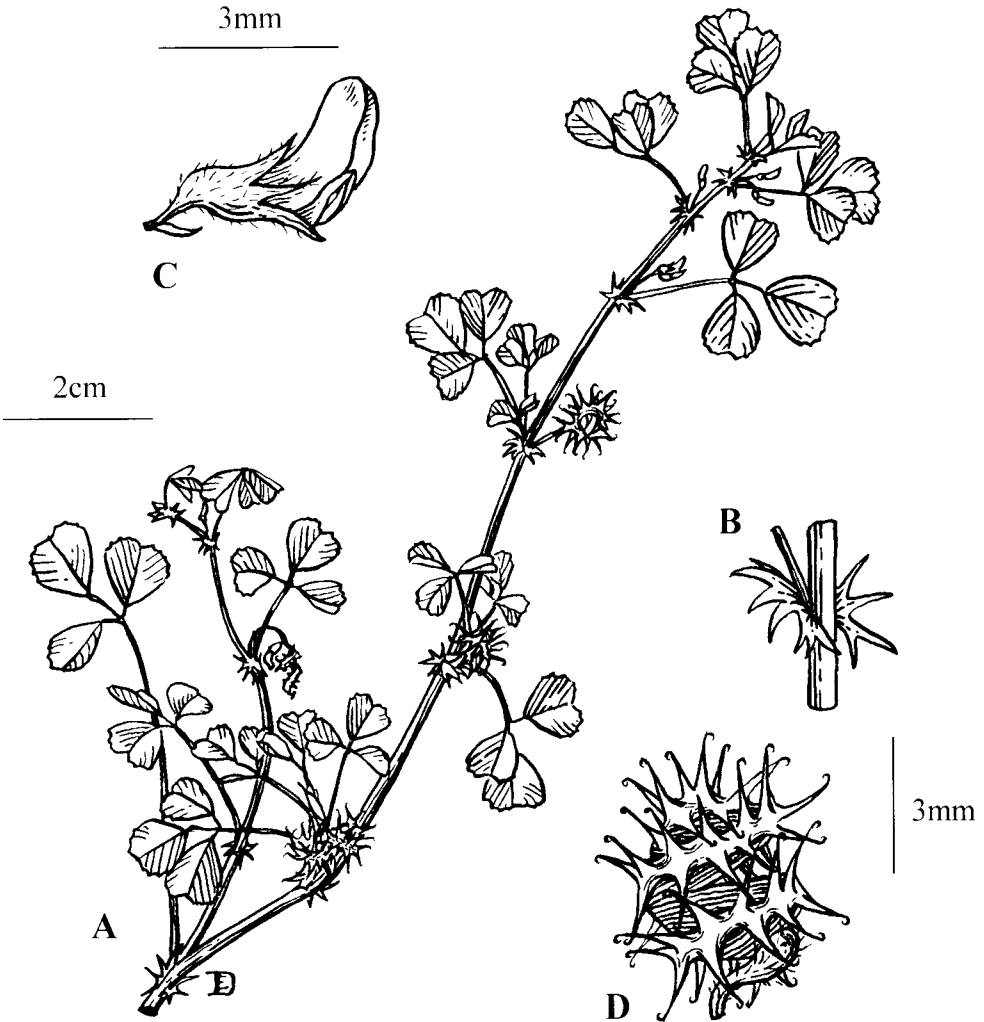


Edited by
Leander Wolstenholme
Gwynn Ellis

No. 100



***Medicago praecox* DC.** (Early Medick). A habit; B stipules; C flower; D fruit. (Source unknown). STACE 498/421.

ADMINISTRATION AND IMPORTANT ADDRESSES

PRESIDENT

Dr Richard J. Gornall
 Director of Botanic Garden, Biology Dept., University of Leicester, University Road, Leicester, LE1 7RH
 Tel.: 0116 252 3394; rjg@leicester.ac.uk

HON. GENERAL SECRETARY & BSBI PROJECT MANAGER

Mr David Pearman
 Algiers, Feock, Truro, Cornwall, TR3 6RA
 Tel.: 01872 863388; DPearman4@aol.com

HON. TREASURER (All financial matters except Subscriptions)

Mr Michael Braithwaite
 19 Buccleuch Street, Hawick, Roxburghshire, TD9 0HL
 Tel.: 01450-372267; Fax: 01450-373591

MEMBERSHIP SECRETARY (Payment of Subs and changes of address) and**BSBI NEWS GENERAL EDITOR**

Mr Gwynn Ellis
 41 Marlborough Road, Roath, Cardiff CF23 5BU
 Tel. & Fax: 029-2049-6042; rgellis@ntlworld.com

(Please quote membership number on all correspondence, see List of Members in *Year Book 2005* and address label of your mailings).

DIRECTOR OF DEVELOPMENT

Dr Gabriel E. Hemery
 c/o Dept of Plant Sciences, University of Oxford, South Parks Road, OXFORD, OX1 3RB
 Tel.: 01865 275050; g.hemery@bsbi.org.uk

BSBI CO-ORDINATOR

Mr Alex Lockton
 66 North Street, Shrewsbury, Shropshire, SY1 2JL
 Tel. & Fax: 01743 343789; Mobile: 0585 700368; coordinator@bsbi.org.uk

BSBI VOLUNTEERS OFFICER

Mr Bob Ellis
 11 Havelock Road, Norwich, NR2 3HQ
 Tel. 01603 662260; bob@Elymus.demon.co.uk

BSBI SCOTTISH OFFICER

Mr Jim McIntosh
 c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR
 0131 248 2876 (w); 0141 552 7322 (h); j.mcintosh@rbge.ac.uk

HON. FIELD SECRETARY (Enquiries on Field Meetings)

Mrs Jane Croft
 12 Spaldwick Road, Stow Longa, Huntingdon, Cambs. PE28 0TL
stowlonga@tiscali.co.uk

BSBI NEWS RECEIVING EDITOR

Dr Leander Wolstenholme
 The Herbarium, Manchester Museum, University of Manchester, Oxford Road, Manchester M13 9PL
 Tel.: 0161 275 2671; Leander.Wolstenholme@Manchester.ac.uk

WATSONIA RECEIVING EDITOR

Mr Martin N. Sanford
 c/o SBRC, Ipswich Museum, High Street, Ipswich, Suffolk IP1 3QH
 Tel.: 01473 433547; Fax: 01473 433558; sbre@globalnet.co.uk

RESEARCH FUND APPLICATIONS

Dr Pete Hollingsworth
 Royal Botanic Garden, Edinburgh, EH3 5LR
p.hollingsworth@rbge.ac.uk

BSBI YEAR BOOK (General comments to the Editors:)

Mr Gwynn Ellis & Mr David Pearman
 Addresses, etc., as above

BSBI PUBLICATIONS

Mr Jon & Mrs Sue Atkins
 c/o Summerfield Books, Main Street, Brough, Cumbria CA17 4AX
 Tel.: 017683 41577; Fax: 017683 41687; bsbipubs@beeb.net

BSBI WEB SITE ADDRESS

www.bsbi.org.uk

CONTRIBUTIONS INTENDED FOR

BSBI NEWS 101

should reach the Receiving Editor before
 November 15th

IMPORTANT NOTICES

THE ALLAN HAMERSCHLAG MEMORIAL FUND

One of our members, Allan Hamerschlag, died in February leaving BSBI its largest ever legacy: a house in Greenwich (which he bought for £4,500 in the 1960s) and modest investments inherited from his parents in New York. We will not know the total amount of the legacy until the house has been sold. Allan only became a member after joining Franklyn and Margaret Perring on one of their botanical trips to Australia: they found they had a common interest in botanical education and became firm friends. Soon Allan was making regular handsome donations to help Franklyn set up the Spotlight on Plants courses for sixth formers and there is some expectation that the legacy will directly or indirectly help BSBI to develop the training and educational side of its remit, though the legacy is in fact unrestricted: Allan recognised that one cannot always tell in advance just how money can best be used to further a purpose as so much depends on what grants are available to the Society.

Allan was a brilliant scientist in his youth in the States and came to Britain at the age of 29 as a research chemist in the plastics industry. He gave this up to set up his own business but this failed and he turned to teaching. This he made a success of as his laconic ways, soft American drawl and dry sense of humour endeared him to staff and pupils alike. Indeed one of his fellow teachers has made a donation to Allan's Fund. He gave much time and energy to working for charities: The Samaritans, Save the Children and latterly the Greenwich Society. He had a passion for music and the arts and above all the opera, but he had nurtured an interest in natural history all his life and while teaching set up a greenhouse and tiny garden which, under his inspiration, was run by his pupils.

MICHAEL BRAITHWAITE, 19 Buccleuch Street, Hawick, Roxburghshire, TD9 0HL

BSBI NEWS 100 NOT OUT!

A Century for *BSBI News*! Congratulations to all who have contributed to this achievement.

In 1971 David McClintock, President at the time, had the vision and the determination to initiate a news journal for the Society, although at the time the need for this was not unanimously agreed. When *Proceedings* was discontinued, for some years notes and notices for meetings and BSBI affairs were printed on loose sheets of paper and mailed with *Watsonia*, etc. The sheets were not numbered and mostly undated, easily mislaid and it would now be difficult to trace a complete set (even in BSBI archives?).

For *BSBI News* John Elsley was recruited as Editor and No. 1 was published in January 1972. John pioneered the early issues until in 1973 he moved to USA to work at St Louis Botanic Garden, Missouri. Kenneth Beckett was then Editor from 1974-76, and Edgar Wiggins 1977-April 1986. Through these years *BSBI News* steadily increased in size and scope. In 1986 Gwynn Ellis was appointed Editor, and is currently so still, joined in 2003 by Leander Wolstenholme.

Further increase in scope and size has led to the *BSBI News* that we have today, and it has been appreciated by members. David McClintock writing in 1973 comments: 'it [*BSBI News*] seems to have been welcomed, and induced some members not to resign'. Twenty years later a questionnaire was sent to members, and 99.7% of those who replied voted approval for *BSBI News*. As it increased in scope a gratifying number of members contributed; the high standard drawings of plants became a special feature; and invaluable indices were compiled – the early numbers by A.E. Moon, and from No. 31, by George Hutchinson. Our thanks again to all who have contributed – especially to the regular contributors, and to the Editors.

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

NOTES FROM THE OFFICERS

FROM THE HON. GENERAL SECRETARY

I omitted to mention that Professor Clive Stace was elected as a Fellow *Honoris causa* of the Linnean Society in May 2004. This is a real honour – there are only 21 at present, with a maximum of 25 at any one time – and I would like to pass on the society's congratulations.

Publication News

- The new Cyperaceae Handbook is with the editors and the prepublication offer will definitely be with the January issue.
- The *Callitriche* handbook is also with the editors, with a similar timescale.
- The Atlantic Arc conference report is at proof stage, and the prepublication offer is enclosed.
- The Leicester conference report is almost ready for the printers and a prepublication offer may be enclosed.

Simpson index

Simpson's *Bibliographical Index of the British Flora* (1960) has long been both an invaluable source of information on each Vice-county and the flora generally but is quite cryptic and awkward to use. Tim Rich has, by a massive labour of love, scanned it in, expanded the abbreviations and now made it available on the BSBI website. The listing for each Vice-county can now be searched electronically and each can be separately downloaded.

DAVID PEARMAN, Hon. General Secretary, Algiers, Feock, Truro, Cornwall TR3 6RA; Tel: 01872 863388; email: DPearman4@aol.com

FROM THE DIRECTOR OF DEVELOPMENT — GABRIEL E. HEMERY

Building Relationships

Being new in post, it has been important at a personal level that I meet as many of BSBI's partners as possible. It has also been important for the organisation to signal that it has entered a new era, an era where it seeks to build on its strengths and work even more widely with other organisations. To this end I have spent a substantial portion of my first six months meeting representatives from other organisations, including British Trust for Ornithology, Butterfly Conservation, Flora Locale, Pond Conservation, Plantlife, and the National Biodiversity Network, to name a few. The Society is fortunate to receive considerable assistance from the country conservation agencies (CCW, EHS, EN and SNH) and JNCC, and I have held many meetings with their botanical staff and senior executives during this period. I am very grateful to all these people for their welcoming approach and for their promise of continued support to BSBI.

I attended the National and Welsh AGMs earlier in the year and enjoyed meeting many of you on these occasions. I must admit that I particularly enjoyed the field excursions, although humbled by the wealth of knowledge on display. The balance between botanising, education and social enjoyment was perfect and I congratulate the organisers of both events for their very hard work in making these events such a success. For any members who have not yet attended one of these excellent meetings, I thoroughly recommend that you do in future.

The membership is the core of the Society and I remain astounded as to quantity and quality of work achieved by so few dedicated and passionate people. I am also heartened that those who use the data we produce, clearly recognise and value our contribution towards shaping conservation agendas.

Building capacity

This brings me neatly onto another issue, namely that of members' enjoyment and satisfaction gained from botanising, the dedication applied to mapping plant distribution and the science of solving taxonomic riddles, and how these activities relate to plant conservation activities and policy development at local and national levels. I have been impressed how other organisations create and promote the links between member activities and how their data is used. I feel there is scope for us to improve

this in the BSBI, and that in addition to our widely used floras, atlases and guides, there are many more opportunities for our data to be used and applied more widely.

At first glance my role in developing the society and its activities may seem remote to members. However, plants are the foundation to biodiversity and our data is seen as the most important source of information by those in Government charged with measuring the delivery of their policies and shaping conservation agendas for the future. My task is to harness this interest and translate it in such a way that it not only benefits plant conservation but helps us build the Society.

To this end I am working with BSBI's Council and Executive, my steering committee. Government bodies and with external partners, in developing a programme that will ensure our data are used effectively, our contributions recognised, our volunteers supported, our capacity enhanced, helping the Society to grow from strength to strength. I am anxious to ensure that the spirit of the Society remains intact, our own interests are met and exceeded, yet we don't lose this opportunity to increase our influence and profile. I am conscious that, at times, the path ahead may be a narrow one - balancing our needs with those from outside the Society. I am however optimistic that we can achieve this, and I hope to be able to tell you more about this in my next report.

Your views count

I am receiving clear and helpful advice from our partners in terms of what they would like BSBI to do for them. I have touched on much of this above and have outlined some of the areas I will be working on. However, what are your views? What would you like the Society to do for you as a member, or for plants? I would like to know what I can do, with the support of the Society's committees, officers and staff, in making your membership more rewarding. I am planning to send out a member questionnaire with the January mailing of *News*. Again, if any members have an interest in this area please feel free to contact me. Meanwhile, please do think about the issues I have raised and discuss them with fellow members but if you are able, hold onto them until you receive the questionnaire in the post!

GABRIEL E. HEMERY, BSBI Director of Development, c/o Dept of Plant Sciences, University of Oxford, South Parks Road, OXFORD, OX1 3RB; Tel: 01865 275050; email: g.hemery@bsbi.org.uk

A NEW IMAGE FOR THE SOCIETY – GABRIEL E. HEMERY

I mentioned in my Director's report a new era for BSBI, and I believe one important step in demonstrating this to the outside world is our external image as a Society. I am aware that some may feel that talk of new logos and image is merely a distraction from more important issues. However, I believe our image is important in many ways, for example in signalling change to the external world, in achieving greater recognition of our identity and role, in attracting new members and in achieving higher profile.

To date I have received some free advice from those in the branding industry and the case for developing a new logo for the Society is compelling. I presented these facts to Executive in July, along with some concept designs, and now have their approval in taking this forward. I have engaged a graphic artist, with experience in the environmental sector, to work with me in developing a new logo for the Society (see Colour Section, plate 3)

As it stands the new logo concept was based on the colours and form of *Hyacinthoides non-scripta*. I felt it was important to maintain a link with our past logo and also to recognise that the bluebell is regarded as the nation's favourite flower. The abstract nature of the design may mean that is not widely recognised as a bluebell although in my view, this is not important as the design also reflects the fact that our interests extend beyond pretty flowers to plants of every size and description.

You will also notice that '*of the British Isles*' has not been included in our name within the logo. I believe that the current use of our acronym, although familiar to us and our immediate circle, is not known more widely. Certainly we do not gain instant recognition from those of who do not know us and I have been interested but not surprised in how many people in other conservation organisations, do not recognise the Society from '*BSBI*' alone. Therefore, rather than spelling out our name in full, I propose that we adopt this informal name within our logo. It is less of a mouthful and spells out clearly what and who we are, and our interests.

The new logo has been applied in a number of test scenarios, for example on a dummy press release alongside those of our usual partners. It looks bold, contemporary and effective. We will aim to have full colour, and black and white, versions created and will apply these to the Society's stationery and public activities. A simple 'style bible' will also be provided so that Society staff and members, and external organisations, use the logo effectively.

Over the coming months I will work closely with the graphic artist and the Society's Council/Executive in developing the final design. If any members have an interest in this area I would welcome their contribution, from comment on the concept, to design assistance. All being well, we hope that Council will approve the final design in November ready for a launch on the front cover of the January 2006 issue of *BSBI News*, which itself will also be in a new format.

GABRIEL E. HEMERY, BSBI Director of Development, c/o Dept of Plant Sciences, University of Oxford,
South Parks Road, OXFORD, OX1 3RB; Tel: 01865 275050; email: g.hemery@bsbi.org.uk

FROM THE VOLUNTEERS OFFICER – BOB ELLIS

Local Change project

As you are probably aware, my post as Volunteers Officer is part of a joint project with Plantlife entitled '*Making It Count For People and Plants*', financed by the Heritage Lottery Fund. In July we held a meeting with Plantlife to review progress and plan the remainder of the project. A strong spirit of co-operation between our two organisations was apparent and I think the presence of both Gabriel and Jayne Manley, Plantlife International's new Director of UK Operations, added a new impetus.

One of the outcomes from the meeting was that the Local Change report will now be published in the Spring 2006, to coincide with a summary report covering all four aspects of the joint project, namely BSBI's Local Change and County Rare Plant Registers and Plantlife's Common Plant Survey and single species surveys. In the interim, I hope to present some of our findings at the Recorders Conference in September and to show some posters of Local Change results at the Annual Exhibition meeting on 26th November. I will certainly produce a more detailed update on the project in the next issue of *BSBI News* in the new year.

County Rare Plant Registers

The new Red List for vascular plants was published just as we were in the process of revising the guidelines for County Rare Plant Registers. This was very timely and allowed us to include the full list of species of concern in the appendices, although it did somewhat delay completion of the task. These guidelines have now been sent to the Vice-county recorders. If any members would like an electronic copy I would be happy to send them one by email.

Volunteers Officer post

I am pleased to say that my contract has been extended until June 2006. Having spent the last couple of months closeted with the Local Change data, to the exclusion of almost everything else, I will welcome the extra time to concentrate on Rare Plant Registers and the Atlas Updating Project, and to continue to support (and catch up with) the Vice-county recorders and other volunteers.

BOB ELLIS, BSBI Volunteers Officer, 11 Havelock Road, Norwich, NR2 3HQ; 01603 662260;
VolunteersOfficer@bsbi.org.uk

FROM THE SCOTTISH OFFICER – JIM MCINTOSH

Working with VCRs

It's been a busy four months for me since the last *BSBI News* during which I've been involved in a wide range of tasks. Perhaps one of the most taxing was organising a residential weekend MapMate course at Kindrogan that was attended by almost half the Scottish Vice-county Recorders. A steady stream of technological problems made the course rather exciting and kept the tutors, Bob Ellis, Martin Rand and myself on our toes!

Meeting local and visiting members on the Skye and Orkney Field Meetings this summer was particularly enjoyable. During those island visits I began an exciting project to meet all the Scottish

Vice-county Recorders to find out more about their plans and projects for their Vice-counties and to discuss how I can help them.

I have just begun to plan activities for this winter and next summer. Right now I'm putting together a grant application to SNH to provide help for three or four Scottish VCRs to computerise their paper records. Assuming the application is successful a contractor will work closely with the VCRs to complete this project over the winter and early spring.

Rare plant surveys

During July I helped with a valuable initiative, helping to lead a two day training course on plant identification organised by National Trust for Scotland for their rangers. I also took the opportunity to give a short presentation on the work of the BSBI and the benefits of membership.

The biggest project this summer has been co-ordinating an ambitious program of rare plant survey work (Site Condition Monitoring) by BSBI volunteers on some 20 Scottish SSSIs. Major elements of this have been helping to organise a workshop for volunteer surveyors, preparing a CD with information and guidance for them, and a grant application to SNH to help cover their costs. An important secondary aim of this project is to get botanists in the field together, with SNH staff and conservation land managers. On the sites I have led there have variously been BSBI local members and VCRs, staff from SNH, National Trust for Scotland and Historic Scotland and even interested RBGE colleagues.

Once the fieldwork is complete, the next task will be to check and collate reports from the volunteers and forward them to SNH. One final, but crucially important, task will remain to be completed: SNH have kindly promised to provide copies of Site Condition Monitoring reports for all 150 vascular plant sites for dissemination to the relevant VCRs. The records they contain will be particularly useful for BSBI VCRs who are working on Rare Plant Registers.

Declining species

This summer I helped to co-ordinate a small project to understand why *Carex maritima* populations have apparently declined so dramatically between the two Atlas recording periods. VCRs along Scotland's eastern and far north coasts, including on Orkney and Shetland, have tried to relocate key populations with variable success. The results will be published shortly. Next summer, I would like to extend this project to a short list of other species which are (were?) relatively widespread in Scotland which have also apparently experienced dramatic declines. I hope to meet up with BSBI colleagues and SNH staff to agree the shortlist and project details over winter. This is the type of small project in which BSBI excels and one which I think will appeal to VCRs and members alike. I'll keep you posted!

JIM MCINTOSH, BSBI Scottish Officer, c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR;

Tel: 0131 2482876; j.mcintosh@rbge.ac.uk

DIARY

N.B. These dates are often supplementary to those in the 2005 Calendar in *BSBI Year Book 2005* and include provisional dates of the BSBI's Permanent Working Committees.

Permanent Working Committees

11 Oct	Records Committee, London	26 Oct	Executive Committee, London
15 Oct	Committee for Wales, Aberystwyth	17 Nov	Council Meeting, London
19 Oct	Publications Committee, London		

2005

5 Nov	Scottish Annual Meeting, Perth	26 Nov	Annual Exhibition Meeting, London
-------	--------------------------------	--------	-----------------------------------

2006

19-26 March	Excursion to Western Portugal (see p. 50)
23-24 May	Conservation of Native Plants in Churchyards Conference (see p. 53 last issue)
20-26 May	Excursion to Jersey (see p. 50)

EDITORS

EDITORIAL

New format for BSBI News

In view of the pending changes to the image of BSBI, including the logo (see page 5), the planned alteration to the format and size of *BSBI News* will now commence with issue **101**, January 2006.

New email address for Field Secretary

Jane Croft now has a broadband internet connection and her email address has changed to: stowlonga@tiscali.co.uk

Colour section between pages 12-13, centre pages, and between pages 60-61. To allow for the fascinating maps accompanying David Pearman's note on the new red lists to appear next to the note, the treasurer kindly agreed for four extra sides of colour to appear in this issue. **Plates 1 & 2:** Red data book & red list maps (p. 10). **Plate 3:** New logo (p. 5), Bluebells with green anthers (p. 19), *Lavatera cretica*, *Medicago praecox*, *Silene italica* and *Medicago polymorpha*, Gosport (p. 46). **Plate 4:** Creamy-white flowered *Ranunculus bulbosus* (p. 23), *Cardamine pratensis* 'hose in hose' (p. 19), *Acer pseudoplatanus* showing 'salt-burn' (p. 25), *Stipa tenuissima* on a London pavement (p. 48). **Plate 5:** *Doodia aspera* & *Dryopteris cycadina* on London walls (p. 42), *Urtica galeopsifolia*, Staffordshire (p. 52), Sally 'the dog on wheels' and Quibble (p. 33). **Plate 6:** *Rumex rupestris* at Pleinmont, Guernsey (p. 26); **Plate 7:** Algal Endophytes in *Lemna* roots (p. 36). **Plate 8:** *Gentiana pyrenaica*, *Campanula speciosa* and *Phyteuma spicatum* in Catalan Pyrenees (p. 64).

Colour photographs

While we are very grateful to all those members who provide photographs for our Colour Section, it is surprising how many forget to provide full details for the captions to go with them. We really do need to know the four W's: **Who** took the photograph, **when** it was taken, **where** it was taken and **what** it shows.

Line drawings

A glance through this issue of *News* will show that there are fewer line drawings than usual. Eric Clement tells me that he is being offered fewer and fewer drawings, especially from former quite prolific artists. So, please, if you do have any drawings suitable for publication in *News* or are willing to 'draw to order', do contact the Editors or Eric Clement.

Where are they now?

The following fully paid-up members appear to have moved house recently without letting us know! If anyone has any information concerning their present whereabouts, please get in touch with the membership secretary.

- 23018, Mrs J Kinsella, 39 Bronwen Court, Grove End Road, London, NW8 9RX, 21
 26831, Mr A R Outen, 15 Manor Close, Clifton, Shefford, Beds, SG17 5EJ, 30
 31819, Mrs P S Swettenham, Woodlands, 11 Wigtown Road, Sorbie, Newton Stewart, Wigtownshire, DG8 8EL, 74
 33811, Mr S Williamson BA, 28 Woodlands Parkway, Timperley, Altrincham, Cheshire, WA15 7QU, 58
 71683, Dr J E Wentworth, Royal Commission on Envir. Poll., Deans Yard, Westminster, London, SW1P, 21
 71942, Mr L Stenberg, Fastlagsy 13, 126 48 Hagersten, SWEDEN
 73732, Mr J K Archer, 2 Porson Court, Loampit Vale, Lewisham, London, SE13 7BJ, 16
 96554, Mr J W Mallabar, Steels Cottage, 22 Eastcourt, Burbage, Wiltshire, SN8 3AG, 36
 97046, Miss G E Lee, 30 Field Street, South Gosforth, Newcastle-upon-Tyne, NE3 2R7, 67
 97151, Mr J Willis, Henry's Villa, 4 Nayland Road, Colchester, Essex, CO4 5EG, 19
 97240, Mr E Wong, Wills West, Taunton, Somerset, TA2 6AD, 5

A 2nd update to members list in *Year Book 2005* may be found on pages 67-70

RECORDERS AND RECORDING

PANEL OF REFEREES AND SPECIALISTS

There have been no changes to report since *BSBI News* 99.

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

PANEL OF VICE-COUNTY RECORDERS

Recent changes since *Year Book* 2005

V.c 53 (S. Lincs.) Mrs Irene Weston has resigned as joint recorder, leaving Mr M. Pool as sole incumbent. Irene was the recorder for both parts of Lincolnshire for 20 years, and thus, for all our schemes during that period, responsible for an area matched only by Geoffrey Halliday in V.c. 69 & 70, and at least 50% larger than any other. I remember her relief when the last of the 70 odd mastercards had been submitted for the New Atlas, and I owe her a huge vote of thanks for all her work.

V.c 71 (Man) Vacant, following the death in July of Dr Larch Garrad, who had been our recorder since 1986. Formerly the curator at the Manx Museum, Larch was interested in many aspects of Natural History, and at her death was working on an alien flora of the Isle of Man – readers of the *New Atlas* will see how well recorded the island was for these species!

There are a number of other impending changes, but these have to be ratified by Records Committee, which does not meet until October.

DAVID PEARMAN, Hon. General Secretary, Algiers, Feock, Truro, Cornwall TR3 6RA; Tel: 01872 863388; email: DPearman4@aol.com

WANTED – A VICE-COUNTY RECORDER FOR EASTERNNESS – V.C. 96

The old county of Inverness is divided into two – Westernness and Easternness Watsonian Vice-counties. Even with this split Easternness is still one of the largest of all Scottish Vice-counties. It is enormously varied, including coastal, riparian, semi-natural woodland, moorland and montane habitats. These montane habitats hold several important populations of rare species such as *Carex lachenalii*, *Carex rariflora*, *Saxifraga rivularis*, *Salix lanata* and *Phyllodoce caerulea*. Fen habitats host *Carex buxbaumii* and *Carex chordorrhiza*, whilst the woodlands provide habitat for *Moneses uniflora* and *Linnaea borealis*.

Inverness was the subject of a major effort by the then Committee for the Study of the Scottish Flora, which organised major fieldwork in the 1970s, recording on a 5×5km basis, culminating in the publication of the excellent *Map Flora of Mainland Inverness-shire* in 1985.

The present Vice-county Recorder, Margaret Barron has been 'in post' for some 26 years and would now like to retire. We are indebted to Margaret for these years of sterling service to the BSBI.

Her retirement will create a vacancy for which there is no immediate and obvious candidate. We are therefore looking for a keen botanist to take up the post. Alternatively, we would be equally happy with two botanists taking up the post jointly, to share the work. The principal task is, of course, the collection, validation and maintenance of vascular plant records within the Vice-county on behalf of the BSBI. For full details of what a Vice-county Recorder's job entails please e-mail me, Jim McIntosh, at j.mcintosh@rbge.ac.uk.

We are looking for an enthusiastic and competent botanist, preferably with experience in Highland flora, who has good interpersonal skills, is a good communicator and is physically fit (to get into remote parts of the vice-county and access its mountainous terrain). We would particularly welcome applicants who could afford to spend significant time in the Vice-county every year, so that they can undertake survey work and BSBI projects on the ground. Desirable skills would include competency

with computers, particularly e-mail, the internet and MapMate. If you are interested, please submit a CV detailing your experience and skills in all of these areas.

Please send your CV to me, by email or post, by the 28th October 2005.

JIM MCINTOSH, BSBI Scottish Officer, c/o Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR;
Tel: 0131 2482876; j.mcintosh@rbge.ac.uk

VICE-COUNTY RECORDERS FOR SCOTLAND

Scotland has nearly half the land area of Britain and 41 vice-counties, but only about 10% of the botanists. In order to cope better with such a large area we have begun to encourage the appointment of more than one Recorder per vice-county. This is of course only ever done with the knowledge and consent of the existing Recorder(s). We suspect that there may be BSBI members who are living south of the border who would rather like to become a Recorder, but for whom there is no opportunity locally, and who are frequent summer migrants to Scotland. We would like to hear from you.

RICHARD PANKHURST, Chairman, BSBI Committee for Scotland, 23 Royal Crescent, Edinburgh,
EH3 6QA. Richard@rbge.org.uk

THE NEW RED LIST FOR BRITAIN

After three years of work this new list was published in May (Cheffings & Farrell 2005) and is available from NHBS or can be viewed on the web at www.jncc.gov.uk. By concentrating on Threat rather than Rarity the list has broken completely new ground in botanical circles, and enjoyed a great deal of publicity, some of it much exaggerated, in the press.

The first and second Red Data Books (RDBs) (Perring and Farrell, 1977 & 1983) were based entirely on rarity, and if a taxa was thought to be in 15 or fewer 10km squares it was eligible. *Scarce Plants* (Stewart *et al.*, 1994) extended the concept to those taxa found in 16 to 100 10km squares. By the time of the third edition of the RDB (Wigginton, 1999) the IUCN criteria of threat had been adopted, but still taxa qualifying were limited to those in 15 or fewer 10km squares. This new list starts again, and following IUCN guidelines in full for the first time, decides **for all taxa**, through a series of computations based on the records from 1930–1969 and 1987–1999, whether the overall range or the frequency, on an extrapolated tetrad basis, within that range have changed. This is supplemented by further criteria for the very rarest taxa. To this base has been added what we currently know, which is fairly imprecise, on the rarest self-perpetuating hybrids and a start on the three major apomictic groups.

The new List contains 345 taxa (a figure which includes 42 hybrids and 20 *Hieracium* and *Taraxacum* taxa). About 30 of these taxa are Scottish montane species that are probably under no threat, but had not been recorded fully in the 1987–1999 period, including:

<i>Arabis petraea</i>	<i>Juncus castaneus</i>
<i>Cornus suecica</i>	<i>Polystichum lonchitis</i>
<i>Gnaphalium supinum</i>	<i>Sibbaldia procumbens</i>

and further fieldwork should eliminate almost all of these. Wigginton (1999) had 205 taxa, but these, as explained above, were restricted to plants that were Rare: Perring & Farrell (1983), omitting extinct plants, covered 298 taxa and their 1977 work 302. So, apart from the ‘hiccup’ of Wigginton, where in the transition from old Rarity to IUCN neither was properly applied, a broadly similar number of taxa are listed in each RDB, and the lurid reports in the Press of the shock of 20% or whatever of our flora being at risk are, as ever, a misunderstanding of the situation. By setting the criteria as we have we have always chosen to designate 20–25% as the rarest or the most threatened. What has changed are the mix of individual taxa thanks to the application of the criteria to **all** Native and Archeophyte taxa and it is the newcomers which contain the surprises to many conservationists, especially as many are fairly widespread as shown by the map below. That might be the reason for the misunderstandings – same number of species but more places where they might be at risk! And perhaps more relevant to real life – an attrition of species we formerly took for granted rather than concentration on rare things we only see from time to time.

There are many changes, largely reflecting and anticipated by the Change Index figures in the new Atlas. In come, as Endangered, taxa such as:

<i>Astragalus danicus</i>	<i>Gnaphalium sylvaticum</i>
<i>Monotropa hypopitys</i>	<i>Scleranthus annuus</i>

and as Vulnerable:

<i>Allium oleraceum</i>	<i>Groenlandia densa</i>
<i>Blysmus compressus</i>	<i>Oenanthe fistulosa</i>
<i>Chenopodium bonus-henricus</i>	<i>Ophrys insectifera</i>
<i>Clinopodium acinos</i>	<i>Spergula arvensis</i>
<i>Gentianella campestris</i>	<i>Stellaria palustris</i>

Out go many Rare and Scarce taxa, that, whilst they have always been rare, are still where they have always been. This includes taxa such as *Carex lachenalii*, *Carex muricata* subsp. *muricata* (which I thought was one of our rarest plants until very recently), *Cirsium tuberosum*, *Draba aizoides*, *Eriophorum gracile*, *Hypochaeris maculata*, *Salvia pratensis*, *Tuberaria guttata* and *Woodсия alpina*.

However this new list breaks much additional new ground. In addition to the basic list of 345 taxa, and at the risk of drowning readers in a sea of figures, the box below gives further salient listings of another 567 taxa making a grand total of 912 covered one way or another!

98 taxa are Near Threatened, including about 30 'new' taxa that are not currently Rare or Scarce. These are taxa to watch.
39 taxa are listed as Data Deficient, mainly the better-recorded problem taxa, but also those where the evidence of recent trends are not good enough to assign an IUCN category. Most of these may well become threatened.
121 taxa are on a Waiting list. This includes many (about 50) subspecies not yet sufficiently well-recorded, most of the <i>Limonium binervosum</i> group where the taxonomy is back in the melting pot and a few taxa treated as alien in the <i>New Atlas</i> that others disagree on. There is much to work on here for the next few years.
39 taxa are on a Parking List. This is a rank below the above, and taxa are here usually because they were RDB in the past, but are now considered Neophytes or there are real doubts over taxonomic status. Interesting, but not remotely as important as the foregoing.
43 candidate <i>Rubus</i> microspecies.
5 poorly understood taxa.
13 extinct taxa.
47 remaining Rare taxa, i.e. those that do not qualify for any of the IUCN categories, including Near Threatened or Data Deficient, and
162 remaining Scarce taxa, ditto.

To a complete outsider the whole concept must seem fraught with change, with the scope for some confusion! In not much more than one generation (and within the career of Lynne Farrell, the joint author of the first, 1977, work and the chairman of this current group) over half of the taxa listed in 1977 (156 out of 302) have disappeared from this core list of 345 taxa. That is an astonishing churn! I grant that the 1977 list was a first listing, and the reasons for their removal from the list range from being found to be genuinely more common than then thought, such as:

<i>Alopecurus bulbosus</i>	<i>Geranium purpureum</i>
<i>Juncus filiformis</i>	<i>Scheuchzeria palustris</i>
<i>Lotus angustissimus</i>	

to changes of opinion on taxonomy or status, as well as species that that first RDB consciously included though they knew were alien. This is a very long list and contains the bulk of the changes, and includes:

<i>Alyssum alyssoides</i>	<i>Ledum groenlandicum</i>
<i>Buxus sempervirens</i>	<i>Leucosium vernum</i>
<i>Campanula persicifolia</i>	<i>Linaria supina</i>
<i>Crocus purpureus</i>	<i>Paeonia mascula</i>
<i>Isatis tinctoria</i>	

Other taxa that have now gone from the 1977 list are those for which conservation action over 30 years may well have made less threatened, and it is an interesting point as to whether removal from the core list will divert funds and effort from these taxa, making them re-threatened!

But botanists and conservationists **do** remember past categories of Red listings, and if one adds to the four published Red lists, plus Scarce plants (Stewart *et al.*, 1994), the various additional categories of BAP listings, (including SoCC taxa – Species of Conservation Concern –, Schedule 8 species, species protected under European legislation – Bern Convention & EC Habitats Directive – plus the further new tentative addition in this list of International Responsibility), one might sense a need for some alertness!

There is also the major and unresolved problem of the 'old' Rare and Scarce taxa, and how they fit into the new system. They underpin SSSI selection and are the backbone of our County Rare Plant Registers. These are still defined as those taxa that occur in 1-15 and 16-100 10km squares respectively post 1/1/1987 and these are as set out in Cheffings (2004), and to me at least it is a disappointment that the questions of why 10km squares rather than say, tetrads or 1km square or even sites, and why 1-15 and 16-100 squares rather different figures have not yet been addressed.

The problems of the number of taxa covered and the unsolved interface with Rarity are real, but having worked for all these years on Scarce Plants, the 1999 RDB and then the Atlas, I can only say that I feel really happy with the concepts behind this new list, especially with the stimulus that it should give to taxa that have not been considered before. We often hear that our flora is so well recorded that further work is navel-gazing. The different emphasis and the huge gaps revealed by this new list must dispel that. Look at these maps produced by Bob Ellis using Alan Morton's DMAP programme, showing the difference in frequency of the taxa included in the 1999 list and in the current list! (NT = Near Threatened) (see Colour Pages plates 1 & 2). We, then, have our challenges. The conservationists have others and it will be interesting to see how they can rise to this new direction.

