>Anisantha madritensis</i>)	15% of population in gorge affected
Dwarf sedge (<i>Carex humilis</i>)	1% of population in gorge affected

Table 1. Species affected by copper slag in Avon Gorge, Bristol.

The problem was first spotted by Libby Houston in June 1995, who contacted English Nature immediately. Their Officer was told that the slag was 'inert' but requested that it should be removed from the ledges on completion of the works; some material was indeed removed by the contractors, but 20 tons were unaccounted for and no further checks were made to see if it had been removed. Still concerned, Libby showed the deposits to Tim Rich in September 1995 who was somewhat surprised the slag was 'inert'; an analysis by Prof. Alan Baker, University of Sheffield found it to be highly contaminated with copper and zinc, and likely to be highly toxic to plants. Further analysis by Dr Mike Martin at Bristol University confirmed that the slag was far from inert.

The matter was raised with the Clifton Suspension Bridge Trustees, who regarded it as a matter for the contractors. At a meeting with the statutory authorities, the Trustees agreed to fund a trial clear-up and experiments, the results of which are currently being analysed. The most effective way of removing the grit was found to be wholesale removal of the topsoil and vegetation, leaving only the rarest plants (glorified rock-gardening), and it is simply not possible to clear up all the contamination. The clean-up, which requires painstaking, careful work on steep, dangerous slopes above traffic, is likely to be very costly.

The legal responsibilities for this disaster remain to be determined. Investigations of pollution of the River Avon are being carried out by the NRA, health issues by Bristol City Council and disposal of toxic substances by Avon County Council's waste regulation Department. Be warned, 100,000 tons of the copper slag are used annually elsewhere in Britain.

This is probably the worst botanical disaster in Britain since Teesdale was flooded. We will keep you informed of the developments and the casualty list.

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LEVEL OF REPRODUCTIVE ACTIVITY IN FERNS

In this area of Gloucestershire, on the Cotswold scarp, an area rich in ferns, I have recently (February 1996) observed *Polypodium vulgare* (Common Polypody) with plentiful immature sori. This suggests that reproduction was prevented last summer by the dry weather and the fern is now making up for lost time.

Phyllitis scolopendrium (Hart's-tongue) shows normal production of mature sori, *Dryopteris filix-mas* (Male Fern) shows no fertile fronds at present.

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DEWPONDS IN VC 61 — VEGETATION, SUCCESSION AND MAPPING

One does not expect to find much in the way of aquatic vegetation on chalk wolds. Village ponds might have their share, but finding *Schoenoplectus lacustris* (Common Club-rush) growing apparently in the middle of chalk grassland at 200 m was surprising until seen closer to be in a semi-derelict dewpond. Dewponds are man-made structures providing water for cattle and sheep in areas devoid of surface water. There have been varying designs, but all depend on the formation of a protected layer of impervious puddled clay. The diagram is based on those given by Hayfield and Brough (1). The quicklime deters worms which would burrow through the clay, the straw cushions the stones which in turn protect the structure from the hooves of the animals. Most dewponds were made during the 19th and early years of the 20th centuries and now are superfluous when piped water is available. Where land usage has changed from pasture to arable, many have been filled in. They are shown on the 1: 25 000 O.S. maps and comparison of a block of land 5 × 6 km (NE of SE85) showed 68 dewponds in the 1953 edition had declined to 13 in the 1986 edition.

Dewponds were often constructed at the junction of two, three or four fields. How they are replenished with water appears to be controversial, some thinking the dew does play an important role, others not. Since the majority are well away from rights of way, the writer thought it was likely that their vegetation was under-recorded in previous surveys. Consequently a small survey was started in the late summer of 1995 of those ponds found on parts of the Yorkshire Wolds, VC 61. Due to the drought during the early part of the survey, many had no standing water, but this enabled the vegetation to be checked more easily. The results are given in the tables.

Points to note are the following. Where water was normally present, the most frequent species of aquatic plant was *Lemna minor* (Common Duckweed) in 15 ponds (43%) and the next most prevalent was *Potamogeton natans* (Broad-leaved Pondweed) in 6 ponds (17%). Immediately surrounding the water, often forming complete rings were *Sparganium erectum* subsp. *neglectum* (Branched Bur-reed) in 15 ponds (43%) and *Eleocharis palustris* subsp. *vulgaris* (Common Spike-rush), 14 ponds (40%), followed by a variety of species each in only a few sites, e.g. *Juncus articulatus* (Jointed Rush) and *Iris pseudacorns* (Yellow Iris), though in the case of the last, the plants formed a complete ring almost to the exclusion of other species. This also raises the question as to whether the Iris, *Nymphaea alba* (White Water-lily), *Caltha palustris* (Marsh-marigold) and the variegated grass popularly known as Gardener's Garters have been deliberately introduced. The last of these has been listed in the table as *Phalaris arundinacea* var. *picta*, but it could have been *Glyceria maxima* var. *variegata* — the plants were not accessible. None of these plants was close to a farmhouse and there seems to be no obvious

reason for deliberate introduction. Also, two of the ponds are less than 8 km as the crow flies from the water gardens at Burnby near Pocklington.

Plants prominent on wet mud were *Chenopodium rubrum* (Red Goosefoot), *Ranunculus sceleratus* (Celery-leaved Buttercup) and *R. trichophyllus* (Thread-leaved Water-crowfoot) at 9 ponds (26%). On slightly drier ground, often to the exclusion of other species was *Agrostis stolonifera* (Creeping Bent) at 12 ponds (34%). As might be expected, 11 ponds (31%) had one or more species of *Epilobium* (Willowherb) present. The dry rim of the dewponds and those long derelict had a variety of arable and wayside plants and they have only been listed when either prominent or dominant, with no attempt to record every species present.

Because of the different dates of construction and subsequent usage and neglect, the ponds give a picture of the succession of vegetation as they gradually 'silted up' or dried out. So one could see a sequence:-

1. A pond still in use with only a scattering of plants around, mainly *Poa annua* (Annual Poa).
2. Ponds still functioning but not in use, with varying aquatic and marginal plants present.
3. Ponds dried out and differing little from the surrounding pasture (No.33), or if surrounded by arable, then with arable and wayside plants (No.28).
4. Ponds completely dried out with scrub and trees, e.g. hawthorn, from neighbouring hedges and sycamore deliberately planted.

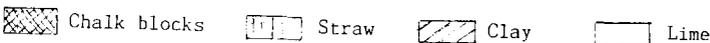
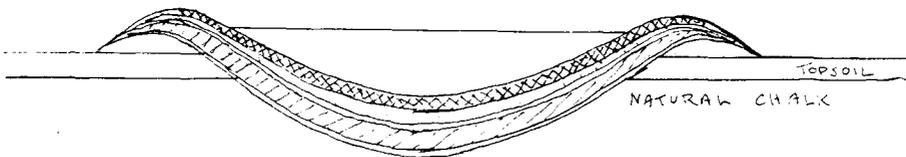
Records were not kept of dewponds not found and presumed filled in to make extra arable land.

The records obtained were compared with maps in the *Atlas of the British Flora* (2) and the new *Flora of the East Riding of Yorkshire* (3). The result was 21 records not shown for hectad squares in the *Atlas* and 72 tetrad records not shown in the *East Yorkshire Flora*. Of course, it does not follow that all these are new records, but many must be. In addition the Stonewort, *Chara virgata* (det. N.F. Stewart) was found in one dewpond and is thought to be a 1st VC record. These results, it is felt, justify the initial supposition that the vegetation of dewponds was under-recorded and should be brought to the attention of those helping with '*Atlas 2000*', though it may involve a lot of footwork and the seeking of permission for access.

My thanks go to all landowners, agents, and tenant farmers who gave permissions and showed an interest, including the Lord Hotham (agent S.N. Fairbank), Sir Tatton Sykes (agent Col. A. Wilson) and Messrs P. Burton, K. Clark, G.T. Conner, A. Dale, E.R. Megginson, S.G. Potts, S. Stubbings, and H.W. Watson.

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Structure of a Dewpond. Based on diagrams given by C. Hayfield and M. Brough

Pond No.	Date	Location	Grid Ref.	Alt. m.	Water	Land usage
1	22.7	Fimber	886 607	94	+	(P)
2	26.7	Towthorpe	888 638	195	+	A
3	26.7	Towthorpe	893 633	145	+	(P)
4	2.8	Fridaythorpe	864 605	105	-	P
5	2.8	Thixendale	853 608	195	+	A
6	14.8	Huggate	849 572	215	m	A
7	16.8	Huggate	863 541	192	m	A
8	18.8	Huggate	858 552	190	m	A
9	18.8	Warter	855 529	180	+	A
10	31.8	Thixendale	864 614	150	+	A
11	8.9	Sledmere	926 637	110	+	(P)
12	8.9	Sledmere	925 645	127	+	(P)
13	8.9	Sledmere	927 647	135	-	(P)
14	8.9	Sledmere	928 657	147	m	A
15	8.9	Sledmere	932 652	113	m	(P)
16	8.9	Sledmere	948 649	155	+	A
17	8.9	Sledmere	947 648	145	m	A
18	8.9	Sledmere	943 649	130	+	A
19	8.9	Cowlam	955 662	175	m	A
20	8.9	Cowlam	959 657	165	m	A
21	12.9	Dalton Holme	933 447	166	-	A
22	15.9	Sledmere	921 663	115	+	P
23	15.9	Kirby Grindalythe	909 668	145	-	A
24	2.10	Sledmere	942 648	120	+	A
25	2.10	Sledmere	938 648	115	+	(P)
26	2.10	Sledmere	959 633	127	+	A
27	2.10	Sledmere	937 653	120	+	A
28	2.10	Duggleby Weld	874 694	192	-	A
29	9.10	Towthorpe	881 637	205	+	A
30	6.10	Swaythorpe	039 694	120	+	A
31	9.10	Thixendale	814 609	225	+	A
32	16.10	Holme Weld	932 467	69	+	A
33	16.10	Dalton Holme	939 464	57	-	P
34	16.10	Dalton Holme	934 460	84	-	A
35	16.10	Dalton Holme	923 461	102	-	A

+ — water present;

- — water absent;

m — wet mud present

Located in A — arable,
P — pasture,
(P) — fenced off in pasture

MISTLETOE SURVEY

MISTLETOE SURVEY UPDATE

Enquiries about mistletoe continue to keep me busy and I offer the usual apologies for any delay in replying to letters. This update doubles as a last call for data — analysis will need to begin in earnest this summer if results are to be available this year. Many correspondents, not to mention the media, are hoping for (and sometimes demanding!) a full and exhaustive account well before this Christmas — perhaps I should give up the day job!

For those curious about analysis so far I offer the tetrad dot map below. This is very provisional but does seem to be in broad agreement with the distribution map generated by the 1969/70 survey. A fuller account of the provisional results is given in my article on mistletoe in the December issue of *British Wildlife* magazine. This includes notes on insect associations and reproductive biology as well as host preference and distribution. An accompanying article by John Box on Christmas uses of evergreens includes traditions associated with mistletoe.

One aspect of mistletoe not widely appreciated in Britain is its potential in medicine. I have just returned from a conference in southern Germany dedicated to mistletoe and its uses. This was hosted by Helixor, one of several German and Swiss firms specialising in mistletoe extracts used in cancer therapy. The theme was the background to mistletoe and mistletoe families rather than the medicines themselves and I am still investigating these. The various products, such as Iscador, Helixor and Abnoba seem to be widely accepted over there though I am unclear about proof of their clinical efficacy. I am aware that some work on mistletoe extracts in Britain has suggested a real value in cancer treatment but medical enthusiasm seems rather more guarded here. I would be interested to hear from anyone who could help with information on this.

The issue of harvesting came up in several discussions at the conference. It seems that the mistletoe extracts are made from all the subspecies of *Viscum album*, including subsp. *album*, our native subspecies but also subsp. *austriacum* and subsp. *abieties*, the two that grow on Pines, Firs and Larches in mainland Europe. Sustainable harvesting was hardly mentioned (unless I missed it in one of the German sessions) except for a comment that *V. album* subsp. *album* harvests from Oaks in France are carefully monitored.

Usual SAE please for last minute record cards and/or information about the *British Wildlife* article.

JONATHAN BRIGGS, BSBI Mistletoe Project, 2 Ledgemoor, Watledge, Nailsworth, Glos GL6 0AU

MISTLETOE IN OXFORDSHIRE

Having tried to correlate the distribution of many species in Oxfordshire (VC 23) with geology and other features, I welcome Richard Tofts' article on *Viscum* in *BSBI News* 70 (Sept. 1995).

Viscum in VC 23 grows on *Crataegus*, *Malus*, *Populus*, *Robinia* and *Tilia*, which between them abundantly occupy all 596 of our tetrads, but exploits only a tiny fraction of this resource, and in only 30 tetrads.