References:

- CHEFFINGS C.M. 2004. New Plant Status Lists for Great Britain. *BSBI News* **95**: 36-43.
- CHEFFINGS, C.M. & FARRELL, L. (Eds), DINES, T.D., JONES, R.A., LEACH, S.J., MCKEAN, D.R., PEARMAN, D.A., PRESTON, C.D., RUMSEY, F.J., TAYLOR, I. 2005. *The Vascular Plant Red Data List for Great Britain. Species Status 7*. JNCC, Peterborough.
- PERRING, F.H. & FARRELL, L. 1977. *British Red Data Books: 1. Vascular Plants*. Society for the Promotion of Nature Conservation, Lincoln.
- PERRING, F.H. & FARRELL, L. 1983. *British Red Data Books: 1. Vascular Plants*, edn 2. Royal Society for Nature Conservation, Lincoln.
- PERRING, F.H. & WALTERS, S.M. 1962. *Atlas of the British Flora*. Thomas Nelson & Sons, London.
- PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. *New Atlas of the British & Irish flora*. Oxford University Press, Oxford.
- STEWART, A., PEARMAN, D.A. & PRESTON, C.D. 1994. *Scarce Plants in Britain*. JNCC, Peterborough.
- WIGGINTON, M.J. 1999. *British Red Data Books: 1. Vascular Plants*, edn 3. JNCC, Peterborough
- DAVID PEARMAN. Hon. General Secretary, Algiers, Feock, Truro, Cornwall TR3 6RA; Tel: 01872 863388; email: DPearman4@aol.com

THE NEW RED LIST AND RECORDING FOR COUNTY RARE PLANT REGISTERS AND FLORAS

The note above sets out the rationale and the effect of the changes for **Britain**. So far as recorders are concerned we consider the position is as follows:

The new Red list does not cover **rarity** *per se*, other than in the case of the very rarest that fall into IUCN **threat** categories. So there are lots of **Rare** plants (c.47) and even more **Scarce** (c.160) plants not covered in the new list.

But SSSI guidelines and others still use Rare and Scarce **as a measure of rarity**, and rarity must have a place in county terms, so we will continue to use the concepts of County Rare and Scarce as measures of **rarity**.

Species
per hectad

1 2

3 - 4

5 - 6

7 - 8

9 - 10

11 12

13 - 14

15 - 16

>16

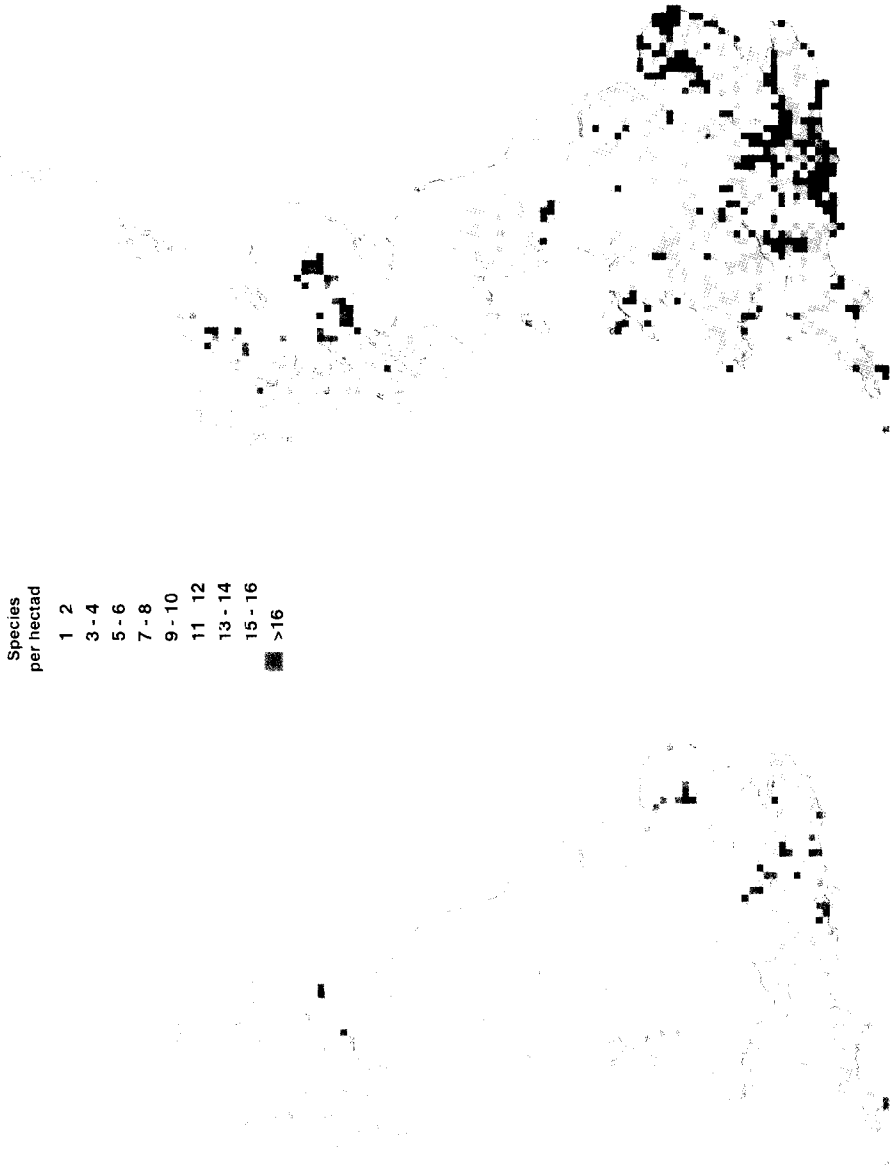
Red Data Book 1999 (excluding NT)

(see p. 10)

Red Data Book 1999 (including NT)

Species
per hectad

- 1 - 2
- 3 - 4
- 5 - 6
- 7 - 8
- 9 - 10
- 11 - 12
- 13 - 14
- 15 - 16
- >16



Red List 2005 (including NT)

(see p. 10)

Red List 2005 (excluding NT)

So we think that both approaches, **threat and rarity**, are relevant in CRPRs, and to that end we have issued new guidelines for CRPR which have been sent to all v.c. Recorders and are available from Bob Ellis. He has also produced, for the masochistic, a concordance of the new list, the old and all changes, including those remaining as Rare or Scarce but of least conservation concern. For practical reasons this is only available electronically.

BOB ELLIS, BSBI Volunteers Officer, 11 Havelock Road, Norwich, NR2 3HQ; 01603 662260;
VolunteersOfficer@bsbi.org.uk

DAVID PEARMAN, Hon. General Secretary, Algiers, Feock, Truro, Cornwall TR3 6RA; Tel: 01872 863388; email: DPearman4@aol.com

VERIFICATION AND MAPMATE

MapMate has presented the recording community with a strategic problem. The judgements of our vice-county recorders hitherto have been largely obscure to individuals who pass records forward to them. This is no longer so and if a vice-county recorder wants to 'synch' the data to the central database and has reservations or doubts about records they must be corrected at source, by the originator or his agent. Otherwise these unaccepted records will circulate and add to the sum of misinformation in the record group, assuming that the central database uses MapMate.

If not and the central database is a different program, and correction at source not strictly necessary, then the generally available records, published with the dominant software of the recording community, could diverge radically from those centrally held records which have been subjected to critical scrutiny. Either way, unless the records are brought into accordance at source all records within the MapMate system will have lost a degree of credibility and, perhaps, so will those of the central database.

But, of course, there are other considerations which affect the gathering of data and the most valuable of these is Mark Yeates' stroke of genius in his conception of 'synch files', which allow data to be shared between many as soon as it has been entered. This, for the first time on a large scale, allows the checking of records within season, most usefully of annuals and ephemerals like rare casuals. Consensus of opinion is likely to become a useful enhancement to *post facto* experienced judgement alone.

So it comes down to individuals and the wildly exaggerated extremes could be, on the one hand, a vice-county recorder of such unenlightened pedantry as to reject a record for, say, *Galium aparine* in a lowland area without proof and, on the other, a vainglorious recorder refusing to amend his treasured but unvouched record of a Cairngorms alpine from a building site in Birmingham. In the latter case proof is the issue, in the former judgement.

A great deal more diplomacy might be called for from vice-county recorders and humility from recorders unless 'synch file' exchanges can be utilised dynamically, allowing critical assessments from the recording community to aid and extend verification. In other words unless the raw data is 'synched' out to other recorders whilst they are able to check it in the field. With a static exchange system records are instead held back unexchanged until after they have been checked by the possibly overworked vice-county recorder, which is often not until the end of the recording season.

The flow of records each year in many places constitutes a good sized river by the time it reaches a vice-county recorder. The recording software espoused by the Society has created a situation analogous to that in parts of England, where improved drainage of upper catchments has increased the risk of flooding downriver. If this enhanced flow can be submitted to informed consensus (like interrupted drainage) before it ends up with the vice-county recorder at the end of the season (the sluice at the estuary) our records and vice-county recorders can surely only benefit from the process.

GEOFF TOONE, 17A Regent Street, Shanklin Isle of Wight, PO37 7AF; Tel: 01983 868901;
Email: Geoff@toone10.fsnet.co.uk

NOTES AND ARTICLES

LEAF STRUCTURE IN *EPILOBIUM*

The note by Jack Oliver and Joy Newton in *BSBI News* 97:36-37 regarding a specimen of *Epilobium obscurum* (Short-fruited Willowherb) whose main axis carried leaves in groups of three, but which failed to reproduce seedlings with similar leaf structure, warrants some further comment as regards the extent of that phenomenon in the genus *Epilobium*.

Stepping beyond the British flora, such whorled leaf structure is the norm for *E. alpestre*, but I have only encountered it as an occasional form in *Epilobium* species known in Britain. I have not seen it in *E. obscurum*, but in July 2004 I saw a large 3-leaved specimen of *E. ciliatum* (American Willowherb) by a stream at Alpbach in Austria. The most frequent occurrence of this leaf structure in my experience, however, is in *E. montanum* (Broad-leaved Willowherb), where it is sometimes referred to as var. *verticillatum* Koch. Koch noted it in the context of the German and Swiss flora as a variety of *E. montanum* occurring amongst ordinary plants, and to be distinguished from *E. alpestre*.

None of my own sightings has suggested to me that the form has particular taxonomic significance. In each case such plants have been isolated occurrences with normal forms also present, suggesting a state not transmissible by seed, and contrasting with those variations in *Epilobium* spp that occasionally form small populations, such as white flowered *E. ciliatum*. As with many minor varietal states of our plants, *E. montanum* var. *verticillatum* seldom gets into print, although records are mentioned in, for example, Wolley-Dod (1937) and (as a form) in Salmon (1931). The standard monograph on *Epilobium* - Haussknecht (1884) - refers to infraspecific variation in terms of formae, and here *E. montanum* forma *verticillata* is said sometimes even to exhibit 4-leaved whorls, rather than the usual three.

This leaf structure is capable of appearing in *E. montanum* hybrids, as well as the species. In 2003, I encountered this in two plants of *E. montanum* × *E. obscurum*, well separated, on roadsides near Balnacara in West Ross (v.c. 105). There were no plants of either species in the vicinity that exhibited the 3-leaf whorling, which may be another pointer to an origin other than by way of inheritance. Most recently (2005), a stem of *Epilobium hirsutum* × *E. montanum* in my garden at Halstead (v.c. 16) has produced 3-leaf whorling and, at one node, a 5-leaf whorl. I suspected this of being a plant of stoloniferous origin, derived from a normal hybrid plant present here in previous years, but could trace no physical link with the other adjacent non-verticillate stems.

References:

- HAUSSKNECHT, C. 1884. *Monographie der Gattung Epilobium*, Gustav Fischer, Jena.
 KOCH, W.D.J. 1843-45. *Synopsis Florae Germanicae et Helveticae*, 2nd edn. Frankfurt.
 SALMON, C.E. 1931. *Flora of Surrey*. G.Bell & Sons, London.
 WOLLEY-DOD, A.H. 1937. *Flora of Sussex*. Kenneth Saville, Hastings.
 GEOFFREY KITCHENER, Crown Villa, Otford Lane, Halstead, Sevenoaks, Kent TN14 7EA

PEMPHIGUS SPIROTHECAE GALLS ON BLACK POPLAR

I have seen the galls of both *Pemphigus spirothecae* and *P. bursarius* on the petioles of a Black Poplar, possibly 'Plantierensis' (*P. nigra* L. subsp. *betulifolia* (Pursh) W. Wettst. × *P. nigra* var. *italica* Muenchh.). The identification of this tree, which certainly had a lot of Black Poplar in it, was not confirmed before it was felled in 2003, allegedly in the interest of public safety. However, the identity of the insect was confirmed*.

Having a side-interest in cecidology I have looked for *Pemphigus* galls on a wide variety of Poplars including *P. candicans* (Balm-of-Gilead), *P. ×canescens* (Grey Poplar), *P. alba* (White Poplar), *P. tremula* (Aspen) and, surprisingly perhaps, Lombardy Poplar (*P. nigra* var. 'Italica') all without success. Sadly, we do not have any mature *P. nigra* subsp. *betulifolia* in the immediate locality here in v.c. 61.

After reading Mr Lowe's letter (*BSBI News* 96: 34-35) I contacted Mr Dolling, an eminent entomologist*, who informed me that *Populus nigra*, '*P. italica*' and *P. balsamifera* (Eastern Balsam-

poplar) are described as hosts to *Pemphigus spirothecae* (Heie, 1980), as also *P. nigra*, '*P. italica*' and *P. 'pyramidalis'* (Hille Ris Lambers & Easthop, 1976). We are not sure what '*pyramidalis*' is, unless it is the '*Pyramidalis*' cv. of *P. alba*.

I have gleaned more information by 'surfing the web'. The specificity of *P. spirothecae* to *Populus nigra* subsp. *italica* (var. '*Italica*'; Lombardy Poplar) is described by both Eger (1997) and by Tyerman and Roitberg (2004). It seems that no-one disputes that Lombardy Poplar can host this insect gall, but I have yet to see it!

This short article presents some references to published evidence that *Pemphigus spirothecae* galls are not strictly specific to native *P. nigra* subsp. *betulifolia*. It may be worth looking more closely at *P. balsamifera* and *P. alba* before regarding galling by *Pemphigus spirothecae* an indication of native Black Poplar. That I have not yet seen this gall on Lombardy Poplar in S E Yorkshire might indicate a geographical phenomenon of insect 'fussiness', as also the observation of the gall on different species of Poplar in continental Europe.

Acknowledgements: With thanks to Mr Bill Dolling.

* DOLLING, W.R. 1991: *The Hemiptera*. Oxford University Press, Oxford. 273 pp.

References:

- EGER, G. 1997. *Entwicklung von Gallen und Gallerregern nach Befall der Pappel Populus nigra L. var. italica mit der Blasenlaus Pemphigus spirothecae* Pass. Staatsexamen, Heidelberg, Thesis 1997.
- HEIE 1980. Aphidoidea 1: General part; Families Mindaridae - Pemphigidae *Fauna Entomologica Scandinavica* 9.
- HILLE RIS LAMBERS, D., EASTOP, V.F. 1976. *Survey of the World's aphids*. Kluwer Academic Publishers (June 1976).
- TYERMAN, J.G., ROITBERG, B.D. 2004. Factors affecting soldier allocation in clonal aphids: a life-history model and test. *Behavioral Ecology* **15**(1): 94-101.
- PETER J. COOK, 15 Park Avenue, Withernsea, East Riding of Yorkshire, HU19 2JX.

WALL WHITLOWGRASS (*DRABA MURALIS*); A POSSIBLE NATIVE LOCALITY IN SOUTHERN SCOTLAND

During a BSBI field meeting in early July 1977, Chris Badenoch and I recorded the annual crucifer *Draba muralis* from the small and isolated ungrazed south-facing basaltic outcrop of Chesters Craigs, north of the River Teviot and west of Ancrum in Roxburghshire (v.c. 80) at an altitude of 165m. This record was noteworthy as it was the first and only occasion that I have seen this species in a natural habitat in the Scottish Borders. I have reviewed the Chester Craigs population three times since, the last occasion being on 24th May 2005 when the plants were setting seed. Although the number of plants has varied, the general impression is that of relatively stable population with many hundreds of plants and this gives the impression that it is native at this site. I was convinced of this after corresponding with Denis Ratcliffe the author of *Draba muralis* in the Biological Flora series (Ratcliffe, 1960), who agreed. The habitat compares well with the native habitats described from Derbyshire and Yorkshire. In *Scarce Plants in Britain* he wrote one possibly native site has recently been discovered on basalt in Southern Scotland and gave it native status on the relevant map (Ratcliffe, 1994). It was also given native status for the relevant hectad in the New Atlas where it is recorded in only 29 hectads in Britain as a native species (Preston *et al.*, 2002). However my initial feelings for its native status waned over the years and it was reduced to that of a neophyte for v.c. 80 in the Vice-county Census Catalogue (Stace *et al.*, 2003). This note attempts to clarify the status of this Roxburghshire population.

It was first recorded as a casual from Roxburghshire in 1873 from three sites at Kelso (Brotherston, 1873) and recent records have been made from man-made habitats such as forest tracks, railways and from gardens as a rare weed. The nearest known colony is 14.5kms away on the disused railway to the south of Hawick where it occupies the east facing side of a rock cutting and where it has been known since 1974. Although the same disused railway line reaches to within 3kms of the site, there are no records of it from this part of the track (Braithwaite, 1975). It is

absent from the south facing rocks of the much more extensive Minto Craigs, 3kms to the west of Chesters Craigs where it might have been expected to occur as the habitat looks suitable for it. Although it has persisted in the rock cutting on the disused railway south of Hawick since 1974, the attempted introduction to a new site on the ruined Newark Tower near Bowhill in Selkirkshire (v.c. 79) in the late 1980s failed. The late Arthur Smith of Selkirk, a highly respected all round naturalist sowed seed from plants on the railway south of Hawick (pers. com. D. Methven) and although many plants were seen in 1993, not a single plant remained in 2004 although the habitat appeared unchanged. It is difficult to know why it died out there.

At Chesters Craigs, *D. muralis* is confined to bare areas with a thin covering of soil over rock on the middle section of the south facing slope where competition from stronger growing species such as False Oat-grass (*Arrhenatherum elatius*), Creeping Thistle (*Cirsium arvense*), Cock's-foot (*Dactylis glomerata*), Male Fern (*Dryopteris filix-mas*), Red Fescue (*Festuca rubra*), Dog Rose (*Rosa canina*), Bramble (*Rubus fruticosus* agg.), Raspberry (*Rubus idaeus*), Upright Hedge-parsley (*Torilis japonica*), Whin (*Ulex europaeus*) and Common Nettle (*Urtica dioica*) is much reduced. There is partial shade from regenerating Ash (*Fraxinus*), Oak (*Quercus*) and Elm (*Ulmus*). An old quarry is present on the south side of the outcrop and the *Draba* occurs on the west side of this and along the edge above. Plants are absent from the highest and most exposed parts of the south facing side and from the remainder of the site. Species associated with the *Draba* are Slender Parsley-piert (*Aphanes inexpectata*), Thale Cress (*Arabidopsis thaliana*), Hairy Bitter-cress (*Cardamine hirsuta*), Common Whitlowgrass (*Erophila verna*), Dove's-foot Crane's-bill (*Geranium molle*), Changing Forget-me-not (*Myosotis discolor*), Early Forget-me-not (*M. ramosissima*), Wall Speedwell (*Veronica arvensis*), Spring Vetch (*Vicia lathyroides*) and a subspecies of Common Vetch (*Vicia sativa* ssp. *nigra*). Other species of note elsewhere at the site are Black Spleenwort (*Asplenium adiantum-nigrum*), Prickly Sedge (*Carex muricata* ssp. *lamprocarpa*), Little Mouse-ear (*Cerastium semidecandrum*), Maiden Pink (*Dianthus deltoides*), Meadow Saxifrage (*Saxifraga granulata*) and Hare's-foot Clover (*Trifolium arvense*).

The botanical history of Chester Craigs is unknown except for a record of *Dianthus deltoides* given by the Rev. James Duncan in his manuscript Flora of Jedburgh (Duncan, 1832). He does not record any of the other scarce Border species found there today and which must have been present then, so he may only have made a cursory examination of the site. He may not have recognised the *Draba* with which he would have been unfamiliar especially if his visit to the Craigs was later in the season when the plants had died down. His failure to record it therefore does not necessarily mean it was absent then. James Murray, who was a younger contemporary of Duncan and a keen and knowledgeable botanist, knew the area well and wrote up an unfinished account of 'The Native plants of Teviotdale' aged only 24 years (Murray, 1863). He makes no mention of Chesters Craigs or *Draba muralis* in the text. He made his name later as the editor of the monumental New English Dictionary.

There are similarities with the isolated native occurrence of *Cardamine impatiens* in a remote south facing woodland in Roxburghshire far to the north of its nearest native English localities in Cumberland (v.c. 70) and Westmorland (v.c.69) (Corner 1988). The nearest native sites for *D. muralis* also occur far to the south (125km) on the limestones of Westmorland (v.c. 69) and North West Yorks (v.c. 65). However *C. impatiens* has only a single very old casual record from 1876 whereas *D. muralis* has several contemporary records in the area which makes the chance of spread much more likely.

Although it is possible that *D. muralis* could be native at this isolated natural site, remote from any of the casual populations, it is probably safer to consider it as an established introduction. Its absence from nearby Minto Craigs weakens the argument for its native status as does its persistence on the favourable old railway habitat near Hawick. It seems likely that colonisation has taken place spontaneously from a casual source, and because of the especially favourable conditions, a large stable population became established. I consider that the interest of the site is enhanced by its presence and there seems to be no reason why it should not continue to thrive there indefinitely.

References:

- BRAITHWAITE, M.E. 1975. *A railway flora of Teviotdale*. Buccleuch Printers, Hawick.
 BROTHERSTON, A. 1873. List of Plants not recorded in Eastern Borders Flora. *Hist. Berw. Nats. Club.* 6:438.

- CORNER, R.W.M. 1988. *Cardamine impatiens* L.: a native Scottish Locality. *Watsonia* **17**: 91-92.
- DUNCAN, J. 1832. *Manuscript Flora of Jedburgh*. H. C. Watson Library, Kew Herbarium.
- DUNCAN, J. 1864. In Jeffrey, A., ed. *The history and antiquities of Roxburghshire and adjacent districts*. **4**: 373-407. London.
- MURRAY, J. A. H. 1863-1867. Contributions to the Flora of Teviotdale. **1-9**. *Hawick Archaeological Society*.
- PRESTON, C. D., PEARMAN, D.A. & DINES, T. D. 2002. *New Atlas of the British and Irish Flora*. Oxford University Press, Oxford.
- RATCLIFFE, D. 1960. Biological Flora of the British Isles. No. 75. *Draba muralis* L. *J. Ecol.* **48**: 737-744.
- RATCLIFFE, D. 1994. *Draba muralis* in Stewart, A., Pearman, D.A. & Preston, C.D. eds. *Scarce plants in Britain*. J.N.C.C. Peterborough.
- STACE, C.A., ELLIS, R.G., KENT, D.H. & MCCOSH, D.J. 2003. *Vice-county census catalogue of the vascular plants of Great Britain*. Botanical Society of the British Isles. London.

RODRICK W.M. CORNER, Hawthorn Hill, 36, Wordsworth Street, Penrith, Cumbria. CA11 7QZ

A NOTE ON *LAMIAM ALBUM* × *L. PURPUREUM* AND EARLY HORTICULTURAL HYBRID NAMES

The natural hybrid between the White and Red Dead-nettles has apparently not been recorded from the British Isles, although Stace (1975: 395) does cite records from Ga [France], He [Switzerland] and Hu [Hungary]. It was apparently described as *Lamium × schroeteri* Gams, although the reference to place of original publication may not yet have been found. There is no reference given in Stace (1975), nor does the name Gams appear in the Author Index for that work. I was unable to trace the name in IPNI [www.ipni.org]. However it appears in the online catalogue Index Synonymique de la Flore de France [www.inra.fr/flore-france/consult.htm] as '*Lamium × schroeteri* Gams in Hegi [1927, Illustr. Fl. Mitteleur., **5** (4) : 2457] [*valid*. ?] (*L. album* × *purpureum*)'. It does appear in Rothmaler's (1986: 499) critical German Flora without locality or reference.

Gams is apparently Helmut Gams (1893-1976), who described taxa in Algae, Bryophytes, Mycology and Spermatophytes, making him quite an all-rounder.

Recently a reference to this hybrid came to light in a 1905 issue of *The Gardening World*, as an artificial garden hybrid, under the name *Lamium puralbum* H.Bell. where the authoress enthuses, 'The cross results in a floriferous and free-growing plant of much beauty, the colour of the flowers being an unusual and very charming shade of silvery pink. A form of *Chelone Lyoni* named *delicata* [*Chelone lyonii* Pursh. 'Delicata'] produces flowers of similar colour, and is the only flower with which we are acquainted possessed of this pleasing shade of colour.'

It appears that the name *L. × puralbum* H.Bell predates *L. × schroeteri* Gams, as Gams would have been about 12 years old in 1905 and therefore unlikely to have published his epithet by then. The question of valid publication for *L. × puralbum* needs careful investigation; certainly it would be regarded as established if it were a cultivar name. Many requirements currently required for valid botanical publication were not in force in 1905. A Latin description became mandatory from 1935 and designation of a type specimen from 1958. It is now also recommended that the specific name of a hybrid should not be derived by joining parts of the parental species epithets. However the description is meagre to say the least, but it might be argued that it does, at least in the mind of its authoress, distinguish the taxon concerned from its parents and near relatives, in which case the epithet *puralbum* might be accepted.

The late 1800s and early 1900s was a time marked by considerable experimentation with artificial hybrids in horticulture. Many thousands of hybrid orchids were developed and hundreds of other hybrids produced, some of which still survive today. As the above account illustrates, these forgotten hybrids and their names have left a legacy which may have nomenclatural implications for the current project on hybrids in the British Flora and the recording of alien plants.

Some examples of names potentially worth investigation

Aster × *cordelia* Wilmott, Gard. Chron. 32: 293 (1902) (*A. laevis* × *A. cordifolius*).
Echinops × *giganteus* K.Kaiser, Gartenwelt 1899: 4, f. (*E. sphaerocephalus* × *E. ritro*)
Helianthus × *ligeri* Millet, J. Hort. Fr. 1897: 741 (*H. rigidus* × *H. laetiflorus*)
Lavatera × *crestiana*, Gard. Chron. 21: 9 (1897); Rev. Hort. 1897: 351 (*L. trimestris* × *L. maritima*).
Papaver × *moneti* C.Monet, Rev. Hort. 1902: 150 (*P. glaucum* × *P. rhoeas*)
Potentilla × *friedrichseni* Späth Cat. 1897: 100 (*P. davurica* × *P. fruticosa*)

References:

BELL, HEATHER (1905) *Lamium puralbum*. *The Gardening World* 22 (n.s. no. 24): 489 (17th June).
 ROTHMALER, W. (1986) *Exkursionsflora* Band 4. Ed R.Schubert & W.Vent. Berlin.
 STACE, C.A. (1975) *Hybridization and the flora of the British Isles*. BSBI/ Academic Press.
 JULIAN M. H. SHAW, 2 Albert Street, Stapleford, Nottingham, NG9 8DB, UK. Orcreg@rhs.org.uk

ARE ROADSIDE VERGES THE KEY REFUGE FOR MEADOW CRANE'S-BILL (*GERANIUM PRATENSE*) IN GREAT BRITAIN?

Geranium pratense (Meadow Crane's-bill) is a widespread but local perennial plant occurring in 1,190 10km squares in Britain (Preston *et al* 2002). Distributional data however suggests that it is almost exclusively a plant of roadside verges and rarely occurs in semi-natural habitats (e.g. Smith 1988).

What factors have led to this distribution? It is hypothesised that the plant is susceptible to grazing. This might explain its scarcity in semi-natural pastures and hay meadows, the latter usually incorporating a period of grazing during the year. Where it occurs in semi-natural grassland such as in certain Derbyshire Peak District Dales, these are either in ungrazed or sporadically grazed National Vegetation Classification community MG1 *Arrhenatherum elatius* grassland. Perhaps it was once a component of tall-herb vegetation communities especially in the lowlands, a habitat which has been largely eliminated by agricultural intensification.

Although, not specifically threatened, it is an attractive and sometimes local species of our native flora. Thus, it is pertinent that roadside verges are managed in a manner that sustains populations of the plant. Cutting of verges *per se* is rarely problematical but the timing of cutting may affect flowering performance, seed production and the associated specialist fauna (Davis 1973).

The author would welcome any observations on the ecology of this species.

References:

DAVIS, B.N.K. 1973. The effects of mowing on the meadow cranesbill *Geranium pratense* L., and on the weevil *Zaenadus geranii* Paykull *Journal of Applied Ecology*, **10**, 747-749.
 PRESTON, C D, PEARMAN, D A. & DINES, T. D. 2002. *New Atlas of the British and Irish flora*. Oxford University Press, Oxford, UK.
 SMITH, R.S. 1988. Farming and the conservation of traditional meadowland in the Pennine Dales Environmentally Sensitive Area In Usher, M.B. & Thompson, D.B.A. eds *Ecological change in the uplands*. Special Publication No. 7 of the British Ecological Society, Blackwell Scientific Publications, Oxford.
 RICHARD JEFFERSON, English Nature, Northminster House, Peterborough PE1 1UA
 richard.jefferson@english-nature.org.uk

FURTHER COLONISATION BY *COCHLEARIA* SPECIES IN NE SCOTLAND

Northwards colonisation by *Cochlearia danica* occurred along trunk roads in central Scotland in the late 1990s (Welch, 2001). At that time the 105km dual carriageway between Dundee and Aberdeen (A90) was virtually devoid of *Cochlearia* despite long stretches of bare gravel in the central reservation. However, *Cochlearia officinalis* was then well established on sections of the Montrose-Stonhaven coastal main road (A92), and I speculated (Welch & Welch, 1998) that in due course the two species would ultimately meet and grow together on trunk roads.

This has now happened in the vicinity of the A90-A92 junction at Stonehaven. In May 2005 I observed frequent *Cochlearia danica* carpets containing scattered patches of *Cochlearia officinalis* along c.10km of the A90 immediately north of this junction. The *C. officinalis* plants were twice as tall as the *C. danica*, and consistently white-flowered. I estimated the cover ratio as c.10:1 *danica* to *officinalis*, and the total *Cochlearia* cover of suitable substrate as c. 15%.

Along the whole Dundee-Aberdeen dual carriageway *Cochlearia danica* has much increased since 2000, so that by 2005 there were colonies in all the hectads that the road enters. Progress northwards appears to have involved leap-frogging rather than a steady advance. In 2002 a colony on the Forfar by-pass at the A94 junction became prominent, and it was boosted by subsequent disturbance due to the construction of new fly-overs and fly-unders. There has also been colonisation along the A90 side verges especially where these have been treated with herbicide. The Laurencekirk colony first observed in 1997 (Welch, 2001) has now spread along 100 m of side verge, *C. danica* having c.20% cover there.

I have yet to spot *Cochlearia danica* colonies along other inland roads in NE Scotland, but doubtless colonisation is starting.

WELCH, D. 2001. Colonisation by *Cochlearia danica* L. along trunk roads in Central Scotland from 1996 to 2000. *Watsonia* **23**: 446-449.

WELCH, D & WELCH, M.J. (1998) Colonisation by *Cochlearia officinalis* L. and other halophytes along the Aberdeen-Montrose main road in North-east Scotland. *Watsonia* **22**: 190-193.

DAVID WELCH, East Fernbank, Woodside Road, Banchory, Kincardineshire, AB31 5XL.

BLUEBELLS WITH GREEN PARTS

When working on the Plantlife Bluebell survey two years ago, I found a small number of bluebells with green anthers growing at SD937.014 between Oldham and Ashton under Lyne (v.c. 59). There are more this year in the same place and still growing with others with the normal white/cream anthers (see Colour Section, plate 3).

Has anyone else noticed bluebells with green anthers?

ALLAN MARSHALL, Ellonrod Farm, NEWHEY, Rochdale, OL16 4NU

CUCKOO FLOWERS

A number of years ago I collected seed of *Cardamine pratensis* from a local field and scattered them in a 'wild' part of my garden. This spring I was interested to find that two or three plants showed up with hose-in-hose flowers (see photo, Colour Section, plate 4). The inset shows one flower head with both inner and outer flowers whereas the bottom one has lost its outer flower. They were growing amongst normal plants.

MICHAEL D'OYLY, Parlby Arms Cottage, Sampford Spiney, Yelverton, Devon. PL20 6LP

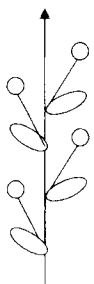
RACEMOSE OR CYMOSE? – THAT IS THE QUESTION

For many years I have not taken seriously entries in identification keys asking me to decide whether an inflorescence is racemose or cymose. I have dismissed it as something impossible to apply in practice and tried to bypass it. This is because I have sometimes found the determination very difficult on an actual plant, some of the distinctions being based on hypothetical developmental or evolutionary origin, rather than what is observable directly. Further, accounts in Floras, etc., are often brief and vague and sometimes confused. Recently, I decided to take myself in hand, and, with the aid of several helpful publications (Adler *et al.* 1994; Hickey and King 2000; Lowson 1959), made a serious effort to understand the subject and write it all down in comprehensible form. Here, I share some of the outcomes – if only to have them knocked down.

I am not here attempting to cover all inflorescence patterns which have been described, but rather to clarify the basic distinctions and their practical relevance. It is usual to classify inflorescences into

two types – racemose and cymose, and this contribution is really mainly about the most basic examples of these two types.

Simple raceme

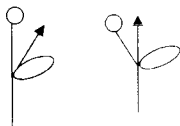


The basic type of racemose inflorescence is the simple raceme, which is illustrated here. It has a main axis (shown with an arrowhead) which just grows throughout life without ever ending in a flower. The flowers (represented by circles) are on the ends of branches which come off the main axis singly as it grows. Thus the first branches and flowers are the lowest and the youngest are at the top. There may or may not be leaves or bracts (represented by ovals) in the inflorescence. If there are, each is immediately below a branch and on the same side of the axis as that branch.

In a **cymose** inflorescence, the main axis ends in a single flower and growth is continued by a branch. This branch also ends in a flower and, if growth continues, also produces a branch for this purpose – and so on. The simplest expression of this is the Monochasial cyme or Monochasium.

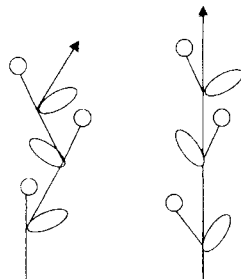
This has various forms, of which the type which provides the most useful contrast with a simple raceme is the Cincinnus. [See * below] Here, it is illustrated in two differing representations – hypothetical and normal. The branches are, hypothetically, borne on the left and the right alternately. This is shown in the hypothetical diagrams, which represent two stages of the process – the first branching, and then the situation after branching has occurred several times, which is like a zigzag.

Monochasial cyme branching alternately (Cincinnus) early



Hypothetical Normal

Monochasial cyme branching alternately (Cincinnus) later



Hypothetical Normal

Unfortunately, on the actual plant, it is most usual for the branch which takes over continued growth to grow straight upwards, and the original main axis and its flower to grow out sideways. This is shown in the first stage normal diagram. The long-term result shown for the later stage is an apparent main axis which is straight and made up of all the hypothetical branches straightened and combined. It therefore looks much the same as a simple raceme, which immediately presents a problem for practice.

If bracts are present, the two types can be distinguished by each bract's being on the same side as the flower in a raceme, but on the opposite side to the flower in a cyme. If there are no bracts, it's anybody's guess, but I think most people would then describe it as a raceme.

Both racemose and cymose inflorescences come in a variety of forms additional to the simple raceme and cyme described above. Additionally, some inflorescences are of mixed type. I am not dealing with these complexities here, but hope my remaining material can be divided up in a way sufficiently comprehensible to justify follow-up articles. Those unable to contain their impatience could send me a stamped addressed envelope (A4 to avoid folds in the illustrations, otherwise A5).

* Comparison with the illustrations in Hickey and King could cause confusion here, because the cincinnus is wrongly illustrated there as the related bostryx and vice versa, though the definitions in their glossary are correct.

References

- ADLER W., OSWALD K. & FISCHER R. 1994. *Exkursionsflora von Österreich*. Ulmer, Stuttgart and Wien.
- HICKEY M. & KING C. 2000. *The Cambridge Illustrated Glossary of Botanical Terms*. Cambridge University Press, Cambridge.
- LOWSON J.M. 1959. *Textbook of Botany*. 12th edn, revised by Howarth, W.O. & Warne, L.G.G., University Tutorial Press, London.
- JOHN PRESLAND, 175c Ashley Lane, Winsley, Bradford-on-Avon, Wilts. BA15 2HR

MILK MATTERS – THE IMPORTANCE OF LATEX IN VEGETATIVE IDENTIFICATION

The presence of latex (milky juice) is an invaluable character when identifying plants in the field. 'Latex' simply refers to a coloured juice which exudes from broken channels or lactifers within the plant structure. Technically speaking, any plant juice (coloured or clear) not contained within the vascular bundles is a latex but, for practical reasons, the term is best confined to the coloured juices only.

Latex is usually white (at least initially) or, occasionally, orange in most latex-bearing families in the British flora. A few exceptions exist and I include the ones that I have encountered. The oxidation of latex with air can often induce colour changes (a fact well known to mycologists) and a few examples are given below. I have no doubt that latex may have characteristic tastes (again, the mycologists are ahead in this field) but as they can contain irritants, toxins and even aphrodisiacs, I am somewhat reluctant to test them out! The purpose of latex is widely held to be primarily a protection against insect and fungal attack- a glance through Redfern and Shirley's (2002) excellent plant gall book illustrates relatively few 'pests' of latex-bearing genera.

Latex is often present only in the young tissues of a plant and may be absent from senescent (old) or desiccated material. A cross-section of young petioles is a good means of locating latex although it can still be sparse and easily overlooked, e.g. in Apiaceae, thus confirmation often demands a x10 (or more) lens.

Below is the first ever (?) list of those 11 families with latex that occur in Britain. The page numbers of Stace's *New Flora* (2nd ed, 1997) indicate their distribution across the evolutionary tree. All observations are by myself and others contributing to the forthcoming 'Vegetative Key to the British Flora' - literature has not been copied blindly.

Papaveraceae – Poppy family (p101). Latex present in most genera. Although that is well known that the white latex of *Papaver dubium* subsp. *lecoqii* changes to yellow (cf. subsp. *dubium* which remains white), and that of greater celandine *Chelidonium majus* is always orange, much confusion can arise from reading wild flower guides. For example, it is widely printed that Yellow Horned-poppy (*Glaucium flavum*) contains yellow latex. However only clear sap exists above ground in the vegetative parts, nor is any latex confined to the rootstock as in Californian Poppy (*Eschscholzia californica*) (orange latex).

Moraceae – Mulberry family (p116). White latex abundant in Fig (*Ficus carica*).

Euphorbiaceae – Spurge family (p457). White latex is copious in all *Euphorbia* species. In Wood Spurge (*E. amygdaloides*) it rapidly changes colour to pale blue. May contain irritants thus physical contact best avoided.

Aceraceae – Maple family (p468). White latex present in Field Maple (*Acer campestre*) and Norway Maple (*A. platanoides*) only.

Anacardiaceae – Sumach family (p470). White latex abundant in Stag's-horn Sumach (*Rhus typhina*). May be an irritant – best avoided!

Apiaceae – Carrot family (p491). Latex is present in several genera but very poorly documented. It is often sparse or watery, typically restricted to minute canals on the outside of the vascular bundles (visible in a petiole cross-section). Latex is well known in Milk-parsley (*Peucedanum palustre*) but

seemingly absent from its cousin, Cambridge Milk-parsley (*Selinum carvifolia*). Although the latex of this family is mostly white, that of Wild Angelica (*Angelica sylvestris*) is often cream, whilst that of Masterwort (*Peucedanum ostruthium*) is greenish. Many discolour further on drying.

Apocynaceae – Periwinkle family (p524). All *Vinca* species contain poisonous white latex, often present only in the youngest shoots.

Convolvulaceae – Bindweed family (p534). White latex is present in all *Convolvulus* and *Calystegia* species but absent from the superficially similar Black-bindweed (*Fallopia convolvulus*).

Campanulaceae – Bellflower family (p635). Latex present in all taxa seen so far. Easily one of the best characters for the identification of this family (along with the white hydathodes – see *BSBI News* 98: 14-15 to read about hydathodes) e.g. Harebell (*Campanula rotundifolia*) in any young state! Nettle-leaved Bellflower (*C. trachelium*) has green latex (*cf.* white in Great Bellflower (*C. latifolia*) and all other species examined).

Asteraceae, tribe Lactuceae – Daisy family (p683). All the genera with ligulate (ray) florets possess latex- those with some or all disc florets never yield latex. No need to confuse leaf rosettes of Bristly Ox-tongue (*Picris echioides*) (latex present) and Teasel (*Dipsacus fullonum*) (latex absent) ever again! Young Nipplewort (*Lapsana communis*) can look like various crucifers (and can even appear to have non-septate hairs which are characteristic of the Brassicaceae – see future articles) however the latex gives the game away! The latex of Viper's-grass (*Scorzonera humilis*) changes from white to orange-red. This species is listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) and thus should not be picked recklessly. However since this species was found in S. Wales as recently as 1997, there is a chance other non-flowering colonies exist and this is a rapid test to distinguish it from the incredibly similar, but latex-free, glabrous forms of Ribwort Plantain (*Plantago lanceolata*).

Alismataceae – Water-plantain family (p758). Common Water-plantain (*Alisma plantago-aquatica*) has latex unlike the Lesser Water-plantain (*Baldellia ranunculoides*) (which has an unusual smell). Both can look almost identical, particularly young emergent leaves or the resting underwater rosettes.

Two other families, **Nymphaeaceae (Water-lily family)** and **Butomaceae (Flowering-rush family)**, are known to possess latex but I have failed to confirm this. Some major families without latex include Chenopodiaceae (Goosefoot family), Brassicaceae (Cabbage family), Fabaceae (Pea family), Lamiaceae (Dead-nettle family), Scrophulariaceae (Figwort family) and Liliaceae (Lily family) *s. l.*

Nonetheless, I am still unclear (no pun intended) about which species produce coloured latex, particularly within Apiaceae, and welcome all contributions, and corrections, from keen-eyed observers.

Acknowledgements

I wish to thank Eric Clement for his assistance with this article, however any errors or omissions are entirely of my own making.

References:

- REDFERN, M. & SHIRLEY, P. 2002. *British Plant Galls*. Field Studies Council, Preston Montford.
 STACE, C.A. 1997. *New Flora of the British Isles*, 2nd edn. Cambridge University Press, Cambridge.
 JOHN POLAND, 91 Ethelburt Avenue, Southampton, Hants SO16 3DF; jpp197@alumni.soton.ac.uk

GLADYS TUCK HERBARIUM- A NEW ACQUISITION TO BRISTOL MUSEUM & ART GALLERY

The Gladys Tuck Herbarium was donated to the museum in June 2004 by the collector's daughter, Miss Miriam Tuck. It consists of 378 specimens, collected by Mrs Gladys Leonora Tuck throughout the 1950s and into the 1960s. The plants were collected from the Bristol area (v.c. 6), particularly from Shirehampton, Coombe Dingle, Blaise Castle Estate and the surrounding areas where the family lived until they moved in 1978, and from Bossington (v.c. 5), near Porlock where the family spent

some holidays. Gladys Tuck spent most of her married life in Bristol, where her husband worked at the Avonmouth Docks.

Gladys Tuck had no formal training in botany, she modelled her collection, and preservation methods on examples she had seen on a tour of the botany section of the Bristol Museum and Art Gallery. She used various books and a copy of the Proceedings of the Bristol Naturalists Society to aid her in identification. Along with each specimen Mrs Tuck recorded the common and scientific name of the species, the locality and the date it was collected. On a number of specimens she attached a cigarette card, or in a couple of examples a small painting, illustrating the species collected. The specimens are presented from an artistic viewpoint, having been arranged, by Gladys Tuck, on the mounting card to reflect their aesthetic qualities.

The herbarium is mainly in good condition, although evidence of pest damage and infestation has been found including frass and an *Anthrenus* larval skin. Preventative conservation has been carried out on the collection, re-strapping some of the specimens using gummed linen tape, and replacing the old species folders.

This herbarium provides an environmental snapshot of the Bristol area in the 1950s and 60s. The data it contains have been added to the museum's computerised database and will be extracted and submitted to BRERC, where it can assist with modern environmental recording.

Enquiries regarding the Gladys Tuck Herbarium can be directed to Samantha Trebilcock, Curator of Biology, Bristol City Museum and Art Gallery. Tel: 0117 9223571.

JESSICA MARSH, Documentation Assistant for Biology, Bristol City Museum and Art Gallery, Queen's Road, Bristol, BS8 1RL

ABERRANT *RANUNCULUS BULBOSUS*

Following on from the article by Fred Slater a year ago (*Ranunculus ficaria* Aberration, *BSBI News* 96: 28), in May I came across two plants of *Ranunculus bulbosus* with unusual creamy-white flowers. Although one of the white-flowered plants had suffered slightly from trampling (they were at the edge of a path), the other was pristine (see Colour Section, plate 4). As the plants were growing among others with regulation yellow flowers the variation is presumably genetic. It seems this is not the first time the 'white' variation has been found. Harper (1957) refers to 'lemon chrome, ivory yellow and lemon yellow' variants of *R. acris* and *R. bulbosus*, thought to have a genetic basis. The normal yellow flowers are pigmented by taraxanthin – the same pigment as occurs in dandelions.

Reference:

HARPER, J.L. 1957. Biological Flora of the British Isles. *J. Ecol.* 45: 289-342.

FIONA AUNGIER, 23 Castle Terrace, Berwick upon Tweed, Northumberland, TD15 1NR.

Email faungier@aungier777.freeseve.co.uk

HERNIARIA GLABRA ON THE SEFTON COAST, MERSEYSIDE

Herniaria glabra (Smooth Rupturewort) is a nationally rare, prostrate annual or short-lived perennial which is recorded as native in 11 eastern England hectads and as a casual in 23 hectads in England, Wales and Scotland (Preston *et al.* 2002). It was discovered on the Sefton Coast (v.c. 59, South Lancashire) by P.S. Gateley in 1988 growing on a road verge at Kenilworth Road, Ainsdale (SD306.123) and by D.H. Wrench on a similar verge at Westcliffe Road, Southport (SD324.162) in 1998.

The plant's habitat here is lightly-mown, grassy, road verges with occasional bare, sandy patches. Soils appear to be at least partly decalcified and somewhat compacted. The adjacent housing estate at Kenilworth Road was built on sand-dunes in the late 1960s and early 1970s and the road verges seem to have been only lightly top-soiled. There is a diverse fixed-dune community of associated vascular plants, a total of 57 taxa having been recorded for the Kenilworth Road site in 1999 (Table 1).

Patches of *H. glabra* at both sites were mapped by eye on large-scale Ordnance Survey maps in early summer 1999 and 2004. The plant is easy to see at this time of year, as its bright yellow-green colour contrasts with the rather droughted mown grass sward. In both years, most patches were found

near the edges of verges where bare areas are more frequent due to human trampling and the effects of the mowing machinery.

The patches of Smooth Rupturewort were generally small, less than 30cm in diameter but a few, especially in 2004, were much larger, up to a maximum of about 2m².

A comparison of patch number over the two years is shown in Table 2. At both sites, the number of patches more than doubled in five years, indicating that the current management regime is beneficial for this species. These data have been incorporated into the Sefton Coast GIS.

The origin of *H. glabra* on this coast is not difficult to deduce. Its use for carpet bedding in gardens from the late 19th century onwards is described by Grant (2003). He states that it is grown from seed at Wisley each year and that seed is currently offered for sale. The many large gardens in Ainsdale and Southport offer a likely source of propagules which could be spread by the Council's mowing equipment.

<i>Agrostis capillaris</i>	f	<i>Myosotis ramosissima</i>	r
<i>Aira caryophyllea</i>	la	<i>Oenothera</i> sp.	o
<i>A. praecox</i>	o	<i>Ononis repens</i>	vlf
<i>Ammophila arenaria</i>	vlf	<i>Phleum pratense</i>	r
<i>Anthoxanthum odoratum</i>	o	<i>Plantago coronopus</i>	f
<i>Anthyllis vulneraria</i>	o	<i>P. lanceolata</i>	o
<i>Aphanes arvensis</i>	la	<i>Poa annua</i>	f
<i>Arabidopsis thaliana</i>	o	<i>P. humilis</i>	lf
<i>Arenaria serpyllifolia</i>	r	<i>Populus alba</i>	r
<i>Bellis perennis</i>	o	<i>Ranunculus bulbosus</i>	o
<i>Bromus hordeaceus</i>	la	<i>Rumex acetosella</i>	lf
<i>Capsella bursa-pastoris</i>	r	<i>Sagina</i> sp.	r
<i>Cerastium fontanum</i>	r	<i>Sedum album</i>	vlf
<i>C. glomeratum</i>	o	<i>S. acre</i>	f
<i>C. semidecandrum</i>	f	<i>Senecio jacobaea</i>	o
<i>Cochlearia danica</i>	lf	<i>Sisymbrium officinale</i>	vlf
<i>Crepis capillaris</i>	lf	<i>Sonchus oleraceus</i>	r
<i>Dactylis glomerata</i>	o	<i>Taraxacum</i> sect. <i>Erythrosperma</i>	o
<i>Diplotaxis muralis</i>	r	<i>T.</i> sect. <i>Ruderalia</i>	f
<i>Equisetum arvense</i>	r	<i>Trifolium arvense</i>	o
<i>Erodium cicutarium</i>	o	<i>T. campestre</i>	r
<i>Erophila verna</i>	f	<i>T. dubium</i>	f
<i>Festuca ovina</i>	f	<i>T. repens</i>	f
<i>F. rubra</i>	a	<i>Veronica arvensis</i>	o
<i>Geranium molle</i>	f	<i>Vicia lathyroides</i>	o
<i>Hypochaeris radicata</i>	f	<i>V. sativa</i>	r
<i>Leontodon saxatile</i>	o	<i>Viola</i> x <i>wittrockiana</i>	r
<i>Leymus arenarius</i>	lo	<i>Vulpia fasciculata</i>	lf
<i>Lolium perenne</i>	o		

Table 1. Frequency (DAFOR scale) of vascular taxa associated with *Herniaria glabra* at Ainsdale.

Site	No. of patches		% increase
	1999	2004	
Kenilworth Road, Ainsdale	71	150	111
Westcliffe Road, Southport	5	12	140

Table 2. The number of patches of *H. glabra* at two sites on the Sefton coast in 1999 and 2004.

Acknowledgements: I am grateful to Sefton Council's Coast & Countryside Service for providing copies of maps of the study areas. Mike Wilcox kindly made useful comments on a draft of the manuscript.

References

- GRANT, M. 2003. Rupture on the carpet : ornamental uses of *Herniaria glabra*. *BSBI News* 92: 26-27.
 PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. *New Atlas of the British & Irish Flora*. Oxford University Press, Oxford.
 PHIL SMITH, 9 Hayward Court, Watchyard Lane, Formby, Liverpool L37 3QP.

DR BRODUM'S BOTANICAL SYRUP

Testimonial spotted in the Glasgow *Herald* of Friday 14th December 1804 Having suffered from an asthmatic cough so severe that it could throw him to the ground, a gentleman farmer from Levington near Ipswich attributed the blessings of a perfect cure to taking three bottles of Dr Brodum's Botanical Syrup. The Five Guinea Bottle available at twenty-two shillings from all medicine vendors in the United Kingdom.

JOHN MITCHELL, 22 Muirpark Way, Drymen, by Glasgow, G63 0DX

MORE PLANTS AT VARIANCE WITH FLORAS

Ribes nigrum — Four Floras in my possession give the maximum height as 2 metres. However there is one on Stoborough Heath, Dorset which is 2.53 metres.

Trifolium pratense and *T. medium* — I offer the following points to supplement and correct information in commonly-used Floras:

	<i>T. pratense</i>	<i>T. medium</i>
Upper surfaces of leaves	Sparsely hairy	Virtually glabrous
Stipule tips (contra Stace)	Green or brown	Green or brown
Flower heads	Almost sessile	Clearly shortly stalked
	(contra illustrations in several Floras)	

Crepis capillaris — Floras vary in giving the maximum height as 75 or 90cm. But in the wild part of my garden it grows to 120cm!

Reference

STACE, C.A. 1997. *New Flora of The British Isles*, 2nd edn. Cambridge University Press

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

SALT BURN TURNS JUNE INTO AUTUMN ON THE EASTERN SIDE OF GREAT CUMBRAE

An unusual week of south-easterly weather (cf. http://www.windfinder.com/windstats/windstatistic_prestwick_airport.htm) led up to a severe easterly gale locally on the evening of Friday 27th May 2005 (estimated, at least, as Force 9) tunnelling down from the Largs hills opposite (Prof. R.J.A. Atkinson & Mr M. Parker, *pers. comm.*). This storm generated a considerable amount of spindrift across the Fairlie Channel. This sea-spray was carried with the wind a considerable distance inland along the easterly seaboard of Great Cumbrae Island at a time when the terrestrial vegetation was in full leaf. The result of this aberrant weather became visible a week to a fortnight later. A substantial proportion of the leaves of many coastal landscape trees (or at least those on their exposed faces) turned brown and withered prematurely, presenting a widespread autumnal prospect all along the whole eastern seaboard of the island. The leaf damage was beginning to be repaired by new growth by mid-July.

Those species most affected were as follows: Sycamore (*Acer pseudoplatanus*) (see Colour Section, plate 4). Silver Birch (*Betula pendula*), Beech (*Fagus sylvaticus*), Hawthorn (*Crataegus monogyna*), Willow (*Salix* spp.), Hazel (*Corylus avellana*), Rowan (*Sorbus aucuparia*), Hornbeam (*Carpinus betulus*) and Bramble (*Rubus* sp.). Some Japanese Knotweed (*Polygonum cuspidatum*) and some Bracken (*Pteridium aquilinum*) tops were also scorched. The impact was substantial at sites to

an elevation of c.50m above sea level and was even detectable at the top of the island among sycamores near the curling pond (c.100m a.s.l.). Species least-affected were Gorse (*Ulex europaeus*), Elder (*Sambucus nigra*), Ash (*Fraxinus excelsior*) and invasive Rhododendron (*Rhododendron ponticum*). Coastal sward species also appeared unaffected.

This incident seems particularly noteworthy since Clapham *et al.* (1962) stated that sycamore is very tolerant of exposure and salt spray. Binggeli (1992), for instance, reported sycamore as being a late successional species invading sand-dune ecosystems in northern Ireland. All the species that showed evidence of chronic salt burn normally live perfectly well in proximity to the sea locally. This is the first time that I have ever noticed such an effect in near 34 years' residence on this island (a place that has experienced its fair share of gales in the past, though more typically in autumn and winter). There was no co-incident heat-wave or recent period of drought.

References:

- BINGGELI, P., 1992. *Patterns of invasion of sycamore (Acer pseudoplatanus L.) in relation to species and ecosystem attributes*. D. Phil. Thesis, University of Ulster, Coleraine.
- CLAPHAM, A.R., TUTIN, T.G. & WARBURG, E.F., 1962. *Flora of the British Isles*. (2nd edn) Cambridge: Cambridge University Press, 1269pp.
- P.G. MOORE, University Marine Biological Station Millport, Isle of Cumbrae, KA28 0EG

RUMEX RUPESTRIS, RE-FOUND IN GUERNSEY IN 2004

Shore Dock, *Rumex rupestris*, has always been rare in the Channel Islands. In Guernsey, the first record comes from Marquand in 1889, with sporadic records since, mainly in the Pleinmont area (south-west of the island). In 1950 there are records from the smaller islands of Herm, Jethou and Alderney, and in 1957 Humphrey Bowen recorded it at St Sampsons in Guernsey (north-east of the island). One plant was recorded on Houmet Paradis (a small tidal island again in the north-east) in 1968. There is a gap until 1988, when a plant was seen in the tiny island of Brecqhou by David McClintock, and then in 1997 Rachel Rabey discovered one plant on Shell Beach in Herm, which has been there every year since.

On an outing of the Botany and Conservation Sections of La Société Guernesiaise to Herm in June 2003 members were shown this plant, and were hopefully suitably impressed!

A few weeks later our then President, David Le Conte showed me a photo which he said was Shore Dock taken at Pleinmont, which I laughingly dismissed, explaining that there was only the one plant in the Bailiwick at present. However, it prompted some of us to wonder; as it was in the right locality and habitat, and subsequently Jane Gilmour, Charles David and I went for a good look, and found many plants that could have been *R. rupestris*, but we could not find fruits. Later in the year, all was revealed, when most plants turned out to be *R. crispus*, but a good proportion were, in fact, *R. rupestris*. (See Colour Section, plate 6).

A total of about 18 plants were counted, in three separate but nearby localities at Pleinmont, in the south west corner of the island.

Site 1 – the most southerly site facing west — 8 plants of *Rumex rupestris*.

Associated plants – *Agrostis stolonifera*, *Beta vulgaris maritima*, *Isolepis cernua*, *Samolus valerandi*, *Solanum dulcamara*.

Site 2 – facing north — 4 plants of *Rumex rupestris*

Associated plants *Agrostis stolonifera*, *Armeria maritima*, *Asplenium marinum*, *Beta vulgaris maritima*, *Festuca rubra*, *Samolus valerandi*, *Silene uniflora*, *Solanum dulcamara*, *Sonchus asper*.

Site 3 – most northerly site, facing west – 6 plants of *Rumex rupestris*, (2 pairs were within 1m of each other, but appeared to be completely separate plants).

Associated plants – *Beta vulgaris maritima*, *Crambe maritima*, *Crithmum maritimum*, *Plantago coronopus*, *Rumex crispus*, *Spergularia rupicola*.

Photos were sent to Liz McDonnell, and photos and specimens to Dr J.R. Akeroyd, who both confirmed our findings. Dr Akeroyd pointed out the *R. crispus* growing alongside *R. rupestris* on site 3 could be *R. crispus* var. *littoreus*, which we will further investigate this year. The intrepid Charles

David (our current President) has explored many other suitable cliff areas, and has not so far found any other plants.

References:

- MCCLINTOCK, D. 1975. *The Wild Flowers of Guernsey*. Collins, London
 McDONNELL, E.J. 1999. Report no. 128, Plantlife, English Nature Species Recovery Programme.
 STACE, C.A. 1997. *New Flora of the British Isles*. 2nd edn. Cambridge University Press
 BRIDGET OZANNE, Les Mouettes, Pont Vaillant, Vale, Guernsey, GY6 8BU

VIOLA REICHENBACHIANA LOWER PETAL VEINS

The forthcoming hybrid survey prompts me to write before I have completed studies on possible *Viola reichenbachiana* × *V. riviniana* hybrids in Purbeck.

I have examined a good many populations of *V. reichenbachiana* in this area and a few elsewhere, and I have found very few plants indeed with the veins of the lower petal as unbranched as illustrated in *The Plant Crib 1998* page 113 Fig d.

Most have more branching of the outer veins. Other characteristics visible at flowering time, and the sepal appendage size and the number of seeds when examined later in some cases, conform to *V. reichenbachiana*. The branching is not as prolific however as in Fig. e, the hybrid.

I wrote about this to Professor David M. Moore in 2002 when he was the referee, and he gave me permission to quote his reply – ‘I have not too much faith in the branching pattern of the veins’. I wrote last year to Mike Hardman, the current referee, and he replied ‘I agree with David that the petal veining is not a reliable distinguishing character’.

Reference:

- RICH, T.C.G & JERMY, A.C. 1998. *The Plant Crib 1998*. Botanical Society of the British Isles, London.
 EDWARD PRATT, 7 Bay Close, Swanage, Dorset BH19 1RE

NEW ORCHID HYBRIDS IN FLORA IBERICA VOL. 21

The publication of *Flora Iberica* vol. 21 in June 2005, has provided a detailed and conservative account of orchids in the Iberian peninsula. Natural hybrids are listed by parentage at the end of each generic account, but without description or distribution details. However, there is an attempt to list published names and synonymy for each hybrid.

Several natural hybrids listed involve new combinations of genera but there is no attempt to provide nothogeneric designations to accommodate them: perhaps their significance has been overlooked.

Of particular interest is, what is probably, the first reported natural hybrid involving three genera. Since at least the time of the survey of hybrids in *Orchidaceae* by Adams and Anderson (*Evolution* 12: 512-518, 1958), which reported only mono- and bigeneric natural hybrids, it has been assumed and oft repeated, that natural hybrids never involve more than two genera. If the claimed *Dactylorhiza elata* × [*Anacamptis pyramidalis* × *Gymnadenia odoratissima*], (*Fl. Iberica* 21: 110, 2005), stands up to investigation it will have made history. *Anagymnorhiza* is the name here proposed for the combination *Anacamptis* Rich. × *Dactylorhiza* Neck. ex Nevski × *Gymnadenia* R.Br. In view of the significance of this record, it is a pity that no reference to documentary material in the way of published illustrations, distribution records or herbarium specimens is contained for hybrids in the *Flora*. This seems a strange omission in view of the elaborate appendices and unusual depth of coverage for other features in the volumes, that make this *Flora* such a useful reference work. Perhaps the presence of a tri-generic hybrid should have been anticipated as at least one natural hybrid involving three species has been known for sometime, namely *Orchis laxiflora* × *O. longicornu* × *O. palustris*, see *Fl. Iberica* 21: 145.

A somewhat more controversial cross also appears on p. 110, as *Dactylorhiza elata* × *Spiranthes aestivalis*. Dr Phillip Cribb (Herbarium, RBG Kew) recently expressed the opinion that it was most likely an error for an atypical *Dactylorhiza*. Whatever the case, some statement of information to

enable an evaluation by the reader would be most welcome. Reference is given to publication of this hybrid as *×Spilorrhiza diversiflora* C.E. Hermos., J. Fernández & Undagoitia in *Estud. Mus. Ci. Nat. Alava* 13: 152 (1998), nom. nud., which in the index (p. 262) is accompanied by an entry that reads, '×*Spilorrhiza* C.E. Hermos., J. Fernández & Undagoitia, nom. nud.'. This latter entry is surely in error as hybrid genera do not require a description but merely a citing of constituent genera to be established. (ICBN 2000, Art. H.6.2).

Traditional generic concepts have been retained in this Flora, although the changes accepted in *Genera Orchidacearum* 1 (1999), are acknowledged in the introduction to the family. There does seem a reluctance, at least in European Floras, to take up the recently proposed generic concepts based on cladistic hierarchies derived largely from DNA sequences. Maybe they will gain respectability with time.

JULIAN M.H. SHAW, 2 Albert Street, Stapleford, Nottingham NG9 8DB, UK. Orcreg@rhs.org.uk

URBAN / SUBURBAN FERNS

Richard Middleton's interesting article (*BSBI News* 98 : 28-30; see also 99 : 41) immediately reminded me of an unusual and persistent location for Rustyback, *Ceterach officinarum*, in North Yorkshire, v.c. 62. The fern grows with several other species in the mortar of brick walls at a disused United Reform Chapel (so no jokes, please, about its having catholic tastes) at a town-centre cross-roads in Loftus, a small settlement between Saltburn and Staithes on the North Yorkshire coast. Ian Lawrence's local flora states that this is 'the only record in the north-east', though Nan Sykes reports the presence of *Ceterach* on 'a wall in Hartofi', but nowhere else in the North York Moors National Park.

The existence of Rustyback at Loftus had been known to local botanists for some years prior to my examining the site during detailed vegetation surveys in what was then the County of Cleveland. From data so gathered, the Register of County Wildlife Sites (Sites of Nature Conservation Importance – *BSBI News* 90 : 41) was compiled. However, the single and singular occurrence of a regionally rare species is not comparable to genuinely rich habitats such as diverse grassland or ancient woodland, and the site could not therefore be legitimately admitted to the Register.

Instead, the Loftus *Ceterach* site was documented in an alternative system, the 'Single Species Site Register' (*BSBI News* 79 : 16-17), and indeed was one of the significant instances that led directly to the SSSR's being devised. RM's point that urban walls generally have a 'unique, universally accepted, address' is of course perfectly right, but describing such locations in further detail by means of a SSSR form remains valid and useful. The exact parts of a wall colonised by ferns or other noteworthy plants can be depicted, and the number of growths recorded. By this means, it is possible to assess that the *Ceterach* colonies at Loftus have spread around the corner of the building, and are probably more numerous than they were when first plotted.

The fern-flora at Loftus includes *Phyllitis scolopendrium* (Hart's-tongue), *Asplenium adiantum-nigrum* (Black Spleenwort) and *A. trichomanes* (Maidenhair Spleenwort) as well as *Ceterach officinarum*. Cleveland's walls are not inherently rich in pteridophytes; indeed, such occurrences were often thought worthy of documentation in the SSSR system. The summary report adopts them as an example of 'multiple' SSSR-records: 'old walls may support several fern-species'. The most outstanding of these entries, though, is the *Ceterach* site at Loftus.

How did it get there? Presumably, raw material for the mortar used in the Church brickwork came from some distant source where *Ceterach* is 'indigenous', and spores of this and other ferns were accidentally transferred in this fashion. It would be interesting to know whether fern-propagules can survive the processes involved in making mortar from limestone. If this is feasible, why are such extra-limital occurrences of ferns few and far between?

Richard Middleton also discusses ecological factors influencing the fern-growths in Hull. The moist, sheltered condition he attributes to lower garden walls applies to the original observations at Loftus: the mortar most thoroughly colonised by ferns, including *Ceterach*, was at the back of the roadside wall, facing into a narrow gap between this and the main front elevation of the Church. This exactly matches RM's description of the 'shaded inside'. However, considerable quantities of ferns, mainly *Phyllitis* but with some *Ceterach* evident too, now appear on higher and much more exposed east-south-east facing brickwork above an external staircase.

Another point RM makes concerns the precise character of the bricks. The Loftus brickwork is very hard- and smooth-looking, bright red, and manifestly unweathered, though the buildings in question are not particularly recent. The bricks suggest – intuitively; I claim no expertise in this subject – a lack of porosity, such that rainfall drips copiously down their faces into the much more absorbent courses of mortar. It may thus be possible to echo Richard Middleton's thesis that in these circumstances of moisture-retention and softer substrate the accidental arrivals of ferns gain foothold and persist over time.

Much of this is rather speculative on my part. Perhaps we need a PhD in bricks!

References:

- LAWRENCE I. C. 1994. A Guide to the Wild Flowers of Cleveland.
 SYKES, NAN. 1993. Wild Plants and their Habitats in the North York Moors.
 LOWE, C. J. 1998. Report on SSSR Scheme.

CHRISTOPHER J. LOWE, 25 North End, Hutton Rudby, Yarm TS15 0DG

BOTANY IN LITERATURE – 36

Portraits of plants are generally termed 'illustrations' instead of 'art', but art, at least when one is thinking of artists such as Redouté and Bauer, they are, although today photographs often usurp drawings in publications. However, 'There is little question but that a well and accurately executed line drawing is superior to and more satisfactory than the best photographic tradition' (Lawrence, 1955).

John Ruskin (London 1819-1900 Coniston), author of *Modern Painters* (1843-1856) and *The Elements of Drawing* (1853), among other titles, was not unlike Goethe in that he drew plants as a means of getting to know them. But, possessor of a poetic soul, as he was, his aim was to 'see their beauty', and as a result he was largely exasperated or even disgusted by scientific interest. In contrast to his contemporary, the writer George Eliot (1819-1880) (who favourably reviewed Ruskin's *Modern Painters* Vol. III in *Westminster Review*, April 1856 (see Eliot, 1990)), he rejected Darwinism, yet despite an inability to concentrate and stick to the point (although undocumented, this was possibly due to latent manic-depression), he made a great many disciplined observations of clouds, plants, and stones. In fact it was said of him that he 'bottled skies as carefully as his father bottled sherries' (his father being a successful wine-merchant), his preference or, as he calls it, 'an idiosyncrasy', being for the goldsmith tradition of Fra Filippo and Botticelli, rather than the monumental tradition of Masaccio. This love of detail features strongly in his writing and here in this paragraph (Ruskin, 1964: 178) he dwells in his customary eloquent and thorough manner on the difficulty of drawing leaves:

All this difficulty,¹ however, attaches to the rendering merely the dark form of the sprays as they come against the sky. Within those sprays, and in the heart of the tree, there is a complexity of a much more embarrassing kind; for nearly all leaves have some lustre, and all are more or less translucent (letting light through them); therefore, in any given leaf, besides the intricacies of its own proper shadows and foreshortenings, there are three series of circumstances which alter or hide its forms. First, shadows cast on it by other leaves, – often very forcibly. Secondly light reflected from its lustrous surface, sometimes the blue of the sky, sometimes the white of clouds, or the sun itself flashing like a star. Thirdly, forms and shadows of other leaves, seen as darknesses through the translucent parts of the leaf; a most important element of foliage effect, but wholly neglected by landscape artists in general.

The consequence of all this is, that except now and then by chance, the form of a complete leaf is never seen; but a marvellous and quaint confusion, very definite, indeed, in its evidence of direction of growth, and unity of action, but wholly indefinable and inextricable, part by part, by any amount of patience. You cannot possibly work it out in facsimile, though you took a twelvemonth's time to a tree; and you must therefore try to discover some mode of execution which will more or less imitate, by its own variety and mystery, the variety and mystery of Nature, without absolute delineation of detail.*

Note

1. *All this difficulty*: Walter Hood Fitch, writing in 1869 in *The Gardeners' Chronicle* (*apud* West, 1999), stated:

Leaves have been subjected to more bad treatment by the draughtsman than perhaps any other portion of the vegetable kingdom; they have been represented, or rather mis-represented, in all kinds of impossible positions. Numerous are the tortures to which they have been subjected: dislocated or broken ribs, and all these errors in perspective arise from inattention to the simple fact that in a curved leaf, showing the underside, the midrib should be continuous, and the veins should spring from the midrib.

* The passage is originally from Ruskin's *The Elements of Drawing*, Letter 1, §§ 83-4.

References:

- ELLIOT, G. 1990. *Selected Essays, Poems and other Writings*. (Byatt, A.S. & Warren, N., eds.). London: Penguin Books Ltd.
- LAWRENCE, G.H.M. 1955. *Taxonomy of Vascular Plants*. London: Collier-Macmillan.
- RUSKIN, J. 1964. *Selected Writings*. (Clark, K. comp.). London: Penguin Books Ltd.
- WEST, K. 1999. *How to Draw Plants: the Techniques of Botanical Illustration*. London: The Herbert Press in association with The British Museum (Natural History).
- MARGOT É. SOUCHIER, 26A Dryden Avenue, London, W7 1ES.

BOTANISTS IN LITERATURE – 37

'Musing among the vegetables?': *Mrs Dalloway*, by Virginia Woolf

One of the pleasures of reading is coming upon the unexpected, like the portrait of 'old Miss Parry', the amateur botanist, in Virginia Woolf's novel *Mrs Dalloway* which recounts the events on one day in London during the summer of 1923. The principal, eponymous character is Clarissa Dalloway, who emerges to buy flowers for a party she will be hosting that evening. Her former lover, Peter Walsh, is the one she recalled saying: 'Musing among the vegetables?'

Among the others who enter and leave the narrative is Aunt Helena: 'old Miss Parry, huddled up in her shawl'. Old Miss Parry, an 'indomitable Englishwoman', and young Walsh used to be 'such friends', and at the mention of India or Ceylon, 'her eyes (only one was glass) slowly deepened, became blue', yet what she was envisaging was not human beings but orchids and mountain passes. We are told that she had been carried over those passes on the backs of coolies during the 1860s and that she would 'uproot orchids (startling blossoms, never beheld before) which she painted in water-colour ...'. At Clarissa's party, Aunt Helena appeared, to Peter Walsh's surprise because he thought she had died. Reintroducing them, Clarissa told her aunt that Peter has been in Burma: Miss Parry '... could not resist recalling what Charles Darwin had said about her little book on the orchids of Burma.'

Aunt Helena was aged over eighty in 1923, meaning she would have been in her late twenties, perhaps, in the 1860s, a somewhat improbable age for an author of a book about Burmese orchids which had gone through three editions before 1870. Yet other aspects of Woolf's portrait of this 'Wonderful', 'formidable' old lady ring true. Around twenty years earlier, Walsh had been a house-guest at Bourton, the Parry family home where Miss Helena Parry was then chatelaine, and had found 'some rare flower' for her. Woolf explained, *inter alia*: '... she was a great botanist, marching off in thick boots with a black tin collecting box slung between her shoulders.' (I wonder is this a unique instance of a vasculum in the twentieth-century English novel?) Recalling past times, Woolf makes Walsh remember 'those flowers Clarissa's Aunt Helena used to press between sheets of grey blotting-paper with Littré's dictionary¹ on top ... She was dead now. He had heard of her, from Clarissa, losing the sight of one eye. It seemed so fitting - one of nature's masterpieces - that old Miss Parry should turn to glass.'

Mrs Dalloway is full of references to flowers, usually garden ones: delphiniums, carnations, lilies, blue hydrangeas: a bouquet of red and white roses from Clarissa's husband: 'a bunch of purple heather'; 'great hemlock plants'; ferns: cabbages: 'I prefer men to cauliflowers': even 'Mulberry's the florists' on Bond Street.

I can find no suitable female model for Old Miss Parry among known botanical artists and writers about Burmese orchids. Not surprisingly, Darwin's extant correspondence does not tally with Woolf's fictional botanist. Several men, including, for example, the Revd Charles Samuel Pollock Parish (1822–1897) and General Robson Benson (1822–1894), did collect orchids in Burma at the right period, while (Lady) Charlotte Wheeler-Cuffe painted Burmese orchids in the late 1890s–1920 but did not write a book about them. She is not likely, I am sure, to have been Virginia Woolf's model.

While Parish did contribute an account of orchids to F. Mason's *Burmah* (1883), the only book on the orchids of Burma that I know about (having an active historical interest in the topic) is by Captain Bartle Grant. *The orchids of Burma (including the Andaman Islands) described ...* was published in Rangoon in 1895. Grant (1856–1924), then of The Border Regiment and Adjutant in the Rangoon Volunteer Rifles (according to the title-page), is one of the lost souls of botany. There is no entry for him in Desmond's comprehensive *Dictionary of British and Irish botanists ...* (1994), and his name is not in Brummitt and Powell's *Authors of plant names* (1992) so presumably he is not credited with any botanical names.²

And that was that, it seemed (as Jack Smith, who initiated this series of musings, can attest): there could be no connection between Bartle Grant's book and Virginia Woolf's novel.

I had tried the Internet already, looking for 'Captain Bartle Grant', barely noticing a web-page on which his son was mentioned, one Duncan James Corrowr Grant, an artist of whom I was woefully ignorant. I did not think this fact could be relevant. Yet something niggled and I decided to revisit the web-page, and was astonished by which it indicated. Duncan Grant (1885–1978), Bartle Grant's only son, had been a key member of the famous Bloomsbury set, that early-twentieth century coterie of artists and writers, an intimate of Lytton Strachey, Clive Bell, E. M. Forster and Leonard Woolf who became Virginia's husband in August 1912. Moreover Duncan and Vanessa Bell, Virginia's sister and erstwhile wife of Clive Bell, were (to quote the Tate Gallery's website) 'closely associated in their professional and personal lives for more than fifty years'. Duncan and Vanessa lived together at Charleston in Firle, East Sussex – their house became a 'mecca' for the Bloomsbury set and is preserved today as it was when they lived there, the interior decorated in the 'Bloomsbury Style'. Virginia was a frequent visitor.

There was a link, remarkably! The inescapable conclusion is that Virginia Woolf 'borrowed' the title of Duncan Grant's father's book when weaving her fable about Clarissa Dalloway. Whence she borrowed Aunt Helena remains a mystery.

Notes

¹ Émile Littré's *Dictionnaire de la langue française* was published between 1863 and 1877.

² I have since discovered that he is, but the one misspelled generic name (in *The orchids of Burma*) is not validly published. An article on Bartle Grant is in preparation by the present author.

E. CHARLES NELSON, Tippitiwichtet Cottage, Hall Road, OUTWELL, Wisbech, Cambridgeshire, PE14 8PE; (tippitiwichtet@zetnet.co.uk)

WILFRED OWEN'S INTEREST IN PLANTS

His grandfather's allocation of a plot in his garden for the boy Wilfred Owen to manage may have stimulated the renowned First World War poet's interest in botany. It seems as possible though that his interest sprang unbidden alongside his constitutional poetic bent. Aged 14, on a family trek to evensong through the damp fields near Shrewsbury, he noticed his brother's boots covered in buttercup petals. Years later he was to write in 'Spring Offensive':

'And the far valley behind, where the buttercup
Had blessed with gold their slow boots coming up'.

When 19, at University College, Reading, he combined his scientific and literary interests by having a botany and a literature teacher. (Would that such courses were today available).

At the Somme, aged 24, he suffered neurasthenia or shell shock, and like many others (including Siegfried Sassoon) he was dispatched to Craiglockhart War Hospital near Edinburgh, both to recover and for his military future to be decided by the medical officialdom. Here he had time and the undimmed inclination to resuscitate his interest in botany. A Field Club Society was proposed and at its first meeting a paper was read, by a Mr Chase, on mosses, about which plants the poet-botanist

wrote: 'the unkempt beard of senile ruins: the pall of death paths that lead nowhere: the praying-stool of hermits'. Utilising the available microscopes he felt mosses were, 'One of the most beautifully interesting of living things'. 'But', Owen continued: 'we do not want all our excursions to be through the jungle of a *hortus siccus*' [dried specimens, or herbarium]. He was a man of the field as well as of the laboratory.

On 30.7.1917 he nervously delivered a lecture to the new society, 'which' he commented self-deprecatingly, 'had the rather journalesque title of Do plants think'. He aimed to show that: 'plants have all the elements of perception, and if not consciousness, at least sentience: that they have the glimmerings of sight; that vaguely and sleepily, they feel; they feel heat and cold, dryness and damp, and the contact of bodies, that they are even able to smell, and are as well aware of the force of gravity as any animal. ... The same motives that make us wear tin-helmets in certain environments or gorgeous socks and neckties in others, also actuate a plant, when it produces special protective coverings, sharpens its spines, wastes its young substance in riotous colours, and allows those colours to fade immediately fertilisation is accomplished'. Owen appears a budding physiologist and ecologist. 'The lecture' he wrote exultantly to his parents, 'was a huge success and went on till 10.20!!'

His poetry is textured with plants but unlike most other poets he had a scientific knowledge to accompany their use for literary beauty, simile and metaphor. What joys from him the world could have looked forward to in future decades. What joys could he himself have had. With curdling tragedy, the world lost this genius and botanist on 4.11.1918 at the meagre age of 25. He was shot dead by a sniper, only seven days before the end of the war and the Armistice.