Our data superficially suggest that *Viscum* is favoured by 3 factors:

- 1 **chalk**; of our 100 tetrads with chalk it grows in 16. However the dots are arranged around the edges, not at all in the chalk heartland.
- 2 There is a better correlation with **towns**; the urban areas of Oxford, Goring, Caversham and Henley extend to 29 tetrads of which Mistletoe is in 12; but most other towns lack it.

3 **The Thames.** This runs through 48 tetrads from NW Oxford (Wolvercote) downwards and *Viscum* is in 15. But Mistletoe is not a riverside plant, and hardly grows near the Thames above Wolvercote, or other rivers. The behaviour of *Cuscuta europaea* (Dodder) is similar. The places cited are lowland areas with low rainfall and milder and less snowy winters than other parts of the county, but again are only a small fraction of such areas.

Thus a count of tetrads can suggest some possible theories but Mistletoe has a puzzling distribution and some quite different factor must be severely restricting it.

JOHN KILLICK, Struan Cottage, 17B Park Crescent, Abingdon, Oxon. OX10 1DF



Tetrad map of Mistletoe in the British Isles

CONSERVATION NEWS

CONSERVATION IN THE BSBI

The Conservation Committee has a new plan; the 'Strategy and Action Plan for the Conservation of Vascular Plants' which has recently been adopted by Council. In preparing the plan, we have been cognisant of the strengths of the BSBI and how these can best be used to conserve our flora. Elsewhere the better strategy is to co-operate with other organisations towards the common goal.

Data gathering has always been a primary function of the BSBI and it is a fundamental first stage in conservation. We are already committed to the *Atlas 2000* project to update our general knowledge. Fortuitously it will also cover the period of the first repeat Monitoring Scheme survey, due in 1997/8. The rare and scarce species are more vulnerable. The Plan recognises this and proposes a more detailed study of their populations and ecology. The objective being to assess the risks of a decline and to be prepared with effective remedial actions. We hope many members will find such studies rewarding.

Botanists tend to regard aggressive, alien species and genotypes as bad news, and not to be recorded with lists of more desirable species. As a result we have patchy or unreliable data, making it difficult to decide if and where aliens pose a threat to our native flora. We hope to accumulate better data and we have made a start by asking the vice-county recorders what information they have.

Monitoring is the natural companion to recording. One area that is poorly monitored at present is the translocation of species and increasingly, of habitats. This is a contentious activity and we have little knowledge of the success of most projects after the first few years. We will assess the feasibility of maintaining a register, monitoring effects and offering sound advice.

We consider how threats to endangered species and habitats can be mitigated. Our participation at local and national level is valued. We can both alert people to problems and monitor threatened sites. Collectively we have an impressive body of knowledge on which to base the case for conservation and we should use it in the most effective way. This is an area where liaison with other bodies will be an effective way forward, and our role in developing this collective expertise as members of *Plant Life Link* and other national bodies is important.

Finally, education is seen as the way to promote conservation. We will be exploring better means of reaching the general public and in the longer term, appointing an education officer.

ROBIN M. WALLS, 16 Leigham Vale Road, Bournemouth BH6 3LR

COUNTY RARE PLANT REGISTERS

We must take issue with one item in that otherwise excellent summary in *BSBI News* 71: 10 concerning County Red Data Books. That for Dorset is neither glossy nor for the purposes of publicising the Trust. It was produced by the Dorset Environmental Records Centre, an independent and separate body. Nor was it 'for promoting the cause of protecting the rare species'; indeed it would be against the ethos of DERC to make such value judgements. Our primary aim was to produce for each taxonomic group, a straight-forward factual list of what is rare, according to standard criteria and what is known about the status of the species at a fixed point in time. We also wished to produce a readily available and readable account of Dorset's rarer wildlife. Hopefully all of the 21 bodies that have approached us will copy (and improve on) the format, and not be put off by such dismissive comments.

For each group we took advice from specialists on the most appropriate way to describe 'rarity'. We agree that the Red Data Book for birds is rather different in having categories for breeding and wintering, and also for passage migrants. For this reason many of the county's birds are listed in one way or another. But the interpretation is valid and informative; the bird chapter is only one of eighteen. As for the other seventeen, we found the less mobile groups could be classified in a comparable manner to our familiar botanical categories.

We look forward to many County Rare Plant Registers, and also to many County Red Data Books — they both have their place.

Copies are still available from DERC — or from F. and M. Perring.

DAVID PEARMAN & ROBIN WALLS, Dorset Environmental Records Centre, Colliton House Annex, Glyde Path Road, Dorchester, Dorset DT1 1XT.

CYPRIPEDIUM CONSERVATION REPORT 1995

The native plant of *Cypripedium calceolus* again flowered well in 1995 despite the hot, dry summer. The eleven year old seedling which first flowered in 1993 has again produced a flower. There are now sixty shoots at the site as a result of both seedling planting and the scattering of hand pollinated seed. The site is not accessible to visitors — it is on private land and, in addition, the habitat is very fragile and seedlings would be damaged by visitors. Wardening is continuous and strict.

The Committee is pleased to report that numbers of would-be visitors continue to fall and we thank you for staying away. Plans are going ahead for the provision of a viewing site and I shall be pleased to report on this as soon as it is available.

MARGARET LINDOP, E.N. *Cypripedium* Committee

PLEASE KEEP AWAY

English Nature as part of its fen orchid Species Recovery Programme together with Norfolk Wildlife Trust are requesting photographers not to visit the last sites for Fen Orchid (*Liparis loeselii*) in Norfolk during the summer.

The warden of Kenfig NNR in Glamorgan, Wales, Peter Jones (01656 743386) would be happy to receive photographers who wish to photograph the south Wales populations of fen orchids as an alternative. Please contact Peter.

It is hoped that as the population of fen orchids in Norfolk increases we can develop facilities that enable photographers to visit Norfolk sites.

REG LAND, Conservation Manager, Norfolk Wildlife Trust, 72 Cathedral Close, Norwich, Norfolk NR1 4DF

ALIENS

MENTHA PULEGIUM IN GRASS SEED

I was somewhat surprised when 1995 produced a whole crop of records in Cheshire for *Mentha pulegium* (Pennyroyal) which, although mentioned in De Tabley's *Flora* (1899) as a native in a small area of south Cheshire, has, to my knowledge, not been reported since. As this plant seems to be currently occurring elsewhere in the country, it seems worth alerting people to possible non-native sources. Some recent records I have heard of are as follows:

- VC 14 East Sussex. Ardingly Reservoir, Sept. 1979. Mary Briggs tells me it was traced to grass seed originating in N. America and tailored to suit areas periodically inundated. *Downingia elegans* (California Lobelia) was also present. (*BSBI News* 23).
- VC 32 Northampton. A reservoir site (also with *Downingia*) sown with Creeping Red-fescue seed from Canada and supplied by British Seed Houses of Warrington, Cheshire! (pers. comm. Gill Gent)
- VC 58 Cheshire. (1) Eastham Ferry, Wirral. Grassed area behind newly renovated seawall (Keith Watson). (2) Anderton, Northwich. Seeded areas of reclaimed industrial site (G.M. Kay). Associated with *Trifolium fragiferum* (Strawberry Clover), *Lotus corniculatus* var. *sativus* (Bird's-foot-trefoil) and the odd pansy. (3) Nantwich. Grassland in old hall taken over by RSPCA (Shirley Burton). This is not known to have been seeded and is in the right area of Cheshire to be potentially native, but the presence of *Sanguisorba minor* (Salad Burnet), which does not occur naturally in Cheshire, suggests an introduction.
- VC 59 South Lancs. Penwortham, Preston (pers. comm. Peter Jepson). Here the *Mentha* was associated with shrubs planted round ponds in an area of ancient meadow now part of Hirst Grange Park. This could be a native site.
- VC 64 Mid-west York. Guisburn. One plant on seeded road-verge with *Barbarea verna* (American Winter-cress) and *Veronica polita* (Grey Field-speedwell) (pers. comm. Phyll Abbott).

So do not get overexcited if you find Pennyroyal in a new site, but first consider the hand of man, not nature. I have also heard of some records in Wales which might fit into the alien category. The plants are apparently somewhat more robust and erect than the native form and joins an expanding list of species being introduced at random into our countryside to pollute our native stock. It is a shame that *Mentha pulegium* is so scarce these days, but this is not the solution. I don't know if the Warrington firm is the only source, but their common name should be British Seed-houses and never British-seed Houses.

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

TINTERN SPURGE IN KENT

The main floras refer to *Euphorbia serrulata* as a plant of W. England and S.E. Wales, but it is also established in the east of the country. A colony found by Alan Leslie in 1986 by the edge of the woods at Wisley Common, VC 17 (Surrey) was still thriving in July 1995. And on 15th June 1995 I found some hundreds of this ineradicable weed to be extensive on sandy waste ground near Crockenhill, W.Kent (VC 16), TQ/5.6, (conf. E.J. Clement). The species is happy in sun or shade and I do wonder if it may be overlooked before fruits develop (particularly for *E. × pseudovirgata*).

[N.B. re Dick Barrett's article on *E. oblongata* in *BSBI News* 71 page 48, can I just say that the species is mentioned in the RHS suppl. to Dictionary of Gardening 1969].

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

DRUCE AND THE BSBI

MAKING LIGHT OF A GRAVE OCCASION A Memorial for George Claridge Druce FRS 1850-1932

In preparation for the AGM in Oxford in 1994 a leaflet on Druce's Oxford was produced by the Botanic Garden and the Department of Plant Sciences with sponsorship from the BSBI. It provides a map of a walk round Oxford to see seven places connected with one of Britain's most honoured field botanists — George Claridge Druce, 1850-1932. One of the seven was his grave in Holywell Cemetery but, sadly, no headstone bearing an inscription can now be found there.

One of Britain's most distinguished and much-loved field botanists rests in an unmarked grave in Holywell Cemetery. The BSBI has agreed to purchase a new headstone, simple and restrained, and made of Jurassic Limestone from his native Northamptonshire. This will be unveiled by the President of the Society on Saturday May 18th — the Weekend before Druce's birthday on 23rd May. To further mark the occasion the Ashmolean Natural History Society of Oxfordshire has arranged a lecture and half-day programme of events with the Oxford University Plant Sciences Department and Botanic Garden.

The £50 fee for the faculty to erect the stone, and the cost of putting it up, will be raised by donations at the meeting and local subscription.

Programme for Saturday 18th May 1996

Department of Plant Sciences

- 12.30 Display of Druceana in the Fielding Druce Herbarium
- 1.00 Lunch in the Common Room
- 2.00 Serena Marnier — *Druce and the Ashmolean Natural History Society of Oxfordshire*
- 2.10 Dr D.E. Allen — *Druce and the biodiversity of the British flora*

Holywell Cemetery

- 3.30 Unveiling the headstone by President of the BSBI: David Pearman
- 4.00 Walk to Botanic Garden through Magdalen College where Druce was an Honorary Fellow

Botanic Garden

- 4.30-6.00 Tea and viewing of *Geranium* × *oxonianum* 'Claridge Druce'. Prints of a painting of this plant by Rosemary Wise will be on sale at £25 in aid of the Friends of the Botanic Garden

If you wish to be present for all or part of this programme please send a stamped, self-addressed envelope to Dr Camilla Huxley-Lambrick by **11th May** at Picketts Heath, Ridgeway, Boars Hill Oxford OX1 5EZ, Tel. 01865 735161 If you would like lunch, enclose a cheque for £3 payable to ANHSO. You will be sent a copy of the 'Druce's Oxford' leaflet, which shows the venues, a ticket and details of parking facilities and travel arrangements. *For security reasons entry to Plant Sciences will be by ticket only.*

It is hoped that David Allen's lecture will be regarded as the first of a series of Druce lectures, to which we would hope to invite the Ashmolean Natural History Society of Oxfordshire and other interested botanists. The BSBI Meetings Committee will be considering further topics and venues for future years.

CAMILLA HUXLEY-LAMBRICK, FRANKLYN PERRING & STEPHEN JURY, Meetings Committee

OUR RAREST PLANT

Dr David Allen has sent me a photocopy of a newspaper cutting found by Tim Rich tipped into a Flora. It is from the *Daily Chronicle* of 24 May 1930 (the day after Druce's famous 80th birthday party) and it seems of sufficient interest to reproduce here.

OUR RAREST PLANT ITS HOME AND NAME A CLOSE SECRET BIRTHDAY GIFT

'Somewhere in the North of England is a small patch of wild countryside on which grows the rarest plant in this country.

All told, there are only twelve examples, but they are to be given to the nation, with the land on which they grow, to mark the 80th birthday of Dr. Claridge Druce, the greatest living British botanist.

The gift has been made possible largely by members of the Botanical Society and Exchange Club of Great Britain, of which Dr. Druce was the founder.

Only a privileged few know where this secret bit of England lies, and they are sworn not to divulge the spot, so that the plants will be safe until they are properly protected.

Even the name of the flower was withheld at the presentation gathering yesterday.

A LEARNED MAN

In presenting the cheque to buy the title deeds, Viscount Grey of Fallodon spoke of Dr. Druce's great work for Botany.

Dr. Druce is a member of nearly every botanical society in the world, and has discovered more than 100 species of new plants.

"We are living in a very interesting age" said Lord Grey, "not merely because scientific discovery has progressed so enormously in our time, but because things are quite different from what they were 60 years ago."

"To-day each discovery seems to bring us nearer, not to the end of knowledge, but to a larger and longer vista of the unknown."

Sir Maurice Abbott Anderson, president of the Flora League, explained how the presentation came about, and Dr. Druce said that when he had bought the "mystery" ground he would hand the deeds over to the Society for the Preservation of Nature Reserves.

If that could not be arranged it should go to the National Trust.

WOMEN'S GIFTS

Women showered bouquets and congratulations upon the happy little doctor at the reception held in the afternoon.

Although 80, he is extremely active, and still works as hard as many men at 40.

A host of savants and titled people brought birthday congratulations.

"I have not finished yet," he said with a chuckle to a "Daily Chronicle" representative. "Only recently I found 14 new species of taraxacum—what you would call dandelions."

Does any member know what 'the small patch of wild countryside' or 'our rarest flower' was?

EDITOR

NOTICES (BSBI)

PRE-PUBLICATION OFFERS

The BSBI is usually anxious to help members who are authors of local Floras by sending out for them pre-publication offer notices.

However, the considerable delays in publication of books on some recent offers have resulted in trouble (and expense) to BSBI officers dealing with enquiries, as well as to authors and publishers.

We realise the many difficulties in estimating the time that the manuscript will be with publishers. **Please** make a realistic assessment of probable date of publication and aim to send out the notice within 3 months of actual publication; **stating the anticipated publication date.**

When you have decided this, apply to the Hon. Gen. Sec. for mailing dates, numbers of copies and delivery address for inserts, with a note of anticipated size and number of pages. Leaflets should normally be A5 or if A4 folded to A5 before delivery, and on lightweight paper to reduce postage costs.

Clearly mark the notice pre-publication offer (unless it is an undated offer for BSBI members). It is **essential** to give the address for enquiries on the portion of the notice retained by the applicant (as well as on the application form) in case of unexpected delays.

The Society normally charges for inserts and advertisements for publications of a more commercial nature.

MARY BRIGGS, Hon. General Secretary

AZORES FIELD MEETING — ADVANCE NOTICE

A Field Meeting in the Azores is proposed from 21st June to 6th July 1997, Leader A. Copping. Further details will be given in the September 1996 issue of *BSBI News*.

ARTHUR COPPING, The Nook, Brewers Green, Roydon, Diss, Norfolk IP22 3SD

NOTICES (NON BSBI)

UNIT OF VEGETATION SCIENCE LANCASTER UNIVERSITY 1996 Training Programme

The mission of the Unit of Vegetation Science Training Programme is to put in place the skills and confidence needed to understand and sustain Britain's semi-natural vegetation resources.

With support from Lancaster University's Continuing Vocational Education and Training budget, this vision has become the basis of a flourishing educational enterprise. We are now a leading provider of training for professionals through programmes of short courses and workshops.

Standard training in the National Vegetation Classification (NVC) remains a central element in our portfolio but more specialised applications of the approach are increasingly demanded. In 1996, for example, courses and workshops will look at Habitat Quality and Value, Understanding the Habitats

Directive, Pastures and Meadows, Creating New Native Woodlands, and Ecological Options in Landscape Planning. Each year, we also provide customised training for organisations and groups of professionals.

Training with the Unit of Vegetation Science offers you first-hand experience with leading practitioners. Our team is headed by the Unit director, Dr John Rodwell, co-ordinator of the NVC and editor of *British Plant Communities*, who heads all courses and workshops. We draw on expertise from both Lancaster University and respected partner organisations.

Building a sense of co-operative working — in pairs, groups and as a single team — is an important part of the experience of these courses. But there is always ample opportunity for participants to contribute their own perspective and to relate what is learned to their particular needs. We also ensure sufficient training staff to provide individual attention throughout.

For further details and a booking form please contact:

JULIA MILTON, Short-Courses Officer, Unit of Vegetation Science, Lancaster University, Lancaster LA1 4YQ. Tel: 01524 594503, Fax: 01524 843854, E-mail j.c.milton@lancaster.ac.uk

THE FRIENDS OF THE WAKES

In 1993, the bicentenary of Gilbert White's death, a group of his admirers joined together to form 'The Friends of the Wakes', named after the house in Selborne which was his house for most of his life. The Wakes is now a museum in his memory and the garden is being restored to White's original design and plantings. The purpose of the Friends is to keep alive the spirit of White's writing and observations, and to support the museum in the work that is being done. The Friends now number about 100 and it is hoped to expand by reaching in particular the many lovers of *The Natural History of Selborne*. Membership costs £5 (£8 per family) for which members receive a quarterly newsletter, details of talks and events and free entry to the Wakes.

Details of membership can be obtained from:

The Membership Secretary, The Wakes Museum, Selborne, Alton, Hants., GU34 3JH.

'GARDEN FIRST'

**Inverleith House, Royal Botanic Garden Edinburgh
11 May - 2 June**

Scotland's Garden Scheme has invited some of Scotland's best-known artists to draw and paint in one of the gardens which open under the Scheme. Fifty artists have selected a favourite garden to work in and the results will be exhibited at Inverleith House. All the works will be for sale and a percentage of the proceeds donated to Scotland's Garden Scheme

For further information contact:

ANGELA KILDAY (RBGE Press Officer), 20A Inverleith Row, Edinburgh EH3 5LR.
Tel: 0131 552 7171 ext. 427; Fax: 0131 552 0282

FUTURE CONFERENCES AND SYMPOSIA

FIRST EUROPEAN UNION CONFERENCE ON NATIVE & REGIONAL PLANTS

Plants in their places

20-21 November 1996

at the Linnean Society, Burlington House, Piccadilly, London W1V 0LQ

To be opened by THE EARL OF SELBORNE,
Chairman of the Joint Nature Conservation Committee

with an evening presentation on 20 November at The House of Lords

As well as conveying a sense of place for each region, and often being a source of communal pride, local plants in many countries provide medicine and staples for local people — and are the basis of plant/animal associations. There have been conferences on wildflowers and ethnobotany, but this is the first international conference on native and regional plants. The deleterious effects of introducing non-native wildflower seed has been recognised by the UK Biodiversity Steering Group and this conference, with talks by leading exponents in this area, will contribute to the debate. Scientific research on maintaining biodiversity needs dissemination; community action needs support; plants nearing extinction, especially grasses, shrubs and trees, in natural habitats in situ, need cultivating ex situ — as do the plants in the food webs of threatened animal species.

Advances in Palaeobotany and Palynology means that botanists can now distinguish between naturalised and native flora with great precision. The use of indigenous plants is stressed in Agenda 21, and fits with the UK Government Biodiversity Action Plan. Scientific research, checklists of regional flora and the Pan-European Biodiversity and Landscape Strategy will be highlighted.

Papers will be given by Sir Simon Hornby, President of the RHS; Professor Roger Short FRS; Dr Christopher Humphries, Botanical Secretary, Linnean Society; Dr Miriam Rothschild FRS; Dr Franklyn Perring OBE, Past-President of the BSBI; Dr Roger Smith, Head of the Seed Conservation Programme at RBG, Kew; Dr Richard Pankhurst, RBG, Edinburgh; John Brookes, garden designer; Dr Peter Bridgewater, Australian Nature Conservation Agency; John Wrigley A.M., former Curator of National Botanic Gardens, Canberra.

Convenors: The Duchess of Hamilton FLS; Penny Hart FLS; David Pescod FLS

Registration: £40 includes the reception at the House of Lords

Contact: Linnean Society Tel: 0171 434 4479 Fax: 0171 287 9364

E-mail: marquita@linnean.demon.co.uk

NATURAL HISTORY COLLECTIONS: A Resource for the Future

Second World Congress on the Preservation and Conservation of Natural History Collections

20th - 24th August 1996

Hosted by the Department of Earth Sciences, University of Cambridge

For further details and registration forms please contact:

The Administrator, 2nd World Congress, Department of Earth Sciences, Downing Street, Cambridge
CB2 3EQ. Tel. 01223 334421; Fax. 01223 333450

JAPANESE KNOTWEED — A STRATEGY FOR EFFECTIVE CONTROL

Wednesday October 16th 1996

Loughborough University of Technology

Further details of this one-day workshop for those interested in the management and control of Japanese knotweed are available from:

GILL GILES, ICOLE, Dept of Geography, Loughborough University of Technology, Loughborough LE11 3TU. Tel.: 01509 223030. Fax: 01509 260753. E-mail: G.Giles@lut.ac.uk

GLOBAL BIODIVERSITY RESEARCH IN EUROPE INTERNATIONAL SENCKENBERG-CONFERENCE

December 9 - 13, 1996
Frankfurt a. M., Germany

Subjects to be covered: Systematics and taxonomy of all groups of organisms on a world-wide or a European scale; Phylogenetic analysis and problems; Tools and techniques for systematic research; Biogeography as one of the main applications of taxonomy.

Depending on participation, discussion groups will be put together in order to address subjects of common interest. We hope to receive suggestions from prospective participants.

A small fund will be available in order to contribute to the travel expenses of people being otherwise unable to participate.

If you are interested in participating, please contact us at the address below. Your preliminary inquiry should contain the following items: Name, Address, Phone and Fax-numbers, e-mail address; Are you planning to present a contribution (poster or oral)?; If title (even if preliminary) is known, please add; Any further suggestions (e.g. for discussion groups); Application for travel fund.

Secretary of the International Senckenberg Conference on Biodiversity Senckenberganlage 25, D 60325 Frankfurt a. M., Germany. Fax 004969 746238; E-mail: mtuerkay@sng.uni-frankfurt.de

CONTOURS OF ECOLOGY RELIGIOUS FAITH AND ISSUES IN ECOLOGY TODAY

Monday 9th to Wednesday 11th September 1996
High Leigh Conference Centre, Hoddesdon, Herts

For further details of this interesting and unusual conference, jointly organised by the Science and Religion Forum and the British Ecological Society please contact:

The Rev'd Ursula Shone, Diocesan Science Advisor, 25 Pinfold Lane, Ainsdale, Southport, PR8 3QH
Tel. 01704 576098

PLANTS FOR FOOD AND MEDICINE

1-6 July 1996, London

A joint meeting of the Society for Economic Botany and the International Society for Ethnopharmacology is being sponsored by the Linnean Society, The Natural History Museum in London, the Royal

Botanic Gardens, Kew and Scotia Pharmaceuticals Ltd. The programme includes symposia on *Food, Medicine and Health, Cross-Cultural Plant Exchange* and a satellite symposium on Botany — *What's in it for Drylands Development?* as well as contributed papers.

For more details, contact:

The Linnean Society, Burlington House, Piccadilly, LONDON W1V 0LQ Tel: 0171 434 4479,
Fax: 0171 287 9364, E-mail: marquita@linnean.demon.co.uk

REQUESTS

MEADOW-RUES

I am currently revising the *Thalictrum* species of Europe, N. Africa and W. Asia and would be pleased if BSBI members could collect rhizomes, seeds and/or herbarium material especially of *Thalictrum foetidum*, *T. flavum*, *T. minus* and *T. simplex* (all sensu lato). Material of these taxa from outside the study area is welcome too. Rhizomes of all species are transportable in plastic bags for at least three or four weeks without any problems if a few drops of water, moist earth or moss are added.

Please note the exact locality and if possible information about ecology and morphology of the population. All contributors will be informed about the results at the end of the study.

RALF HAND, Botanischer Garten und Botanisches Museum Berlin-Dahlem Königin-Luise-Str. 6-8,
D-14191 Berlin

PERSICARIA AMPHIBIA (AMPHIBIOUS BISTORT)

This familiar water-plant, perhaps better known as *Polygonum amphibium*, varies in the arrangement of its stamens and styles, pollen fertility, indumentum and also in its readiness to flower and fruit. Terrestrial plants are less fertile, it seems.

My research project at Leicester University is investigating this and I would be grateful if readers could send me fresh flowering or fruiting material, preferably with a rooted piece. About 35 cm (10 in.) of stem is enough. Any gatherings, either in Britain or abroad, would help but specimens from isolated or remote places are particularly useful (where even vegetative material is of use). Please send your contribution to my home address, wrapped in damp newspaper and tightly sealed in a plastic bag, with details of location, habitat, vice-county, date and your name and address. I will refund your postage and acknowledge your help in any publication.

JAMES PARTRIDGE, 85 Willes Road, LEAMINGTON SPA, Warwickshire CV31 1BS.

WILL YOU BE IN THE PELOPONNISOS THIS SUMMER?