A month before his death, on the 1st/2nd October 1918 he had won the Military Cross for, as the citation says: 'conspicuous gallantry and devotion to duty in the attack on the Fonsomme Line ... he assumed command after injury to the company commander, showed fine leadership, and resisted a heavy counter-attack'. Botanists come in all forms; and we are left to admire and wonder.

Reference:

STALL WORTHY, JON. 1974. *Wilfred Owen. A Biography*. OUP & Chatto and Windus.

DR WILLIAM G. (BILL) PICKERING, 7 Moor Place, Gosforth, Newcastle upon Tyne, NE3 4AL. Tel: 0191 284 2259. Email: wgpi@hotmail.com

LISTERA CORDATA (LESSER TWAYBLADE) NOT IN BUCKS (V.C. 24)

In the September 2002 *BSBI News* (91) I was interested to read the article about the occurrence of *Listera cordata* in Bucks (v.c. 24). The story was intriguing, to say the least. However, I have recently had cause to reread the article and follow up the reference to the site. Obviously, I was aware where Latimer is so it was easy to locate Baldwin's Wood on a map to the east of the village. Unfortunately though, between the village and the wood is a north/south road which happens to coincide with the county (and vice-county) boundary. Latimer is in Bucks but Baldwin's Wood is in Herts (v.c. 20) – so we never did get *Listera ovata* in Bucks!

Further intrigue (to add to the legend) is the grid reference given in the article – TQ99.00. Again, I was familiar with TQ, but not the sequence of numbers. So, back to the map. No wonder, 99.00 is somewhere in the English Channel south of Hastings! (I hope I've got that right!!). Easy mistake – Latimer and Baldwin's Wood are both in 1km square TQ00.99.

I don't suppose anyone has been bold enough to see if they could re-find the Twayblade which appeared in the wood in 1980 but could not be found in 2002. If they have, perhaps they could let me know – or maybe get in touch with Trevor James (BSBI Recorder for v.c. 20).

Thanks Rod and Nigel for the story; sorry I cannot accept the (new) record for v.c. 24. How about it for v.c. 20?

Reference:

D'AYLA, R & SNELL, N. 2002. *Listera cordata* (Lesser Twayblade) in Bucks (v.c. 24). *BSBI News* 91: 33.

ROY MAYCOCK, 17 Osborne Street, Bletchley, Milton Keynes, MK2 2LU

BOTANISING WITH A DOG ON WHEELS

In the spring of 2004, one of my dogs had cruciate ligament trouble and walks were restricted. Someone suggested modifying a pushchair to get her around (as I don't drive). A second-hand buggy had the seat and other parts hack-sawed off, the pad set on the shopping shelf near the ground, and the dog on that. For safety a harness with a totally adjustable webbing belt threaded through the ring and round two bars, preventing her launching off for cats, rooks or bits of chocolate, but would quickly slacken for her to lie down (see Colour Section, plate 5)

As the local buses are small I didn't try them, instead went to Glasgow and took the train down to the Ayrshire coast. The wheelchair spaces were very useful for Sally's carriage and many small humans in pushchairs. We explored the built-up areas of coastal towns of v.c. 75.

It was interesting to visit parts Allan Stirling and I had only either passed rapidly through while he still drove, or I had not seen at all. Sally's wheels required not only *terra firma*, but it had to be free of craters and not very narrow – one footpath by a busy coast road, was the same gauge as the wheels and the kerb! But South Ayrshire has some smooth, tarred pedestrian/cycle tracks which proved surprisingly plant rich and were a joy to travel over. Many people are negative about built environments, expecting a poor species count and may feel self-conscious – however, if you have a dog on a pushchair, all attention will be drawn to it. I got plenty of queries, 'Won't she walk?' One elderly man said he'd 'like to be in that', 'No you wouldn't, you'd have a ruptured cruciate ligament' I replied. Many asked if the dogs were Jack Russells? And when told they were Lancashire Heelers, said they'd never heard of them. Sally took it all in her stride, sitting proudly erect, her large bat ears at ten to two and her ship's figurehead chest thrust out and a faintly surprised expression on her face. Stopping for a quick lunch on one the broad 'greens' at Ayr, I was told by a lady she'd seen pet dogs wheeled about in a Belgian park by their indulgent owners: Small boys shouted, 'Look a dog in a pram'. Little girls tended to go 'Ah'.

Our explorations went from the 15th of July to the 31st of August. With the carriage, a bigger bottle of water could be carried, and any plant samples for Allan could be kept unbent and out of the sun below Sally's pad.

It was interesting to compare the built landscapes of v.c. 99 with v.c. 75, the latter seemed to have no garden dumps, but the walls and kerb-chinks proved rich botanising with a dog on wheels.

Melissa officinalis (Balm) new to v.c. 75; and a *Kniphofia* sp. (a red-hot-poker), a second record, it looked like a seedling. Other interesting plants were: *Antirrhinum majus* (Snapdragon), (new), *Weigela* 'Bristol Ruby', seeded into an old brick wall from a garden above, *Oenothera* sp. (Evening-primrose), possibly *O. stricta* very sweetly scented, by the Troon – Prestwick cycle/pedestrian track, *Cymbalaria pallida* (Italian Toadflax), not new but rare in v.c. 75, *Lobelia erinus* (Garden Lobelia) (new), *Chamaecyparis lawsoniana* (Lawson's Cypress), common in v.c. 99, but a first for Ayrshire, seedlings in a sandstone wall and *Vinca major* 'Variegata' (Greater Periwinkle), the green-leaved form is quite a common escape in v.c. 75, but this was a first record for the variegated, which seldom seems to get loose.

Near Christmas Sally ended up at the Veterinary Hospital, where they said there was a 30-60% chance of the other leg needing surgery with her problem, however, neither Sally, on or off her trolley, nor I, assisted by Quibble on four legs, are offering to survey your built-up areas!

ALISON RUTHERFORD, 19 South King Street, Helensburgh, Argyll and Bute G84 7DU

WHAT LIES ACROSS THE CHANNEL? PART 2

After giving my first impressions of the Belgium flora in a previous *BSBI News* (No. 95) I received lots of encouragement to write more. I've now had more time to learn more about Belgium's native plants, and to help me understand what I'm finding, I've made a census of those Belgium natives that are not native to Britain (Table. 1). This census has highlighted Belgium's phytogeographic position, straddling the boundary between Atlantic and continental floras.

Geographically, Belgium can be split into two along a south-west to north-east line along the valleys of the Sambre and Meuse. This is known as the Sambre-Meuse axis. North of this axis are

most of the major cities; the intensively agricultural east and the poor sandy soils of the north. To the south are the Belgian Ardennes which consist of deep river valleys, rolling hills and relatively flat plateaus. These hills rise to the dizzy heights of 694m in the Haute Ardennes.

The coast, west and centre have a flora with little to distinguish it from places in central and eastern England. Indeed its flora is strongly influenced by its proximity to the Atlantic. There are however four exceptions. *Cirsium oleraceum* and *Campanula rapunculus* are common and apparently native in these regions, but are rare introductions to Britain. *Gagea spathacea* is found, not far from Brussels, in damp woods on alluvial soils. *G. spathacea* grows as far north as southern Sweden and across northern Europe, but it is at its western limit in Belgium. Also, *Juncus anceps*, which at one time was believed to be extinct, is still found at one site in northwestern Belgium.

Also north of the Sambre-Meuse axis, in northern Belgium, is the region known as the Campinien. This large area of acid, sandy soil is covered in heath and inland dunes. Though much of it has been planted with pines, remains of the original heath survive, including acid ponds and bogs. The area is similar to Breckland in East Anglia, which perhaps explains why much of its flora is also found in Britain. The few exceptions are *Lycopodium tristachyum*, *Ranunculus ololeucos*, and *Spergula morisonii*.

South of the Sambre-Meuse axis is botanically much more interesting! The real honey pot for novel species is the limestone region of the Belgian Ardennes, particularly, the valleys of the Lesse, Viroin and Meuse. For the orchidophiles there are plenty of well known rarities such as *Ophrys fuciflora*, *Orchis militaris* and *Orchis simia*. There are also plenty of species you might expect on limestone such as *Sesleria caerulea*, *Helianthemum apenninum*, *Hippocrepis comosa* and *Gentianella germanica*. This region has the most species unknown in Britain. I have a list of about 30 species which grow on limestone soils here that we don't encounter in Britain (except sometimes as introductions). Most are rare, but some are common in their habitats, for example *Fragaria viridis*, *Festuca pallens* and *Dianthus carthusianorum*.

Some of these species have a continental distribution and are at the western limit of their range e.g. *Melica ciliata*, *Anthericum liliago* and *Digitalis grandiflora*, while others have a southern European and Mediterranean distribution, e.g. *Polygala comosa*, *Scorzonera laciniata* and *Lactuca perennis*. It is a mystery to me why so many of the species native to Belgium, but not Britain, grow on calcareous soils. Perhaps it is the large distances between outcrops of calcareous rocks, which some plants have not been able to traverse.

Another important habitat, south of the Sambre-Meuse axis, is in Belgium's largest nature reserve, the Haute Ardennes. This relatively high plateau has large areas of *Molinia* grassland, *Sphagnum* bog and, these days, conifer plantations. Its flora is much like that of the Pennines, with all the familiar species of moorland and bog. Only a couple of species are unfamiliar to British botanists, notably, *Knautia dipsacifolia* and *Arnica montana*. These upland species are not uncommon in mountainous regions of Europe, but are at the limits of their distribution here.

If you're travelling in Belgium it might be worth putting a copy of the table in your flora or getting a copy of *The Wildflower Key* by Francis Rose. This flora covers Belgium's plants as well as Great Britain's.

It has come as a pleasant surprise how many species are native to Belgium. Considering that it is only about twice the size of Wales it has a particularly diverse flora. Recent estimates are between 1,250 and 1,430 native species, which is not far from the total for the whole of the British Isles.

Table 1. Species native to Belgium **not** native to the British Isles (extinct, hybrid and critical taxa have been excluded), * species that have been recorded in Britain as introductions.

Name	Habitat	Frequency
Lycopodiaceae		
<i>Diphasiastrum tristachyum</i>	Heaths on acid sandy soil	rare
Aspleniaceae		
<i>Asplenium fontanum</i>	Calcareous rocks	rare
Athyriaceae		
<i>Matteuccia struthiopteris</i> *	Moist woods on calcareous soils	rare
Nymphaeaceae		
<i>Nymphaea candida</i>	Still, oligotrophic water	rare

Ranunculaceae		
<i>Aconitum lycoctonum</i>	Moist woods in valleys	locally frequent
<i>Anemone ranunculoides</i> *	Moist woods on limestone or clay. Ash forests on flood plains	uncommon
<i>Ranunculus serpens</i>	Woodland and meadows	common
<i>Ranunculus ololeucos</i>	Peaty ponds	rare
<i>Ranunculus platanifolius</i>	Woodland on hillsides and floodplains	uncommon
Fagaceae		
<i>Quercus pubescens</i>	Woods on calcareous soils	rare
Caryophyllaceae		
<i>Dianthus carthusianorum</i>	Limestone rocks and dry meadows	locally frequent
<i>Gypsophila muralis</i>	Amongst crops on damp soils, the banks of ponds and forest tracks	rare
<i>Spergula morisonii</i> *	Bare ground on acid sandy heaths	locally frequent
Elatinaceae		
<i>Elatine triandra</i>	Ditches, pools and ponds on clay or siliceous substrate	rare
Violaceae		
<i>Viola calaminaria</i>	Mine waste	rare
Cistaceae		
<i>Fumana procumbens</i>	Open meadows on calcareous soils	rare
Brassicaceae		
<i>Arabis arenosa</i> ssp. <i>borbasii</i>	Rocks, cliffs and sandy ground	locally frequent
<i>Lunaria rediviva</i>	Woods and shady screes on calcareous soils	uncommon
<i>Thlaspi montanum</i>	Short grassland, scree and rocks	rare
Crassulaceae		
<i>Sedum rubens</i>	Limestone rocks and dry meadows	rare
Rosaceae		
<i>Cotoneaster integerrimus</i>	Limestone rocks and dry meadows	uncommon and local
<i>Crataegus rhipidophylla</i>	Hedges, woodland margins	uncommon
<i>Fragaria viridis</i>	Meadows on dry calcareous soil	locally common
Fabaceae		
<i>Genistella sagittalis</i>	Dry meadows on schist and sandstone	locally frequent
<i>Trifolium montanum</i>	Meadows on calcareous soil	uncommon and local
Cornaceae		
<i>Cornus mas</i> *	Woods, scrub, hedges on calcareous soil	locally common
Santalaceae		
<i>Thesium pyrenaicum</i>	Dry grassland	rare
Linaceae		
<i>Linum tenifolium</i>	Dry meadows	local and rare
Polygalaceae		
<i>Polygala comosa</i>	Dry meadows and embankments	locally frequent
Apiaceae		
<i>Bupleurum falcatum</i> *	Dry meadows, rocks, embankments	locally frequent
<i>Orlaya grandiflora</i>	Among crops and on embankments	rare
Asclepiadaceae		
<i>Vincetoxicum hirundinaria</i>	Limestone meadows, stony ground and woodland margins	locally frequent
Scrophulariaceae		
<i>Digitalis grandiflora</i>	Forest margins, coppice and clearings	rare
<i>Digitalis lutea</i> *	Forest margins, coppice, clearings, meadows and embankments	locally frequent
<i>Veronica opaca</i>	Waste ground, roadsides and fallows	rare
Globulariaceae		
<i>Globularia hisnagarica</i>	Calcareous meadows and rocks	locally frequent
Orobanchaceae		
<i>Orobancha teucrii</i>	Meadows on calcareous soils; parasitic on Teucrium species	uncommon
Campanulaceae		
<i>Campanula cervicaria</i>	Coppice and woodland borders	rare
<i>Campanula rapunculus</i> *	Grassland, embankments and wasteland	common

Asteraceae		
<i>Arnica montana</i>	Grazed heaths on acid soils	locally frequent
<i>Inula britannica</i>	Wet floodplain meadows and the banks of large rivers	rare
<i>Knautia dipsacifolia</i>	Moist upland grassland	rare
<i>Lactuca perennis</i>	Rocks and dry grassland on limestone and chalk	locally frequent
<i>Scorzonera laciniatum</i>	Scrub of limestone or dolomite	rare
<i>Senecio nemorensis</i> ssp. <i>fuchsii</i>	Woodland clearings and coppice on acid soils	common
Juncaceae		
<i>Juncus anceps</i>	Dune slacks	rare
<i>Juncus tenageia</i>	Forest tracks, muddy banks of drying ponds and on bare peat.	rare
Cyperaceae		
<i>Carex brizoides</i>	Woodland clearings and margins on wet soils	locally frequent
<i>Carex reichenbachii</i>	Roadsides, forest margins on dry soils	rare
<i>Carex umbrosa</i>	Damp woods, forest margins and coppice	rare
Poaceae		
<i>Bromus grossus</i>	A weed of crops on limestone, particularly <i>Triticum spelta</i> . Also occasionally on wasteland.	rare
<i>Festuca heteropachys</i>	Rocks, grassland and forest margins	rare
<i>Festuca pallens</i>	Limestone rocks and old walls	locally frequent
<i>Melica ciliata</i>	Rocks, dry meadows and old walls on limestone	locally frequent
Liliaceae		
<i>Anthericum liliago</i>	Dry grassland and forest margins on limestone and chalk	locally common
<i>Gagea pratensis</i>	Meadows, grassland and embankments on limestone	rare
<i>Gagea spathacea</i>	Damp woods on alluvial soils	rare
<i>Scilla bifolia</i> *	Woodlands on calcareous soil	uncommon
Orchidaceae		
<i>Dactylorhiza sphagnicola</i>	Sphagnum bogs	rare
<i>Limodorum abortivum</i>	Beech and <i>Quercus pubescens</i> woods on calcareous soil	rare

QUENTIN GROOM, Rue Jean Baptiste de Keyser 157A, 1970 Wezembeek-Oppem, BELGIUM,
fa626805@skynet.be.

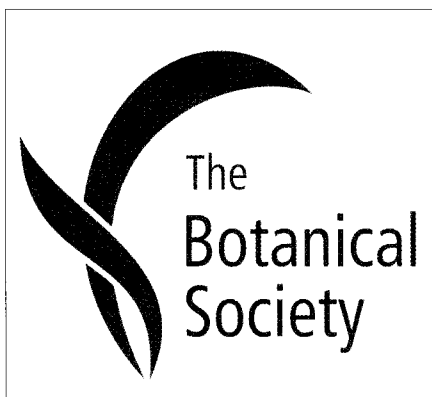
ALGAL ENDOPHYTES WITHIN VASCULAR PLANT ROOT TISSUES

There are five reasons to account for the strong greening of roots commonly seen in the *Lemna* (Duckweed) genus, and the fainter greenness sometimes apparent in the young roots of three further genera of water plants; *Azolla*, *Callitriche* and *Elodea* (Oliver 2005b). These are briefly outlined as follows:

- 1) Microscopic, usually filamentous algal epiphytes (macroscopically a dull or brownish green patchy appearance).
- 2) Root cell chloroplasts?
- 3) Filamentous, plaque, clumped or massed algae on the inner surface of rootcaps in *Lemna* and *Azolla* (tiny bright green 'test tubes')
- 4) Internal endophytes within cortex and other root tissues. Here the appearance macroscopically is of a translucent mid- or bottle-green.
- 5) A) Clear yellow or lime green colouration of the meristematic area of the root tip.
- 5) B) Blobs or longitudinal striations of deep and olive green, not corresponding to cell walls observable at $\times 40$ to $\times 800$ magnifications.

I no longer think that these colourations are caused by diffuse chemical pigmentation, or by artefacts of reflected or refracted green light in microscopy; see ensuing paragraphs.

This paper is not concerned with 1) above, but concentrates mainly on 4) & 5). Following the first set of colour photomicrographs (Oliver 2004a & b), Malcolm Storey first raised the question of algal endophytes. His suggestion was subsequently confirmed (Oliver 2004c, 2005a, b, c). He also raised the issue of whether or not the green bodies were inside or outside the host cell walls. They are



Our proposed new logo (see p. 5)



Bluebells with green anthers (v.c. 59)
Photo Allan Marshall © 2005 (see p. 19)



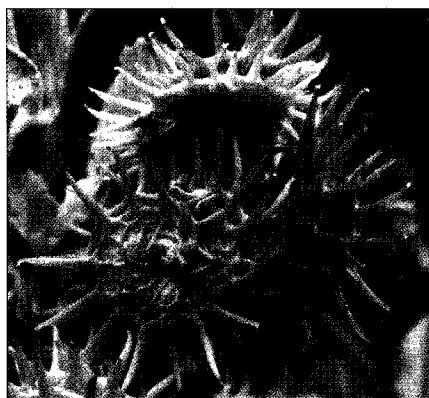
Lavatera cretica



Medicago praecox fruits



Silene italica



Medicago polymorpha fruits

all four photos taken at Gosport (v.c. 11) by John Norton © 2005 (see p. 46)



Creamy-white flowered *Ranunculus bulbosus*
Photo Fiona Aungier © 2005 (see p. 23)



Cardamine pratensis 'hose in hose'
Photo Michael D'Oyly © 2005 (see p. 19)



Acer pseudoplatanus showing 'salt-burn' on
Isle of Cumbrae. Photo P.G. Moore © 2005 (p. 25)



Stipa tenuissima on a London pavement.
Photo Rodney Burton © 2004 (see p. 48)



Dryopteris cycadina (St. George's Gardens, London)

both photos John A. Edgington © 2005 (see p. 42)



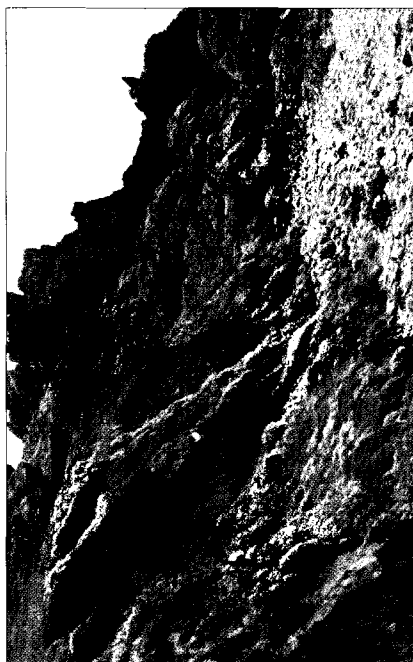
Sally 'the dog on wheels' and Quibble
Photo A. Rutherford © 2004 (see p. 33)



Doodia aspera (Russell Hotel, London)



Urtica galeopsifolia at Jackson's Marsh, Staffordshire
Photo Andy Leak © 2004 (see p. 52)



Cliff's at Pleinmont, Guernsey (site 3, see text for details)



Rumex rupestris at site 1



Rumex rupestris at site 3 with fruits inset on right hand picture
All photos Bridget Ozanne © 2004 (see p. 26)



certainly around the edges of root cortex cells, and appear to migrate into the centre of the root vascular tissues (Oliver 2005a & b). Some could be intracellular too; but this is not confirmed.

Downstream from a smelly outflow into the River Avon at Malmesbury, probably rich in phosphate and nitrate concentrations, there was in 2004 a rich assemblage of water plants. Although not 'Pea soup', there were microscopic algae turning the water green near the outflow, together with filamentous algae including *Cladophora* in quantity, and *Enteromorpha intestinalis*. There was the water moss *Cinclidotus fontinaloides*; and floating, emergent and submerged vascular aquatics including *Azolla* (Water Fern), and several species each from the genera *Lemna*, *Callitriche*, *Oenanthe* and *Elodea*.

Fig1 (see Colour Section, plate 7) shows the root tip and root cap of *Lemna minor* (Common Duckweed) from this rich green assemblage. There was much debris, with rotifers (including *Philodena*), and the protozoon *Vorticella* scavenging the bits. At $\times 400$ magnification the root cap cells are clear. Attached below is a conspicuous sac, which pulsed (? a rotifer; any invertebrate zoologists in the BSBI?). Green bodies just discernible within the root cap measured 2–6 μ , and correspond to category 3) above. The much bigger puzzle is posed by the green longitudinal striations within the root tip itself relating to category 5B). What is the reason for the dark green lines tracking along the indistinct columns of dividing meristematic cells, on the olive green ground colour?

Fig 2 (see Colour Section plate 7) is one of four more microphotos ($\times 600$ to $\times 800$) at the limit of good definition, at least in and through water and living tissues. The picture is of tissues above the meristematic zone, showing young cortex and stele. The greenness has here resolved into clearly discrete green bodies, the dimpled discs, averaging 2.5 μ in diameter. They appear to be, at this point, extracellular endophytes (category 4)) rather than vascular cell chloroplasts (category 2)). The two inserts in Fig 2 show these dimpled discs at the maximum magnification commensurate with clarity that I could achieve inside the cortical tissues. Occasionally the face-on view reveals that some of these green bodies seem to have an irregular, almost amoeboid, outline. More commonly, the side-(edge-) on views appear to show the green bodies distorted and elongated, squeezing flatworm-like between the *Lemna* root cortex cells, as in the top left insert of Fig 2. Pseudopodia are described in some eukaryotic algae (Canter-Lund 1996, Lee 1999, & Van den Hoek *et al.* 1995), but generally in classes other than Chlorophyceae: however these dimpled green discs stain black with iodine, indicating starch, making Chlorophytes a possibility. I've seen these dimpled green discs in the root tissues of three *Lemna* species and in young *Azolla* roots. When not distorted, they remind me of the shape of red blood cells – hence the oxymoron, 'Green Erythrocytes'!

Rootlets of Alder, Willow and Poplar seen in the Rivers Avon and Kennet tend to be white, cream, pale orange, pink or red – never green. Nevertheless some land plants grown in polythene or glass can develop the appearance of green roots. I suspect these usually would fall into Categories 1) and 3) above. Ikenga *et al.* (2004), used DNA analyses to demonstrate indirect evidence of Chlorophyte algae within the roots of rice (*Oryza sativa*) grown in flooded soil pots. Presumably a small amount of light reaches parts of the roots of the 90% of rice grown in water. Nathanielsz & Staff (1975) showed that Cyanophyte algae invade aerial cycad roots in the form of filaments infiltrating between cortex cells, via dermal breaks. One of my studies (Oliver 2004c) shows invasion of the inner surface of the root cap of *Lemna minuta* by anastomosing filaments of *Entocladia*, but runs of photomicrographs since then also suggest amoeboid infiltration between root cortex cells of *Azolla*, and root epiderm, cortex and endoderm cells of three *Lemna* species (Oliver 2005a, b, c).

None of this explains the deep greening of the root end and meristematic region in Fig. 1. Trémouillaux-Guiller *et al.* (2002) used DNA analyses, and light and transmission electron microscopy to examine protoplast cultures of *Ginkgo biloba*. They showed an alga endophytic within *Ginkgo* tissues and cells to be similar to the lichen photobiont *Coccomyxa*, 'Algae, which in host cells exist as more or less undifferentiated precursor forms, proliferated within necrosing *G. biloba* cells derived from a zygotic embryo . . . *G. biloba* cells filled with countless green particles . . . Eukaryotic algae have never been reported to date to reside in higher plant cells'.

It is possible that the dimpled green discs of Fig 2 could be algae related to lichen or bryophyte photobionts. These photosynthesizing endophytes might help the vegetative growth of *Lemna* species (symbiosis); or alternatively block vascular channels and inhibit Duckweed flowering and fruiting. The

mysterious diffuse greening of root tip tissues could be attributable to tiny green precursor particles too small to show up individually through root tissues at $\times 800$. The dimpled green discs squeeze between host root-tissue cells; but I suspect that root cells have also been, at some stage, invaded.

Acknowledgements: My thanks to Joan M. Davies for her help with the illustrations, and to Elaine Monaghan (Freshwater Biological Association, Ambleside) for three relevant references.

References:

- CANTER-LUND, H. & LUND, J.W.G. 1996. *Freshwater Algae* Biopress Ltd. Bristol.
- IKENAGA, M. *ET AL.* 2004. Community structure of eukaryotes in rice roots estimated by PCR-DGGE pattern and sequence analyses. *Soil Science and Plant Nutrition* **50**(4) Aug.: 583-589.
- LEE, R.E. 1999. *Phycology*. Cambridge University Press, Cambridge.
- NATHANIELSZ, C.P. & STAFF, I.A. 1975. A mode of entry of Blue-Green Algae into the apogeotropic roots of *Macrozamia communis* (Cycad). *American Journal of Botany* **62**(3): 232-235.
- OLIVER J.E. 2004a. *Lemna minuta* V. Root caps and root chloroplasts. *BSBI News* **95**: 31.
- OLIVER J.E. 2004b. *Lemna minuta*. Green roots. Correction and additional explanation. *BSBI News* **96**: 30.
- OLIVER J.E. 2004c. *Lemna minuta* VI. Diverse algal endophytes within root tissues. *BSBI News* **97**: 34, 35.
- OLIVER J.E. 2005a. *Lemna trisulca*. Apparent progression of algal endophytes into the root centres. *BSBI News* **98**: 34.
- OLIVER J.E. 2005b. Algae within aquatic plant roots. Initial studies of endophytes inside the roots of *Lemna*, *Azolla*, *Callitriche* and *Elodea*. *Wiltshire Botany* **7**: 11-17.
- OLIVER J.E. 2005c. Algal endophytes within leaf & root tissues of Water Fern (*Azolla filiculoides*). *BSBI News* **99**: 31-32.
- TRÉMOUILLAUX-GUILLER, J. *ET AL.* 2002. Discovery of an endophytic alga in *Ginkgo biloba*. *American Journal of Botany*. **89**: 727-733.
- VAN DEN HOEK, C., MANN, D.G. & JAHNS, H.M. 1995. *Algae*. Cambridge University Press, Cambridge.
- JACK OLIVER, High View, Rhyls Lane, Lockeridge, nr Marlborough, Wilts. SN8 4ED

LINNAEUS LINK PROGRESS

The Linnaeus Link Project is an international collaboration aimed at producing an online union catalogue of material relating to the eighteenth-century Swedish scientist Carl Linnaeus and his students. The Project is supported by a consortium of museums, archives, libraries and other institutions in Europe and the United States, led by the Natural History Museum in London. The Project is indebted to the Linnean Society of London, which is providing funding for two years from January 2004.

A Database Officer has recently been appointed to undertake the technical implementation of the catalogue, which will involve investigating the available options and consolidating the substantial body of catalogued material into a working union catalogue. It is hoped that a test version will be running by the end of the year.

Once the mechanism for the union catalogue is established, it is intended that the holdings of other libraries will be linked to the core catalogue, providing researchers with a vast warehouse of resources on Linnaeus and his times. The core catalogue will be a bibliographic database of detailed title records, based on Linnaean materials at the Natural History Museum. By the end of 2004, over 500 records of Linnaean material had been created or upgraded to agreed Project standards.

Further information is available on the Project website at <http://www.nhm.ac.uk/library/linn/>.

CONSERVATION NEWS & VIEWS

INTEGRATED HABITAT SYSTEM SURVEY OF ABERDEEN CITY AND SHIRE

The Integrated Habitat System (IHS) survey of Aberdeen City and Shire (vice-counties 91, 92 and 93) was launched in 2004 by the North East of Scotland Biological Records Centre (NESBReC) supported by HLF, SNH, Aberdeenshire and Aberdeen City Councils. With four surveyors and five volunteer trainees, it is hoped to survey a large part of lowland Aberdeenshire including Aberdeen City and to continue the survey as further funding is secured in future years. The survey is the first of its kind in Scotland to use the IHS, which has been developed as a successor to the JNCC Phase 1 Habitat Survey methodology. The main strength of the IHS is that it records habitat types in the context of the UK Biodiversity Action Plan (BAP) habitats.

Instead of drawing paper habitat maps by hand in the field each surveyor had a hand held Husky FEX 21 computer. This had the Ordnance Survey landline maps loaded, which could be adjusted to the required scale. These maps contained very detailed information, e.g. the names of woods and house numbers/names.

A Global Positioning System (GPS) was connected to the Husky. This could map the exact location of any interesting plants and accurately plot habitat boundaries. For example fields were marked on the map so one could draw around these, but a patch of scrub in the middle of a field would not necessarily be shown on the digital landline map. In this case the surveyor could walk around the scrub using the GPS to mark the exact boundary in the field.

To maintain consistency between surveyors test squares were used. These were specially selected 1 km squares surveyed individually, by surveyors and trainees to see if habitats were being identified consistently. The time each surveyor was taking to cover a standard area was also assessed. These worked really well and showed the progression of the trainees.

The trainees had several tests of their plant identification skills. A variety of specimens were brought in for them to identify using floras. They greatly improved their plant identification skills over the months.

One of the highlights of the survey was the discovery of several new vice-county plant records. These and other interesting species encountered are discussed below.

Trifolium micranthum (Slender Trefoil) was the surprising species of the open spaces in Aberdeen city. It was present in most areas of amenity grassland although, the New Atlas shows no records for this species in the area. There were few areas of unimproved lowland grassland encountered although a few of their characteristic plants were hanging on in small corners, for example *Knautia arvensis* (Field Scabious) in a field that was being turned into a garden.

The coastline between Aberdeen harbour and Balmedie comprises mainly of sand dunes, although most of these are now given over to various golf courses. The dunes are generally acidic, and therefore species poor, but there were a few surprises. Royal Aberdeen Golf Course had an abundance of *Dianthus deltoides* (Maiden Pink), quite an impressive site and not previously recorded from there. Blackdog Rifle Range had a very diverse flora, from areas of decalcified fixed dunes covered in *Erica cinerea* (Bell Heather) to open areas with *Gentianella campestris* (Field Gentian), *Sagina nodosa* (Knotted Pearlwort) and *Filago minima* (Small Cudweed). There were several damp dune slacks with a stunning display of *Parnassia palustris* (Grass-of-Parnassus) in one. *Viola canina* (Heath Dog-violet) and *V. riviniana* (Common Dog-violet) were widespread on the various dunes, as was the hybrid *V. ×intersita* between these two.

Rocky shore areas were surveyed to the south of Aberdeen city in Kincardineshire (v.c. 91). Small areas of scrubby *Populus tremula* (Aspen) were an interesting feature here. A single plant of *Eupatorium cannabinum* (Hemp Agrimony) was found on one sea brae, this species is rare and mainly coastal in the north east. Seedpods and leaves of *Astragalus danicus* (Purple Milk-vetch) were seen in a small area, indicating calcareous rock.

The sand spit at the mouth of the River Don produced *Polygonum oxyspermum* (Ray's Knotgrass), a new site for this species and the most northern on the east coast. About a half mile in from the

mouth of the River Don, the north bank produced several interesting species, *Carex aquatilis* (Water Sedge), *Allium scorodoprasum* (Sand Leek) and *Allium carinatum* (Keeled Garlic). While in the River Don itself *Elodea nuttallii* (Nuttall's Waterweed) was plentiful.

The River Dee had much of interest too. *Carex × involuta* was an exciting find in a small pool on a wooded river island, this being a new county record for v.c. 91. Nearby garden escapes were plentiful including *Solidago canadensis* (Canadian Goldenrod) and *Telekia speciosa* (Yellow Oxeye). Native species of note on the banks of the Dee included *Cirsium heterophyllum* (Melancholy Thistle), *Carex remota* (Remote Sedge) and *Mentha × verticillata* (Whorled Mint).

Chrysanthemum segetum (Corn Marigold) was found on several occasions as an arable weed, occasionally accompanied by *Papaver rhoeas* (Common Poppy). One of the prettiest arable weeds was *Galeopsis speciosa* (Large-flowered Hemp-nettle), which is fairly common in most of Aberdeenshire. *Centaurea cyanus* (Cornflower) is declining as an arable weed, but was seen in one field accompanying abundant *Persicaria maculosa* (Redshank). Several plants of *Calendula officinalis* (Pot Marigold) were a surprise along one arable field margin. Perhaps they were a seed contaminant, mixed in with the *Lolium multiflorum* (Italian Rye-grass) crop. Not usually considered an arable weed, *Gnaphalium sylvaticum* (Heath Cudweed) was incredibly abundant in a previously cultivated field now reverted to grassland at Gallowhill.

Corby Loch was the most interesting water body to be surveyed; this had *Nuphar lutea* (Yellow Water-lily) and *Nymphaea alba* (White Water-lily), various *Potamogetons* (Pondweeds) and *Callitriche hermaphrodita* (Autumnal Water-starwort). A small water hazard on a golf course contained a bed of *Typha angustifolia* (Lesser Bulrush), new to South Aberdeenshire (v.c. 92).

The richest areas though, were the bogs, generally known as mosses in this part of Scotland. Scotstown Moor SSSI is one of few sites in the region where *Schoenus nigricans* (Black Bog-rush) is found. This site was getting overgrown with scrub and had lost several of the other interesting species previously recorded. Red Moss a very fine example of a raised bog was the first place we saw *Corallorrhiza trifida* (Coralroot Orchids). By far the best bog surveyed was Grandhome Moss, though one had to watch where they walked as it was incredibly dangerous in places. Several Orchid species were seen *Platanthera bifolia* (Lesser Butterfly-orchid), *Dactylorhiza maculata* (Heath Spotted-orchid), *Dactylorhiza purpurella* (Northern Marsh-orchid) and *Corallorrhiza trifida*, along with *Carex diandra* (Lesser Tussock-sedge), *Drosera rotundifolia* (Round-leaved Sundew) and *Pyrola minor* (Common Wintergreen).

Lowland Birch Wood was the main type of native woodland encountered in the survey. The most productive woodlands for plants however were the wet woodlands. One area of alluvial *Alnus glutinosa* (Alder) woodland contained *Salix pentandra* (Bay Willow) and *Listera ovata* (Common Twayblade), the latter of which is very rare in v.c. 92. Other woodlands were notable for their exotic species; amongst these were *Convallaria majalis* (Lily-of-the-valley) and *Daphne laureola* (Spurge Laurel), both apparently new for v.c. 91.

It was not just botany, on a couple of occasions we watched Dolphins while surveying coastal areas and Kingfishers whilst surveying the River Dee. Lunch in a wood near Westhill was made more joyful as several Red Squirrels were running around in the trees. Some of the richer areas of Rush Pasture provided habitat for Small Pearl Bordered Fritillary.

When this survey is eventually completed there will be an astonishing amount of information held by NESBREc on the various UK BAP habitats in Aberdeenshire. At a click of a button the computer will be able to display a map showing all the different habitats, plus a species list of up to 30 species for each. Hopefully other counties will follow suit, as having such detailed information on the distribution and species content of UK BAP habitats must be a good thing for nature conservation. Not to mention the additional benefit of increased botanical recording in an area.

But there are additional benefits to these; new people have been trained as habitat surveyors and gained field botany skills. Almost everyone involved with the project thoroughly enjoyed the field work and got great satisfaction out of spending a season exploring the wonderful habitats around the city of Aberdeen.

Reference:

PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. 2002. *New Atlas of the British and Irish Flora*. Oxford University Press.

IAN P.GREEN, 19 Bogmoor Road, Bogmoor, Spey Bay, Fochabers, Moray IV32 7PA.

JEFF WADDELL, Bonavista, Heatherlyett, Galashiels, Selkirkshire, TD1 2JL.

ALIENS

COULD *POA SUPINA* BE OVERLOOKED IN BRITAIN?

The discovery in 2004 of an overlooked native sedge in Britain - see *BSBI News* **99**: 17-19 (April 2005) - alerts members to the possible occurrence of other such plants.

One avenue to explore is a scrutiny of the 2500 or so varieties of British native species in G.C. Druce's *British Plant List* (2nd edn, 1928) which could reveal forgotten taxa nowadays worthy of higher rank. One such example is listed as *Poa annua* L. var. *varia* Gaud. (*P. supina* Schrader): it is unmentioned in all our current manuals. J.R. Edmondson, in *Flora Europaea* **5**: 161 (1980) recognises this taxon as a species that is widespread in Europe, but 'Br is not listed.

There are undoubtedly 'rogue' records for Britain, e.g. C.B. Clarke, *List of Flowering Plants, ferns...of Andover* (1866) gives it (p.106) as common on the chalk. In mainland Europe it is restricted to damp, mountainous pastures. But, apparently reliable old records do exist, notably those confirmed by the world-famous agrostologist (grass expert) E. Hackel. I quote two such examples known to me:

- Rills, Snowdon and Carnedd Dafydd, Carnarvonshire, July 1904... It is abundant in the Snowdon region - *A. Ley*.
- Ben Laoigh, Ben Lawers, Come Clodcan, v.c. 88, September 1910. I found this plant on most of the Mid-Perthshire hills. It almost invariably is found growing either with its roots in the running water of small springs or in rock ledges upon which water is dripping from the cliff above - *McTaggart Cowan, Jun.*

See *Report Bot. Exc. Club* **2**: 138 (as '38') (1905) and **2**: 605-606 (1911), respectively, for more details.