Dr Donald Pigott, who is researching the taxonomy of Lime trees, *Tilia* sp. worldwide, asks — 'Is any member planning to visit the Peloponnisos in August or September this year?' Dr Pigott urgently requires ripe fruit from Lime trees there. He needs to grow these for research into an as yet unnamed subspecies of possibly *Tilia platyphyllos* which occurs in that area. Collection from trees in the wild is preferable, but the natural habitats of gorges and steep rocky slopes may be a bit daunting. The same

lime is also grown in churchyards where they fruit freely and collection would be easy for any traveller there at the right time; these fruits from churchyards would be acceptable.

The puzzling subspecies occurs through Albania and Macedonia, and may cross the European boundary into Turkey; ripe fruits with a good herbarium specimen from Turkey would also be welcome. See Panel of Referees *BSBI Year Book 1996*: 20 and additionally: 'About 20-25 fruits are required from a tree, dried gently for a few days, then packeted in small polythene bags or tubes and sent to him as soon as possible after returning to England!' (**Note address below**).

If you do plan to be in the Peloponnisos in August/September, Donald can give you precise locality directions for the required *Tilia* fruits. Please contact him at: Dr C.D. Pigott, Greenbank, Cartmel, Grange-over-Sands LA11 7SQ.

MARY BRIGGS, Hon. General Secretary

WANTED — BRITISH AND IRISH HERBARIA
D.H. Kent & D.E. Allen, 1984. 2nd Edition

If any BSBI member has a spare or unwanted copy of the above, I would be pleased to hear from them. I would, of course, be willing to pay your asking price and refund postal costs — as long as its not too exorbitant!

PHILIP HARMES, 37 Farm Road, Buckley, Flintshire CH7 2PU

CHURCHYARD WILDLIFE

I have been asked by the publishers Harper Collins to write a New Naturalist volume on churchyard wildlife and conservation so I am once more researching the plants, birds animals and invertebrates which inhabit churchyards. I have kept my researches simmering in my own area over the past ten years and have seen many changes — some good others retrograde (widespread use of weedkiller around the base of graves, for example). Many BSBI members and vice-county recorders were kind enough to write to me about their observations and survey results during my earlier period of research. May I ask you to make contact again, to let me know how your Churchyards are developing, whether they still have the same species in them, or whether things have improved or not. I should also be very glad to hear from any new correspondents about Churchyards they are particularly acquainted with or where they have seen items of note — this includes human use. All contributions used in the book will of course, be fully acknowledged.

FRANCESCA GREENOAK, 4 Wood Row, Wigginton, Tring, Herts. HP23 6HS.
Tel. 01442 891156 Fax 01442 9890730

INFORMATION ON *ORCHIS SIMIA* IN OXFORDSHIRE

We are currently collating information on the performance of *Orchis simia* (Monkey Orchid) in Oxfordshire. Good information is available from 1986 to date, however any observations (number of plants, flowering/vegetative & date of visit) would be much appreciated.

Since the installation of a rabbit proof fence in 1992 the colony has thrived. 1995 was a record year with 123 plants recorded, including 72 flowering and 47 new, previously unrecorded, plants.

BBONT Wardens: Rod d'Ayala, Chris Raper & Fred Rayner, c/o Warburg Reserve, Bix Bottom, Henley-on-Thames, Oxon. RG9 6BL

BOOK NOTES

I don't know whether all Book Review editors have the same recurrent nightmare that I do: **no reviews to publish!** A month before the deadline one looks at the meagre pile of scripts and wonders whether there will be enough copy. However, the reviews arrived and the following will appear in *Watsonia* 21(2), due out in August. Thanks in advance to all the reviewers.

- Insects, plants and set-aside*. BSBI Conference Report no. 23. Edited by A. Colston & F. Perring. Pp. 55. Botanical Society of the British Isles, London. 1995. Price £6.50. ISBN 0-901158-26-7.
- Wildlife in church and churchyard*. N. Cooper. Pp. viii + 63. Church House Publishing, London. 1995. Price £6.95. ISBN 0-7151-7574-2. Obtainable from The Council for the Care of Churches, Fielden House, Little College Street, London SW1P 3SH for £7.50 incl. p. & p.
- Vascular plants of Russia and adjacent states (the former USSR)*. S.K. Czerepanov. Pp. x + 516. Cambridge University Press, Cambridge. 1995. Price £60.00. ISBN 0-521-45006-3.
- Kew. The history of the Royal Botanic Gardens*. R. Desmond. Pp. xvi + 466. The Harvill Press, London. 1995. Price £25.00. ISBN 1-86046-076-3.
- The flora of Northamptonshire and the Soke of Peterborough*. G. Gent, R. Wilson *et al.* Pp. 335. Robert Wilson Designs, Rothwell. Hardback price £30.00, ISBN 0-907381-03-0. Paperback price £23.00, ISBN 0-907381-08-1.
- Alpine flowers*. C. Grey-Wilson & M. Blamey. Pp. 353. Harper Collins, London. 1995. Price £12.99. ISBN 0-00-220017-1.
- Wild orchids of Hampshire and the Isle of Wight*. M.N. Jenkinson. Pp. 198. Orchid Sundries, Gillingham. 1995. Hardback price £24.95, ISBN 1-873035-04-7. Paperback price £19.95, ISBN 1-873035-03-9.
- Orobanche. The European broomrape species. A field guide. 1. Central and northern Europe*. C.A.J. Kreutz. Pp. 159. Stichting Natuurpublicaties Limburg. 1995. Price £40.00. ISBN 90-74508-05-7.
- Pondweeds of Great Britain and Ireland*. BSBI Handbook no. 8. C.D. Preston. Pp. 352. Botanical Society of the British Isles, London. 1995. Price £16.50. ISBN 0-901158-24-0.
- Sand dune vegetation survey of Great Britain: a national inventory. Part 1: England*. G.P. Radley. Pp. 126. £22.50. ISBN 1-873701-19-5. Part 2: *Scotland*. T.C.D. Dargie. Pp. 113. £16.00. ISBN 1-873701-20-9. Part 3: *Wales*. T.C.D. Dargie. Pp. 153. £26.00. ISBN 1-873701-21-7. All published by Joint Nature Conservation Committee. 1995. Special price for all 3 volumes £55.00. ISBN 1-873701-31-4 (set of three).
- Terrestrial orchids: from seeds to mycotrophic plant*. H.N. Rasmussen. Pp. xii + 444. Cambridge University Press, Cambridge. 1995. Price £45.00. ISBN 0-521-45165-5.
- Flores silvestres de Baleares*. A.M. Romo. Pp. 412. Editorial Rueda, Madrid. 1994. Price Ptas 3500. ISBN 84-7207-073-5.
- An illustrated survey of orchid genera*. T. & M. Sheehan. Pp. 421. Cambridge University Press, Cambridge. 1995. Price £60.00. ISBN 0-521-48028-0.
- Bracken: an environmental issue*. Edited by R.T. Smith & J.A. Taylor. Pp. vii + 228. Special Publication no. 2, International Bracken Group, Leeds. 1995. £29.95 incl. p. & p. ISBN 0-9525505-0-4. Obtainable from Working Papers Secretary, School of Geography, University of Leeds, Leeds LS2 9JT. Cheques to University of Leeds.
- Managing habitats for conservation*. Edited by W.J. Sutherland & D.A. Hill. Pp. 399. Cambridge University Press, Cambridge. 1995. Hardback price £55.00, ISBN 0-521-44260-5. Paperback price £17.95, ISBN 0-521-44776-3.
- Flora of North Aberdeenshire*. D. Welch. Pp. iv + 184. Privately published. 1993. Price £24.00. ISBN 0-9519889-05.

It isn't very long since the last Book Notes was prepared, so the list of books received recently isn't quite so massive as last time. Those which will not be reviewed in *Watsonia* are marked with an asterisk. The comments in square brackets are mine unless otherwise stated.

A natural history of Guernsey, Alderney, Sark and Herm. B. & J. Bonnard. Pp. xii + 160. Guernsey Press Co., Guernsey. 1995. Price £9.95. ISBN 0902550-60-8.

The flora of Hampshire. A. Brewis, P. Bowman & F. Rose. Pp. xii + 386. Harley Books, Colchester. 1996. Hardback price £45.00, ISBN 0-946589-34-8. Paperback price £25.00, ISBN 0-946589-53-4.

Farming with wildlife in mind. E. Charter. Pp. iv + 76. Orkney Farming and Wildlife Advisory Group, Kirkwall. 1994. Price £11.50. ISBN 0-9525196-0-7.

Aspects of the flora of Corca Dhuibhne. M. Uí Chonchubhair. Pp. xviii + 270. Oidhreacht Chorca Dhuibhne, Ballyferriter, Co. Kerry. 1995. Price £20.00. ISBN 0-906096-07-3. [The book covers the barony of Corkaguiney or Chorca Dhuibhne, Co. Kerry, which includes the area which most British and Irish readers know as the Dingle peninsula. Although the book is bilingual, I only found this out by studying the map of the area as the familiar name does not appear to be used even in the English text!]

**The anther: form, function and phylogeny.* Edited by W.G. D'Arcy & R.C. Keating. Pp. xii + 351. Cambridge University Press, Cambridge. 1996. Price £55.00. ISBN 0-521-48063-9. [A detailed account of the anther, based on papers given at a 1993 symposium. Topics covered include fossil history, origin, diversity and evolutionary trends, adaptation to animal pollination and an 'exhaustive' indexed bibliography of 1,437 works published since 1900. The sheer volume of literature is impressive and perhaps depressing in view of the statement in the blurb, which I see no reason to doubt, that the stamen and anther 'have received relatively little scientific attention'.]

**Algae: an introduction to phycology.* C. van den Hoek, D.G. Mann & H.M. Jahns. Pp. xiv + 623. Cambridge University Press, Cambridge. 1996 [but dated 1995 in book]. Hardback price £70.00, ISBN 0-521-30419-9. Paperback price £24.95, ISBN 0-521-31687-1. [A substantial introduction to the algae; a translated and updated edition of a German text. It is aimed at advanced undergraduates, postgraduate students and others who work with algae. After a brief introduction the main systematic groups are covered one by one in what appears to be a traditional approach concentrating on morphology. It ends with some 'phylogenetic reflections' and a bibliography of 1,937 numbered references. The many illustrations include a picture of an coccolith bloom off the coast of Iceland, *seen from space by a satellite.*]

**Lichen biology.* Edited by T.H. Nash III. Pp. xi + 303. Cambridge University Press, Cambridge. 1996. Hardback price £50.00, ISBN 0-521-45368-2. Paperback price £16.95, ISBN 0-521-45974-5. [Those who did a botany degree in the 1970s may remember Hales' *The biology of lichens* as the standard text on the subject. This multi-authored volume is intended as a replacement. It gives an accessible and readable account of lichen biology, but I am no lichenologist and cannot comment on its accuracy! The curious nature of lichens is well-known but the authors appear to be in some doubt about how to describe it: Chapter 1 begins "Lichens are by definition symbiotic organisms..." whereas Chapter 12 starts "Lichens are not organisms."!]

**The flora of King's Lynn.* R.M. Payne. Reprinted from *Transactions of the Norfolk and Norwich Naturalists' Society* 30: 317-342 (1995). [A detailed study of the flora of inner King's Lynn to add to the growing number of city floras such as *The flora of inner Dublin* and that little-known classic *The street flora of central Aberystwyth*. Species lists are provided for various habitats including those in the docks and more usual urban habitats such as gratings, roofs and gutters and the bare soil around the base of street trees. Available free from Ron Payne, Applegate, Thieves Bridge Road, Watlington, King's Lynn, Norfolk PE33 0HL: send an s.a.e. measuring at least 9" x 7".]

**Kvetena Ceske Republiky (Flora of the Czech Republic).* Volume 4: *Rosaceae-Fabaceae.* Edited by B. Slavik. Pp. 529. Academia, Prague, Czech Republic. 1995. Price not stated. ISBN 80-200-0384-3. [The fourth volume in a series previously reviewed in *Watsonia* 20: 77, completing the first half of the Czech flora project. It follows the style of the other volumes with detailed

descriptions, notes and superb illustrations. This volume deals with Rosaceae, Caesalpiniaceae and Fabaceae, and includes complete treatments of critical genera such as *Rubus* (91 taxa) and *Alchemilla* (27 taxa). There are English translations of the preface and the introduction, and an interesting essay on phytogeography supported by selected distribution maps. Although I don't have exact price details, the book is relatively cheap (less than £20). As before, this flora and volume is highly recommended. T.C.G. Rich.]

The flora of Montgomeryshire. Edited by I. Trueman, A. Morton & M. Wainwright. Pp. xii + 244. The Montgomeryshire Field Society & The Montgomeryshire Wildlife Trust, Welshpool. 1995. Price £21.50. ISBN 0-9526715-0-6.

A dictionary of plant-lore. R. Vickery. Pp. xx + 437. Oxford University Press, Oxford. 1995. Price £14.99. ISBN 0-19-866183-5. [Many thanks to Clare Smith of O.U.P. for stepping in to provide this!]

C.D. PRESTON, ITE Monks Wood, Abbots Ripton, HUNTINGDON, Cambs., PE17 2LS.

BSBI PUBLICATIONS — THE FIRST 20 YEARS

E.W. Classey resigned as the Society's book agents in 1976 and, when we were looking for an alternative, I suggested my father, Frank Perring, a retired businessman who was living near us, as an alternative. Margaret & I were able to store the bulk of the books in a cottage next to the farmhouse, Oundle Lodge, we were living in at the time whilst he operated in a bedroom, first at Glapthorn a village a mile north of Oundle and, later, in the town itself. He enjoyed the challenge and took a keen interest in new publications and how they sold at meetings, and he went on working almost until the day he died in November 1982. A fuller appreciation was published in *BSBI News* 33, 5.

This is though, perhaps, a moment to remind older members and inform more recent ones, that he was the F. of F. & M. Perring and that BSBI Publications is almost entirely run by M. — Margaret with the able assistance of Diana Briggs who is here at Green Acre, Wood Lane on Monday afternoons, and Tuesday and Thursday mornings.

If any members wish to call when in the area they will be most welcome. Just ring 01832 273388 in advance so that you will find Margaret or Diana 'at home'. They hope to be at your service for a few more years yet, so long as the arthritis gets no worse and we have enough space for the increasing number of BSBI publications.

FRANKLYN PERRING

NEWS FROM OUNDLE BOOKS

Several BSBI Publications are now out of print or reprinting. The last copies of *Plants Wild and Cultivated* and *British and Irish Herbaria* have now been sold, whilst the only handbooks currently in print are *Sedges, Roses, Charophytes and Pondweeds*. With the new Atlas Project underway we must hope that *Crucifers and Willows & Poplars* will be reprinted shortly and that those responsible for new editions of *Docks & Knotweeds* and *Umbellifers* will soon complete their work.

The need for County Red Data Books has been met in Northamptonshire and Derbyshire and we have copies of both in stock. There is also a very useful new book on Churchyard Conservation. For those going abroad we are now extending our range to cover South Africa and can currently offer a superb new book on the Fynbos.

If you would like a copy of the Supplement to our 1995 list which includes details of these and other new books please phone, Fax or write to:

F. & M. PERRING, Green Acre, Wood Lane, Oundle, Peterborough PE8 5TP
Tel: 01832 273388 Fax: 01832 274568

LIST OF VASCULAR PLANTS OF THE BRITISH ISLES

D.H. KENT

ERRATA, LIST 3 (December 1995) is now available from me on receipt of a s.a.e. Copies of lists 1 & 2 (1993 & 1994) are still similarly obtainable.

Later this year SUPPLEMENT 1 of Kent's *List* will be issued. It will cover additional species (over 200) and hybrids as well as changes in nomenclature and taxonomy, some of which have already been detailed in Errata Lists 1-3, but it will not repeat all the minor corrections to author's abbreviations, status and typographical errors, etc. that have appeared in these Errata Lists.

CLIVE STACE, Department of Botany, University of Leicester, Leicester LE1 7RH

REPORTS OF FIELD MEETINGS — 1995

Due to pressure of work, Dr B.S. Rushton has resigned as editor of Reports of Field Meetings and the following Reports will be the last under his editorship. Brian will continue to act as Receiving Editor for *Watsonia* and I thank him for his valuable contribution to *BSBI News*. Until a successor is appointed Reports should be sent to the Editor of *BSBI News*.

ABERFOYLE, STIRLINGSHIRE (VC 86), 22nd-23rd JULY

Saturday

A good turn out of 15 members and friends arrived after a bone-shaking drive on the private road to Comer, an isolated farm to the north of Ben Lomond. Permission for access had been obtained by Alastair Eckersall, the National Trust for Scotland ranger for Ben Lomond. Alastair also agreed to lead the summit party, since the meet leader was restricted to the lower slopes due to arthritis.

Three of us headed for the Allt mor, a steep gully to the east of the summit. The bracken covered lower slopes were broken by colourful swathes of *Dactylorhiza maculata* subsp. *ericetorum* (Heath Spotted-orchid) and *Narthecium ossifragum* (Bog Asphodel). In the gully itself *Saxifraga aizoides* (Yellow Saxifrage) was prolific on the banks and the almost dried-up stream bed. *Saxifraga stellaris* (Starry Saxifrage), *Oxyria digyna* (Mountain Sorrel), *Thalictrum alpinum* (Alpine Meadow-rue) and *Asplenium trichomanes-ramosum* (Green Spleenwort) were also found.

Those who made for the main cliffs in the corrie below the summit were able to update a 1959 record of *Carex atrata* (Black Alpine-sedge). *Sibbaldia procumbens* (Sibbaldia) was found in many small patches near the top of the corrie and by the path to the summit. On the cliffs *Polystichum lonchitis* (Holly-fern), *Cerastium alpinum* (Alpine Mouse-ear), *Poa alpina* (Alpine Meadow-grass), *Saussurea alpina* (Alpine Saw-wort) and *Hieracium senescens* were seen. *Empetrum nigrum* subsp. *hermaphroditum* (Crowberry) was identified. The widespread Eyebright was *Euphrasia scottica*.

The two who went on to a crag on the opposite side of Gleann Dubh were able to confirm that the trees on the crag were *Populus tremula* (Aspen). *Hieracium vulgatum*, *H. chloranthum* (Hawkweeds) and *Rosa sherardii* (Sherard's Downy-rose) were identified there. Loch Dubh, beside the forest road was also visited, and *Carex vesicaria* (Bladder-sedge) found.

Sunday

It was raining unremittingly as eleven stalwarts gathered by Loch Katrine at Stronachlachar pier. The aim had been to explore the apparently base-rich slopes and gullies of Maol Mor — part of the Loch Katrine water catchment area. Permission to record and to take one car along the private road had been obtained from the Water Authority. This time John Gallacher of SNH, Stirling, had agreed to lead the high-level party. He was joined by Lynn and Clive from Saturdays summit party. That they managed to record while negotiating steep slippery slopes and swollen burns can only be due to their unlimited

enthusiasm. *Trollius europaeus* (Globeflower), *Cirsium heterophyllum* (Melancholy Thistle), *Saxifraga hypnoides* (Mossy Saxifrage) and *Geranium sylvaticum* (Wood Crane's-bill) were some of the alkaline indicators found on the higher slopes. Thirteen species of ferns were found, including *Dryopteris expansa* (Northern Buckler-fern), *D. oreades* (Mountain Male-fern), *Hymenophyllum wilsonii* (Wilson's Filmy-fern), *Phegopteris connectilis* (Beech Fern) and *Gymnocarpium dryopteris* (Oak Fern). They also had a look at the shore of Loch Katrine, where *Lythrum portula* (Water-purslane), *Apium inundatum* (Lesser Marshwort) and *Littorella uniflora* (Shoreweed) were growing on the exposed mud-flats.

The rest of the party split into various groups, some of which attempted to explore the lower slopes of the hill, but were repulsed by rapidly swelling streams. Most of us ended up on the shores of the loch, among the *Carex rostrata* (Bottle Sedge) and *Sparganium emersum* (Unbranched Bur-reed). The sun came out as we gathered at Stronachlacher pier — all apparently having enjoyed the day.

EDNA STEWART

DISS, EAST AND WEST NORFOLK (VCC 27 & 28). 8th-9th JULY

Eleven members met at Bressingham Plant Centre car park on Saturday morning. We set off for Adrian Bloom's Foggy Bottom garden by special permission as it was not a public open day. The garden was laid out between 1970 and 1980 with a wide range of conifers, trees, shrubs and hardy garden plants including cultivated grasses, which we found especially interesting. Other plants of interest were *Silene noctiflora* (Night-flowering Catchfly) growing as a weed and *Potentilla palustris* (Marsh Cinquefoil) growing by the lake which was planted. We then went through stock beds into Alan Bloom's Dell Garden — inland beds in a setting of mature trees.

After lunch we visited Blooms of Bressingham nursery and, as it is private land we took advantage of recording in Arthur Copping's square, so grasses were important. We did not get far, as we came across a drainage ditch with a relic fen flora including *Carex disticha* (Brown Sedge) and waste ground with arable weeds, *Epilobium* spp. and hybrids (Willowherbs) were the most interesting. Before leaving we had a ride on the narrow-gauge railway which runs round the nursery, and from the carriage we continued in comfort to record, seeing *Geranium pyrenaicum* (Hedgerow Crane's-bill) flowering at the trackside.

In the evening some members and guests met at Bressingham village Hall to see the film 'Reed-grove' made and shown to us by local film maker and naturalist David Orr. This was made in the late 1970s about Redgrave and Lopham Fen and gave us a background for our visit on Sunday.

Both the sites visited on Sunday had been visited on the BSBI Weekend in 1991 as reported in *BSBI News* 60: 53.

Twelve members met in the morning at Redgrave and Lopham Fen, and our first find was *Potamogeton coloratus* (Fen Pondweed) in the pits dug for *Dolomedes plantarius* (Fen Raft Spider). To preserve the spider and the fen habitat from drying out further a great deal of money is being spent on the reserve including moving the adjoining bore hole. We noted the drying out in one area since our last visit, and *Gymnadenia conopsea* subsp. *densiflora* (Fragrant Orchid) and *Schoenus nigricans* (Black Bog-rush) were much reduced. Also in the spider-pits we found *Utricularia vulgaris* (Greater Bladderwort).

In the afternoon we visited East and West Harling Heath; on the first ride we found limestone flowers *Anthyllis vulneraria* (Kidney Vetch) and *Scabiosa columbaria* (Small Scabious) before coming to the breckland flowers. We were unable to find any sign of *Veronica spicata* subsp. *spicata* (Spiked Speedwell) reintroduced in 1989 and seen in flower on our last visit. *Medicago sativa* hybrids gave a good show with a wide range of colours from purple and yellow to black and green. *Silene otites* (Spanish Catchfly) had spread well since our last visit, and next to the heath on set-aside land was a large group of *Silene conica* (Sand Catchfly) seed heads.

The plant of the weekend was *Trifolium ochroleucon* (Sulphur Clover) which grows on roadsides around Bressingham, but to see a good specimen was a problem as the verges had been mown the Friday before.

I would like to thank Blooms of Bressingham, Suffolk Wildlife Trust and David Orr for their help in the weekend.

STELLA TAYLOR

ANNUAL EXHIBITION MEETING — 1995

The reports that follow have been edited for publication by Dr Sarah Webster despite having to do most of her work, including editing, with one hand! We send congratulations to Sarah and Antony Merrit on the safe arrival of Holly Emma Merrit-Webster on 23rd December 1995.

***PULMONARIA OBSCURA* (BORAGINACEAE) IN SUFFOLK: THE CASE FOR ACCEPTING NATIVE STATUS**

In Britain, *Pulmonaria obscura* (Unspotted Lungwort) is confined to three adjacent woods in Suffolk (VC 25). A strong case can be made for accepting these populations as native: a) they grow in ancient woodland, a habitat relatively unmodified by humans; b) the plant community associated with these populations is similar to that which includes native populations of this lungwort in Europe; c) the distribution of *P. obscura* in continental Europe is similar to several species accepted as British natives and which, like *P. obscura*, are restricted within Britain to East Anglia; d) *P. obscura* is accepted as a native in France and Belgium, e) there is no evidence that this lungwort was cultivated in Britain and no other garden escapes (except the widespread *Ribes rubrum* (Red Currant)) grow with the Suffolk populations; f) although these populations were not discovered until 1842, the species is very easy to over-look.

C. R. BIRKINSHAW & M. N. SANFORD

***PILOSELLA* × *FLORIBUNDA* IN THE BRITISH ISLES**

First recorded (as *Hieracium auricula* L.) from Cave Hill, Belfast, VC H39 in 1897, *P. × floribunda* was last seen there in 1910.

In 1991 a small population was found in the New Forest, VC 11, beside the B3056 near Beaulieu Road Station, on the site of military emplacements during the 1939-45 war and may have been introduced during that period.

The exhibit showed variation in population size over a five-year period and listed associate species, with colour photographs of habitat and flowering plants. A table of the characters distinguishing the hybrid and the parent species, a map illustrating the recorded distribution of each in Europe and specimens of the hybrid from Belfast and the New Forest, of *P. lactucella* from Keevil, VC 8 and *P. caespitosa* from Bromsgrove, VC 37 were also displayed.

R. P. BOWMAN

FLOWERING IN BRITISH *LEMNA* SPECIES

Lemna is one genus from the family Lemnaceae, all of which are small aquatic plants which float on or just beneath the surface of freshwater bodies. There are four species within this genus in Britain, namely

Lemna minuta, *L. minor*, *L. gibba* and *L. trisulca* (Least, Common, Fat and Ivy-leaved Duckweeds respectively).