A full account of *P. supina* can be found in Robert Portal's *Poa de France, Belgique et Suisse* (see p. 54 for an announcement of this work and a reproduction of his illustration). The key therein (trans. EJC) reads:

Plant perennial; spikelets clearly violet; upper glume clearly enlarged in the lower half; anthers generally ≥ 1.5 mm long. *P. supina*

Plant annual or perennating; spikelets greenish, sometimes tinged with violet; upper glume enlarged at the middle or in the upper half; anthers ≤ 1.2 mm long. *P. annua*

More differentiating characters and icons can be found in *Watsonia* **4(1)**: 1-10 (1957), wherein experimental taxonomy by T.G. Tutin revealed that '...it [is] practically certain that *Poa annua* is an allotetraploid derived from the hybrid between *P. infirma* and *P. supina*.' Maybe Britain still has all three taxa as natives.

ERIC J. CLEMENT, 54 Anglesey Road, Gosport, Hants. PO12 2EQ

LOBULARIA PUNCTATA (LOBULARIA) IN BUCKS (V.C. 24)

Milton Keynes Natural History Society has weekly field meetings during the summer months, so often finds itself in areas of the new town where some sort of landscaping has taken place. On 17th May this year we were in an area which had been an arable field some 25 years ago but since much altered - topsoil removed exposing the underlying limestone, wild flower seed-mix added to some areas etc. An exercise to see if any of the plants from the seed-mix had spread into other parts of the field was carried out. All of the annuals planted had been lost; all of the perennials had survived and spread. However, the plant which caused the most interest was growing in the poor soil between bits of the exposed limestone. Not immediately recognised, *Globularia* sp. was suggested. Reference to *Flora Europaea* confirmed the genus and the species as *G. punctata*. It is shown in Blamey and Grey-Wilson's book with the note 'Sometimes cultivated in gardens.' None of the party had ever seen, or been aware of it in any gardens and the site itself is a long way from any habitation (though there is a cemetery close by!). I'm sure I think that this is the first record of this plant for v.c. 24 (Bucks) and is in 1km square SP84.42.

References:

- BLAMEY, M & GREY-WILSON, C. 1989. *The Illustrated Flora of Britain & Northern Europe*. Hodder & Stoughton.
- TUTIN, T. G. ET AL. 1972. *Flora Europaea* (Vol. 3). Cambridge University Press.
- ROY MAYCOCK, 17 Osborne Street, Bletchley, Milton Keynes, MK2 2LU

EXOTIC FERNS ON LONDON WALLS

For several years I have looked over railings and peered beneath gratings to record the variety of wall ferns on and below the streets of London. This note is prompted by recent articles on a similar topic (Middleton, 2005; Lewis, 2005).

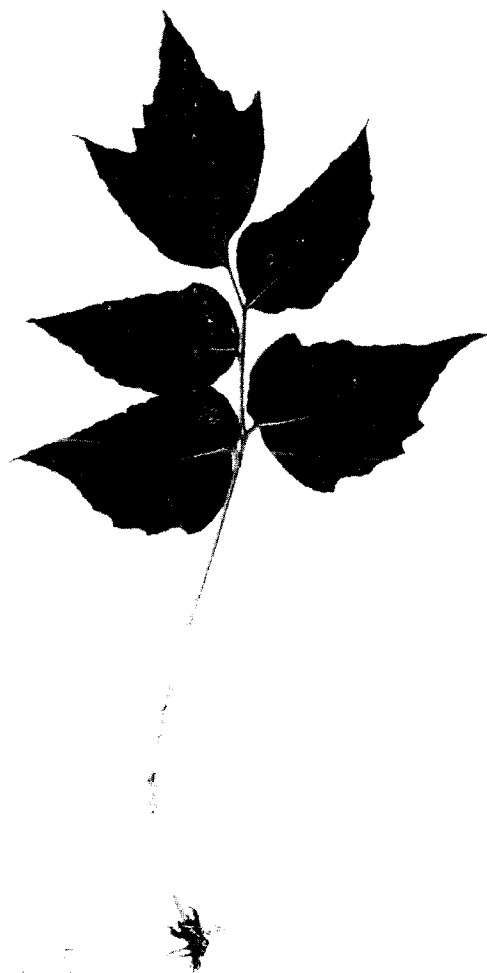
In Kingston upon Hull, Richard Middleton found *Asplenium adiantum-nigrum* (Black Spleenwort), *A. ruta-muraria* (Wall-rue), *A. trichomanes* (Maidenhair Spleenwort), *Ceterach officinarum* (Rustyback), *Phyllitis scolopendrium* (Hart's-tongue), *Dryopteris filix-mas* (Male Fern) and *Polypodium interjectum* (Intermediate Polypody) growing on boundary walls of suburban gardens. Tony Lewis reports that these, and *Adiantum capillus-veneris* (Maidenhair Fern), grow on retaining walls in Swansea. Their observation that soft mortar between the engineering bricks provides a suitably friable, moisture-retentive habitat agrees with my own experience in London where within the old LCC area I have found on walls, in addition to all eight species just mentioned, *Athyrium filix-femina* (Lady Fern), *D. dilatata* (Broad Buckler-fern), *Polypodium vulgare* (Polypody), *Polystichum setiferum* (Soft Shield-fern) and *Pteridium aquilinum* (Bracken). Male Fern, Hart's-tongue and Bracken can be described as ubiquitous, few streets in central London lacking one or the other, while the spleenworts and polypodies are frequent (a hundred or so sites within the central London boroughs, most plants being fertile) and the rest, mainly woodland ferns, are rare (few sites, the plants almost always stunted and infertile). In an account of these metropolitan ferns I concluded, like Middleton, that changes in atmospheric concentrations of sulphates and nitrates are probably the main factors allowing native ferns to colonise city walls (Edgington, 2003).

My primary purpose, though, is to draw attention to London's alien ferns, some of which were seen at a meeting of the British Pteridological Society in September 2004. The brake ferns, *Pteris*, appear regularly. *P. cretica* was on an area wall in Westminster from at least 1982 (Palmer, 1984) until 2002, when the wall was repainted and the plant lost. *P. nipponica* W.C. Shieh (also known as *P. cretica* var. *albolineata* Hooker) grows on the wall of a basement in Mayfair, where the highly fertile plants are spreading, while the basement areas of a mansion block near Baker Street are host to numerous young plants of *P. tremula*, as well as several native wall-ferns. Some of these brake ferns were mentioned as adventives more than twenty years ago (Grenfell, 1983) but whereas then, according to Grenfell, 'the frosts quickly accounted for each', central London's thermal micro-climate, helped by a run of warmer winters, now seems to allow tender but drought-tolerant ferns to flourish outdoors. *Adiantum radicans*, first seen in 1997 (Rumsey, 1998) is another. Though the plant Fred Rumsey saw has gone, I know of four others in Camden and Westminster; the most notable being on a sheltered wall of the courtyard at Burlington House, Piccadilly, appropriately opposite the entrance to the Linnean Society. All are fertile and have survived at least three winters (as has a small colony of *A. capillus-veneris* on the brickwork of a railway arch in Mile End).

Cyrtomium is another genus of mainly rocky habitats that occasionally establishes itself outdoors in Britain. Most reports have been of *C. falcatum*. Chris Page postulates (Page, 2005) that a plant found in wall mortar in Cornwall is most likely *C. fortunei* J. Smith. Fronds of a plant growing on and below the front doorsteps of a house near Kings Cross (see illustration, p. 43) are similar to those illustrated by Page. This robust plant, more than a metre across and, like the Cornish specimen, fully fertile and shedding spores, was thought to be *C. fortunei* at the meeting mentioned above, an identification since confirmed by Page. A second *Cyrtomium*, growing at the top of a deep basement area of the Russell Hotel, fronting Russell Square, is less easily diagnosed. As the illustration (p. 43) shows, the pinnae, especially the terminal one, are large with coarsely toothed but not serrate margins and rounded bases, thus differing from *C. caryotidium* (Wall. ex. Hook. & Grev.) C. Presl which Page has shown to be hardy in Cornwall. Richard Middleton sent me a photograph of a fern growing near



Adiantum species
(near *Adiantum*)



Callitriche (Saxifraga) phyllitis
(Russell Square)

the top of an old convent wall in Hull. It, and a plant in a front area in Marylebone, appear identical in all key features with the Russell Square plant. They have 1-3 pairs of light matt green pinnae and look unlike *C. falcatum*; however all three are a good match to the description and silhouette of *C. macrophyllum* (Makina) Tagawa in *Fern Grower's Manual* (Hoshizaki & Moran, 2001). The fronds Middleton and I have seen are infertile, making positive identification difficult.

Besides the *Cyrtomium*, this basement of the Russell Hotel boasts another exotic, *Doodia aspera* R. Brown. I first noticed it in June 2005 when it was already a substantial plant with fronds of a lovely rosy-pink colour, some of them fully fertile (see Colour Section, plate 5). Unlike the rasp fern *D. media* R. Brown whose lower pinnae are stalked, those of *D. aspera* are adnate, that is fully attached to the rachis. Even in its native Australasia it is less freely available than *D. media* and in cultivation appears to benefit from some shade (Fisher, 1984). Conditions in Russell Square seem to suit it. It is perhaps appropriate that a genus named after a curator of the Chelsea Physic Garden should be represented amongst London's flora.

Last on the list of aliens on public display (Tim Pyner has told me of a cliff brake, *Pellaea*, on a wall in private grounds in Hackney) is *Dryopteris cycadina* (Franchet & Savatier) C. Christensen. Early in 2002 I noticed an unusual sporeling fern on a damp north-facing wall of a disused burial ground, St George's Gardens near Kings Cross, growing with an assortment of native ferns - Bracken, Male and Lady Ferns, Broad Buckler-fern, Hart's-tongue and Maidenhair Spleenwort. In a fit of civic zeal the Gardens' refurbishment programme included a thorough scrape of the walls and I feared all was lost. But ferns are tenacious (perhaps, as suggested by Page (2002) they even benefit from disturbance) and a year later, they had reappeared. There are now three plants of *D. cycadina* (see Colour Section, plate 5) and one of them has recently (July 2005) produced fronds with seemingly good sporangia.

All these alien species, with the possible exception of *Cyrtomium macrophyllum* and *Doodia aspera*, are freely available in the horticultural trade. The plants described here presumably originated as spores from cultivated plants. It may be significant that several, including *Cyrtomium fortunei*, *Dryopteris cycadina* and *Pteris cretica*, reproduce entirely apogamously (without fertilisation) whilst others, like many ferns of dry habitats, are partially apogamous. A spore finding itself in the hostile environment of a London wall may have a better chance of developing the sporophyte generation if it can by-pass the uncertain business of gamete fusion and grow directly from the protonema (the gametophyte generation). This, though, is guesswork.

Of these eight alien species, only *Pteris cretica* and *P. tremula* were mentioned in *Alien Plants of the British Isles* (Clement & Foster, 1994) which, however, foresaw the likely confirmation of *Adiantum raddianum*. It would not be surprising, if the climate continues to ameliorate and as home-owners grow a greater range of exotics in their conservatories and living-rooms, to find many more appearing in our towns and cities.

I am grateful to Richard Middleton and Chris Page for correspondence and to Alison Paul, Pat Acock, Tim Pyner and other members of the British Pteridological Society for help at various times with identification.

References:

- CLEMENT, E.J. & FOSTER, M.C. 1994. *Alien Plants of the British Isles*. BSBI, London.
- EDGINGTON, J.A. 2003. Ferns of the metropolis - a status report. *The London Naturalist* **82**: 59-73.
- FISHER, M.E. 1984. *Gardening with New Zealand Ferns*. Collins, Auckland.
- GRENFELL, A.L. 1983. Adventive ferns-I. *BSBI News* **35**: 12.
- HOSHIZAKI, B.J. & MORAN, R.C. 2001. *Fern Grower's Manual*. Timber Press, Portland, Oregon.
- LEWIS, T. 2005. Suburban ferns. *BSBI News* **99**: 41.
- MIDDLETON, R. 2005. Suburban ferns in Kingston upon Hull - Exploitation of a deco-mural environment. *BSBI News* **98**: 28-30.
- PAGE, C. 2002. The role of natural disturbance regimes in pteridophyte conservation management. *Fern Gazette* **16**: 284-289.
- PAGE, C. 2005. A second species of the fern genus *Cyrtomium* naturally established in West Cornwall. *BSBI News* **98**: 39-40.
- PALMER, J.R. 1984. A field botanist in the streets of Chelsea. *BSBI News* **37**: 31.
- RUMSEY, F. 1998. *Adiantum raddianum* Presl in London. *BSBI News* **78**: 60.
- JOHN A. EDGINGTON, 19 Mecklenburgh Square, London WC 1N 2AD; ugap136@aol.com.

SPECIES INCREASING IN URBAN HABITATS IN SOUTHAMPTON

In recent editions of the *BSBI News* there has been a spate of articles covering alien species colonizing motorways and other major highways as well as urban streets in southern England. See *BSBI News* 95: 48-49; *BSBI News* 97: pages 48-50 and *BSBI News* 98: pages 46-47 for example. There has been no mention of my own home city of Southampton so I thought that it was time to put that right.

There is another reason for writing this article. The trends toward the controversial issue of 'global warming' are plain to see amongst the flora of the south coast of England particularly since the virtual cessation of cold winters here in the early 1990s. A trend towards drier and more Mediterranean style summers has also been apparent in the last ten to fifteen years. One would expect Southampton, along with its equally balmy south coast sister cities of Bournemouth, Portsmouth and Gosport to lie on the front line of any changes in the flora due to climatic warming. As such the trends in Southampton, and elsewhere along the south coast, might give an indication of those changes to come further north in Britain.

In this article I will focus on the species that appear to be colonizing such unmistakably urban landscapes as kerbsides, the base of walls, pavements and the broken concrete and/or clinker of certain brown-field sites.

In Southampton a number of aliens, or doubtful natives, are clearly spreading in the types of habitat listed above. These include the likes of *Sisymbrium orientale* (Eastern Rocket), *Diploaxis tenuifolia* (Perennial Wall-rocket), *Valerianella carinata* (Keeled-fruited Cornsalad), *Geranium lucidum* (Shining Crane's-bill), *Erodium moschatum* (Musk Stork's-bill), *Erigeron karvinskianus* (Mexican Fleabane), *Soleirolia soleirolii* (Mother-of-Thousands) (also now a severe pest of damp lawns) and *Polypogon viridis* (Water Bent). More occasionally, in such habitats, can be found the likes of *Rapistrum rugosum* (Bastard Cabbage), *Campanula poscharskyana* (Trailing Bellflower), *Malcolmia maritima* (Virginia Stock), *Erigeron glaucus* (Seaside Daisy) and at one site in the far west of the city a flourishing wall side colony of *Digitaria ciliaris* (Tropical Finger-grass).

Unfortunately, for the botanist, Southampton is currently undergoing a rapid redevelopment metamorphosis. One of the most conspicuous brown-field sites still remaining near the centre of the city, at West Quay, is an area of approximately ten acres of broken concrete that was once part of a very ugly cable factory and is due to be transformed into an ice rink in the near future. In 2004 this site was visited and the dominant vegetation consisted of two grasses, *Polypogon monspeliensis* (Annual Beard-grass) and *Polypogon viridis* as well as the two increasingly abundant fleabanes *Conyza sumatrensis* and *C. bilboana*.

A little to the east of this site there is a particularly interesting section of the of medieval city walls. The flora of the walls themselves consist mainly of the usual natives as well as large quantities of *Centranthus ruber* (Red Valerian), *Cymbalaria muralis* (Ivy-leaved Toadflax) and other long-established aliens. However there are some less familiar species starting to appear within the walls and the old town. In the paving cracks close to the Tudor Merchants Hall there is found a healthy colony of *Veronica peregrina* (American Speedwell) amongst the usual *Sagina* and *Oxalis* species. Not far away, by a car park entrance at Back of the Walls, there is a thriving colony of *Anisantha madritensis* (Compact Brome) with scattered outliers of the same grass in the general area. In between the two at Porters Lane two interesting natives have recently been found in pavement cracks and in adjacent flowerbeds namely *Medicago polymorpha* (Toothed Medick) and the hairy subspecies of Black Nightshade *Solanum nigrum* subsp. *schultesii*.

Another species that is easy to identify and seems set to spread spectacularly is the, *Senecio inaequidens* (Narrow-leaved Ragwort) a native of South Africa. I have found this particular *Senecio* in quantity at urban sites in Essex and Oxfordshire but so far this species is uncommon in Southampton. It was first found at Paynes Road in Shirley area of the city about four years ago and there is now a fine colony of it growing on a grassy bank by Northam Bridge. At the latter site it is growing with the more familiar *Senecio squalidus* (Oxford Ragwort) and it was interesting to observe that the larvae of the Cinnabar Moth, *Tyria jacobaeae*, so plentiful on the *S. squalidus*, were conspicuous by their absence on the *S. inaequidens*! I wonder if other botanists have found this to be so.

PHILIP BUDD, 6 Caerleon Avenue, Bitterne, Southampton, SO19 5JX

PETRORRHAGIA DUBIA ESTABLISHED IN S. HANTS (V.C. 11)

Whilst helping John Poland with his ambitious 'Vegetative Key to the British Flora – see *BSBI News* 98: 51 (2005) – I noticed that the alleged plants of '*Petrorrhagia nanteuilii* (Childing Pink)' on Hayling Island (SZ70.98) were glandular-hairy over the mid-stem internodes, contrary to book descriptions. A glance at *Flora Europaea* 1: 224-227 (ed. 2, 1993) quickly revealed that this colony has been misdetermined – it is *P. dubia* (Raf.) G. López & Romo, known until recently as *P. velutina* (Guss.) P.W. Ball & Heywood, a native of S. Europe. No English name appears to exist.

The plant that appeared in CTW2: 232 (1962) as '*Kohlrauschia prolifera*' is now represented in Britain by 3 species (which all look exceedingly alike to me!). All are erect annuals, often with just 1 stem, with pinkish or 'pale purplish-red' flowers in clustered heads (but usually only one flower opens at any one time). A trichotomous Key is best to separate them (because of variability of the characters):

Lf sheath length \pm equalling width; middle internodes glabrous or scabrid

Seeds 1.2-1.9mm, surface granulate-reticulate; $2n=30$

P. prolifera

Lf sheath length 2-3 \times width; middle internodes gen. glandular-pubescent

Seeds 1-1.4mm, surface conical-papillose; $2n=30$

P. dubia

Lf sheath length 1.5-2 \times width; middle internodes gen. scabrid-pubescent

Seeds 1.4-2.0mm, surface tubercled; $2n=12, 36, 60$

P. nanteuilii

All three species can have plants with all the internodes glabrous; and it seems that *P. nanteuilii* probably arose as an allotetraploid derivative from *P. dubia* \times *P. prolifera*. *P. dubia* prefers the warmest climates and is now naturalised in at least Australia, California, Hawaii and S. Africa. They are best separated by the sculpturing patterns on the seeds: all are beautifully drawn in *Flora Iberica* 2: 422 (1990). Beware of some books – e.g. R.D. Meikle's *Flora of Cyprus* 1: 218-221 (1977) – wherein the author chooses to remove these annual species from the genus *Petrorrhagia* (p. 219) and retain them in the old, segregate genus *Kohlrauschia* (p. 218).

Also, users of Stace's *New Flora* (ed. 2, 1997, p.178) should beware of a serious error in the two descriptions, corrected by CAS in *BSBI News* 80: 18 (1999). For convenience, I will repeat it here: 'Page 178 – *Petrorrhagia*. Stem pubescence and leaf-sheath length/width ratio characters of *P. nanteuilii* and *P. prolifera* should be reversed.'

I have no reason to doubt the old records of *P. nanteuilii* from Hayling Island or nearby Fort Cumberland, but this new colony of *P. dubia* was first found (away from the old extinct colonies) by D.P.J. Smith (whilst EJC was looking elsewhere!) on 22 May 1998. There were 5 plants in flower and 5 in fruit. Numbers have since increased: 58 plants in 2000; 74 flowering stems in 2004. The largest count, so far, has been of 475 plants (in 2003) reported by Eileen Walters – see *Wild Flower Magazine* 461: 34 (2004). DPJS and I were searching at the 6-figure map reference for the west N. American alien *Amsinckia micrantha* (Common Fiddleneck) found by Ralf Hollins in June 1997 (50 plants). No progeny have ever been found, the normal outcome in Hants (and W. England)! – but a common origin is not unlikely for these two species.

Growing just behind the beach, on the margin between gorse bushes (*Ulex europaea*) and sandy soil sporting lots of *Poa bulbosa*, *Crassula tillaea* and other exciting natives, this colony of *P. dubia* stretching over c.4 metres, seems likely to enjoy and prosper in the local Mediterranean climate. No threat to native species is envisaged.

ERIC J. CLEMENT, 54 Anglesey Road, Gosport, Hants. PO12 2EQ

MORE MEDITERRANEAN 'ALIENS' IN GOSPORT

Following on from my article on the discovery of Starry Clover (*Trifolium stellatum*) (*BSBI News* 95: 52-54) I am writing to report on a number of more recent interesting finds of alien and/or potential natural arrivals to the shores of Gosport, S. Hants (v.c.11).

Both *Medicago praecox* (Early Medick) and *M. polymorpha* (Toothed Medick) were found by Ms Debbie Allan (DRA) and myself during a visit to Lee-on-the-Solent beach on 23rd May 2004. Remarkably (and embarrassingly) these were discovered only 100 metres west of the Starry Clover on a small stretch of the beach we had never walked before, lying directly behind a large car park. The plants were

growing on a moderately trampled, consolidated area of shingle and on a dry grassy, gravel bank above a promenade. Both species formed procumbent, spreading patches up to half a metre across on the beach, but in the grassland they exhibited a more three-dimensional habit. Although we were pleased to have correctly identified the *praecox* with the help of Stace (1997), it was only after Eric Clement (EJC) visited the location two days later that the *polymorpha* identity came to light – I had managed to collect both species and mix up the specimens! EJC has informed me that he is unaware of any other recent records of *M. praecox* in Britain. As far as I can ascertain it is a widespread but local species in the Mediterranean (Blamey & Grey Wilson 1993). The *New Atlas* (Preston *et al.* 2002) indicates that it has occurred in only one 10km square (south of Bedford) since 1987. *M. polymorpha* is mapped as a native around the south and east coasts of Britain and is a declining wool shoddy alien, but in Hampshire it is rare, scattered and apparently not persistent, judging by the account in the *Flora of Hampshire* (Brewis *et al.* 1996). *M. praecox* had not previously been recorded in the county.

In 2005, the *Medicago praecox* was flowering by March, living up to its name, and when last checked (late June) was still doing well, with at least 40 plants still present. However, only 2–3 plants of *M. polymorpha* could be found. EJC has shamelessly asked me to point out that there is a good illustration of *M. praecox* by the late Dorothy Long on p.170 of Clement *et al.* (2005) and this is reproduced here on the front cover. The illustrations of the *Medicago* fruits in Stace (1997, p.422) are also recommended and those in Blamey & Grey-Wilson (1993, p. 99) are excellent, though the pictures of *M. praecox* and *M. laciniata* have been transposed. My close-up photographs (Colour Section, plate 3) show the distinctive broad and smooth-edged fruit of *M. praecox* when fresh (note also the sparse pubescence) and the reticulate veining on the sides of the fruit of *M. polymorpha*. Neither species has deep furrows in the fruit like *M. arabica* (Spotted Medick).

During a visit to the northern shore of Haslar Creek, Gosport on 9 July 2004, DRA and I found some plants of a perennial *Silene* species that we tentatively identified as *S. italica* (Italian Catchfly) from the senescent fruiting stems that were still present. This was later confirmed by EJC. The colony is situated on a steep, grassy bank above a small arm of the creek. It had increased significantly in size by 2005, suggesting that it may have been established for only a short time when discovered. By mid-May 2005, plants were spread over an area of about 9×1m and were in full flower (Colour Section plate 3). Although at first glance the colony appeared to be in a natural-looking setting, this area had in fact been disturbed by recent construction of a car park behind the creek, and a closer inspection revealed that the embankment was composed of infill material including broken up road surface, concrete and gravel. Possibly, therefore, the plants had come in with the gravel, or had arrived by other means more recently.

Silene italica is very rare in Britain; the *New Atlas* CD-Rom maps four post-1987 10km squares in England, including the best-known area at Greenhithe (W. Kent, v.c. 16) where it has been naturalised since at least 1863. The CD also notes that it was cultivated in Britain by 1759 and occurs 'as a casual garden escape elsewhere'. However, EJC has commented that he has 'never seen it in a garden', 'nor does it feature in any of the standard garden encyclopaedias consulted' (it seems that most wild plants from abroad have been grown in Britain at one time or another). Philp (1982) records it as 'perhaps native' in Kent and mentions unconfirmed records from Dungeness and Dover (where confusion with *S. nutans* Nottingham Catchfly is possible). One of the other recent casual records was from St Helen's Green on the Isle of Wight (v.c. 10) (Pope *et al.* 2003). EJC believes there has also been a recent record from Shoreham, W. Sussex (v.c. 13). Blamey and Grey-Wilson (1993) describe it as 'widespread in many parts of central and southern Europe'.

Not to be outdone by these discoveries, in July 2004 Eric Clement found some 30 plants of what he eventually identified as *Lavatera cretica* (Smaller Tree-mallow), another widespread Mediterranean plant, growing along a shady, dog-fertilised cycleway on the outskirts of Gosport town centre. The plants (Colour Section, plate 3) were growing in company with abundant *Malva sylvestris* (Common Mallow) and appear quite similar to that species on first glance. Although *L. cretica* is included in the British Red Data Book (Wiggington *et al.* 1999), it is regarded as an introduced 'neophyte' by the *New Atlas* and is very rare outside the Isles of Scilly.

In 2005, our best find to date has been *Galium parisiense* (Wall Bedstraw), spotted by EJC during a visit to HMS Sultan, a naval establishment in the town. Surprisingly, this was new for South Hants

(v.c.11), which was very fitting as the vice-county recorder, Martin Rand, was with us at the time. The species was not showing its usual habit of growing on the top of an old wall – instead it was spreading quite happily along the kerbstones at the edge of a car park area. Though presumed native in some parts of Britain including North Hants (v.c. 12), this occurrence, unless a lot more is found, will go down as just a ‘casual’.

With global warming upon us, the Mediterranean flora seems to be getting ever closer. It is likely that the species mentioned here, or their relatives, could start turning up on the south coast more frequently over the next few years, and I am sure that a lot of interesting discoveries are waiting to be made in other counties. Whilst a lot of bad press has been received recently from unwelcome invaders from other parts of the globe, I think the Mediterranean ‘aliens’ will be welcomed, since most are likely to be attractive, small growing species that will help brighten up a dry bank or dusty road verge. Who knows? – Italian Catchfly could become the new Oxford Ragwort!

References

- BLAMEY, M. & GREY-WILSON, C. 1993. *Mediterranean wild flowers*. HarperCollins/Domino Books, St Helier.
- BREWIS, A., BOWMAN, P. & ROSE, F. 1996. *The Flora of Hampshire*. Harley Books, Colchester.
- CLEMENT, E.J., SMITH, D.P.J. & THIRWELL, I.R. 2005. *Illustrations of alien plants of the British Isles*. Botanical Society of the British Isles, London.
- PHILP, E.G. 1982. *Atlas of the Kent flora*. Kent Field Club.
- POPE, C., SNOW, L. & ALLEN, D.E. 2003. *The Isle of Wight flora*. Dovecote Press, Wimborne.
- PRESTON, C.D., PEARMAN, D.A. & DINES, T.D. (eds) 2002. *New atlas of the British and Irish flora*. Oxford University Press, Oxford.
- STACE, C.A. 1997. *New flora of the British Isles. Second Edition*. Cambridge University Press, Cambridge.
- WIGGINGTON, M.J. ed. 1999. *British Red Data Books. 1 vascular plants. Third Edition*. Joint Nature Conservation Committee, Peterborough.
- JOHN A. NORTON, 215 Forton Road, Gosport, Hants PO12 3HB

FOREIGN GRASSES IN LONDON STREETS

Habitats were not usually noted when the London Natural History Society ran its plant mapping scheme from 1965 to 1976, but it is possible to infer from the text of the resulting *Flora of the London Area* that almost all the alien grass species which could be found on streets at that time had their origins in bird-seed. The only escaped ornamental grasses recorded were the annuals *Briza maxima* (Great Quaking-grass) and *Lagurus ovatus* (Hare’s-tail). Both of these still occur. However records of two perennial grass species on London streets in 2004 suggest that a change in horticultural fashion is occurring.

One of them is *Stipa tenuissima*, mentioned in Ryves, Clement & Foster’s *Alien grasses of the British Isles* only as a rare wool-alien, although the plant, native in Mexico, adjacent parts of the United States, and Argentina, is included among those in Graham Easy’s drawing of *Stipa* spikelets (minus most of the long awn which is characteristic of the genus). This was found at the north-east corner of Norman Crescent, Pinnerwood, in the London Borough of Harrow, in the course of a Local Change recording meeting of the LNHS which I led on June 5th (see Colour Section, plate 4). There were four tufts of the plant on the pavement, and many more cultivated in the adjacent garden. John Topp who was in the party immediately recognised it as a *Stipa*, and I could go one better, naming the species, as I have it in cultivation. It is grown in several gardens in the village outside London where I live, none of which had it four or five years ago. I bought it at a local charity plant sale and it has probably been quite widely spread in this way. [I have since seen it cultivated in many more places.]

The other was found on the pavement outside no.31 Crossway, West Barnes, in the London Borough of Merton, by Dr I.J. Kitching. Ian is an entomologist at the Natural History Museum who in the last few years has turned up many remarkable aliens in South London, including *Sonchus tenerrimus* (Slender Sow-thistle), *Sedum sarmentosum* and a *Euphorbia* which has so far defied identification. This is a grass which makes large dense tufts, occurs wild on screes and loose banks in parts of the Alps and other mountains of continental Europe, and can be seen occasionally in gardens; there is for instance a

fine row of its tufts at Eltham Palace. It is mentioned in *Alien grasses* as a readily self-seeding grass grown in gardens, not yet recorded in Britain out of them though it may have been overlooked, and since then Michael Wilcox reported it self-sown and 'on the move' in Leeds, in *BSBI News* 82:53. I have left until last any mention of its name, because this is an area of complications. *Alien grasses* calls it *Calamagrostis argentea* DC., 'an anomalous species, now placed in the genus *Achnatherum* P. Beauv. in ref. D1' [*Flora Europaea*]. I can see how it might once have been confused with *Calamagrostis*: the one-flowered spikelets, with lemma shorter than the glumes, surrounded by long hairs and supporting a long awn, are superficially very like a *Calamagrostis*, but unlike that genus, this species has a lemma of firmer substance than the glumes, and the long hairs arise from the surface of the lemma, not from its basal callus. In *Flora Europaea*, *Achnatherum* is placed next to *Stipa*, and distinguished from it by 'young leaves convolute, not folded; spikelets [more strongly] laterally compressed; lower part of lemma with patent hairs up to 4 mm' and an awn character which does not work. In Renvoize & Clayton's *Genera graminum* the genus is sunk into *Stipa*, where this species becomes *Stipa calamagrostis* (L.) Wahlenb. A different approach has been provided by a series of papers on *Stipa* and related genera by M.E. Barkworth, for whom the most significant characters concern the shape of the lemma, especially at the tip. For her, *Achnatherum* is distinguished from *Stipa* by having the lemma apex bilobed, not entire, and there are also differences in glume shape and palea consistency. In this concept, the widespread mostly Mediterranean grass *Stipa bromoides* becomes *Achnatherum bromoides* (L.) Beauv. There are also segregate one-species genera with thinner, deeply bifid lemmas, the species being *Macrochloa tenacissima* (L.) Kunth and *Celicia gigantea* (Link) F.M. Vázquez & Barkworth, another one I grow. *Celicia* was separated from *Stipa* in vol.144, pages 483-495, 2004, of the *Botanical Journal of the Linnean Society*. As a final complication, Dr Barkworth has re-defined the genus *Nassella*, according to Renvoize & Clayton distinguished from *Stipa* on the shape of the spikelets, and as a result transferred various species out of *Stipa* at different times, including *S. tenuissima*. Damn.

One other increasing alien grass is neither useful nor ornamental. In 1965-76 we had a single record of *Polypogon semiverticillatus*, as a casual on a rubbish tip. Now we call it *P. viridis* (Water Bent) and we have it all over the place on pavements, most often in the slightly moister situation of the foot of a concrete wall. I have records from about 35 places on London streets in the last five years or so, and there must be many more. It's an urban weed in many other southern English towns as well, and I have even seen it once as a weed in a local garden. Heaven knows how it got there.

References:

RYVES, T.B., CLEMENT, E.J. & FOSTER, M.C. 1996. *Alien Grasses of the British Isles*. BSBI
TUTIN, T.G. ET AL., eds. 1980. *Flora Europaea* 5. Cambridge

RODNEY BURTON, Sparepenny Cottage, Sparepenny Lane, Eynsford, Dartford, Kent, DA4 0JJ

***ALLIUM PANICULATUM* SSP. *FUSCUM* (PALE GARLIC) NEW TO BRITAIN**

While I lived in Cornwall I worked with adults with learning difficulties, every Monday a small group of us would go out walking. We chose to visit Calstock on 16th August 2004. It was a beautiful sunny day for us while in other parts of Cornwall the weather couldn't be more different. Boscaste had flash floods with several buildings being washed away and people having to be rescued by helicopter. We had been here several times but never managed to do the whole circular walk before. Strolling into the village along Eric Road I noticed an *Allium* at SX439.684 and stopped to have a look. As normal I heard the shout keep up Paul! At this I grabbed a specimen, carefully rolling it up and putting it into my pocket hoping I had found *Allium oleraceum* (Field Garlic), a species that would be new for East Cornwall vc2, with only one unconfirmed record from Prazz-an-Beeble in West Cornwall vc1. I thought, at the time, that the perianth was a strange colour ranging from a dirty pale yellow to a dirty pale pink. Two days later I returned with Mike Stephens to have a closer look. This time the skies were very dark and thunder could be heard in the distance. We counted 78 specimens along a 50-metre stretch most growing along the roadside at the base of a Cornish Hedge. There was also the odd one growing on the side of the hedge. Even though we had a good look in the neighbouring gardens there was no sign of it. As I started to take some photos the heavens opened and a quick retreat was

made back to the car. Using the *Allium* key in Flora Europaea I made it *A. paniculatum* ssp. *fuscum* (Pale Garlic) a native of Romania to Greece.

It has a bulb 1-2.5cm in diameter. Stems 30-70 cm leaves 3-5, up to 25 cm x 1-5mm. Spathe 2-valved, unequal the longest up to 14 cm, greatly exceeding the pedicels. Many flowered, without bulbils, pedicels up to 70 mm, very unequal. Perianth 5-6 mm, greenish-brown or dirty white sometimes tinged with pink. Stamens included or slightly exerted.

The only native species that is likely to be confused with Pale Garlic is Field Garlic, which has a bulb 1-1.5 cm in diameter. Stems 25-100 cm leaves 2-4, up to 25 cm x 0.5-4mm. Spathe 2-valved, unequal the longest up to 20 cm, longer than the pedicels. Flowers few to many, with few or many bulbils, sometimes with bulbils only, pedicels 15-60 mm, unequal. Perianth 7 x 2.5-3 mm, whitish, variably tinged with green, pink or brown. Stamens included.

Pale Garlic is likely to be a very uncommon alien as it is a rare species in gardens. The only garden I have seen it growing in is my new garden in Guildford, it was good to be able to compare my specimen and pleasing to think that I had managed to name it correctly.

PAUL R. GREEN, Monksilver, 72 Boxgrove Rd, Guildford, Surrey, GU1 1UD;
paul@combegate.wanadoo.co.uk

NOTICES (BSBI)

WATSONIA 25(4) CORRECTION

Watsonia 25(4): 414, paragraph 4, line 3 – insert a decimal point between the numerals 2 and 5; the distance should read 2.5 km (two and a half km).

E. CHARLES NELSON, Tippitiwitchet Cottage, Hall Road, OUTWELL, Wisbech, Cambridgeshire,
PE14 8PE

EXCURSION TO JERSEY

A one-week field trip to JERSEY is proposed for 2006 from 20th to 26th May. It will include visits to Jersey's coastal heaths, dunes and wet meadows and to see some of its special plants.

Anogramma leptophylla (Jersey Fern), *Viola kitaibeliana* (Dwarf Pansy), *Echium plantagineum* (Purple Viper's-bugloss), *Bupleurum baldense* (Small Hare's-ear), *Tuberaria guttata* (Spotted Rock-rose), *Anacamptis laxiflora* (Loose-flowered Orchid), *Crassula tillaea* (Mossy Stonecrop) and many others.

An early indication of your interest is necessary in order to facilitate the booking of appropriate hotel accommodation. This should be before the end of October 2005.

JANE CROFT, Field Secretary, 12, Spaldwick Rd., Stow Longa, Huntingdon, Cambs. PE28 0TL.
stowlonga@tiscali.co.uk

EXCURSION TO WESTERN PORTUGAL - MARCH 2006

There are still a few places remaining for the BSBI field meeting to Western Portugal, from 19-26th March 2006 (see *BSBI News* 99). Further information and a booking form are available from:

TERESA FARINO, Apartado de Correos 59, 39570 Potes, Cantabria, Spain; tel: 00 34 942 735154;
teresa@iberianwildlife.com

NOTICES (NON-BSBI)

GO NATIVE! PLANTING FOR BIODIVERSITY AWARDS

Are you involved in a creative conservation project – to restore a damaged habitat or create a new one? If so, your project could be eligible to apply for a prestigious Go Native! Award.

- Flora locale and the Institute of Ecology and Environmental Management has launched an award scheme to recognise those that have used best practice throughout their planting project.
- The awards are open to ecologists, environmental managers, rangers, farmers, foresters, community groups, landscapers, and anyone else that has planted in the countryside in the last 10 years. This award scheme proves to be an exciting competition and an ideal opportunity to promote your hard work.
- There are six habitat categories, including those for woodland, grassland, wetland and heathland, and an additional category open to community groups.
- Judges will be looking for projects that have used native seed or plants of appropriate origin or have encouraged natural regeneration.
- With the closing date on 30th October 2005 you still have time to enter your project. It could not be simpler, just go to www.floralocale.org for details and a downloadable entry form.
- Judges will shortlist the entries throughout the winter and visit sites in Spring 2006. The prizes will be awarded in May 2006.

LIZ MANLEY, Conservation and Development Manager, Flora locale, Denford Manor, Hungerford, Berks. RG17 0UN; lizmanley@floralocale.org

OFFERS

AVAILABLE TO A GOOD HOME

Proceedings of BSBI vols.5 (1963) – 7 (1969) and indexes

BSBI News vol. I (1972) no.2, vol.2 no.3, vol.3 nos. 1-3, vols.9-17, 19-86, 88-99 (2005), indexes 1-89

Watsonia vol.6 (1965) nos.3-6, vols.7-24 complete, 25 nos. 1-3, indexes 7, 9-24

BSBI Abstracts 1-12, 14-29.