Sexual reproduction in these species is considered to be rare. However it has been observed, under natural conditions, in all of these species during the summer of 1995. Flowering plants have numbered up to several thousand at a time and this, together with the observation of fruit development, may indicate the significant and overlooked role of sexual reproduction in the maintenance of genetic diversity within the genus.

J.L. BRAMLEY

SOME 'NEW' BRAMBLES FROM EASTERN ENGLAND

Sheets of three unnamed *Rubus* from Norfolk, VCC 27 & 28 and E. Suffolk VC 25 were displayed with a distribution map illustrating their extent by tetrad. Sheets were also exhibited of: an unnamed *Rubus* first discovered in the Hind collection in IPS and now known to occur from the Thames to the Humber, along with a brief account of the plant; *Rubus londinensis* from Norfolk VC 27 and S. Essex VC 18 with white flowers instead of pink; *Rubus mercicus* from Set 31 and a *mercicus* like plant from S. Lincs. VC 53 for comparison and comment. A sheet of *Rubus edesii* H.E. Weber & A.L. Bull from N.Lincs. VC 54 was displayed beside an Isotype from Germany. Named in the last issue of *Watsonia*.

A.L. BULL

HEDGEROW LABURNUMS IN WALES

Many hedges in VCC 44-46, Carms., Pembs. and Cards., consist wholly or partly of *Laburnum*. Most of the bushes are a form of *L. anagyroides* (Laburnum), with leaflets densely appressed-pubescent beneath, corollas 22-23 mm, and the upper suture of the legume truncate in section. Wild plants in Europe and all cultivated plants investigated in the rest of Britain differ in having corollas 17-20 mm. About 10% of bushes in Welsh hedges flower three weeks later, have leaflets very sparsely pubescent beneath, corollas 18-21 mm, and the upper suture acute or shortly keeled; these are believed to be *L. × watereri*, probably cv 'Parkesii'. *L. alpinum* (Scottish Laburnum) is not used as a hedge plant in this area; it usually has almost glabrous leaflets, corollas 14-17(-18) mm, and a conspicuous wing c. 2 mm high on the upper suture.

A. O. CHATER

VEGETATION AND SUCCESSION OF SOME WOLDS DEWPONDS

The vegetation in and around dewponds may well be under-recorded because their locations are often well away from public rights of way. A poster was presented showing the results of a survey of 35 dewponds on the Wolds in VC 61, S.E. Yorks., in the summer of 1995. Some 52 taxa were listed, a number of which might be surprising for an area largely devoid of surface water, and therefore of aquatic plants or those preferring damp situations. The 158 records provided a number of new hectad and tetrad records judging by those already published. Two small maps were given to show the decline in the number of dewponds, now largely redundant in farming, and six photos showed the progression from maintained to overgrown dewponds. [See also pages 37-41].

E. CHICKEN

ARABLE WEEDS OF BARDSEY ISLAND PAST AND PRESENT

Arable cultivation was extensive on Bardsey (W Llyn, VC 49, Caerns.) in the 1920s, but was only sporadic thereafter. From 1981 onwards one experimental field was ploughed and oats, potatoes and vegetables grown. Some 31 weed species were recorded (1981 and 1983) including *Gnaphalium*

uliginosum (Marsh Cudweed), *Spergula arvensis* (Corn Spurrey), *Persicaria lapathifolium* (Pale Persicaria), and *P. maculosa* (Redshank), all unseen for 20-30 years, or as single plants only.

In 1995, five fields were cultivated: oats, barley and roots. 61 species were listed by the Island Warden including the four above, but not *Lamium hybridum* (Cut-leaved Dead-nettle) and *Silene latifolia* (White Campion) seen in 1981/1983. The most spectacular find was *Kickxia elatine* (Fluellen), a new species for the Island, although known across the Sound from Bardsey and throughout W. Lleyn sparsely. *Galeopsis tetrahit* (Common Hemp-nettle), frequent in all W. Lleyn and reported on Bardsey early 1950s, did not reappear. Nor was *Lamium amplexicaule* (Henbit Dead-nettle), a characteristic weed of the gardens, seen.

A.P. CONOLLY

GEOGRAPHICAL VARIATION IN NATIVE BRITISH OAKS.

Patterns of genetic variation in oaks are in part forged by patterns of migration following the last ice-age. A mutation has been found in the maternally inherited chloroplast DNA of the Pedunculate Oak, *Quercus robur*, using DNA sequencing and restriction fragment analysis. Within Britain, ancient oaks (>300 yrs old) of both native species, *Q. robur* and *Q. petraea* (Sessile Oak), were tested for the mutation. The mutation was found only in the Pedunculate Oak and has an East Anglian distribution. In addition ancient trees at Windsor Great Park and York, also possess the mutation indicating translocation of oaks several centuries ago. There is evidence of recent translocation from East Anglia as far as western Scotland, and planting of foreign oaks in East Anglia.

C. FERRIS

HERACLEUM MANTEGAZZIANUM (GIANT HOGWEED), HOW LONG ARE THE SEEDS VIABLE?

Information on the time for which *H. mantegazzianum* seeds are viable would assist with control of this invasive alien. Nine samples of seed aged from two to 67 years were collected from herbaria and through *BSBI News*. Two studies were carried out. Firstly, seeds from all samples were placed on moist filter paper at 5°C (a regime favourable for germination) for sixteen weeks, then planted outdoors for one month. After this time no seeds had germinated except for 77% of the two year old seeds.

Secondly, some seeds from two samples were planted in pots outdoors, the rest treated as above, seeds were removed from chilling every fortnight and planted outdoors. Again only the two year old seed germinated with the highest germination rate (64%) achieved by seeds chilled for ten weeks.

This confirmed that seeds are viable for two years and require a period of chilling to facilitate germination.

J. HALLAM & F.S. DODD

SORBUS DOMESTICA — COMPARATIVE MORPHOLOGY AND HABITATS

'Wild' *Sorbus domestica* (Service-tree) occurs as three distinct phenotypes. The leaf-form of phenotype (a) has been found to be morphologically very close to a descendant of the single tree in the Wyre Forest, the 'Whitty Pear' (described 1678, destroyed 1862) grown at Arley House, Worcs. in the 1820s by Lord Mountnorris. Ripe, fertile fruit has yet to form on plants of phenotype (a), but immature fruits are alike in the low lenticel count when compared with fruit and leaf samples from 7 cultivated trees, including the pyriform tree at Oxford Botanical Garden. The latter is clearly not descended from the Wyre Tree, despite that tradition.

That the Wyre tree was growing near a ruin and amongst calcifuge associates indicates a planted tree possibly of great age which could have been derived indirectly from phenotype (a) plants, possibly within a Celtic or Mediaeval Monastic setting.

M.C. HAMPTON

BETLE POLLINATING AN ORCHID

A photograph, taken by A.N. Scott in June 1994 at Kenley Common, VC 17, Surrey, showed clear evidence of pollination of the orchid *Dactylorhiza fuchsii* by the beetle *Dascillus cervinus* (L). The insect was observed visiting flowers, inserting its head into each flower and apparently feeding. Finally it climbed to the top of the flower spike and was photographed, showing three orchid pollinia attached to its face.

R.D. HAWKINS & A.N. SCOTT

SOME WILLOWS FROM A LEICESTERSHIRE QUARRY, VC 55, 1993-1995

The area from which these willows were collected, opposite Groby Pool, had been a small hill which was quarried about a hundred years ago. This hole produced a pool which was gradually filled with overburden, boulder clay and rammel from elsewhere as the quarrying extended. Later, left over concrete, tar macadam and sandstone moulds and blocks were dumped, plus soil. The site measures roughly 256 × 69 m. Many flowering plants gradually appeared, including willows. On summer evenings a flock of goats, with their kids, came to browse from a no-man's land nearby.

At the beginning of October this year (1995), bulldozers moved in and uprooted all the trees and shrubs which were then burnt. Hard core, tar macadam, etc., was pulverised — the soil pushed up into two huge mounds to act as a screen. Grass seed mixture will be sown and trees planted.

List of taxa: *Salix pentandra* (Bay Willow), *S. viminalis* × *S. cinerea* × *S. aurita* (not in Stace), *S. purpurea* × *S. cinerea* = *S. × pontederiana* (*S. × sordida*), *S. × viminalis* × *S. caprea* = *S. × sericans* (*S. × laurina*), *S. cinerea* × *S. aurita* = *S. × multinervis*, *S. caprea* × *S. cinerea* = *S. × reichardtii*, *S. caprea* × *S. aurita* = *S. × capreola*.

E. HESSELGREAVES

POTAMOGETON PECTINATUS × P. VAGINATUS: A RELICT HYBRID IN THE BRITISH ISLES?

Populations of a sterile pondweed in the River Tweed and its tributary the River Till which have been previously identified as *Potamogeton × suecicus* appear to be the hybrid *P. pectinatus* × *P. vaginatus*. The latter is a species which in Europe is only known from Scandinavia. Morphological and isozyme evidence supports this surprising conclusion. In Europe this hybrid has been reported from the Gulf of Bothnia, where both parents occur, and from rivers in Russia and Lithuania, south of the current range of *P. vaginatus*. A comparison was drawn between this hybrid and other hybrids with apparently relict distributions. A detailed paper is being prepared for submission to *Watsonia*.

P.M. HOLLINGSWORTH, R.J. GORNALL & C.D. PRESTON

SOME *HIERACIA* AT NMW RECENTLY DETERMINED BY J. BEVAN

Specimens of 22 of the most commonly determined taxa for VC 44 Carm's, VC 41 Glam. and VC 35 Mons. (Gwent) were displayed in systematic order: *H. sabaudum* (*H. perpropinquum*), *H. salticola*,

H. vagum, *H. umbellatum* subsp. *umbellatum*, *H. umbellatum* subsp. *bichlorophyllum*, *H. scabrisetum*, *H. subamplifolium*, *H. acuminatum*, *H. diaphanooides*, *H. diaphanum*, *H. maculatum*, *H. submutabile*, *H. stenstroemii*, *H. pellucidum*, *H. subleptoides*, *H. grandidens*, *H. exotericum* agg., *H. cacuminum*, *H. argenteum*, *H. lasiophyllum*, *H. hypochaeroides*, *H. subbritannicum*.

This summer, *H. lasiophyllum* was found in VC 44 Carms. for the first time by predicting the exact location using a combination of the geological literature, altitude, and aspect, gleaned from small populations in the Doethie valley, VC 46 Cards. The locality of the previously published first and only record for VC 44 Carms., is in fact in VC 46 Cards. (I. K. Morgan, pers. comm.). The following corrections are necessary: Plant Records, *Watsonia* 19: 151 (1992): for '*44, Carms.' read '46, Cards.' Welsh Plant Records, *BSBI Welsh Bulletin* No. 53, p. 39. (1992): for 'Carmarthen, v.c. 44' read 'Cardigan, v.c. 46'.

G. HUTCHINSON

IS IT POSSIBLE TO TELL *LIMONIUM VULGARE* (COMMON SEA-LAVENDER) FROM *L. HUMILE* (LAX-FLOWERED SEA-LAVENDER) IN THE FIELD?

Limonium vulgare and *L. humile* are often found growing together in saltmarshes when they normally hybridise so that the morphological distinction between the species is obscured. Nevertheless the species are ecologically distinct and merit separate recognition. Differences in the pollen and stigma morph combination in the different species might provide a means of ensuring correct identification (see Stace, *New Flora of the British Isles*). *L. vulgare* is dimorphic (A/Cob or B/Papillate morphs) and heterostylous, and *L. humile* is monomorphic (A/Papillate morph) and homostylous. However stigma and pollen morphology, and heterostyly, are more variable than has been reported previously and are sometimes inconclusive in plants with intermediate gross morphology and a few others. The botanist should not hesitate to identify a plant as a hybrid if it is intermediate in gross morphology, or a backcross variant if it has a 'typical' gross morphology but an obscure pollen and stigma morph.

M. INGROUILLE & H. DAWSON

A NEW VARIETY OF NARROW-LEAVED MARSH-ORCHID IN S. HAMPSHIRE (VC 11)

In 1984, R. Paul Bowman discovered a population of *Dactylorhiza majalis* subsp. *traunsteineri* (Saut. ex Rchb. fil.) H.Sund. near Exbury, S. Hants. The find was determined by Rose (*Watsonia* 19: 152, 1992).

Morphometric study reveals morphological differences from other populations of the subspecies, notably a more robust habit and a more deeply three-lobed labellum. These are considered sufficient to justify the creation of a new variety, named in honour of the finder.

It has now been found at seven sites in all, in S. Hants, Dorset (VC 9) and N. Devon (VC 4), and seems likely to prove more widespread. It is more tolerant than the typical subspecies of dry and acid soils.

Photographs of typical subsp. *traunsteineri* and of the new variety, together with recent books and papers by the author, were exhibited

M.N. JENKINSON

FLORA OF TIEN SHAN

During July and August 1995, I participated in a small British expedition into the western part of this mountain range. It runs some 800 km (approx.) from Khyrgyzstan eastwards into N.W. China and rises to almost 7000 m a.s.l. The base camp was situated in a valley at nearly 4000 m, around 1000 m

above the tree line. Continuous vegetation on the valley floor, and low flanks, consisted of sedge meadow, the dominant species being *Carex melanantha*.