Available for cost of carriage. Raymond Skerrett, 0121-358-6607, skerrett@xalt.co.uk

RAYMOND SKERRETT, 364 Rocky Lane Great Barr Birmingham B42 1 NH

REQUESTS

VEGETATIVE KEY TO THE BRITISH FLORA: AN UPDATE

The first draft has been an outstanding success and progress continues to accelerate. Ideally, I need to see all plants in all localities at all times of year to ensure the key works, even when pushed to the limit! I am hoping some members may be able to help, or know others that might, with the following:

- Supply true natives in cultivation
- Supply fresh material (legally collected)
- Contribute illustrations showing vegetative characters

The key currently contains well over 2,200 taxa encompassing virtually all natives and a generous selection of aliens. It is hoped this incredibly powerful tool to identification will be near completion in just another year or two.

I am most interested in receiving vegetative i.d. tips and problems, as assistance will help create a stronger and more robust first edition. I also welcome all *fresh* material for examination or identification.

I am indebted to Eric Clement for his continued assistance and support. Thanks also to Jeremy Roberts and Len Worthington for their help so far.

JOHN POLAND, 91 Ethelbert Avenue, Southampton, Hants SO16 3DF; Email: jpp197@alumni.soton.ac.uk

URTICA GALEOPSIFOLIA, A REQUEST FOR RECORDS

No matter whether you regard it as a 'good' species or as a sub-species of *Urtica dioica*, *U. galeopsifolia* is a most distinctive plant (see Colour Section, plate 5). As part of our continuing studies into this plant AL and I are keen to get a better idea of its distribution and, perhaps, 'put it on the map' in the next edition of the 'Atlas'. Late summer is a good time to look for the plant, in our experience in Alder carr but maybe elsewhere too. We would be most grateful to receive records; a locality and grid reference with a short description of the habitat plus the lowest flowering node would be ideal. The descriptions in the 'Plant Crib' work well but, if you are unsure, then MG would be happy to look at specimens unless you can collect the whole plant, difficult as they can be very tall, a note of the lowest flowering node would again be useful.

MARTIN F GODFREY, 6 Darnford Close, Parkside, Stafford, ST16 1LR.

ANDREW LEAK, Staffordshire County Council, Riverway, Stafford, ST16 3TJ.

EUPHRASIA EATS WHAT?

Floras say that Eyebrights are semi-parasitic, but they do not say what they are semi-parasitic on. Can anyone tell us please?

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

BOOK NOTES

Orchids of Britain and Ireland. A. & S. Harrap. Pp 480 incl. 250+ colour photos. A&C Black Publishers Ltd. 2005. £29.99. Softback. ISBN 0 7136 6956 X.

Orchids of the British Isles. M. Foley & S. Clarke. Pp 390. Griffin Press. 2005. £45. Hardback. ISBN 0954191617.

Easy Wildflower Guide. N. Fletcher, with illustrations by G. Tomblin. Pp288. Aurum Press. 2005. £12.99. Paperback. ISBN 1845130391.

Wild Flowers by colour: our flora by colour and by family. M. Blamey. Pp208. Domino Press. 2005. £9.99. Paperback. ISBN 0713672374.

Illustrations of Alien Plants of the British Isles. E.J. Clement, D.P.J. Smith & I.R. Thirwell. Pp 466 with 444 plates. BSBI. 2005. £18.75. Paperback. ISBN 0 901158 32 1.

The Vascular Plant Red Data List for Great Britain. C.M. Cheffings & L. Farrell (eds). Pp 166. JNCC. 2005. £15. Paperback. ISSN 1473 0154.

The Nature of plants - Habitats, Challenges and Adaptions. J. Dawson & R. Lucas. Pp 314. Timber Press. 2005. £25. Hardback. ISBN 0 88192 675-2.

In addition Issue 2 of *Sussex Botany*, edited by Paul Harmes & Nick Sturt is available at £8 from Sussex ERC. This contains articles on under-recorded Sussex plants, Sussex flies on Sussex plants and bryophytes around Chichester, as well as plant records.

After a long gap *Recording Dorset* No 8 is available from Dorset ERC. This has Notes on Dorset's changing flora and a mass of plant records, an article contrasting the plants recorded by J.H. Salter, Professor of Botany at Aberystwyth, from around 1916–1920 and the habitats today, along with articles on the Essex Skipper and other invertebrate notes. £3.50 plus £1.50 p&p.

The *Atlas Florae Europaeae* project completed coverage of the first volume of *Flora Europaea* in 1999. The first part of Vol 2 has just been published, covering part of the Rosaceae, and is available from Summerfield Books for about £140.

I do not know which of the above is to be reviewed in *Watsonia*, and have not, for that reason, given abstracts for those that will not.

DAVID PEARMAN, Algiers, Feock, Truro, Cornwall TR3 6RA; Tel: 01872 863388

ARABLE PLANTS

We all know Eric Clement has a sharp eye and he raises some issues concerning the use of 'overseas' photographs in the *Arable plants field guide* recently published by English Nature and WILDGuides (see *BSBI News* 99: 29 (2005)).

A key issue in raising public awareness is that the photographs should be of an extremely high standard. As arable plants are the most threatened group occurring within the UK flora – as demonstrated by the Atlas – the book concentrates principally on the rare and scarce plants found in arable fields so that farmers, advisers and those frequently on the ground in farming areas can readily identify these species and send in records. After all, there are some gaps in our knowledge of the distribution of these plants as they most often grow on private land. There were also some gaps in photographic coverage and, having canvassed a wide range of sources, we chose those pictures of the highest calibre.

The credits show Chris Gibson to be the provider of three of the disputed photos. He congratulates Eric on his recognition that two were indeed taken abroad – *Alyssum alyssoides* and *Iberis amara*, taken in the Spanish Pyrenees and the Cévennes respectively. As regards his tentative re-identifications, Chris says that they were identified at the time, using the best sources available to him.

But the third picture tells a different story. *Ranunculus sardous* was photographed on a south Essex grazing marsh in summer 1988, in a classic habitat and location for *sardous*. Therefore he is confident that it is not 'almost undoubtedly the allied *R. trilobus* (S Europe)', unless of course we have a hitherto unrecognised species masquerading as the more familiar native.

The guide is now available on the web and the photos are available for educational use provided they are credited (www.arableplants.fieldguide.co.uk) and the contents of the field guide are being extended to include a range of other species to be found in such habitats.

JILL SUTCLIFFE, English Nature, Northminster House, Peterborough PE1 1UA

CHRIS GIBSON, English Nature, Essex, Herts and London Team, Harbour House, Hythe Quay, Colchester, Essex CO2 8JF

NEW BOOKS FROM CABI

Forest Climbing Plants of West Africa: Diversity, Ecology and Management. Edited by F. Bongers & M.P.E. Parren, Wageningen University, The Netherlands and D. Traoré, University of Cocody, Côte d'Ivoire, June 2005. 288 pages. HB ISBN 0 85199 914 X. Price £55.00 (US\$100.00)

Climbing plants, including lianas, represent a fascinating component of the ecology of tropical forests. This book focuses on the climbing plants of West African forests. Based on original research, it presents information on the flora (including a checklist), diversity, ecology and ethnobotany. Forestry aspects, such as their impact on tree growth and development, and the effects of forestry interventions on climbers, are also covered.

Tropical Rainforests of the Guiana Shield. Edited by D. Hammond, formerly of the Iwokrama International Centre for Rain Forest Conservation and Development, Georgetown, Guyana, July 2005. 560 pages. HB. ISBN 0 85199 536 5. Price £75.00 (US\$140.00).

The Guiana Shield is an ancient geological formation located in the northern part of South America, covering an area of one million square kilometres. Despite its hostile environment, it is home to many unusual and highly specialized plants and animals, which constitute a rich area of biodiversity. This book represents a comprehensive detailed review of the ecology, biology and natural history of the forests of the area. Subjects covered range from hydrology and soils, to plant-animal interactions, nutrient cycling, and conservation.

As a special offer to members of the Botany Society of the British Isles, CABI Publishing are offering a 20% discount on these titles.

Simply quote reference **JDT20** when placing your order by phone, fax, email or via our online bookshop: **www.cabi-publishing.org/bookshop**

CABI PUBLISHING, Nosworthy Way, Wallingford, Oxfordshire, OX10 8DE. UK; Tel: +44 1491 832111. Fax: +44 1491 829292; Email: orders@cabi.org

GO NATIVE! NEW PUBLICATIONS FROM FLORA LOCALE

Flora locale, the national charity promoting the wise use of native flora has published eight free advisory notes, ideal for land managers around the country.

- '*Discover wild plants*' acts as an introduction for students, volunteers and the public wanting to learn more about wild plants.
- '*Restoring ghyll woods*' is aimed at upland land managers, giving an introduction to this important, scarce habitat along with practical solutions for restoration.
- '*Creating woodlands naturally*' introduces land managers to the possibilities of direct seeding and natural regeneration as an alternative to planting.

Five new advisory notes, each focusing on a different aspect or method used in grassland restoration, make up the '*Bringing back the meadows*' series. Their titles are:

- *Managing recently created grasslands*
- *Sowing wild flora seed*
- *Enhancing the floral diversity of semi-improved grassland*
- *Spreading hay*
- *Obtaining native seed*

All these documents are free to download from www.floralocale.org <<http://www.floralocale.org/>>. Printed versions are also free, individually or as bulk orders. Please enquire to info@floralocale.org

LIZ MANLEY, Conservation and Development Manager, Flora locale, Denford Manor, Hungerford, Berks. RG17 0UN

A NEW, ILLUSTRATED MONOGRAPH OF POA

Specimens of *Poa* (Poaceae) repeatedly perplex even the most expert of field botanists. Their variability is not matched exactly by book descriptions. It is therefore especially welcome to find a new book on the topic by Robert Portal, '*Poa de France, Belgique et Suisse*' (January 2005). It is a very critical account of 304 pages with a whole-page plate and full-page description of no less than 59 taxa, all arranged alphabetically. In addition, there are 46 beautifully coloured paintings by Bernard Duhem showing habit and spikelets. It covers all the 16 numbered species in Stace's *New Flora* (ed. 2, 1997) with the exception of *P. flexuosa*, *P. zjemtlandica* and the (planted) alien *P. flabellata*. BUT, e.g. *P. annua* is treated as consisting of no less than 8 varieties and *P. nemoralis* with 10 varieties; *P. pratensis* has 7 subspecies and *P. trivialis*, 5 subspecies.

Keys to all taxa stretch over 21 pages; they are accompanied by most helpful figures which clearly show all the important differences.

Full synonymy covers 17 pages. Here one discovers that *P. pratensis* subsp. *latifolia* (Weihe) Schübler & Martens (1834) is apparently the correct name for Stace's *P. humilis* if one chooses (wisely!) a subspecific rank. Here, I suspect there is a minor error: the author (Weihe) should be omitted since the basionym *Poa latifolia* Weihe (1817) is a *nom. illeg.* – the name already existed for a different plant, viz. *P. latifolia* G.Forst. (1786).

A 'challenge to find' for all is the list (pp.18-19) of 27 hybrids claimed for Europe (i.e. extending beyond the limits of the text). One enigma is missing (as it is from Stace, *et al.*): C.E. Hubbard's *Grasses* (ed.3, 1984) describes (p.183) *P. chaixii* × *P. nemoralis*, but from where? P. Fournier's *Les Quatre Flores de la France* (ed. 2, 1946, p.69) suggests that this same hybrid (*P. vifigerti* Gerh.) should be searched for in France.

Mr. Portal (who richly deserves an honorary doctorate degree) has given the BSBI permission to reproduce (see p.55) one of his splendid plates – viz *P. supina* Schrader var. *supina* (two other



Poa supina Schrader var. *supina* del. Robert Portal © 2005

varieties are also fully treated). It shows: 1 – habit of plant; 2 – variation in ligule; 3 – variation in spikelet; 4 – lemma. This species has never been confirmed from Britain and may still be overlooked (see EJC’s article on p. 41).

This book, which can be profitably used even by readers without school-boy French, is privately published and is available only from the author and artist, Robert Portal, 16 Rue Louis Brioude, F-43750 Vals près le Puy, France; tel: 04.71.09.57.65. Payment must be made by international money order or by a personal cheque drawn on a French bank: it costs 44.80€ (postage included).

Portal's monograph on *Festuca* is sadly now out of print; but copies still remain of his work on *Eragrostis* which was described in *BSBI News* 91: 46-47 (Sept. 2002).

ERIC J. CLEMENT, 54 Anglesey Road, Gosport, Hants. PO12 2EQ

OBITUARY NOTES

*Franklyn Perring

Botanical links in the Atlantic Arc, now in preparation for publication (see flyer with this mailing) is the Report of the Conference, held in Cornwall in conjunction with the BSBI AGM in 2003. The Conference was Franklyn's idea, and the Report will be a celebration of his vision in botany and conservation, and an appreciation of the tremendous work that Franklyn achieved for BSBI in his long association with the Society. There **will** be an obituary in *Watsonia*.

Peter Thomson (1925-2005)

Although not a botanist, Peter – a BSBI member since 1972, was well known to many members, mainly through his support of his wife, Stephanie, who has been Recorder for Herefordshire v.c. 36 for 25 years. Peter helped her with the numerous and often demanding tasks associated with a V.c. Recorder. He came on many meetings and was a skilled botanical photographer in the field. He gave illustrated talks to local societies in Herefordshire and beyond, with an emphasis on conservation and education. Although geography was his main teaching subject he had a lifelong interest in geology and latterly ecology.

Peter was the Hon. Minutes Secretary to BSBI Council for 10 years, for which he kept meticulous notes, and he could offer well-considered comments on BSBI affairs, with some strongly held views.

He was born in Yorkshire and his lifelong Quaker faith influenced his outlook on life. Peter will be remembered for his ability to find the good side of each person under almost all circumstances, and he will be sadly missed for his kindly manner, readiness to help and his quiet sense of humour. We send our sympathy to Stephanie in her loss, and all will remember Peter as 'a lovely man'.

My thanks to Stephanie for her contribution to this note.

With regret we report the following deaths (there will be a *Watsonia* Obituary for those marked *):

***Dr Larch Garrad**, a member since 1963 and v.c. recorder for the Isle of Man (71) for almost 20 years. For many years Larch was botanist at the Manx Museum, and David Allen in his *Flora of the Isle of Man* (1984) acknowledges the assistance of Larch as one of the two 'willing and active resident collaborators.'

***Joyce Lambert**, a member for some years from 1946, although she lost touch with BSBI more recently, she was very actively involved with the history and conservation of the Norfolk Broads.

***Richard Palmer**, botanist and lexicographer and BSBI member since 1954 was a hard-working member of the recording and production team for the *Flora of Oxford* (1998). He also assisted with recording in Sussex where he had family connections. Richard was too, with his friend Walter Scott, joint author of *The Flowering plants and ferns of the Shetland Islands* (1987). Working professionally for Oxford University Press on the *Oxford English Dictionary*, Richard was responsible for all the botanical definitions in the last edition of this.

***Derek Ratcliffe**, a BSBI member since 1960, as ecologist with the Nature Conservancy (later NCC) made a lasting contribution to natural history and conservation science. Writing many books on habitats, plants and the wildlife of northern Britain, Derek planned and edited the 2-volume *Nature Conservation Review* (1977) which identified the most important wildlife habitats in Britain, and evolved the Ratcliffe criteria for the evaluation of sites.

Robert Ross MSc FLS was Keeper of Botany at the then British Museum (Natural History) from 1966-1977. Through these years the less commercial organisation of the Museum allowed more

opportunity for the Voluntary Societies to participate in the facilities of the Department of Botany. Bob Ross kept a genial eye on these activities, although his own specialist subject was diatoms. For a short time Bob worked on ecological research under Dr Harry Godwin on hawthorn scrub in West Cambridgeshire, but from 1936 he worked at the British Museum on the diatoms. Bob was also renowned for his Morris dancing (Bagman, Morris Ring 1946-1950), which left him with a legacy of fitness enabling him to *run* up the staircases to the Tower at the Museum long after his retirement.

Rev. Fr Dr K.M. Matthew (1930-2004) was a BSBI member in the 1970s, first in Reading as K.M. Matthew S.J., then as Dr K.M. Matthew S.J. back at St Joseph's College, Tiruchirapalli in Tamil Nadu. The economics of his Order did not allow him long membership, but various members sent on their journals to him, and later he could claim the only complete runs of botanical journals in southern India. My first contact with Fr Matthew was a letter enquiring for an *Atlas of the British Flora*. At the time it was out of print and very scarce, so as Hon. General Secretary I received many letters with this request; but I had recently been in Kashmir where in The Srinagar Bookshop – to our great surprise – there was a copy of *Atlas of the British Flora*! A photograph of the bookseller in his dorrway with the *Atlas* cradled in his arms was shown that year at the Annual Exhibition Meeting. Meanwhile I alerted Fr Matthew and soon heard that he had it safely purchased and added to the library.

At St Joseph's College Fr Matthew developed The Rapinat Herbarium as a plant biodiversity research base. Here he assembled a team of taxonomists, plant collectors and botanical illustrators, with whom he organised publication of over 100 scientific papers, and Floras including *Flora of the Tamil nardu Carnatic*, and *Flora of the Palni Hills, South India* – 3 vols and illustrations.

At the associated Anglade Institute of Natural History in the primaru forest of the Palni Hills, Fr Matthew built up a base for environmental awareness studies. Students and young representatives from villages across southern India were shown the wealth of species, including some now extinct and found only in the Museum; a tour to show current deforestation and development damage, and finally to a forest centre for a practical session on tree-planting and conservation. In 20 years 62,000 trainees in 1215 batches from 425 centres took these 2-day courses.

Father Matthew left a legacy of devotion to environmental awareness and eco-restoration, as also to floristic exploration.

A species of *Strobilanthes* was named after him: *S. matthewiana* R.W. Scotland.

We also regret the sad loss of: **Mrs J.M. Bowcott** of Wareham, Dorset, a member for 14 years; **Mrs S Harris** of Edinburgh, a member for over 50 years; **Mrs B.V. McGregor** of Hove, E Sussex, a member for 6 years; **Dr E.J. Parker** of Waterlooville, Hampshire, a member for 9 years; **Mr Robert Raper** of High Wycombe, Bucks, a member since 1988; **Mr J.B. Richardson** of Ormskirk, Lancashire, a member for 32 years; **Ms M.J. Southgate** of Tring, Herts, a member for 11 years and **Mr M.G. Young** BSc MPhil. of Marlow, Bucks, a member for 46 years.

As we go to press we have heard of the sad death of **Mr Stan Beesley** of Carrickfergus, Co. Antrim, a member since 1974, recorder for v.c. H39 from 1980 to 2003 and a sometime member of the BSBI's Conservation and Irish Committees.

Frances Partridge

The Times Obituary of Frances Partridge, who died last year aged 103, reported that she had been commissioned by Allen Lane to write a 22 volume *Flora of the British Isles* in 1942, but that this book had been cancelled in 1949. In *BSBI news* 97 61 we asked if any members had information on this aborted Flora, and thanks to members who replied: Catriona Murray from the Isle of Skye comments that she had met Frances and talked botany with her, when Frances visited Skye in 1991. A letter that Frances wrote to her (when she was 97) asks 'Are they really going to do a new Botanical Atlas?' adding 'I did so enjoy the last one' and, about botanising: 'But I shall never forget the fun of it, even my ill-starred Flora.'

Audrey Wilson, for many years in Cumbria and now living in Canada, wrote that she knew Frances very well during the 2nd World War, when they were near neighbours, and Audrey comments that she and Frances has a lot in common, especially wild flowers. 'Frances was a botanist, working on her collection, and she had an impressive list.' They botanised together in Wiltshire and Berkshire,

and Audrey saw her 'unfinished work.' Elizabeth Rich wrote telling me of a biography, not yet published – but I hope to gain more information from the author.

Jon Atkins told me that he had seen a *proof copy* of Vol. 1 of the Flora, now owned by Mike Park who bought this in Anthony Huxley's book collection. Mike suggests that it could possibly have come from Julian Huxley? Mike has promised that I shall have a glimpse of this (when he has located it in his vast bookstore).

I hope there is more information to come and a continuation note in a future *BSBI News* is planned.

Joyce Smith Memorial

In *BSBI News* 92 we reported with regret the death of Joyce Smith, BSBI Recorder for v.c. 17 (Surrey) for many years, and an Obituary was published in *Watsonia*.

The Newsletter of the *Surrey Botanical Society* November 2004 records the local meeting on 6th June 2004, at which a Memorial bench, donated by Joyce's daughter Jenny, was positioned in the Surrey Wildlife Trust Reserve 'Thundry Meadows'. Jenny who now lives in New Zealand, had commissioned 'a very fine English Oak seat' made by the Surrey firm 'Norbury Park Wood Products'. Jenny and her husband Bob were present and joined by Joyce's botanical friends, and all were able to admire the view of the River Wey and adjoining wetlands.

The bench is inscribed

Joyce Eva Smith MBE

6 June 1920 – 7 December 2002

Botanical Memories

MARY BRIGGS, Hon. Obituaries Editor, 9, Arun Prospect, Pulborough, West Sussex, RH20 1AL

REPORTS OF OVERSEAS FIELD MEETINGS – 2005

CZECH REPUBLIC, 26th APRIL to 6th MAY

Located in the centre of Europe with an area of some 78,900 sq km or slightly less than one third the area of Great Britain, the Czech Republic has a flora of over 2,500 native species (excluding archaeophytes) as compared with a corresponding figure for Great Britain of some 1,396 species. Following the visit of Dr Franta Krahulec, Institute of Botany, Průhonice, to the Conference on Current Taxonomic Research on the European Flora held in September 2003 at Leicester University to mark the retirement of Professor Clive Stace and the quiet background work of Jane Croft, our hardworking Honorary Field Meetings Secretary and members of the Czech botanical community, a total of 12 BSBI members from England, Wales, Scotland and Ireland assembled in Prague two years later to begin what was to prove a most fruitful and enjoyable visit to the Czech Republic. Five days would be based in Bohemia followed by another four days in Moravia in the southeast, for which our constant mentor and guide for each day of the visit, Dr Franta Krahulec, had provided us with some excellent preparatory material.

27th April – Bohemian Karst/Krivolatsko Protected Landscape Area (PLA)

The Bohemian Karst is an area of limestone dissected by numerous rivers, the largest of which is the Berounka, a tributary of the Vltava, lying 30 km to the SW of Prague. It is predominantly wooded, though there is agriculture on the flatter areas. In addition, there are a few areas that are steppic in character. It is one of the most diverse landscapes in Central Europe notable, not only for much original phytosociological and geological research, but also for its cultural history.

Led by Franta and assisted by Václav Mahelka, a young Czech botanist, our first starting point was in the hamlet of Svátý Jan pod Skalou 5km E of Beroun in a deep river valley. The species-rich woods were a mixture of *Carpinus betulus* (Hornbeam), *Acer platanoides* (Norway Maple), *Acer campestre* (Field Maple), *Fagus sylvatica* (Beech), *Quercus pubescens* (Downy Oak) and *Tilia platyphyllos* (Large-leaved Lime) with occasional *Sorbus torminalis* (Wild Service-tree), *S. aria* (Common Whitebeam) and *Ulmus glabra* (Wych Elm). Notable shrubs were *Lonicera xylosteum* (Fly Honey-suckle), *Cornus mas* (Cornelian-cherry), *Crataegus laevigata* (Midland Hawthorn) and *Ribes alpinum* (Mountain Currant). Climbing up through the wood, we saw almost 120 species in the herb layer alone! Memorable amongst these were *Cardaminopsis arenosa*, *Corydalis cava* (Hollowroot), *Cerinth minor*, *Erysimum crepidifolium*, *Galium sylvaticum*, *Lamium maculatum* (Spotted Dead-nettle), *Lathyrus vernus* (Spring Pea), *Melampyrum nemorosum*, *Melica nutans* (Mountain Melick), *Carex digitata* (Fingered Sedge) and *Pulmonaria obscura* (Suffolk Lungwort). A feature of the trip was to learn from Franta about the genetic relations of some of the species, so for example, we saw *Dactylis polygama*, which is a diploid parent of *D. glomerata* (Cock's-foot), and *Stellaria neglecta* (Greater Chickweed), a parent of *S. media* (Common Chickweed).

The warmer steppic areas at the top of the hill, a species-rich habitat which we would also encounter at other times during the visit, supported showy *Pulsatilla pratensis* (Small Pasqueflower), as well as *Arabis auriculata*,

Artemisia campestris (Field Wormwood), *Cotoneaster integerrimus* (Wild Cotoneaster), *Festuca valesiaca*, *Juniperus communis* (Common Juniper) and *Scabiosa ochroleuca* and the first *Stipa* of the visit, *Stipa joannis*, in its *locus classicus*. On the rocks above the church at the foot of the hill were bright yellow clumps of *Alyssum saxatile* (Golden Alison). A brief stop in a species-poor woodland on the plateau above Nižbor about 8km NW of Beroun added abundant *Maianthemum bifolium* (May Lily), with *Cardamine hirsutifera* (Coralroot), *Carex montana* (Soft-leaved Sedge) and *Potentilla alba* to the list for the day.

A saunter in the nearby valley floor of the Vuznice river enabled us to see species such as *Lunaria rediviva* (Perennial Honesty), familiar to gardeners, *Chrysosplenium alternifolium* (Alternate-leaved Golden-saxifrage), *Cardamine cneaphyllos*, with three leaves each divided into three leaflets, *Carex digitata* (Fingered Sedge), *Euphorbia dulcis* (Sweet Spurge), *Omphalodes scorpoides*, climbing *Vicia sylvatica* (Wood Vetch), and *Isopyrum thalicroides*, a delicate plant bearing white flowers with a mainly eastern distribution.

As an introduction to the more extensive steppe communities that we would see later on the trip, we stopped by a hot dry grassy slope at Tobolský vrch 4km S of Beroun. Here we saw a further *Stipa*, *Stipa capillata* (Hair-like Feather-grass), whose feathery stigmas do not persist and *Festuca ripicola*, a species with an eastern distribution. Dotted here and there in the grass were such showy plants as *Veronica prostrata*, *Pulsatilla pratensis*, *Polygala comosa* and *Carex humilis* (Dwarf Sedge). We were confused by *Brachypodium pinnatum* (Tor-grass) with much broader, softer leaves than that which dominates places such as the Surrey downland, and by *Galium verum* (Lady's Bedstraw) again with much broader leaves than that with which we are familiar. *Galium glaucum* though was unmistakable.

The final treat from the Bohemian Karst was a short drive northwards to see one of the few stations for *Saxifraga rosacea* (Irish Saxifrage) in the Czech Republic in flower on a rocky cliff above the Berounka river near Tetín. We had seen so much that was new and exciting that the earlier rain of the day had faded into a very distant memory.

28th April – Raná Hill/České Středohoří PLA

On Thursday morning we headed 60km north-west from Prague to the České Středohoří Hills. The land was as flat as a pancake with the mountains of the German border just discernable on the far horizon. Flat that is to say apart from a number of sharply peaked volcanic hills arising abruptly from the plain. These included Milá and Oblik but at 457m our objective for the day was, however, the nearby Raná Hill which is among the most botanically diverse of these hills.

The south facing slopes which we ascended provided very dry conditions overlain with a thin fragile friable soil. The lower slopes were chalk and landslips are not an uncommon occurrence. Roman snails were abundant here as elsewhere throughout our trip. This region is the driest and most continental part of the Bohemian basin with annual rainfall of c.500mm and average annual temperature of 8.4° C. Several plant species are at their western European limit here including *Helictotrichon desertorum*, a steppe grass, and *Artemisia pontica*. Other species seen during the ascent included *Cirsium eriophorum* (Woolly Thistle), *Adonis vernalis* (Yellow Pheasant's-eye) and the grasses *Festuca valesiaca* and *F. glauca*. Growing amongst these were two *Stipa* grasses, *S. joannis* and *S. capillata* (Hair-like Feather-grass), bending their long drooping heads into the now strengthening wind which had blown up as we gained the summit of the volcanic cone with its igneous ultrabasic olivine nephelinite rocks. Here amongst the three hundred or so species known to occur on the hill we saw *Astragalus exscapus*, a species more at home in the Ukraine, *Verbascum phoeniceum*, *Astragalus danicus* (Purple Milk-vetch), *Ajuga chamaepitys* (Ground-pine), and *Dianthus carthusianorum* (Carthusian Pink). Along the summit ridge amongst locally frequent *Poa bulbosa* (Bulbous Meadow-grass) were *Salvia pratensis* (Meadow Clary) and *Veronica prostrata*. Finally *Oxytropis pilosa* was located before the party retraced its steps and descended once more onto the plain.

We next visited two sites some 35 km further east close to the historic town of Litoměřice on the River Labe. The Bílé Stráne (White Slopes) reserve near Pokratice village is a steep chalk slope probably never afforested during the Holocene and given to the occasional landslip. The grasslands proved to be very rich despite the occasional disturbed areas which had received the attention of Wild Boar. Highlights on the upper slopes included *Allium scorodoprasum* (Sand Leek) and *A. oleraceum* (Field Garlic), *Geranium sanguineum* (Bloody Crane's-bill), *Scorzonera hispanica*, *Carex filiformis* (Downy-fruited Sedge), *Thlaspi caerulescens* (Alpine Penny-cress) and the grass *Sesleria caerulea* (Blue Moor-grass).

It was now late afternoon and the itinerary had been to return to Prague but Franta asked us if we would like to visit another site nearby at Kalvárie, where a spectacular acid schist rocky outcrop overlooks the deep valley of the River Labe. *Isatis tinctoria* (Woad) was dominant over sections of the cliffs which are a site for the Czech RDB species *Allium strictum*. Undisturbed by us, a pair of Green Lizards basked in the late afternoon sun on the crag below.

29th April – Kokořínsko PLA

Our objective today was the Kokořínsko Protected Landscape about 50km NE of Prague in which the underlying rock comprises mainly acid sandstones dating from the Mesozoic era with some Tertiary volcanic intrusions. After passing the town of Mělník, a viticultural centre, with its many historic buildings near the confluence of the River Vltava and the Labe we followed the Pšovka river NW of Mělník. Hemmed in by sandstone crags in a deep canyon-like valley with many marshes and wet fields we rapidly recognised that we were in a vastly different area from those

visited so far. Due to their soft nature, weathering over the ages had produced many unusual geological phenomena such as lids, rock windows and cells. Because of the effect of temperature inversions the valley floors were occupied by *Abies* and *Picea* woodland with beech on the higher slopes. We were again joined by Václav Mahelka.

Walking along the forest floor in the cool morning air, among soaring *Picea abies* and *Abies alba* the species encountered included *Oxalis acetosella* (Wood-sorrel), *Maianthemum bifolium* (May Lily), *Milium effusum* (Wood Millet), *Calamagrostis epigejos* (Wood Small-reed) and *Luzula luzuloides* (White Wood-rush). Pteridophytes noted were *Dryopteris dilatata* (Broad Buckler-fern), *Polypodium vulgare* (Polypody), *Phegopteris connectilis* (Beech Fern) and *Equisetum sylvaticum* (Wood Horsetail) while other species such as *Carex sylvatica* (Wood-sedge), *Luzula pilosa* (Hairy Wood-rush), *Hedera helix* (Ivy), *Silene dioica* (Red Campion), *Vaccinium myrtillus* (Bilberry) and *Lamium galeobdolon* (Yellow Archangel) made us feel that we were almost on home ground!

In a narrow sided canyon draped with bryophytes the party saw *Huperzia selago* (Fir Clubmoss). Also found by Mark Kitchen was the gametophyte of *Trichomanes speciosum* (Killarney Fern) in a deep cleft under shady rock outcrops. This gametophyte was only first discovered in the Czech Republic in 1993 and the Kokofinsko area is one of its main centres of distribution in the country. A climb to the top of Pokličky, a sandstone lid perched among woods of *Pinus sylvestris* (Scots Pine) on top of a softer sandstone column from where was an impressive overview of the area. *Spergularia morisonii*, a plant of acid habitats, with an easterly distribution was seen in the sandy ground below the lid.

A brief visit to the hill of Vrátnská hora 6km to the NE, a trachyte/phonolite intrusion with beech woodland, yielded *Campanula rapunculoides* (Creeping Bellflower), *Valeriana collina*, *Pilosella praedalta* (Tall Mouse-earhawkweed), *Potentilla argentea* (Hoary Cinquefoil), *Calamagrostis epigejos* (Wood Small-reed) and *Lathyrus niger* (Black Pea) while *Convallaria majalis* (Lily-of-the-valley) covered the woodland floor.

Following a brief visit to the village of Žďár 4km to the NE to view the beautiful half-timbered houses some of which were set into sandstone cliffs, we made an early return to Prague for the guided tour of Prague Castle and Hradčany.

Situated high above the valley of the Vltava the Prague Castle area, dating from 880 AD and reconstructed in the 14th century by Emperor Charles IV, is by far the most outstanding sight in Prague. Our guided tour included within the Castle area, the Cathedral of St Vitus, the old Royal Palace including the massive Vladislav Hall, with its vaulted ceiling, used for coronations and medieval jousting tournaments, the Summer Palace, and the Royal Garden. From the lofty viewpoint we were also able to look across the stunning Prague skyline pierced by many spires and dotted with a cornucopia of architectural styles spanning the centuries right up to the prominent 1980s white TV tower of some 216m high on Žižkov Hill.

30th April – Prague Botanic Gardens, Průhonice

After the three previous days spent seeing plants in the wild today it was our turn to visit plants in captivity at the famed Botanic Gardens at the Park of Průhonice on the southerly outskirts of Prague. We were greeted on arrival by Jiri Burda who gave us a briefing on the important research being done at Průhonice Park under the umbrella of the Institute of Botany. The prevailing underlying rock type is an acid schist with some loess deposits. Covering an area of 250ha, roughly twice as large as Kew RBG, the park at Průhonice was created in the latter half of the 19th century by Count Silva-Tarouca who was descended from a Portuguese aristocratic family. In all, the collections include 1200 taxa of broad-leaved trees and shrubs, 300 conifer taxa and a further 600 taxa of perennial plants. The Park is especially noted for its Rhododendron collections with about 8000 plants of 100 taxa and cultivars, unfortunately for us not yet in full bloom. Other collections of significance include the Iris garden with 120 species and 1,500 cultivars. With the presence on site also of the Czech Institute of Botany and Department of Botany, National Museum, with its immense herbarium and library of rare botanical books, Průhonice is clearly a major world botanical centre. In the vicinity of Průhonice Castle fringing the lake were notable specimens of *Picea abies* (Norway Spruce), *Pseudotsuga menziesii* (Douglas Fir), *Chamaecyparis nootkatensis* (Nootka Cypress), *Picea pungens* 'Glauea', and *Abies grandis* (Giant Fir). Other notable trees seen were *Cedrus libani* (Cedar-of-Lebanon), *Quercus palustris* (Pin Oak), *Q. imbricaria* (Shingle Oak) and *Q. ×turneri* (*Q. ilex* × *robur*) (Turner's Oak), and *Picea abies* 'Clanbrassiliana'. To complement these giants there was also a very fine collection of dwarf forms of conifers including *Pinus leucodermis* 'Smidt' and *Picea abies* 'Formanek'. Among native flora we noted *Asplenium septentrionale* (Forked Splenwort), *Lychnis viscaria* (Sticky Catchfly), *Hieracium* sp., *Luzula luzuloides* (White Wood-rush), *Lathyrus niger* (Black Pea), *Fallopia ×bohemica* (named for the first time from material at Průhonice) and *Lithospermum purpureocaeruleum* (Purple Gromwell).

The day ended with a tour of the Staré Město and Josefov areas of Prague. Everywhere we went we marvelled at the magnificent Gothic, Renaissance, Baroque and Neoclassical buildings as well as the more recent examples influenced by Art Nouveau and Cubism. Our brief tour ended with our crossing of the famous Charles Bridge spanning the River Vltava.