I found a striking difference between vegetation on North and South facing slopes, this a function of the extreme daily temperature range (-10°C at night, rising to over 30°C in the day). The exhibit contained a series of specimens that indicated the various phytogeographical components of the area's remarkable mountain flora.

- 1) Plants of circumpolar distribution.
Ranunculus sulphureus, *Melandrium apetalum*, *Chamerion latifolium*, *Saxifraga flagellaris*.
- 2) Plants of a more Asiatic distribution including those endemic to the region.
Saussurea involucreta, *Pedicularis anias*, *Waldeima tridactylites*, *Primula turkestanica*, *Gentiana tianschanica*, *Ptilagrostis mongolica*.
- 3) Plants of a more western distribution, including some found in the British Isles.
Saxifraga hirculus, *Oxyria digyna*, *Persicaria vivipara*.

P. JEWELL

EPILOBIUM BRUNNESCENS HYBRIDS IN THE BRITISH ISLES

The exhibit confirmed the existence of several such hybrids occurring in the British Isles. The status of *Epilobium brunnescens* \times *E. obscurum* in Ireland was described, and specimens were exhibited of *E. brunnescens* \times *E. montanum* (found in VC 1 by D. Holyoak), and *E. brunnescens* \times *E. ciliatum* (found in VC 1 by D. Holyoak, and in VC 2 by R.J. Murphy & H. Meredith).

All plants begin prostrate, with the flowering stems assuming a semi-erect position. Characters of hairs and stigmas are important for identification. The converging spread of *E. brunnescens* and *E. ciliatum* was described, and coincidence maps for Britain and, separately, Cornwall showed areas for potential occurrence of hybrids between these species.

G.D. KITCHENER

RUMEX \times FALLACINUS HAUSSKN. — NEW TO THE BRITISH ISLES

Exhibited was one of four plants of *Rumex crispus* \times *R. maritimus* discovered in 1995, east of Lower Stoke, W. Kent VC 16 (see drawing page 66)

These were growing in the cattle-trampled margins of a series of pools in the grazing marshes between the Medway and Thames estuaries. Docks present comprised *Rumex conglomeratus* (Clustered Dock), *R. crispus* (Curled Dock), *R. maritimus* (Golden Dock) and each hybrid combination.

G.D. KITCHENER

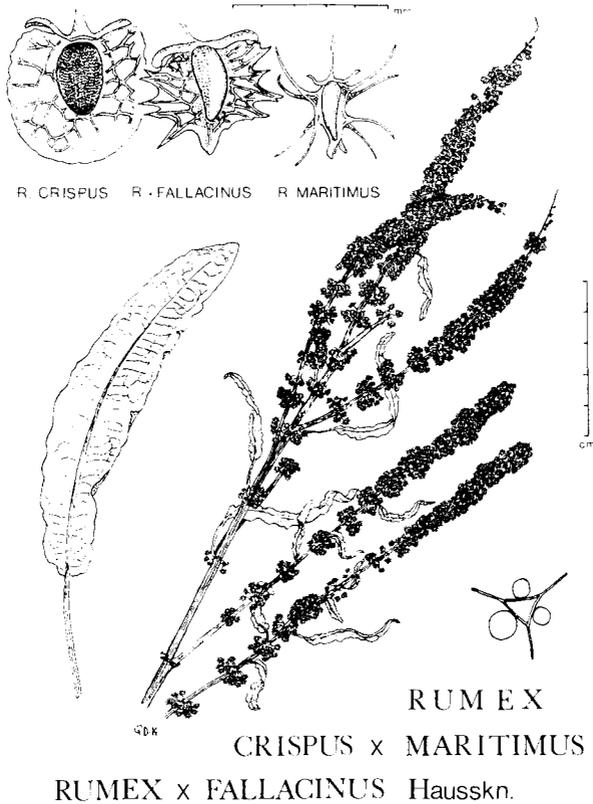
THE ASPIRATIONS AND ACTIVITIES OF THE BRITISH PLANT GALL SOCIETY

The British Plant Gall Society, now in its 11th year, was formed to stimulate the study of galls by both amateurs and professionals and to enhance appreciation of these phenomena by the public at large. The exhibit described these aspirations and showed how these ambitions were being achieved. Now boasting a membership representing the UK, Continental Europe (Germany, the Netherlands, Switzerland), the Middle East (Israel), India, Australia and North America, the Society claimed success in:-

- developing and delivering resource materials and advice (publication of keys, identification services, slide collection, check list).
- stimulating and co-ordinating gall recording leading to the production of regional and national based data bases;

- encouraging interest in galls through lectures, workshops and field meetings;
- facilitating the exchange of ideas and data through the publication of journals and other documents.

C. K. LEACH



Rumex x fallacinus del. G. Kitchener © 1995

SHETLAND PLANTS IN SOUTH LONDON

This exhibit gave some history of the South London Botanical Institute (SLBI), Tulse Hill, London, begun by A.O. Hume in 1910. This has a herbarium of 100,000 specimens, a library and a botanical garden. One of the major herbaria left to the Institute was that of William Hadden Beeby who died in 1910. His Shetland collection at the SLBI is believed to be among the largest outside of Shetland. Notable among his collections are the *Hieracia*, several type sheets of these were on display, both of a Beeby name and of a Pugsley name. The Shetland collections have been recently added to by a gift from Richard Palmer, the joint author with Walter Scott of *The Flowering Plants and Ferns of the Shetland Islands*, and a sheet from this gift was on display.

G. LYALL

FROM RED FOLDER TO DATABASE, THE NATURAL HISTORY MUSEUM'S LIST OF BRITISH 'TYPES'

In 1939 the more important parts of the Museum's collections were removed to safety. Many of these were types or potential types placed in red folders. After the war these folders were reincorporated except in the British collection where most were kept separately. It was decided to reincorporate these and to take the opportunity to capture the data. The database is a PARADOX file with data entry concentrating on being simple but faithful to the original sheet. Examples of this were shown. There was no checking of the status of records but information is presented so that such checks are easier. There are 1144 records on the database which can be searched under many categories, e.g. name, collector, area of collection. Printouts can be provided to anyone with genuine interest or anyone willing to do some checking. Contact Megan Lyall, The Natural History Museum, Cromwell Road, London, SW7 5BD.

M. LYALL

A DATABASE OF *HIERACIUM* RECORDS

Over the past three years a database of reliable British and Irish *Hieracium* (Hawkweed) records has been compiled with a view eventually to publishing updated distribution maps. A short description of the database was accompanied by herbarium sheets of five widely different species (*H. subglobosum*, *H. ebulicum*, *H. breadalbanense*, *H. rectulum*, *H. prenanthoides*) and maps of currently known distribution compared with that used in compiling those in the *Critical Supplement*.

D.J. MCCOSH

POND CREATION & INTRODUCTION OF *DAMASONIUM ALISMA* (STARFRUIT) AT BLACK PARK COUNTRY PARK, BUCKS., (VC 24)

During February 1992, with funding available from English Nature, a pond was specially designed and created to provide the suitable habitat and conditions required for the establishment of a population of *Damasonium alisma* (Starfruit) at Black Park. The exhibit showed a set of photographs following the development of the pond from the initial excavations through to the successful introduction of material in September 1993, which resulted in the appearance of 40 plants in 1994 and 149 plants in 1995. It is hoped that the early success can be built on, and more can be learnt about the ecology of this interesting plant. Results in future years are eagerly awaited.

A. MCVEIGH

PRELIMINARY RESULTS FROM AN AUTECOLOGICAL STUDY OF *ROSA* *AGRESTIS* ON MOUNT CABURN NATIONAL NATURE RESERVE

Rosa agrestis, Small-leaved Briar, is a very distinctive free-standing shrubby rose with its smooth pedicels and leaflets cuneate at the base. It is now very rare in southern England. One of its sites is Mount Caburn National Nature Reserve, East Sussex. Its distribution within the site does not relate to any particular environmental factors but may be related to historical accident. Most bushes lie near an old trackway onto the reserve and it is possible that disturbance here allowed it establish. Once established it seems to have performed adequately but there is little evidence of it spreading away from this focus. Its main competitor on the site might become *Rosa canina* (Dog-rose) which is in small numbers at present. *R. canina* grows larger, produces more hips, which are heavier and contain a greater number of achenes, of which a greater proportion are fertile.

F. MILLS

CHENOPODIUM URBICUM 30 YEARS ON!

In the middle of October I received a specimen from Mr Rodney Cole. He wondered if it was *Chenopodium urbicum* (Upright Goosefoot), and when I saw the specimen I tended to agree. At the beginning of November I took the specimen to the identification seminar at the Natural History Museum, checked it against other material and confirmed the identification.

John Archer (from the London Ecology Unit) and I visited the site on November 8th and found many plants in a clearing in a country park close to Basildon in Essex. The frost had killed the leaves but the characteristic inflorescences were obvious. This is the first specimen that I have seen. Pat Brennan identified material collected from the Isle of Wight in 1962 and the Biological Records Centre, Monks Wood has a record from Alan Silverside collected in 1965 also from Essex.

The country park wardens have been informed of the importance of the site, which was recently cleared woodland and scrub, and there are many seedlings present, so we may hope for its continued presence for a few more years.

PostScript: I was later sent another specimen of *Chenopodium* which I was happy to confirm as *C. urbicum*. This was collected by R.W.M. Corner on October 15th 1995, supposedly introduced with cattle feed on an old railway site, Long Meg, Little Salkeld, Cumbria (VC 70).

J.M. MULLIN

RECENT DEVELOPMENTS IN *RUBUS* SECTION *CORYLIFOLII*

Emphasis was placed in the paper 'New Rubi from Wales and the Welsh Marches' (*Watsonia* 20: 133 (1994)) on *Rubus* section *Corylifolii*. Distribution maps and examples of all the species referred to were displayed, as follows:-

<i>Rubus iscanus</i>	Bassaleg VC 35; Llangynidr VC 42 (isotype)
<i>Rubus ariconiensis</i>	Mouse Castle Wood VC 36; Llangynidr VC 42 (isotype); Cusop VC 36, as <i>R. dumetorum</i> var. <i>diversifolius</i> , coll. W.M. Rogers, 29/7/1898
<i>Rubus vagensis</i>	New Radnor VC 43; Aconbury VC 36 (isotype); Lyonshall Park VC 36, as <i>R. dumetorum</i> var. <i>pilosus</i> , coll. A. Ley, 17/8/1905
<i>Rubus tenuiarmatus</i>	Broughton Green VC 37; Churchill VC 37
<i>Rubus pictorum</i>	Tregarth VC 42; Llangammarch VC 42; Crieff VC 88, as <i>R. rosaceus</i> (sp. coll.) coll. Bailey, 11/7/1896; Glen Artney Comrie VC 88, coll. J.C. Melville, 8/1890
<i>Rubus triangularis</i>	Sapey, VC 36
<i>Rubus intensor</i>	Fillongley VC 38; Cadeby VC 55 as <i>R. dumetorum</i> var. <i>intensus</i> Warren, coll. A. Bloxam

For comparison with the vivid pink flowered *R. ariconiensis* and *R. iscanus*, two sheets of *Rubus rubriflorus* Purchas (coll. ipse 8/1894) from Osmaston, Derby VC 57 were also displayed. This name was given to gatherings from the Welsh Borders by W. Watson (sheets in CGE).

A. NEWTON & M. PORTER

TWO NEWLY RECOGNISED SHETLAND SPECIES: *TARAXACUM GEIRHILDAE* AND *HIERACIUM SPENCEANUM*

The species exhibited were the subject of recent notes by us in *Watsonia*.

1. *Taraxacum geirhildae* (Beeby) R.C. Palmer & W. Scott, allied to *T. faeroense* Dahlst. but quite distinct, which was first described (at subspecific level) by W.H. Beeby but subsequently confused with forms of *T. faeroense* and forgotten about until its recent rediscovery in the type locality. Beeby's type specimen was shown, together with recent material and, for comparison, specimens of *T. faeroense*.

2. *Hieracium spenceanum* W. Scott & R.C. Palmer, previously included in *H. attenuatifolium* Sell & C. West, but quite different and in some respects closer to *H. australis* (Beeby) Pugsley. Specimens of *H. spenceanum* were shown and, for comparison, material of *H. attenuatifolium* and *H. australis*.

R.C. PALMER & W. SCOTT

THE 1991-1994 BROADLAND FEN RESOURCE SURVEY

The Broadland fens are the largest area of lowland undrained fen in Great Britain and are of both national and international importance. In 1991, English Nature and the Broads Authority commissioned a botanical survey of the Broadland fens from ECUS (Environmental Consultancy, University of Sheffield). The survey aimed to produce descriptions of all the Broadland fen sites, develop a classification scheme for the Broadland fen vegetation, examine the present status and changes in the distribution of plant species and study some of the factors that determine the development and species composition of fen vegetation in Broadland. The results of the survey are being used in the formulation of a fen management strategy and will form a baseline for future monitoring work.