1st May – Železné Hory PLA

Franta had been promising us since we arrived that 'summer would be here next week' and indeed it arrived for the weekend, so it was on a beautiful Sunday morning that we set off for the Protected Landscape of Železné Hory, or the Iron Mountains, about 120km E of Prague. Climbing steadily up out of the low-lying Bohemian basin we arrived

Algal Endophytes within Vascular Plant Root Tissues

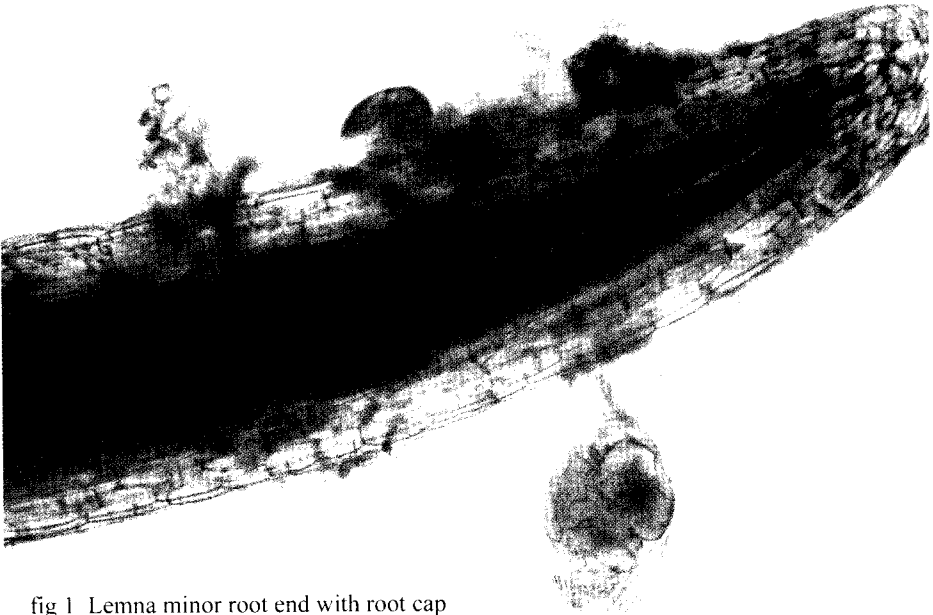


fig 1 Lemna minor root end with root cap

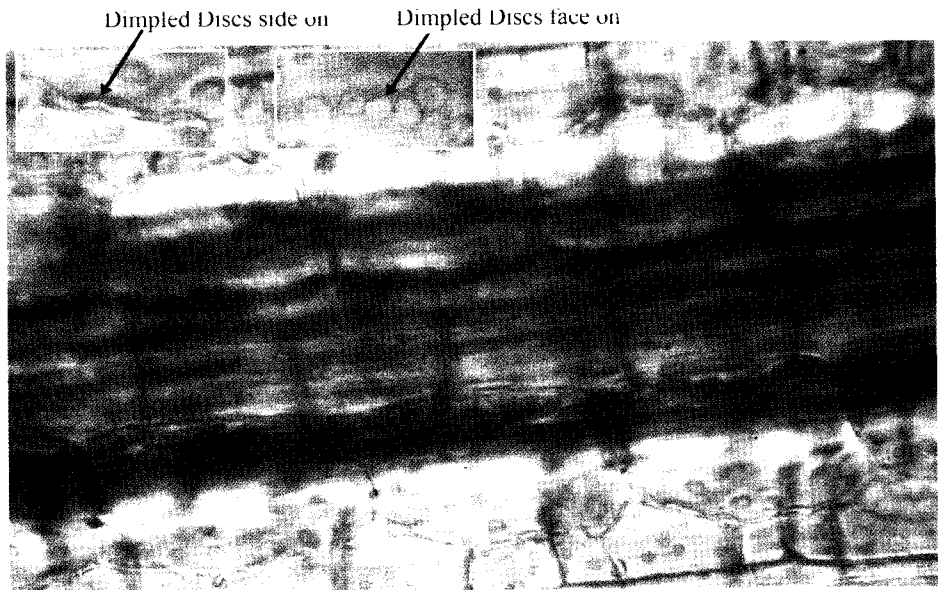


fig 2 Lemna minor young cortex & stele with endophytes
(see p. 36)

Photos by Jack Oliver, 2005



Gentiana pyrenaica



Campanula speciosa



Phyteuma spicatum

at Nasavrky lying at 500m asl. Here we met another colleague of Franta's, Josef Rusňák, from the PLA Administration, who was to be our guide for the day. Walking through light woodland overlying granite with gabbro intrusions to the game reserve in the Debrný valley, we noted familiar plants such as *Chrysosplenium alternifolium* (Alternate-leaved Golden-saxifrage), *Oxalis acetosella* (Wood-sorrel), *Cruciata laevipes* (Crosswort) and *Carex remota* (Remote Sedge) along with the more exotic *Lilium martagon* (Martagon Lily), *Matteuccia struthiopteris* (Ostrich Fern), *Aruncus dioica* (Buck's-beard) and the invasive alien, *Rudbeckia laciniata* (Coneflower). It was warm enough here to dabble our feet in the fast-flowing river and admire the *Ranunculus fluitans* (River Water-crowfoot) streaming out in it. Franta pointed out the three species of *Calamagrostis*: *C. epigejos* (Wood Small-reed), *C. villosa* and *C. arundinacea* (Rough Small-reed) and we also saw here a fine stand of *Carex brizoides* (Quaking grass-sedge) though hardly flowering yet, and *Luzula luzuloides* (White Wood-rush), but the most startling find was a large Dice Snake, *Natrix tessellata*, a kind of Grass Snake, still rather dozy so early in the year. After lunch we began to ascend again and finished the expedition by climbing to the top of a ruined castle, where we found *Asplenium septentrionale* (Forked Spleenwort), *Antennaria dioica* (Mountain Everlasting) and *Barbarea vulgaris* (Winter-cress). The visit ended with a walk back to find the bus again near Nasavrky, with *Saxifraga granulata* (Meadow Saxifrage) abundant in the fields as we passed by. The next stop was at the Polom reserve about 8km SW of Nasavrky. Here in a mixed beech/fir forest were several fine specimens of *Fagus sylvatica* (Beech), *Acer pseudoplatanus* (Sycamore) and *Abies alba* (European Silver-fir). Beginning along the roadside at the entrance to the wood we noted *Cardaminopsis halleri*, *Senecio fuchsii*, *Calamagrostis villosa*, *Chaerophyllum hirsutum* and *Chaerophyllum aromaticum*. Other species seen were *Cardamine bulbifera* (Coralroot), *Cardamine trifolia* (Trefoil Cress), *Actaea spicata* (Baneberry), *Polygonatum verticillatum* (Whorled Solomon's-seal), *Sambucus racemosa* (Red-berried Elder), and *Paris quadrifolia* (Herb-Paris).

The day ended with a guided visit of Kutná Hora some 70km SE of Prague which was once Bohemia's largest town due to the richness of its silver mines. Dominated by the cathedral of St Barbara, a patron saint of miners, and dating from the early 14th century, its roof comprises a series of billowing tent-like structures, unequal spires and magnificent flying buttresses. The external splendour of this cathedral is complemented internally by its magnificent helical vaulted roof, constructed by Benedikt Rejt, the architect of a similar roof in the Vladislav Hall in Prague Castle.

2nd May – Podyjí National Park

Rising early to embark on a long drive of over 180km to Znojmo close to the southern border with Austria, we finally arrived at the village of Havraníky c.6km SW of Znojmo at about 11.30 a.m. Here, in warm sunshine, we were greeted by two University of Prague graduates, Martina Fabšičová and Radim Hédli, our guides for the day – both work partly at the Institute of Botany in Brno and also at two other Brno universities. Our objective for the day was to visit steppic grasslands on acid granite at Havraníky and to explore the wooded valley of the river Dyje which forms the main axis of the Podyjí National Park which also extends into Austria. Although only some 40km in length, the valley, thickly wooded on both northern and southern slopes, reaches 200m deep in some places with many meanders. Annual rainfall is 564mm and mean annual temperature is 8.8°C. The range of habitats has enabled westwards penetration of thermophilous species from the south-east Pannonian region while this is complemented by eastwards migration of species preferring the cooler and shady northern slopes of the valley including some montane species such as *Cardaminopsis petraea* (Northern Rock-cress).

Abundant on the species-rich dry grassland we encountered Pannonian species approaching their western distribution limits including *Saxifraga bulbifera*, *Linaria genistifolia*, *Pulsatilla grandis*, and *Carex supina* (Steppe Sedge). Other species seen included *Festuca rupicola*, *Veronica austriaca*, *Biscutella laevigata* (Buckler Mustard), *Hypochaeris maculata* (Spotted Cat's-car), *Cerastium glutinosum*, *Myosotis stricta*, *Genista pilosa* (Hairy Greenweed), *Poa bulbosa* (Bulbous Meadow-grass), *Cotoneaster integerrimus* (Wild Cotoneaster), *Ornithogalum umbellatum*, *Verbascum phoeniceum*, *Potentilla arenaria*, *Bupleurum falcatum* (Sickle-leaved Hare's-ear), *Melampyrum arvense* (Field Cow-wheat), *Orchis morio* (Green-winged Orchid), *Phleum phleoides* (Purple-stem Cat's-tail) and *Holosteum umbellatum* (Jagged Chickweed). In woods on the south bank of the Dyje river we saw *Melica nutans* (Mountain Melick), *M. picta*, *Corydalis pumila*, *Moehringia trinervia* (Three-nerved Sandwort), *Euonymus verrucosa*, *Arabis turrita* (Tower Cress), *A. hirsuta* (Hairy rock-cress), *Pulmonaria obscura* (Suffolk Lungwort), *P. officinalis* (Lungwort), *Omphalodes scorpioides*, *Staphylea pinnata* (Bladdernut), *Prunus mahaleb* (St. Lucie Cherry), *Carex pilosa*, *C. buekii*, *Pilosella cymosa*, *Galanthus nivalis* (Snowdrop), *Lilium martagon* (Martagon Lily), *Anthericum ramosum* and *Veronica vindobonensis*, one of the genetic parents of *V. chamaedrys*. The invasive *Robinia pseudoacacia* (False-acacia) is a problem in these woodlands despite clearance measures and is having a deleterious effect on native species. After a long climb to a rocky viewpoint overlooking the valley at Scalsfieldův kámen, a pleasant walk through woods and then vineyards brought us back to our bus at Popice with the sound of nightingales ringing in our ears.

3rd May – Pálava PLA

After overnighting in the viticultural centre of Mikulov, our second day botanising in Moravia was spent on the nearby Pálava Protected Landscape Area (PLA). This area mainly comprises a wooded ridge of Jurassic limestone, with outcrops of rock and dry scree. These woods are notable for the absence of Beech (*Fagus sylvatica*), which was

prevented from reaching the area by Neolithic woodland clearance. Beginning our day in mesic woodland similar to that encountered previously, we saw a number of new species with Pannonian distributions including *Viola mirabilis*, a close relative of *V. reichenbachiana* (Early Hedge-violet), *Chaerophyllum temulum* (Rough Chervil) and *Lactuca quercina*. We also paused briefly to examine the distinctive doughnut-shaped fruits of *Omphalodes scorpioides*. Then, making our way up and along the southern slopes, we passed through thermophilous woodland with *Quercus pubescens* (Downy Oak), *Cornus mas* (Cornelian Cherry), and *Tilia platyphyllos* (Large-leaved Lime). Other shrubs present were *Prunus mahaleb* (St Lucie Cherry), and *Viburnum lantana* (Wayfaring-tree). In the steeper areas, trees gave way to a very rich rock outcrop and scree vegetation. Species here included *Adonis vernalis* (Yellow Pheasant's-eye), *Alyssum montanum* (Mountain Alison), *Dictamnus albus* (Burning-bush), *Euphorbia polychroma*, *Galium glaucum*, *Linaria genistifolia*, *Pulsatilla grandis*, *Jovibarba globifera* and *Vincetoxicum hirundinaria* (Swallow-wort). Particularly admired were the white poppy, *Papaver maculosum*, and the twisted brown petals of *Hesperis tristis*.

We paused for lunch in warm sunshine at the summit, by the ruined castle of Děvičky with the Scarce Swallow-tail, *Iphiclides podalirius*, flying actively over our heads. Radim Hédli, who joined us again for the day, spoke to us about the history and vegetation of the Pálava PLA. We returned through the oak-hornbeam woods on the north-west slopes, which were a complete contrast to the xerothermic vegetation of the southern hillside. These woods had previously been managed by coppicing, but have not been cut for many years – unlike in the UK, coppicing has not yet been accepted as a tool for woodland conservation in the Czech Republic. In the areas of older growth, large areas were carpeted by *Aconitum lycoctonum* subsp. *vulparia*, not yet in flower. Other species here included *Adoxa moschatellina* (Moschatel), *Cardamine enneaphyllos*, *C. bulbifera*, *Ulmus minor* subsp. *carpinifolia* and *Parietaria officinalis* (Eastern Pellitory-of-the-wall). Emerging from the wood, we headed back up to the exposed limestone cliffs at Soutěska. Here we saw a choice selection of the species for which the Pálava PLA is noted including *Arenaria grandiflora*, *Poa badensis*, *Mimuartia setacea* and the yellow-flowered variant of *Teucrium montanum*, restricted to the Pálava. *Iris pumila* was also seen in flower on a steep and remote crag for the only time on the trip while a Griffon Vulture soared overhead. In the evening, after a short guided walk through Mikulov, we saw round the castle with its huge vat in the cellar capable not only of holding 135,000 bottles of wine but a troupe of musicians at a surprise concert! Finally, we attended a wine-tasting in a local wine cellar. Despite an unusual alignment of courses, with coffee halfway through and the starter at the end, this was a highly enjoyable evening to round off a full day in the field.

4th May – Morava/ Dyje Floodplain

This triangular floodplain area is situated south of Břeclav and the village of Lanžhot on the borders with Austria and Slovakia where alluvial forests and meadows cover about 50 square kilometres. Not only is the region a RAMSAR site with many birds of prey including Falcons, Red and Black Kites, 60 pairs of Storks of which there are 5 nests of Black Storks, but it was also designated one of 13 Important Plant Areas in the Czech Republic in 1997 and there is a further plan to include it as part of the Protected Landscape area of Pálava. At a briefing in the antler-bedecked office of the Forest Enterprise Manager, Ing Švriga we learnt more about the high conservation value of the area despite differences with forestry and game interests but were also made aware of the many threats that had occurred in the past, some of which had drastically altered the water levels. Large dams had been built on the River Dyje in the 1980s resulting in a decrease of 1 metre in the water level on the floodplains and the death of former oak stands in the forests. In addition, the European Beaver has come from Austria and it is estimated there are now over 600 of these animals eating the young oak trees. Water levels are now controlled in order to alleviate the damage caused by previous low water levels.

We were now eager to see for ourselves this fascinating region and were joined by botanist Dr Jiří Danihelka of the University of Brno who has extensively studied the flora here during the last few years. As soon as we entered the forest area we could see the result of heavy grazing by deer; we could see no young tree seedlings but instead there were extensive stands of *Aster lanceolatus* (Narrow-leaved Michaelmas-daisy) on the forest floor. Our Czech colleagues call the deer 'forest cattle'.

Moving into one of the floodplain meadows between Stárkovský and Doubavka we found a very rich assemblage of species in spite of the fact that these meadows had been flooded until very recently. Especially interesting were representative species of the Continental South Siberian phytogeographic group such as *Cnidium dubium* and *Scutellaria hastifolia* (Spear-leaved Skullcap), which reach their north-western distribution boundary here in Moravia. We found several plants of flowering *Viola pumila* (Meadow Violet), which has a greenish spur and cuneate leaves, growing on slightly drier ground, there being a few areas of sandy, gravelly soils or hrúds here which may be the remains of old river terraces. This species also occurs in Central Bohemia and in the steppe meadows of the White Carpathians. In a wetter meadow, which would later be mown, we found *Viola persicifolia* (Fen Violet), with very pale white to bluish-white flowers, which was of special interest to our group because of its rarity in Britain. Several species of *Carex* were found here too: *C. caryophyllaea* (Spring Sedge) *C. hirta* (Hairy Sedge), *C. praecox*, *C. melanostachya*, *C. riparia* (Greater Pond-sedge) and *C. vulpina* s.s. (True Fox-sedge). As we recorded species in this meadow, we were amazed to see a huge herd of deer emerge from the adjacent forest and thunder on to new pastures and which made us doubly aware of the grazing pressure of these beasts. Birds sighted or heard included Storks, Golden Oriole, Wryneck, Black Woodpecker, and Yellowhammer.

Further south at Čahnov-Soutok we were shown the difference an enclosure could make to the forest and observed many tree seedlings, a young tree of *Fraxinus angustifolia* (Narrow-leaved Ash) and a rich herb layer with *Ajuga reptans* (Bugle), *Veronica montana* (Wood Speedwell), *Viola reichenbachiana* (Early Hedge-violet), and *Brachypodium sylvaticum* (False Brome). Many of the trees in this area were infested with *Viscum album* (Mistletoe), and on one of the Oaks we noticed that the *Viscum* was in turn parasitizing the deciduous parasite *Loranthus europaeus*. Our last treat of the day was at Ranspurk, famous for its fungi, where we watched Jiří Danihelka scale a tall wire fence enclosing a murky pool to show us the rare aquatic nettle, *Urtica kioviensis* at its only site in the Czech Republic!

We then departed to our final overnight stop of the visit at Strážnice. At the administrative headquarters of the Bílé Karpaty (White Carpathian Mountains) Protected Landscape Area (PLA) at nearby Veselí nad Moravou we were greeted by Ivana Jongepierová and Jan Jongepier who described the botany of the area and the work being undertaken to restore former hay meadows and conserve their very rich flora.

5th May – Bílé Karpaty PLA

Our final day was spent in firstly in the Čertoryje reserve in the PLA. We paused briefly in woodland to look at *Orchis pallens* and *Hacquetia epipactis*, the latter found only in Moravia, Slovakia, Slovenia and Poland, though happy in UK gardens. The real gems of this PLA are the vast meadows, once farmed in hundreds of privately owned strips but which in the Communist era had been allowed to revert to scrub or, alternatively, were ploughed up. Our guide, Ivana Jongepierová, showed us the tremendously ambitious programme of restoration which was being undertaken. These meadows are so diverse with over 80 species per 4m², unlike any meadows in Britain. Familiar species such as *Bromopsis erecta* (Upright Brome), *Anthoxanthum odoratum* (Sweet Vernal-grass), *Sanguisorba officinalis* (Great Burnet), *Galium verum* (Lady's Bedstraw), *Primula veris* (Cowslip) and *Centaurea scabiosa* (Greater Knapweed) were accompanied by frequent *Hypochaeris maculata* (Spotted Cat's-ear), *Potentilla alba*, *Tragopogon orientalis*, *Cirsium pannonicum*, *Cruciata glabra*, *Campanula persicifolia* (Peach-leaved Bellflower), *Prunella grandiflora*, *Pulmonaria mollis* and *P. angustifolia* (Lungwort), the latter almost gentian blue. A non-flowering plant of *Cypripedium calceolus* (Lady's-slipper) was also seen. As at home, small areas of fen added variety to the flora with *Senecio umbrosus* and *Crepis praemorsa* joining the many familiar small carices and a rich orchid flora. *Orchis mascula* subsp. *signifera* and *Thalictrum lucidum* were unrecognisable to northern eyes.

Woodland species persisted under the oaks with *Melica picta*, *Pleurospermum austriacum* and *Festuca heterophylla* (Various-leaved Fescue) and often abundant *Convallaria majalis* (Lily-of-the-valley) just opening. Scrub clearance was on-going and after 15 years it was impossible to see where it had occurred. On cleared sites orchids returned after 3 seasons. *Astragalus danicus* (Purple Milk-vetch) and *Erysimum odoratum* were early colonisers of brush burning sites.

Having niftily crossed a stream on a log to climb the other side of the valley we were shown *Melampyrum nemorosum*, *Polygala major*, *Iris variegata* and *Anemone sylvestris* with drifts of *Serratula lycopifolia*. Another flush with *Eriophorum latifolium* (Broad-leaved Cottongrass) and *E. angustifolium* (Common Cottongrass) was again supporting a suite of orchids including *Epipactis palustris* (Marsh Helleborine).

Interestingly these so called 'grasslands' are not grazed at all, just cut in mid-July. There is no aftermath because of the hot dry summer so litter accumulation is not a problem. Seemingly, the *Rosa gallica* (Red Rose of Lancaster) and *Clematis recta* are not damaged by annual cutting.

Our last stop was to visit a similar restoration work at the Zahrady pod Hájem reserve near Velká nad Veličkou which had taken place in a nearby orchard where scrub clearance was not only to benefit the grassland but also to preserve the local gene bank of fruit trees. Here again orchids were abundant with three sub-species of *Gymnadenia conopsea* (Fragrant Orchid) growing with *Taraxacum palustre*, *Ophrys fuciflora* (Late Spider-Orchid), *Orchis militaris* (Military Orchid), *Carex michelii*, *Carex filiformis* (Downy-fruited Sedge), *Linum flavum*, *Polygala major*, *Cerinth minor* and many of the species seen earlier in the meadow. This was a community project with a difference – this nature reserve had its own on-site plum brandy distillery! Finally we visited the private wine cellars of Mr Bretislav Kumpán at the town of Bzenec. Here in underground cellars hollowed into soft loess deposits we were shown various vintages of red and white wine extending back to 1995. The cool moist atmosphere of the cellars, festooned with mould, contrasted with the relatively warm evening outside. In an alcove set into the hillside we sampled some of the wines with the help of very flavoursome locally-baked bread and cheese. So among good company and pleasant conversation our memorable visit to the Czech Republic ended.

All participants agreed that it was a most informative and enjoyable excursion and heartfelt thanks are due to Dr Franta Krahulec, his wife Dr Anna Krahulcová, who accompanied us on the visit to Moravia, and all the other Czech botanists named in this report for their efforts on our behalf. A much appreciated feature of the visit was the wide, and weighty, selection of publications on the Czech Flora with which Franta supplied us – from time to time there was some good-natured competition among participants for the volumes! The output of Czech botanists is most impressive indeed.

CATALAN PYRENEES, NORTH-EAST SPAIN, 18th to 25th JUNE

Eight members flew to Barcelona to join Teresa Farino, who has been leading wildlife tours in the Catalan Pyrenees since 1999. During the week we recorded almost 600 species of vascular plant, including several Pyrenean endemics and many which are common here but becoming increasingly scarce in Britain.

18 June: After disembarking from our respective aircraft into the searing heat of the Barcelona mid-afternoon, our leader whisked us rapidly north-westwards to the cooler climes of the mountains. En route we passed the conglomerate massif of Montserrat, its jagged silhouette resembling some great prehistoric monster stranded in the arid plains, arriving about two hours later at our base in Prullans de Cerdanya. The Cerdanya is a broad, high-altitude plain formed by the river Segre, lying southeast of the Principality of Andorra; it is hemmed in by the limestone Serra del Cadí to the south and the siliceous mountains rising to the French border to the north. Much of the area to the south of the river lies within the Cadí-Moixeró natural park.

After 'high tea' in the hotel garden, we took a leisurely stroll in the foothills behind the village. A Cuckoo called in the distance and a Western Whip Snake basked in the last of the afternoon sunshine. The Bristol contingent soon recognised *Allium sphaerocephalon* (Round-headed Leek) and *Scirpoides holoschoenus* (Round-headed Club-rush), with the bright yellow flowers of *Tetragonolobus maritimus* (Dragon's-teeth) completing a trio of West Country rarities. However, the drooping heads of the grass *Melica ciliata* subsp. *ciliata* (Hairy Melick), the three-lobed leaves of *Hepatica nobilis* (Hepatica) and *Galium maritimum*, an unusually brown-flowered bedstraw, soon told us that we were definitely no longer in Britain.

Salvia pratensis (Meadow Clary), as during the whole of the week, was absolutely everywhere, though curiously unlike in our own country all the plants appeared to be hermaphrodite, with no male-only plants observed. Butterflies were abundant, with the Adonis Blue being particularly striking, while the crystal clear song of the Nightingale cut through the increasing stillness of the now approaching dusk. On the way back to Prullans, we identified *Tordylium maximum* (Hartwort) by the roadside.

19 June: We could hardly complain to the hotel management, but we were woken at daybreak by the rich, luscious notes of a Golden Oriole. After breakfast we took a short drive in the direction of the village of Orden. A Hoopoe swooped across the road as a couple of dozen Black Kites circled above, trying to gain the thermals. Below the village, the dry and dusty south-facing hillside was dominated by a scrub of *Buxus sempervirens* (Box) and *Juniperus communis* subsp. *communis* (Common Juniper), with a rich calcareous community clinging tenaciously to the shallow rocky soils. Botanical highlights here included *Linum narbonne* (Beautiful Flax), *Eryngium campestre* (Field Eryngo), the bronze-flowered goat's-beard *Tragopogon crocifolius* and *Dipcadi serotinum* (Dipcadi), looking every bit like a 'brown bluebell'. The entomologically minded marvelled at a Scarce Swallowtail and the sheer abundance of Black-veined White butterflies, now extinct in Britain.

A second roadside halt by a dung heap and a couple of small puddles proved to be the lepidopterist's nirvana, hosting Wood White, Glanville, Spotted and Knapweed Fritillaries, White Admiral and hoards of Silver-studded Blues. However, it was the botany that we had come for, and having admired such eye-catching species as *Campanula persicifolia* (Peach-leaved Bellflower) and *Digitalis lutea* (Straw Foxglove), we set off to explore the adjacent scrub, where a rich xerophytic flora included *Carex humilis* (Dwarf Sedge), *Trinia glauca* (Honewort), *Aster alpinus* (Alpine Aster) and *Cotoneaster integerrimus* (Wild Cotoneaster), although the pale-lemon flowers of the pheasant's-eye *Adonis aestivalis* attracted the most attention.

Orden lies at an altitude of 1,490m, and we climbed gently from here to the next village, Talltendre. As we passed onto more acidic rock, the flora began to change, with *Silene nutans* (Nottingham Catchfly) giving way to *Potentilla argentea* (Hoary Cinquefoil), *Asplenium septentrionale* (Forked Spleenwort) and *Plantago maritima* subsp. *serpentina* (Fleshy Plantain). Dark Green Fritillary butterflies fluttered past the glaucous fruiting stems of *Arabis glabra* (Tower Mustard) along a trackside blue with the hue of *Centaurea cyanus* (Cornflower). Beyond Talltendre, we came upon haymeadows with an altogether more luxuriant vegetation: heads of *Trollius europaea* (Globeflower) peppered fields now dominated by *Pescicaria historta* (Common Bistort), interspersed with *Anthericum liliago* (St Bernard's Lily), and *Gentiana lutea* (Great Yellow Gentian). As we retraced our steps, we paused briefly to view a Woodchat Shrike which had assumed a sentinel position atop a dead tree.

20 June: The second day, spent high in the siliceous foothills of the Pyrenean massif, was a complete contrast in scenery and flora. A short roadside stop for *Dianthus armeria* (Deptford Pink) and *Listera ovata* (Twayblade) was followed by a longer streamside halt near a Nordic ski station. Here the meadows were bursting with colour: *Gentiana acaulis* (Trumpet Gentian), *G. pyrenaica* (Pyrenean Gentian), *Veratrum album* (White False Helleborine) and *Lilium pyrenaicum* (Pyrenean Lily), together with *Phyteuma spicatum* (Spiked Rampion) (see Colour Section, plate 8) and – a big surprise to British eyes – a field full of *Scorzonera humilis* (Viper's-grass). Here too we saw our first *Rhododendron ferrugineum* (Alpenrose), whose rose-pink flowers became a constant companion during our hike up through the forest of *Pinus uncinata* (Mountain Pine) and *P. sylvestris* (Scots Pine), sadly ravaged by acid rain.

As we climbed towards the Clot de l'Orri, we noticed *Gymnocarpium dryopteris* (Oak Fern), while the yellow-flowered *Pulsatilla alpina* subsp. *apifolia* (Alpine Pasque Flower) vied with abundant *Lychnis alpina* (Alpine Catchfly) – more plants in a hundred metres than the entire British population! – and the delightful yellow-flowered stonecrop *Sedum alpestre* for eye-catching beauty. Less colourful, but no less novel, was the stately umbellifer

Molopospermum peloponnesiacum subsp. *peloponnesiacum* ('repeat after me...', said our leader). The path ended in a magnificent corrie containing a peatbog, where the flora included *Polygala alpestris* (Mountain Milkwort), *Veronica alpina* (Alpine Speedwell), *V. bellidioides* (Violet Speedwell, not previously recorded in the area), *Pinguicula grandiflora* (Large-flowered Butterwort), *Loiseleuria procumbens* (Trailing Azalea), and that other British rarity – if indeed it is native here – *Homogyne alpina* (Alpine Colt's-foot).

Those who climbed the final kilometre or so towards Andorra were rewarded with sightings of Alpine Marmot, as well as *Primula integrifolia* (Entire-leaved Primrose), *Juncus trifidus* (Three-leaved Rush), *Bartsia alpina* (Alpine Bartsia), the rock-jasmine *Androsace vandellii* and the rare saxifrage *Saxifraga aspera*, endemic to the Pyrenees. Then the heavens opened and the descent back to the road completed the resemblance to the Scottish hills ('I'm sure there was a cairn here ...'), but nevertheless, we all agreed that it had been a splendid day.

21st June: The route today led back down the Barcelona road and through the impressive 5km *Túnel del Cadí*, taking us to the southern flank of the Cadí-Moixeró park, and the information centre in Bagà, where many of us purchased a local atlas flora in Catalan.

The day's botany began along a shady track off the mountain road leading to the Coll de Pal, where we saw *Lilium martagon* (Martagon Lily), tantalizingly in bud near a fruiting *Arabis turrita* (Tower Rock-cress), with its conspicuously hung, flattened pods, with *Rumex scutatus* (French Sorrel), abundant on a steep shaly scree, and our first *Saxifraga paniculata* (Livelong Saxifrage). Meanwhile, after rummaging in the undergrowth, our resident amphibian expert produced a fine gleaming Fire Salamander like a rabbit out of a hat. Back at the minibus, we watched a host of butterflies enjoying the sunny bank, including Apollo and the gorgeous Moroccan Orange-tip. Higher up we encountered several spikes of *Campanula speciosa* (Pyrenean Bellflower) in full multi-flower on the roadside cliff (see Colour Section, plate 8), with the verges by the viewpoint a little further on populated by *Teucrium polium* subsp. *aureum* (Felted Germander) and *Santolina chamaecyparissus* (Lavender-cotton).

The highlight of the day was a small ravine hiding the entrance to a disused mine, reached by a grassland track that itself presented treasure on treasure. Spiny *Astragalus sempervirens* (Mountain Tragacanth) was followed by the grandly three-dimensional *Saxifraga longifolia* (Pyrenean saxifrage), *Pedicularis comosa* (Crested Lousewort), *Scutellaria alpina* (Alpine Skullcap), *Onosma hubanii* (Pyrenean Golden Drop) and mats of haze-blue *Globularia cordifolia* (Matted Globularia) and *G. repens*. Sometimes the plant shapes and structures were the more entrancing, sometimes their colours. In the latter camp, the champion was surely the ultra-maroon *Nigritella nigra* subsp. *nigra* (Vanilla Orchid).

The ravine itself was like an inner sanctum to which we had a free pass: no wonder it was a favourite site of Teresa's. Here were *Anemone narcissiflora* (Narcissus-flowered Anemone) and tufts of pale-mauve *Valeriana apula*, high on the face, while at eye-level we encountered *Saxifraga media* (Reddish Saxifrage) and the white-flowered *Pulsatilla alpina* subsp. *fomt-queri*, with the gaps between the boulders studded with *Viola biflora* (Yellow Wood-violet). Cries of Alpine Choughs echoed above, and at last – appetites whetted by bud after bud – we found *Ramonda myconi* (Ramonda), bright-eyed in flower.

Then the rain began. We sought shelter for lunch at a deserted ski centre, beneath spectacular clouds and surround-sound thunder. One last drenched sally rewarded us with *Gentianella campestris* (Field Gentian) and the rock-jasmine *Androsace villosa* before we had to admit defeat. Calling into Bagà in search of coffee, we found the town in Marie Celeste mode, streets empty, shops and cafés shut – all but one excellent bar in the square where the locals were just finishing their siesta, under the disgruntled gaze of a stuffed boar's head.

22 June: A 7am start to visit the gravel pits of Sanavastre, past cornflower-charged arable fields, where we found, emerging from the early morning mist, a sandy bank populated by European Bee-eaters, with Rock Sparrows taking vacant possession of disused nest sites. A Skylark was singing overhead and a Wheatear crossed the lake below, seemingly undisturbed by the thunder of heavy lorries and the jetsam of discarded refrigerators.

After breakfast, we returned to water-meadows in the same locality, fed by the fast running Segre river and fringed with *Iris pseudacorus* (Yellow Flag) and *Geranium pratense* (Meadow Crane's-bill). Familiar plants seen along the river bank included *Isatis tinctoria* (Woad), *Chelidonium majus* (Greater Celandine), *Saponaria officinalis* (Soapwort), *Malva moschata* (Musk Mallow) and *Anchusa arvensis* (Bugloss). We also encountered *Scrophularia crithmifolia* (a subspecies of *S. canina*, endemic to Spain), and the delicate *Micropyrum tenellum* (Gravel Fescue), which extends no further north than France.

Among the abundant butterflies were Clouded Yellow, Marbled Fritillary, Large Tortoiseshell, Iberian Marbled White, Pearly Heath and Mallow Skipper, while flashes of red signalled the Scarlet Tiger moth in flight. Beautiful Demoiselles, Large Red Damselflies and Southern Skimmers were the principal dragonflies in evidence, and we also encountered several Great Green Bush-crickets and Violet Carpenter Bees of the genus *Xylocopa*.

For lunch we chose a stream-side location high above the village of Alp, close to the ski resort of La Molina, surrounded by *Lilium martagon* in bud, *Potentilla rupestris* (Rock Cinquefoil) in flower and *Helleborus viridis* (Green Hellebore) in fruit. Moving upstream past huge Wood Ant nests, we located *Geum rivale* (Water Avens) and *Asplenium seelosii* subsp. *glabrum*, the latter confined to the limestone rocks of the eastern Pyrenees, as well as *Valeriana tripteris* (Three-leaved Valerian) and *Luzula nivea* (Snowy Wood-rush).

The last stop of the day was to a sun dried bank near Alp to look for *Gentiana cruciata* (Cross Gentian), although sadly the plants were not in flower. Indeed, even the buds appeared to be absent, but compensation was found in the photo opportunity presented by a mating pair of Mazarine Blue butterflies.

23 June: For our big trek of the week, we set off from the village of Estana, at the foot of the Cadi ridge, where a bar was carefully noted for the return trip. After admiring a Colorado Beetle on *Hyoscyamus niger* (Henbane), we were joined by two local dogs who accompanied us for a few hours, except when they were enthusiastically chasing deer. The way wound slowly upwards over gravelly terra-rossa, where *Saxifraga paniculata* and *Valeriana montana* graced the rocks, then through pinewoods with *Veronica urticifolia* (Nettle-leaved Speedwell) and three species of wintergreen to brighten the route: *Pyrola minor* (Common), *Orthilia secunda* (Serrated) and *Moneses uniflora* (One-flowered).

Lunch was taken in the broad clearing of the Prat del Cadi, among *Thalictrum flavum* subsp. *costae* (Small Meadow-rue), *Phyteuma orbiculare* (Round-headed Rampion), *Carex filiformis* (Downy-fruited Sedge) and fruiting *Fritillaria pyrenaica* (Pyrenean Snakeshead). As the usual rain began, we climbed steeply through more pines and *Abies alba* (European Silver-fir) to the limestone buttress of the Cadi ridge itself. Our fourth wintergreen, *Pyrola chlorantha* (Pale-green) was frequent in the wood, along with *Gymnocarpium robertianum* (Limestone Fern), *Salix pyrenaica* (Pyrenean Willow), *Dryas octopetala* (Mountain Avens) and *Crepis pygmaea* (Pygmy Hawk's-beard). A final push to the scree at the base of the ridge yielded *Daphne cneorum* (Garland Flower) and *Xatardia sabra*, a curious umbellifer which is endemic to the Pyrenees, with gems at the highest point including *Ranunculus parnassifolius* (Parnassus-leaved Buttercup), the Pyrenean endemic columbine *Aquilegia pyrenaica* subsp. *pyrenaica*, *Reseda glauca* (Pyrenean Mignonette) and *Saxifraga aizoides* (Yellow Mountain Saxifrage).

The long walk down ended at the bar in Estana, where we collapsed along with the more energetic of the dogs (by now virtually comatose). As we enjoyed a well-earned beer, we spotted a lone Lammergeier cruising along the distant ridge.

24 June: We spent the morning of our last day on the 2,536-metre summit of Tossa d'Alp, high above La Molina. The *telecabina* service had restarted for the summer season that very morning, and we ascended silently over hundreds of spikes of *Gentiana lutea*, with Alpine Choughs circling overhead, to the cooler air of the high dry limestone, where we were immediately confronted by the superbly photogenic purple of the ten-lobed *Gentiana pyrenaica* (see Colour Section, plate 8), with *Erigeron uniflorus* (One-flowered Fleabane) and *Carduus carlinioides* (Pyrenean Thistle) growing nearby.

As we climbed higher we found *Androsace villosa*, *Daphne cneorum*, *Linaria alpina* (Alpine Toadflax) and *Lotus corniculatus* subsp. *alpinus* (Alpine Birdsfoot-trefoil). Amongst the scree and limestone rocks were *Veronica aphylla* (Leafless-stemmed Speedwell), the diminutive *Iberis spathulata* (Spoon-leaved Candytuft), with its beautiful seeds, *Petrocallis pyrenaica* (Pyrenean Whitlow-grass), *Potentilla nivalis* subsp. *nivalis* and *Astragalus australis* (Southern Milk-vetch), with its inflated, shiny pods. While the clouds built up, we scrambled over rocks near the summit, finding *Pritzelago alpina* subsp. *alpina* (Chamois Cress) *Erysimum seipkae*, *Potentilla alchimilloides* (Alchemilla-leaved Cinquefoil), *Artemisia umbelliformis* (Yellow Genipi) and *Kobresia myosuroides*. As we returned to the *telecabina*, we passed *Medicago suffruticosa* subsp. *suffruticosa* (Sprawling Medick) and *Trifolium thalii*.

After another delicious lunch in the pinewoods we drove to the siliceous rocks near Meranges for a complete contrast of lush meadows filled with colourful plants and teeming with butterflies. Amongst the *Polygonum alpinum* (Alpine Knotweed) lining the banks we saw *Astrantia Major* (Astrantia), the beautiful *Paradisea liliastrum* (St Bruno's Lily) and the umbellifers *Laserpitium latifolium* (Broad-leaved Sermountain), *Carum carvi* (Caraway) and *Endressia pyrenaica* (Endressia). Beside the stream we also encountered the striking *Saxifraga aquatica* (Water Saxifrage), with *Scrophularia alpestris* and *Carduus carlinifolius* (Carline-leaved Thistle) to finish.

We had our last snack in a sensational setting accompanied by an accordion and flute player. Immense thanks to Teresa for her organisation and competence and for giving us a comprehensive and extremely full six days of botanising together with other fascinating aspects of the wildlife of the eastern Pyrenees.

CONTRIBUTIONS FROM ALL MEMBERS OF THE GROUP

The General Editor Gwynn Ellis can be contacted by phone or fax on 029-2049-6042 or email: rgellis@ntlworld.com

The Receiving Editor Dr Leander Wolstenholme can be contacted by phone on 0161 275 2671 or email:

Leander.Wolstenholme@Manchester.ac.uk

All text and illustrations appearing in *BSBI News* and its Supplements are copyright and no reproduction in any form may be made without written permission from the General Editor.

Offers and special terms apply only to members of the Society and copies are not available on an exchange basis.

BSBI News (ISSN 0309-930X) is published by the Botanical Society of the British Isles.

Enquiries concerning the Society's activities and membership should be addressed to: The Hon. General Secretary, c/o Dept. of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD. Tel: 0207 942 5002.

Camera ready copy produced by Gwynn Ellis and printed by J. & P. Davison, 3 James Place, Treforest, Pontypridd, Mid Glamorgan CF37 1SQ (Tel. 01443-400585; email: davison-litho@ukf.net)

SECOND UPDATE TO MEMBERS LIST IN YEAR BOOK 2005

As there was no room to list changes in *BSBI News* 99, there are quite a number this time. All changes to addresses and new members up to and including September 6th are listed. The 10,000 membership number milestone was reached at the end of May and we have had 54 new members since then.

Changed addresses. * = email change only

- 55892, Ms V E Annis, 7 Woodward Close, PERSHORE, Worcestershire, WR10 1LP, 37
83592, Mr M Archer, Main Street, Boyle, Co Roscommon, IRELAND, michaelarcher@eircom.net, H25
84610, Mr D Barlow, 13 Lewes Way, BILLINGHAM, TS23 3LT, dave@davebarlow.co.uk, 66
60983, Mrs P M Barnes BSc MBBiol, 50 Bay View, Seacote Park, ST BEES, Cumbria, CA27 0ES, 59
36055, Mrs A L D Bebbington PhD, Quantock View, Newtown, LANGPORT, Somerset, TA10 9SE, 6
63630, Mrs J Berry, 11 Warren Close, HAYLING ISLAND, Hants, PO11 0HP, 11
11486, Birmingham Nat. Hist. Soc., C/O Dr D. Antrobus, 55 Gower Road, HALESOWEN, West Midlands, B62 9BX, 37
96538, Dr S Bosbeer, 48 Ashleigh Grove, Ballymonee Road, KNOCKNACARRA, GALWAY, IRELAND, Sashatrees@hotmail.com, H16
82995, Mr D A Broughton, 55 Star Road, PETERBOROUGH, PE1 5HT, 32
91404, Mrs M L M Bryce, 23 Marlborough Road, Long Eaton, Nottingham, NG10 2BS, 57
7414, Buckinghamshire County Museum, Keeper of Natural History, Technical Centre, Tring Road, Halton, Aylesbury, HP22 5PJ, 24
88233, Miss R J Bucknall, 160 West Dean, Chichester, West Sussex, PO18 0QY, 13
88241, Mrs S P Bucknall, 160 West Dean, Chichester, West Sussex, PO18 0QY, 13
94730, Mr B J Burley, 99 Gloucester Road, EXETER, EX4 2EB, brendon.burley@defra.gsl.gov.uk, 3
90815, Buteshire N H Soc, C/o Mr A C Hannah, Glenmore, North Bute, Rothesay, Isle of Bute, PA20 0QU, butesedge@yahoo.co.uk, 100
98141, Miss D Clark, 14 Christchurch Road, READING, Berks, RG2 7AD, 23
55505, Mrs J H Clarke, 9 Hillcrest Drive, Slackhead, Beetham, MILNTHORPE, Cumbria, LA7 7BB, 69
78289, Rev N S Cooper, Philadelphia House, 67 West Street, Isleham, ELY, CB7 5RA, 29
*62897, Mrs J M Croft, 12 Spaldwick Road, Stow Longa, Huntingdon, Cambs, PE28 0TL, stowlonga@tiscali.co.uk, 31
59764, Dr F H Dawson, CEH Fellow, CEH - Dorset, Wincor Technology Centre, DORCHESTER, Dorset, DT2 8ZD, fhd@ceh.ac.uk, 9
98484, Mr A J Denard, 12 Queensway, Sturton by Stow, LINCOLN, LN1 2AD, adamdenard45@hotmail.com, 54
91188, Miss J Denyer, Inverford Farmhouse, Garlogie, ABERDEEN, AB32 6SS, jodenyer@hotmail.com, 92
88446, De Heer G M Dirkse, Kromme Elleboog 26, 6511 ZA Nijmegen, HOLLAND
74771, Mr C Dixon, 29 Abbey Grange, NEWTONGRANGE, Midlothian, EH22 4JR, 83
98085, Miss A Donaghy, 54 Somerton Park, BELFAST, N. Ireland, BT15 4DP, amadonaghy@eircom.net, H39
57974, Dr S R Edwards, Vine Cottage, The Street, THURSLEY, Surrey, GU8 6QF, 17
96236, Mrs E Farr, 18 Cote Green Road, Marple Bridge, Cheshire, STOCKPORT, SK6 5EW, 58
61157, Mr A Frake MSc, 12 Bault Road, Crayford, Kent, DA1 4PH, 16
97471, Dr G C French, Flat 2, 83 Iona Street, EDINBURGH, EH6 8RP, G.French@rbgc.org.uk, 83
88276, Mr M E Frisch, 31 Chalmers Road, CAMBRIDGE, CB1 3SZ, 29
91838, Ms I Girvan, 86a Burghley Road, LONDON, NW5 1UN, 17
70520, Mr M L Grant, 708 Herne Road, Ramsey St Marys, HUNTINGDON, Cambridgeshire, PE26 2TL,
mike-grant@rhspublishations.co.uk, 17
88284, Mr W H Gravell, 119 Pembroke Road, Haverfordwest, Pembrokeshire, SA61 1LY, 45
58024, Mr P R Green, Coombeagate Cottage, St Ive, LISKEARD, Cornwall, PL14 3LZ, paul@coombeagate.wanadoo.co.uk, 17
75948, Mr G M Groome, 13 Park Road, FARNHAM, Surrey, GU9 9QN, giles.groome@btopenworld.com, 17
19401, Hon Treasurer, Halifax Scientific Society, 160 Warley Road, Halifax, West Yorks, HX1 3TW, 63
89795, Mr M E Hampton, 67 Rock Hill, BROMSGROVE, Wores., B61 7LN, 37
59390, Dr H J Harvey, The Brick House, Charlton Drive, CHELTENHAM, Glos, GL53 8ES, 33
36810, Miss K A Hearn, The National Trust, Heelis, Kemble Drive, SWINDON, SN2 2NA, 7
20442, Mr F N Hepper BSc FLS, 25A Montague Road, Richmond, Surrey, TW10 6QW, 17
97429, Prof. P Heslop-Harrison, 95 Knighton Church Road, LEICESTER, LE2 3JN, phh4@le.ac.uk, 55
97437, Dr Y Heslop-Harrison, 95 Knighton Church Road, LEICESTER, LE2 3JN, 55
80151, Ms B Hickey, 100 Mary Street, New Ross, Co Wexford, IRELAND, H12
82405, Miss L A Hill, 206 Thorne Road, Wheatley Hills, Doncaster, South Yorkshire, DN2 5AF, 63
21295, Dr W T Houlby, 123 Desswood Place, ABERDEEN, AB15 4DP, 92
81506, Miss V A James, 36 Bellfield Road, North Kessock, Inverness, IV1 3JU, 106
22186, Dr R G Jefferson, 26 Austerby Close, BOURNE, Lincs., PE10 9RH, 53
92834, Prof M Kent, School of Geography, University of Plymouth, Drake Circus, Plymouth, Devon, PL4 8AA, 3
87253, Mrs S C Kimber-Williams, 60 Thornton Road, Giron, CAMBRIDGE, CB3 0NN, 29
39461, Mr N E King, Honey Grove, Plashett, Laugharne, CARMARTHEN, Carmar, SA33 4TT, 44
21724, Dr C R Lambrick, Picketts Heath, Ridgeway, Boars Hill, Oxford, OX1 5EZ, 22
96821, Mr D A Lang, Flat 3/3, 6 Windsor Street, Woodside, GLASGOW, G20 7NA, 77
98301, Mr R W Large, Wiltshire Wildlife Trust, Elm Tree Court, Long Street, DEVIZES, Wiltshire, SN10 1NJ, 8
91587, Mr M G LeRoy, 73a Babington Road, Streatham, London, SW16 6AN, 17
23778, Dr A C Leslie, 109 York Street, CAMBRIDGE, CB1 2PY, 29
94969, Miss L C Mapstone, Flat 2 Marstone Ferry Road, Summertown, OXFORD, OX2 7EE, 23
72809, Dr A D Martin, E3 Partnership, Pasture House, Wark, HEXHAM, NE48 3DG, 67
98166, Miss C F Matts, 4 Perdarves, Haberton, TOTNES, Devon, TQ9 7SA, 3
91951, Mrs J Maynard, Y Crafolen, 6 Chadburn Road, LONG MELFORD, Suffolk, CO10 9EE, 26

- 24332, Ms E J McDonnell, The Old Gas Works Cottage, The Lerburne, WEDMORE, Somerset, BS28 4ED, Lizmedon-nell@btopenworld.com, 6
- 91293, Ms E F McKay, 31 Fox Lane, BROMSGROVE, Worcestershire, B61 7NJ, 37
- 90360, Mr P Michna, Fox Hill Side, Hinton Way, GREAT SHELFORD, Cambridge, CB2 5AN, 29
- 62846, Mr R I Milne, Biological Sciences, Daniel Rutherford Building, Kings' Buildings, EDINBURGH, EH9 3JH, 85
- 97623, Mr J M Monaghan, 96 Clonard Village, Wexford Town, Co. Wexford, IRELAND, H12
- 84661, Dr E Moorkens, 53 Charleville Square, Rathfarnham, DUBLIN 14, IRELAND, H21
- 25746, Mr G P Morris, 3 Bright's Close, Newton-in Bowland, CLITHEROE, Lancs, BB7 3AE, 64
- 78424, Mr H Mottram, Quhytewollen Farm House, Lockerbie, Dumfriesshire, DG11 2NE, 72
- 88292, Mr A F Mylward, 34 The Pastures, REPTON, Derbyshire, DE65 6GG, 57
- 96570, Mr B M O'Hanrahan, 24 Scorguie Avenue, Inverness, IV3 8SD, boh72@hotmail.com, 96
- 88985, Mrs J R Page, Finisterre, Route Isabelle, ST PETER PORT, Guernsey, CI, GY1 1QR, CIG
- 38783, Mrs R E Parslow, 17 St Michael's Road, Ponsanooth, Truro, Cornwall, TR3 7ED, rparslow@cix.compulink.co.uk, 1
- 94241, Mrs S Jones, Library, Pershore College, Avon Bank, Pershore, Worcs, WR10 3JP, library-pershore@pershore.ac.uk, 37
- 57206, Mrs A D Poyser, Old Church Hall, Glandford, HOLT, Norfolk, NR25 7JR, 27
- 89000, Miss S N Priest, Yonder Cottage, Ashford Hill, Thatcham, Berks, RG19 8AX, 12
- 92346, Miss K M Proctor, Craigellochic, Achintraid, Kishorn, Strathcarron, Ross-shire, IV54 8XB, 105
- 89973, Dr K V Pryor, 39 Clos Ogney, Llanwit Major, Vale of Glamorgan, CF61 2SN, 41
- *28478, Mrs A R Pugh, 47 Simcoe Court, Fredericton N.B., E3B 2W9, CANADA, pugh@nbn.net.nb.ca
- 28575, Mrs R M Race, 12 Auden Close, LINCOLN, LN2 4BS, 54
- 28966, Dr A J Richards, High Trees, South Park, HEXHAM, Northumberland, NE46 1BT, 67
- *29164, Mr F J Roberts, 'Iden Croft', 2 Wetherall Pasture, Carlisle, Cumbria, CA4 8HU, fjr@edencroft2.demon.co.uk, 70
- 98069, Mr A M Ross, 16 Haymoor, LETCHWORTH, Herts., SG6 4HT, alastairross@lycos.com, 92
- 62226, Mr G P Rothero, Stronlonag, Glenmasson, By Dunoon, Argyll, PA23 8RA, 98
- 29830, Mr T Schofield, Whinfield Nurseries, Bierley Marsh, East Bierley, Bradford, W. Yorks., BD4 6PL, 63
- 97461, Dr T Schwarzscher, 95 Knighton Church Road, LEICESTER, LE2 3JN, 55
- 40672, Dr N E Scott, Seagal, Ballinacourty, CLARINBRIDGE, Co. Galway, IRELAND, H17
- 96910, Dr E M Shilland, Environmental Change Research Centre, University College London, 26 Bedford Way, LONDON, WC1H 0AP, cshilland@geog.ucl.ac.uk, 21
- 59179, Mr A W Smith, The Shecans, Whiting Bay, Isle of Arran, KA27 8QL, 100
- 97488, Dr J Squirrel, Flat 2, 83 Iona Street, EDINBURGH, EH6 8RP, 83
- 66779, Mr R F Taylor, Rectory Cottage, East Noltton, HAVERFORDWEST, Pems., SA62 3NW, 21
- 32211, Dr R E Thomas, Kaimes Lodge, Orchil, BRACO, Perthshire, FK15 9LF, 88
- 85382, Mr P L Thomas, 5 Outlands Close, WEYBRIDGE, Surrey, KT13 9FD, 17
- 40214, Mr A W Thompson, 8 Beech Drive, KIRKBYMOORSIDE, North Yorkshire, YO62 6BY, 62
- 96473, Miss J Tibbotts, 16 Ffwrwm Road, Machen, CAERPHILLY, South Wales, CF83 8NF, jtibbs4@yahoo.co.uk, 41
- 97641, Miss A L Till, 78 Moat Close, BRAMLEY, Hampshire, RG26 5AF, iatherton@mincarlo.freeserve.co.uk, 12
- 85668, Ms S Townsend, 4 Thatched Cottages, Shrawardine, Montford Bridge, Shrewsbury, SY4 1AE, 40
- 33021, Mr A H Vaughan, Craig Fawr, Llanelwedd, Builth Wells, Powys, LD2 3RD, craigfawr@onetel.com, 43
- 68836, Dr D F Viney, 11 Cherry Orchard, OLNEY, MK46 5PT, 24
- 90688, Mr S P Warwick, Sharow Grange, Sharow, Ripon, North Yorkshire, HG4 5BN, 64
- 79250, Mr T G Waters, 71c Hampden Road, Hornsey, LONDON, N8 0HU, 23
- 34753, Mrs G W Wheelodon, 49 Park Avenue, Darley Dale, MATLOCK, Derbyshire, DE4 2FX, 57
- 87318, Dr R B Wheeler, Peterfield House, 55 Station Road, Horrabridge, YELVERTON, Devon, PL20 7ST, 3
- 92648, Mr N E Widden, 14 Osiers Court, Steadfast Road, KINGSTON upon THAMES, Surrey, KT1 1PL, 17
- 35016, Mr P W Wilberforce BA, 'Eilean Mor', 8 Ferryfield Road, Connel, By OBAN, Argyll, PA37 1SR, p.wilberforce@btinternet.com, 98
- 88799, Mr T C Wilkins, 41 Barrack Row, Durweston, BLANDFORD FORUM, Dorset, DT11 0QA, 9
- 61777, Dr M B Wyse Jackson, 14 Armstrong Street, Harold's Cross, Dublin 6, IRELAND, H21

New members: * = rejoin

- 100357, Mr C Abrahams, Baker Shepherd Gillespie, Media Ho., Deepdale Business Park, Ashford Road, BAKEWELL, Derbyshire, DE45 1GT, 57
- 100241, Mr J P Adey, Autumn Cottage, Wheatsheaf Lane, OAKSEY, Wiltshire, SN16 9TA, 7
- 99979, Mr A J Allott, Shrewsbury School, SHREWSBURY, SY3 9AB, 40
- 99561, Dr B J Anderson, Biol. Dept. (Area 18), University of York, PO Box 373, YORK, YO10 5YW, ba500@york.ac.uk
- 99804, Mr D G Bate, 10 Mount Pleasant, Keyworth, NOTTINGHAM, NG12 5FQ, dgba@bgs.ac.uk, 56
- 99286, Dr G C Bellamy, 3 Marquis Hill, SHILLINGTON, Bedfordshire, SG5 3HD, 30
- 100187, Mrs A R M Berrie, 7 Bench Tor Close, TORQUAY, Devon, TQ2 7SH, amberrie.innocomms@pop3.hiway.co.uk, 4
- 99871, Mr M C Berry, Flat 7, Chartwell Cottage, 3 Manse Place, Hatton, PETERHEAD, East Sussex, BN21 3WV, 14
- 99650, Mr A Bicker, 9 Barn Road, BROADSTONE, Dorset, BH18 8NH, 9
- 99669, Mrs A Bicker, 9 Barn Road, BROADSTONE, Dorset, BH18 8NH, 9
- 99677, Mr T Bicker, 9 Barn Road, BROADSTONE, Dorset, BH18 8NH, 9
- 99170, Mr N Blackstock, 9 Bonds Lane, Bank, SOUTHPORT, Lancs., PR9 8HS, blackstock8@aol.com, 59
- 100421, Ms R E Bone, Millburn Cottage, 3 Manse Place, Hatton, PETERHEAD, AB 42 0UQ, millburncottage@yahoo.co.uk, 93
- 99571, Mrs G Branford, 38 Quarella Road, BRIDGEND, Glamorgan, CF31 1JN
- 99332, Mr P Burston, Ashridge Farm, Sandford, CREDITON, Devon, EX17 4ET
- 99863, Dr P M Canaway, Sandholme Barn, Bankwell Road, Giggleswick, SETTLE, N. Yorks, BD24 0AN, mike@canaway.ndsnet.com, 64
- 100251, Miss E J Cartwright, Tudor House, 49 High Street, WHITCHURCH, Bucks, HP22 4FA, lizjcartwright@yahoo.com, 24
- 99472, Mrs R Castell, 33 Castle Road, Mumbles, SWANSEA, SA3 5TF, 41
- 100322, Mr C A Chadwell, 81 Parlaunt Road, SLOUGH, Berks, SL3 8BF, matthew.chadwell@btinternet.com, 24

- 99911, Mr C R Cheesman, Cwm View Cottage, Old Blackrock Road, Clydach North, ABERGAVENNY, Gwent, NP7 0LL, cheesman.samsara@zen.co.uk, 35
- 99618, Mrs K S Cobley, Raven's Oak, Derryishal, BANTRY, Co. Cork, IRELAND, michaelcobley@iolfree.ie, H03
- 99480, Mrs J M Coles, 18 Hartland Road, WORKSOP, Notts., S80 1XN, 56
- 99839, Dr J Conaghan, 11 Dun Ard, CRAUGHWELL, Co. GALWAY, IRELAND, enviroscope@indigo.ie, H15
- 100179, Miss A Connolly, Canadu, Kingsmill Road, BRAY, Co. Wicklow, IRELAND, H20
- 100217, Mr P M C Corney, No. 4, Quorn Street, Kensington, LIVERPOOL, L7 2QR, pmcorney@liverpool.ac.uk, 59
- 99448, Mr C P C Coyle, 312 Morningside Street, GLASGOW, G33 3AP, 77
- 99601, Miss C A Crofts, 4 West Grove Court, Roath, CARDIFF, CF24 3AX, cerianncrofts@hotmail.com, 41
- 100020, Ms S I: Dalrymple, 14 Sunnysbank Avenue, ABERDEEN, AB24 3LA, s.e.dalrymple@abdn.ac.uk, 92
- 99790, Dr K Dehnen-Schmutz, 35 Main Street, Heslington, YORK, YO10 5EB, kds2@york.ac.uk, 61
- 99936, Mr P Driscall, 52 Restharrow Mead, BICESTER, Oxon. OX26 3AF, pdriscall63@aol.com, 23
- 99855, Mr M S Duffell, Hillcroft, Ford, Shrewsbury, Shropshire, SY5 9LZ, duffell@tesco.net, 40
- 99278, Miss R J East, 27 Elm Street, Roath, CARDIFF, CF24 3QS, 41
- 99960, Mr N Elsey, 66 Gravel Hill, Stoke Holy Cross, NORWICH, NR14 8LH, 27
- 99464, Mrs R H Frost, Mayview, 4 Bayswell Road, DUNBAR, East Lothian, EH42 1AB, ruth@soilwater.co.uk, 82
- 99642, Prof. M J Gasson, Moor End Cottage, Moor End, STIBBARD, Norfolk, NR21 0EJ, moorend@globalnet.co.uk, 28
- 100438, Dr T Gittings, 3 Coastguard Cottages, Roches Point, WHITEGATE, Co. Cork, IRELAND, tgittings@eircom.net, H05
- 99715, Mr R Golding, 50A Bullingdon Road, OXFORD, OX4 1QJ, rogergolding@freeuk.com, 23
- 99065, Göteborgs Universitetsbibliotek, Botaniska Biblioteket, Box 461, 405 30 GÖTEBORG, SWEDEN
- 100152, Miss H L Graves, 29 School Lane, Weston Turville, AYLESBURY, Bucks, HP22 5SG, hannahgraves@hotmail.com, 24
- 100462, Mr D Gray, 45 Western Park Road, LEICESTER, LE3 6HQ, davidcgray@yahoo.co.uk, 55
- *75050, Mrs M Greenwood, Jubilee Cottage, Huntsham, Nr Tiverton, Devon, EX16 7NW, 4
- 100411, Miss L R Griffiths, Flat 42, Aie Eye, Barrier Road, CHATHAM, Kent, ME4 4SD, lrlagriffiths@hotmail.com, 15
- 99251, Mr P J Grilli-Chantler, 16 Eythorne Road, Shepherdswell, DOVER, Kent, CT15 7PB, 15
- 100047, Ms M M Haigh, 8 Burnland Terrace, HEXHAM, Northumberland, NE46 3JJ, 67
- 99987, Mrs J Hardwick, 35 Gorway Road, WALSALL, WS1 3BE, 39
- 99995, Dr R Harmer, Forest Research Station, Wrecclesham, FARNHAM, Surrey, GU10 4LH, ralph.harmer@forestry.gsi.gov.uk, 17
- 99294, Mr A E Hawkins, 2 Smithson Close, WYMONDHAM, Norfolk, NR18 0SU
- 99219, Dr M Hayward, 6 Far Moss Road, Blundellsands, LIVERPOOL, L23 8TQ, mhaywardl23@blueyonder.co.uk, 59
- 99588, Dr G F Hemery, Director of Development BSB, c/o Dept of Plant Sciences, University of Oxford, South Parks Road, OXFORD, OX1 3RB, BSB@btinternet.com, 22
- 100446, Dr M S Hicks, 68 Burford Road, NOTTINGHAM, NG7 6AZ, 56
- 99091, Mrs V C Higgs, Cwmfron House, Tylwy, LLANIDLOES, Powys, SY18 6JJ, 47
- 99502, Miss H Hipperson, 109 Main Road, Wharcliffe Side, SHEFFIELD, S35 0DP, 63
- 100209, Ms G Hodges, 66A Waverley Road, WALTHAMSTOW, E17 3LQ, galeh@ntlworld.com, 18
- 99456, Mrs S Holt, 12 Gladstone Road, POOLE, Dorset, BH12 2LY, 9
- 100055, Mr K Hombie, S-Kringlef, N-2030 NANNESTAD, NORWAY, k.hombie@online.no
- 100292, Mrs L L Hoskin, 30 Dowdeswell Street, CHESTERFIELD, Derbyshire, S41 7ER, rachel.hoskin@doncaster.gov.uk, 57
- 99111, Ms D F Hyett-Hudman, The Old Stores, CRANHAM, Glouce., GL4 8HP, 33
- 99121, Mr J Hyett-Hudman, The Old Stores, CRANHAM, Glouce., GL4 8HP, 33
- 100276, Dr P James, 39 Pheasant Walk, High Legh, KNUITSFORD, Cheshire, WA16 6QA, 58
- 99741, Dr M H P Jebb, Ardilla, DELGANY, Co. WICKLOW, IRELAND, mattew.jebb@opw.ie, H20
- 99146, Mrs K Jenkins, Felin-y-coed, Taliaris, LLANDEILO, Carm., SA19 7BY, 44
- 99340, Mr M J Jenkins, Felin-y-coed, Taliaris, LLANDEILO, Carm., SA19 7BY, 44
- 99685, Miss J Jenks, 16 Dellwood Avenue, FELIXSTOWE, Suffolk, IP11 9HP, 25
- 99261, Mrs K J Johnson, Hawthorns, Farmfield Road, CHELTENHAM, GL51 3RD, 33
- 100098, Dr M A Johnston, Mott MacDonald, Demeter House, Station Road, CAMBRIDGE, CB1 2RS, watkins.johnston@tiscali.co.uk, 29
- 99103, Dr S L D Jones, 1 Tremie, CRYMYCH, Pembro., SA41 3QQ, 45
- 99235, Mr S Jordan, 73 Chichester Drive, Quinton, BIRMINGHAM, B32 1BG, 38
- 99375, Miss E D Keegan, 35 Dromard, Lahinch Road, ENNIS, Co. Clare, IRELAND, ekeegan@clarecoco.ie, H09
- 99189, Mr J N Kelly, 5 Maplehatch Close, GODALMING, Surrey, GU7 1TQ, 17
- 99197, Mrs L Kelly, 5 Maplehatch Close, GODALMING, Surrey, GU7 1TQ, 17
- 99421, Dr T J King, 93 Kingston Road, OXFORD, OX2 6RL, timothy.king@virgin.net, 23
- 99154, Dr D D Kohn, New House, Kitleyknowe, Carlisle, PENICUIK, EH26 9NJ, 83
- 99693, Dr M E Kuriakose, Sharon, Near Railway Station, KOITAYAM - 686001, KERALA, INDIA
- 100225, Mrs F L La Croix, 9 Port Henderson, GAIRLOCH, Ross-shire, IV21 2AS, ila.choiz@virgin.net, 105
- 100233, Mr F A S La Croix, 9 Port Henderson, GAIRLOCH, Ross-shire, IV21 2AS, 105
- 100535, Ms F J Law, 8 Manor Gardens, Larkhall Rise, LONDON, SW7 6JZ, sundari108@hotmail.com, 21
- 100111, Dr P J Llewellyn, Foxfield, Bates Lane, Helsby, FRODSHAM, WA6 9AJ, peterjl@foxfield.plus.com, 58
- 99200, Mr K Long, Kris Long Personal, 5F Deer Park Business Centre, Woollas Hall, Eckington, PERSHORE, Worcs., WR10 3DN, krislong09@yahoo.co.uk, 37
- 99073, Mrs N E J Maclean, 15 Rhuvaniash, BERNERAY, Isle of North Uist, HS6 5BH, nico.maclea@uk.gateway.net, 110
- 100349, Mrs J M A Maine, Fairing, Coronation Road, Littlewick Green, MAIDENHEAD, Berks, SL6 3RA, 22
- 99499, Miss S L M Mansbridge, 13 Woodview Close, Bassett, SOUTHAMPTON, Hants, SO16 3PZ, sarahmansbridge@hotmail.com, 11
- 99847, Mr P S H Marks, 40 Lawmill Gardens, ST ANDREWS, Fife, KY16 8QS, patrick.marks@btinternet.com, 85
- 99367, Ms A Mashanova, 21 Lyall Close, FLITWICK, Beds, MK45 1JB, amashanova@mail.ru, 30
- 100551, Mr V Matthews, Flat 1, 70 Shepherds Hill, LONDON, N6 5RL, 21
- 99081, Mr G W Maybury, 12 Mounthatten Road, BUNGAY, Suffolk, NR35 1PN, georgemaybury@bungay49.freecserve.co.uk, 25
- 99243, Dr M McCorry, Togherville, Togher, PORTLAISIE, Co. Laois, EIRE
- 100128, Mrs Y J McDermott, 1 Southview, Sands Lane, Small Dole, HENFELD, West Sussex, BN5 9YD, yjmed@tiscali.co.uk, 13

- 100136, Dr A McKenzie, 1 Ingerthorpe Hall Cottage, Markington, HARROGATE, HG3 3PD, 64
 100391, Miss T J McRae, 1 Coastguard Cottages, Walney, BARROW-in-FURNESS, Cumbria, LA14 3YQ, 69
 99316, Mr T A Millions, 20 Lime Grove, Stockton-on-Tees, TS19 7DF, 66
 99324, Mrs M J Millions, 20 Lime Grove, STOCKTON-ON-TEES, TS19 7DF, 66
 100489, Dr J P Moody, 53 Collingwood Street, Broughtny Ferry, DUNDEE, DD5 2UF, 90
 99928, Ms E M Murphy, Teagasc, National Botanic Gardens, Glasnevin, DUBLIN 9, IRELAND, emurphy@botanic.teagasc.ie, H21
 99881, Mr P Negal, Inishmore, Greenways, Newton Froman, NORWICH, NR15 1QJ
 99057, Mr P Nuttall, 22 Green Lane, PETERBOROUGH, PE1 3BA, pn@ceh.ac.uk
 99431, Mrs S M Oates, 27 York Court, The Albany, Albany Park Road, KINGSTON upon THAMES, Surrey, KT2 5ST, 17
 100365, Mr M J O'Donoghue, 7 Hillingdon Avenue, SEVENOAKS, TN13 3RB, 16
 99405, Mrs M A Osbourne, 36 Solway Avenue, Patcham, BRIGHTON, East Sussex, BN1 8UJ, 14
 99413, Mr G Osbourne, 36 Solway Avenue, Patcham, BRIGHTON, East Sussex, BN1 8UJ, 14
 100101, Miss J P Park, 41 Haughhead, Campsie Glen, GLASGOW, G66 7AN, 86
 100543, Dr J P H Paterson, 1d Brunswick Street, TARBERT, PA29 6UN, 101
 100403, Miss E. Pawley, Haven Cottage, Bagshaw Hill, BAKEWELL, Derbyshire, DE45 1DL, 57
 100004, Miss S Pendarves, 26 Hillside House, Allcroft Road, READING, RG1 5DJ, 22
 99626, Mrs T Penfield, 2 Croftsidge, YORK, YO26 5LT, 64
 99634, Mr S Penfield, 2 Croftsidge, YORK, YO26 5LT, 64
 99162, Dr C J Peppiatt, 18 Carraig Palmer, Quincetennal Drive, Salthill, GALWAY CITY, Co. Galway, EIRE, H16
 99820, Mrs E Pickering, 8 Hawk House, Sullivan Close, Battersea, LONDON, SW11 2NN, 17
 100160, Ms M K Price, 3 Portledge Place, Fairy Cross, BIDEFORD, North Devon, EX39 5AW, 4
 99766, Dr J Proctor, Clover Cottage, Clough Lane, Simonstone, BURNLEY, BB12 7HW, 59
 99529, Miss L C Prosser, 35 Keswick Road, Great Bookham, LEATHERHEAD, Surrey, KT23 4BQ, lprosser59@hotmail.com, 17
 100497, Miss S J Prosser, 35 Keswick Road, GREAT BOOKHAM, Surrey, KT23 4BQ, sallyprosser@hotmail.com, 17
 99774, Mr P D Pullen, 95 Yealmstone Drive, Plympton, PLYMOUTH, PL7 1HE, phil_pullen@hotmail.com, 3
 100373, Miss J S Rising, 7 Garden Close, BUNGAY, Suffolk, NR35 1JD, 25
 99944, Mrs C Roberts, 30 Cambridge Street, NORWICH, NR2 2BB, chrisroberts_500@hotmail.com, 27
 99545, Dr H Sass, 6 Officer's Flats, New Zealand Road, CARDIFF, CF14 3JT, 41
 99553, Mrs A Sass, 6 Officer's Flats, New Zealand Road, CARDIFF, CF14 3JT, 41
 99596, Ms M Scholten, 52 Oakfield Road, Selly Park, BIRMINGHAM, B29 7EQ, maria_scholten@hotmail.com, 37
 100470, Mr J D Shanklin, 11 City Road, CAMBRIDGE, CB1 1DP, j.shanklin@bas.co.uk, 29
 99391, Mr D J Shaw, 5 Keswick Avenue, GATLEY, Cheshire, SK8 4LE, 58
 99952, Mr R Sheikh, 66 Gravel Hill, Stoke Holy Cross, NORWICH, NR14 8LH, r.sheikh@ukonline.co.uk, 27
 100195, Miss C Shepherd, Summerlea, 37 Babbacombe Road, TORQUAY, Devon, TQ1 3SB, clareshepherd37@hotmail.com, 4
 100454, Ms P J Simpson, 30 Hackney Road, MATLOCK, Derbys, DE4 2PX, pamelasimpson2@btopenworld.com, 57
 99707, Miss G J B Smart, 81 Ardrossan Road, Scamill, WEST KILBRIDE, Ayrshire, KA23 9NF, 75
 100284, Miss R J Smith, National Trust for Scotland, Lynedoch, Main Street, KULLIN, Perthshire, FK21 8UW, 88
 99898, Mr J Sproull, Cedar Bungalow, Trewetha, PORT ISAAC, Cornwall, PL29 3RU, 2
 99138, Mrs J M Summerson, 12 Sunnisdale, Whickham, NEWCASTLE UPON TYNE, NE16 5TT
 judith.summerson@blueyonder.co.uk, 66
 99537, Ms J Taylor, 3 Manse Lane, STROMNESS, Orkney, KW16 3BX, jtlarch@btinternet.com, 111
 99731, Mr J D Teesdale, Ardbeg High Askonil, CAMPBELLTOWN, Argyll, PA28 6EN, 101
 99723, Ms C Tero, Environment Agency, Waterside House, Waterside North, LINCOLN, LN2 5HA,
 caroline.tero@environment-agency.gov.uk, 54
 99901, Mr R N Thompson, Forest Research, Northern Research Station, ROSLIN, Midlothian, EH25 9SY
 richard.thompson@forestry.gsi.gov.uk, 83
 100081, Miss J E Thompson, 29 Yardley Street, BRIGHTON, Sussex, BN41 4NG, jack.18@ntlworld.com, 13
 100306, Mrs D E Timney, 94 Headley Road, LIPHOOK, Hants, GU30 7PG, diancetimney@hotmail.com, 12
 100012, Mr C T W Tipper, 48 Cottrells, Hemel Hempstead, Herts, HP1 1JE, 20
 *91927, Mr T A F Tokeley-Parry, 3 Portledge Place, Fairy Cross, BIDEFORD, N. Devon, EX39 5AW, jonathantokeley@ic24.net, 4
 99510, Mrs P J Toshach, 10 Hillyfields, WOODBRIDGE, Suffolk, IP12 4DX, 25
 100330, Miss E Townsend, Devon Wildlife Trust, 35-37 St David's Hill, EXETER, EX4 4DA, etownsend@devonwt.cix.co.uk, 3
 100527, Mr A G Upton, Ruach, Heddl, FINSTOWN, Orkney, KW17 2JX, andrewgupton@hotmail.com, 111
 100519, Miss K Vint, 134 Templeton Avenue, Llanishan, CARDIFF, CF14 5JJ, katherine.vint@nmgw.ac.uk, 41
 100381, Mr R F Walker, Colryn, Rockfield Road, OBAN, Argyll, PA34 5DQ, rwalkercam@aol.com, 98
 99383, Dr S D Ward, Dooneen, NEW QUAY, Co. Clare, IRELAND, H09
 100268, Ms C Ware, 66 Middle Wall, WHITSTABLE, Kent, CT5 1BN, c.ware@nhm.ac.uk, 15
 100063, Mr J M Westgate, 8 Kemble Grove, The Reddings, CHELTENHAM, Gloucestershire, GL51 6TX
 mike.westgate@blueyonder.co.uk, 33
 100071, Mrs R Westgate, 8 Kemble Grove, The Reddings, CHELTENHAM, Gloucestershire, GL51 6TX, 33
 99227, Mrs K Wilkinson, 5 Wyndham Street, Tongwynlais, CARDIFF, CF15 7LN, 41
 100039, Mr S C Willis, 14 Sunnysbank Place, ABERDEEN, AB24 3LA, swillis@nts.org.uk, 92
 100144, Mr R S Wolstenholme, The Flat, Highgate Farm, Brinkworth Road, Wootton Bassett, Wiltshire, SN4 8DT
 robert.wolstenholme@english-nature.org.uk, 7
 100314, Mrs F L Womack, 121 Chapel Lane, HIGH WYCOMBE, Buckinghamshire, HP12 4BY, fiona@womack8032.freemove.co.uk, 24
 100500, Dr P A Wookey, School of Biol & Envir Sciences, University of Stirling, STIRLING, FK9 4LA, pw9@stir.ac.uk, 87
 99758, Mr M A Wright, 8 Knockhill Park, BELFAST, BT5 6HX, mark.wright@doeni.gov.uk
 99782, Mr J H Wyatt, Little Okford, Christchurch Road, TRING, Herts, HP23 4EF, 20
 99308, Mr F Zunino, 55, rue des 4 Cyprès, 86180 BUXEROLLES, FRANCE

Continued from back cover

NOTES AND ARTICLES (Cont.)

Botany in literature – 36	29
Botanists in literature – 37; ‘Musing among the vegetables?’	30
Wilfred Owen’s interest in plants	31
<i>Listera cordata</i> (Lesser Twayblade) not in Bucks (v.c. 24)	32
Botanising with a dog on wheels	33
What lies across the channel? Part 2	33
Algal endophytes within vascular plant root tissues	36
Linnaeus Link progress	38
CONSERVATION NEWS & VIEWS - Integrated Habitat System survey of Aberdeen City and Shire	39-40
ALIENS	41-50
Could <i>Poa supina</i> be overlooked in Britain?	41
<i>Globularia punctata</i> (Globularia) in Bucks (v.c. 24)	41
Exotic Ferns on London Walls	42
Species increasing in urban habitats in Southampton	45
<i>Petrorhagia dubia</i> established in S. Hants (v.c. 11)	46
More Mediterranean ‘Aliens’ in Gosport	46
Foreign grasses in London streets	48
<i>Allium paniculatum</i> ssp. <i>fuscum</i> (Pale Garlic) new to Britain	49
NOTICES (BSBI)	50
<i>Watsonia</i> 25(4) Correction	50
Excursion to Jersey	50
Excursion to Western Portugal - March 2006	50
NOTICES (NON-BSBI) - Go Native! Planting for Biodiversity Awards	51
OFFERS - Available to a good home	51
REQUESTS	51-52
Vegetative Key to the British Flora: an update	51
<i>Urtica galeopsifolia</i> , a request for records	52
<i>Euphrasia</i> eats what?	52
BOOK NOTES	52-56
Arable Plants	53
New Books from CABI	53
Go Native! New publications from Flora locale	54
A new, illustrated monograph of <i>Poa</i>	54
OBITUARY NOTES	56-58
Franklyn Perring	56
Peter Thomson (1925-2005)	56
Dr Larch Garrad	56
Joyce Lambert	56
Richard Palmer	56
Derek Ratcliff	56
Robert Ross	56
Rev. Fr Dr K.M. Matthew	57
Frances Partridge	57
Joyce Smith Memorial	58
REPORT OF OVERSEAS FIELD-MEETINGS	58-66
Czech Republic, 26 th April to 6 th May	58
Catalan Pyrenees, North-east Spain, 18 th to 25 th June	64
SECOND UPDATE TO MEMBERS LIST IN <i>YEAR BOOK 2005</i>	67-70
Changed addresses	67
New members	68

CONTENTS

ADMINISTRATION AND IMPORTANT ADDRESSES.....	2
DEADLINE FOR CONTRIBUTIONS FOR <i>BSBI News</i> 101	2
IMPORTANT NOTICES	3
The Allan Hamerschlag Memorial Fund	3
<i>BSBI News</i> 100 not out!.....	3
NOTES FROM THE OFFICERS	4-7
From the Hon. General Secretary	4
From the Director of Development	4
A new image for the Society.....	5
From the Volunteers Officer.....	6
From the Scottish Officer	6
DIARY	7
EDITORIAL.....	8
New format for <i>BSBI News</i>	8
New email address for Field Secretary.....	8
Colour section	8
Colour photographs	8
Line drawings.....	8
Where are they now?.....	8
RECORDERS AND RECORDING.....	9-14
Panel of Referees and Specialists.....	9
Panel of Vice-county Recorders	9
Wanted – a Vice-County Recorder for Easternness – v.c. 96	9
Vice-county recorders for Scotland	10
The New Red List for Britain	10
The New Red list and recording for County Rare Plant Registers and Floras	12
Verification and MapMate.....	13
NOTES AND ARTICLES.....	14-38
Leaf structure in <i>Epilobium</i>	14
<i>Pemphigus spirothecae</i> galls on Black Poplar.....	14
Wall Whitlowgrass (<i>Draba muralis</i>); a possible native locality in Southern Scotland	15
A note on <i>Lamium album</i> × <i>L. purpureum</i> and early horticultural hybrid names	17
Are roadside verges the Key Refuge for Meadow Crane's-bill in Great Britain?.....	18
Further colonisation by <i>Cochlearia</i> species in NE Scotland	18
Bluebells with Green Parts	19
Cuckoo Flowers	19
Racemose or cymose? - That is the question.....	19
Milk matters – the importance of latex in vegetative identification	21
Gladys Tuck Herbarium- a new acquisition to Bristol Museum & Art Gallery.....	22
Aberrant <i>Ranunculus hibernicus</i>	23
<i>Herniaria glabra</i> on the Sefton Coast, Merseyside	23
Dr Brodum's Botanical Syrup	25
More plants at variance with Floras	25
Salt burn turns June into autumn on the eastern side of Great Cumbrac	25
<i>Rumex rupestris</i> , re-found in Guernsey in 2004	26
<i>Viola reichenbachiana</i> lower petal veins	27
New orchid hybrids in <i>Flora Iberica</i> vol. 21	27
Urban / Suburban Ferns.....	28

Continued on inside back cover