The results of the survey have been presented as a series of published and unpublished reports, available from the Broads Authority.

J.M. PARMENTER

PERSICARIA AMPHIBIA (AMPHIBIOUS BISTORT) IN BRITAIN : 'VERY LITTLE VARIATION' OR 'A COMPLEX GROUP OF HIGHLY VARIABLE PLANTS'?

The British literature on this common water-plant mentions the well-known growth forms — aquatic and terrestrial — but omits many of the variations recorded in Continental and American accounts.

Study of herbarium material (WAR, LTR) and live plants (mainly Warwicks., VC 38, but also Leics., VC 55 and Fife, VC 85) reveals that British plants show considerable variation in floral arrangements of styles and stamens (?heterostyly), fertility, growth habit, indumentum (glandular/patent/appressed hairs), and leaf shape and markings. These differences were demonstrated: some of them may be genetically based.

A project was started in 1995 at Leicester University Dept. of Botany to investigate these differences with cytogenetic studies and breeding experiments. Live material (particularly when flowering or fruiting) is requested.

J.W. PARTRIDGE

TWENTY QUESTIONS: A PRIZE QUIZ OF BOTANICAL KNOWLEDGE

This was a light-hearted quiz, 12 questions referred to other exhibitors' contributions, 8 were based on live and herbarium material. 21 people entered (out of about 200 people attending the meeting) with an average score of 12/20. Lorna Dudley and Clare Kitchen won the 2 prizes: an arrangement of house-plants donated by Leicester University Botanical Garden, and a book-token donated by Perring's Books.

Three representative correct answers were: 1) There are currently 10,581 entries for 'Taxa' in the BSBI Data-base. 2) There were 74 newly-reported taxa for Britain at this meeting (including 66 Cotonasters). 3) Clapham, Tutin & Moore describe Coriander as smelling of bedbugs.

This may have been the first prize quiz at a BSBI Meeting and if it should be repeated, I suggest 1) fewer questions (?10) and 2) keep the level of expertise fairly low!

J.W. PARTRIDGE.

BRITISH AIZOACEAE ON POSTCARDS

Postcards featuring Aizoaceae or mesembs in Britain were exhibited. Some simply show cultivated specimens, particularly bushes of *Lampranthus* covered by pink flowers. Others show naturalised stands of *Carpobrotus edulis*, *Disphyma crassifolium* and *Lampranthus*. The cards reveal how the conspicuous members of the Aizoaceae have become part of the botanical 'heritage' of Cornwall. *Lampranthus* is shown with four other alien species in a card 'Flora on the Isles of Scilly'; the only native plant illustrated is *Armeria maritima*. A parallel card from Corsica illustrates *Carpobrotus edulis* var. *edulis* (and *Opuntia*) with *Arbutus* and *Cistus* as 'Fleurs du Maquis'. This provides a salutary reminder that the distinction between native and alien which so concerns botanists is not apparent to the non-botanical observer. Finally, and most remarkably, a pink flower of *Carpobrotus* nestles in the corner of a card illustrating the 'History & Legends of St. Michael's Mount', accompanied by the giant Cormoran, the Archangel Michael, eight Benedictine monks and one of the St Aubyn family boatmen.

C.D. PRESTON

A FLORA WITH A STANDARDISED SURVEY: ASHDOWN FOREST

It is well known that botanical distribution maps reflect the distributions of the botanists as much as the plants. Atlases are usually recorded on an *ad hoc* basis, achieving neither comprehensive or systematic coverage, and the extent to which the distribution maps are representative of the plants is simply not known. Our *Flora of the Ashdown Forest area* aimed to demonstrate that it is practical to carry out a standardised survey whilst maintaining the fun and interest for volunteers. It is recommended that all future atlases should try to achieve a standardised survey as comprehensive coverage cannot be achieved.

T. RICH, P. DONOVAN, A. KNAPP, M. MCFARLANE, N. MUGGERIDGE, R. NICHOLSON,
M. READER, P. READER, E. RICH, D. STREETER & P. WHITE.

LURONIUM NATANS PRESENT IN IRELAND

In 1994 we discovered a flowering population of Floating Water-plantain (*Luronium natans*) in Connemara, Republic of Ireland, the first confirmed record for Ireland. Subsequent investigations showed that it has been correctly recorded before. Full details were published in *Irish Naturalists' Journal* **25**: 140-145.

T.C.G. RICH, G.M. KAY & J. KIRSCHNER

PHYLLIS STOCKDALE (c. 1898-1949), A SUSSEX BOTANIST

Phyllis Stockdale (c. 1898-1949) was a Sussex botanist who collected plants around East Grinstead between 1910 and 1919, having learnt from her father and probably from F. J. Hanbury. She married Reginald Horrill in c. 1921/1922 and moved to Eastbourne and continued botanizing there whilst raising her family. She is mentioned often in A. H. Wolley-Dod's (1937) *Flora of Sussex*, and her herbarium is held at Bexhill Museum (BEX). A detailed biography will be published in the newsletter of the Eastbourne Natural History and Archaeology Society.

T.C.G. RICH, R.A. NICHOLSON & P. WOOD (née HERRILL)

TUNBRIDGE FILMY-FERN (*HYMENOPHYLLUM TUNBRIGENSE*) IN SOUTH-EAST ENGLAND IN 1994-1995

During the winter of 1994/5 we surveyed all sites of Tunbridge filmy-fern (*Hymenophyllum tunbrigense*) in south-east England to assess survival after the storms of 1987 and 1990. A total of twelve sites were found with 24 colonies with 77 individual plants; half of the sites have only one plant. A

comparison with data from 1953-1962 indicates a decline of 20% in the number of sites and a 68% decline in the number of colonies. The decline is due to a combination of loss of woodland cover, dense shade especially from rhododendron, and recent storm damage; historically collecting and public pressure have also caused losses. The fern is under threat in south-east England, and we are undertaking conservation work at several sites. Full results were published in *Fern Gazette* 15: 51-64.

T. C. G. RICH, S. J. RICHARDSON & F. ROSE

THE THREE FORMS OF FRAGRANT ORCHID

The subspecies *conopsea* and *densiflora* of the Fragrant Orchid, *Gymnadenia conopsea*, are familiar forms to most, having distinctive habitat preferences and many constant morphological differences. The subspecies *borealis*, occurring in a wide range of habitats is less familiar. Through photographs, drawings of labella, distribution maps and histograms, this exhibit tells of recent research on these three subspecies, though the story is far from complete. Hybrids exist, and on occasions prove infertile suggesting the forms may be genetically distinct enough to be considered for full specific rank.

The type, considered to be the specimen in Hortus Cliffortianus is subsp. *conopsea*. However, a sheet in the Linnean Herbarium contains alpha, beta and gamma forms which relate to the subspecies under discussion.

Further research, especially to correlate chromosome number with observed morphological differences is required.

F. ROSE & S. R. DAVEY

A NEW FESCUE FOR BRITAIN

Festuca gautieri (Hackel) K. Richter subsp. *scoparia* (A. Kerner & Hackel) Kerguelen (Prickly Fescue)

A mystery fescue growing in Seata Quarry, Aysgarth, N.W. Yorks. (VC 65), has been identified as the above. It is a native of the Pyrenees, where it occurs close to *Hypericum nummularium*, another alien naturalised in Seata Quarry. Circumstantial evidence suggests that both were introduced to the quarry long (at least 70 years) ago.

Festuca gautieri belongs to the non-British section *Eskia*. There is a superficial resemblance to the *F. ovina* group (section *Festuca*), but the distinctive features of *F. gautieri* are:

- Prickly leaf-apices
- Grain free from lemma and palea
- Ovary and grain pubescent at apex
- Lemmas with very wide scarious margins
- Anthers at least 3 mm long
- Ligules of culm leaves at least 1 mm long
- Growth habit a spreading, springy cushion, not firm and densely tufted.

Subspecies *scoparia* is a diploid calcicole; subsp. *gautieri* is a tetraploid calcifuge with longer lemmas.

C. A. STACE & R. FLETCHER

THE BSBI DATABASE — HANDS ON

A computer loaded with a copy of the BSBI Database, up-to-date as at 24.11.1995, was available for members to gain hands-on experience.

Files utilised were:

- List of vascular plants of the British Isles
- English names
- Chromosome numbers of British and Irish plants

- Vice-comital census catalogue
- BSBI Abstracts.

An appeal was made for help in proof-reading and various other aspects of the development of the database.

C. A. STACE & R.J. GORNALL

THE FLORA OF MONTGOMERYSHIRE

Some of the features of the newly published *Flora* of VC 47 were displayed, including examples of the artwork and satellite maps. There was an on-line demonstration of DMAP, the computer program used to store, map and analyse the tetrad data. A classification and map of the tetrads of the vice-county was also presented, based on the analysis of the plant records using the program TWINSPLAN.

I.C. TRUEMAN, A.J. MORTON, M. WAINWRIGHT

CONKERS, KNUCKLE-BLEEDERS AND ISRAEL: THE ENTHOBOTANY OF AN ALIEN SPECIES

Introduced to the British Isles in the late sixteenth century, the Horse-chestnut (*Aesculus hippocastanum*) is now a widely cultivated and familiar tree. The exhibit drew attention to some of the ways in which the tree has been used. These include:

- the game of conkers, played mainly by children, with its nuts.
- other games and pastimes, including knuckle-bleeders, 'fishbones', and leafstalk challenge, all of which use the leaves.
- the production of toy furniture from the nuts.
- the carrying of a nut to prevent piles or rheumatism.
- the use of the leaves as a tobacco substitute.
- the use of the nuts to keep moths away from stored clothing
- the use of the nuts in the preparation of acetone.

The discovery of this last use, by Chaim Weizmann during the First World War, eventually led to the establishment of the state of Israel, as a result of Lloyd George wanting to reward Weizmann for his work.

Further information on these uses, or any other uses, was requested.

A.R. VICKERY

CENTAUREA CYANUS IN N. LINCS. VC 54

Communication and photographs of a field population of cornflowers from Ranby, TF27, recorded by Mrs C. Harrison, 1995.

I. WESTON

ARCTIC BOTANY: SVALBARD 1995

SVALBARD is the name of a group of islands situated about halfway between Norway and the North Pole in the Barrents Sea. The main island is SPITSBERGEN. Work is being carried out at the International Research Station at Ny Ålesund (79° N) into many aspects of Ecology in the High Arctic.

This exhibit described one part of a 5-year investigation by the Department of Plant and Soil Science, University of Aberdeen, into the effects of increased N and P on the growth of three arctic dwarf shrubs, *Cassiope tetragona* (White Arctic Bell-heather), *Dryas octopetala* (Mountain Avens) and *Salix polaris* (Polar Willow).

Photographs of a range of other flowering plants of the tundra were shown, including *Saxifraga cespitosa* (Tufted Saxifrage), *S. oppositifolia* (Purple Saxifrage), *Papaver dahlianum* (Arctic Poppy) and *Lychnis apetala* (Nodding Lychnis).

G. WYNNE

SOME FERNS OF SNOWDONIA — 19 CENTURY STYLE

A dozen well-mounted ferns were displayed from a recently acquired collection of assorted pressed plants collected during the second half of the 19th century. These were all from the mountains of North Wales, including two rarities — *Asplenium septentrionale* (Forked Spleenwort) and *Polystichum lonchitis* (Holly-fern). The present-day distribution of the ferns was indicated by dot-maps.

Who was 'G. Crofts' who collected the plants in 1869? Most of his other specimens are from the Midlands.

G. WYNNE

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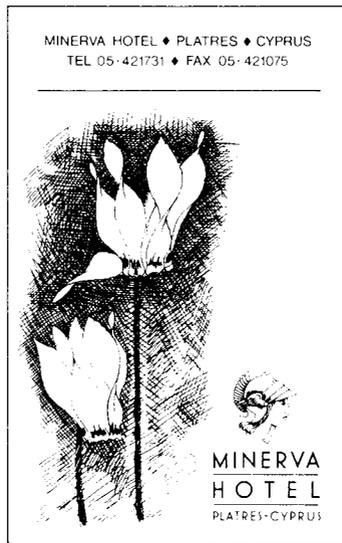
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STOP PRESS

CEPHALANTHERA DAMASONIUM (WHITE HELLEBORINE) IN IRELAND

While botanising on the shores of Lough Mask in Co. Mayo in May 1992 I found about a dozen plants in leaf which could have been White Helleborine. This would, if correct, be a new record for Ireland and far distant from its nearest most westerly site in the British Isles.

If anyone is likely to be in the area at the appropriate time and would like to follow this up I would be happy to provide further information.

Ms GOODFELLOW, Radnor Cottage, Corston, Wilts. SN16 0HD

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