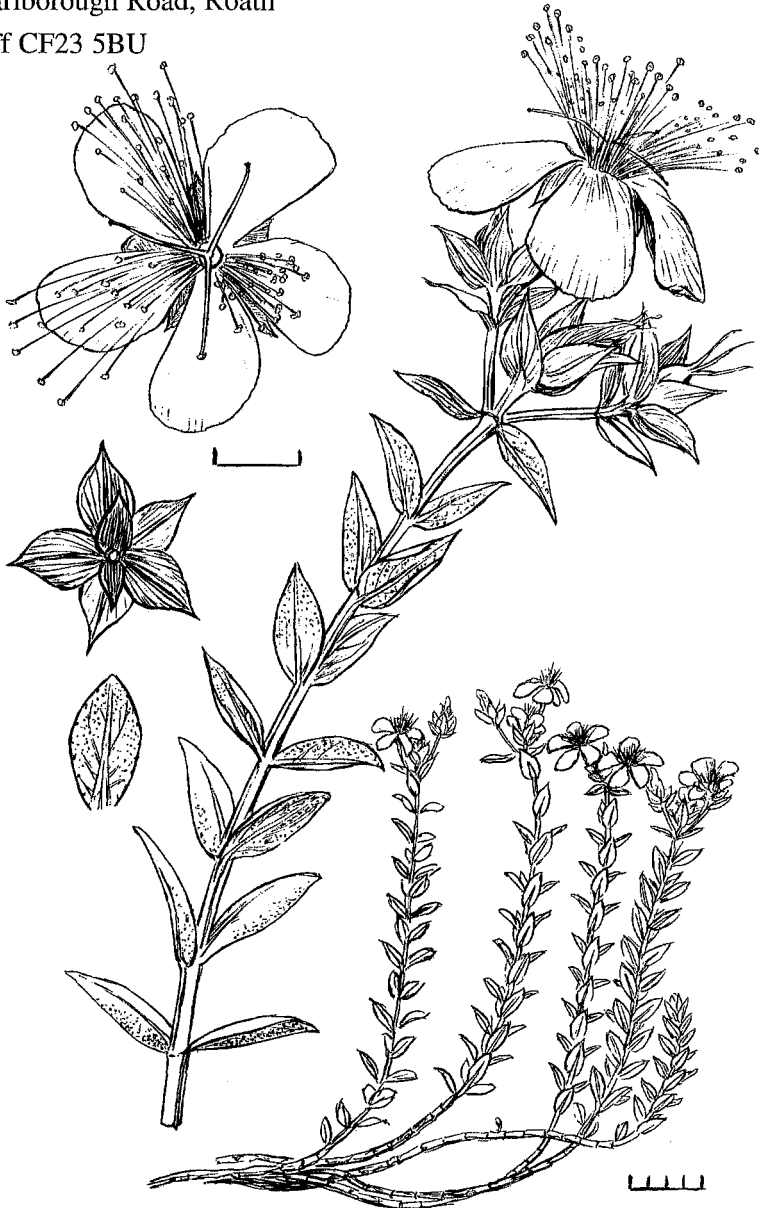


41 Marlborough Road, Roath
Cardiff CF23 5BU



Hypericum olympicum del. G.M.S. Easy © 2001 (see p. 47)

ADMINISTRATION AND IMPORTANT ADDRESSES

PRESIDENT

Dr Geoffrey Halliday
26 Mowbray Drive, Burton-in-Kendal, Carnforth, Lancashire, LA6 1NF
Tel.: 01524 781550

PRESIDENT-ELECT

Mr Richard Pryce
Trevethin, School Road, Pwll, Llanelli, Carmarthenshire, SA15 4AL
Tel. & Fax: 01554 775847; e-mail: PryceEco@aol.com

HON. GENERAL SECRETARY (General Enquiries)

Miss Ailsa Burns
3 Rosliston Road, Stapenhill, Burton-upon-Trent, Staffordshire DE15 9RJ
Tel.: 01283-568136; e-mail: BSBIHonGenSec@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

HON. EDITOR (BSBI NEWS)

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

MEMBERSHIP SECRETARY (Payment of Subs and changes of address)

Mr Michael Walpole
68 Outwoods Road, Loughborough, Leics. LE11 3LY
(Please quote membership number on all correspondence; it is on the address label on your mailings, and in the List of Members in *Year Book 2001* and *2002*).
Tel.: 01509-215598; e-mail: mike.walpole@dial.pipex.com

HON. FIELD SECRETARY (Enquiries on Field Meetings)

Mrs Jane Croft
12 Spaldwick Road, Stow Longa, Huntingdon, Cambs. PE28 0TL
E-mail: jane@stowlonga.fsnet.co.uk

BSBI PROJECT MANAGER (Atlas 2000, Co-ordinators and Threatened Plants Database)

Mr David Pearman
The Old Rectory, Frome St Quintin, Dorchester, Dorset DT2 0HF
Tel.: 01935-83702; e-mail: DPearman4@aol.com

WATSONIA RECEIVING EDITOR

Mr M.N. Sanford
c/o The Museum, High Street, Ipswich, Suffolk IP1 3QH
E-mail: sbrc@globalnet.co.uk

RESEARCH FUND APPLICATIONS

Mrs S. Whild
66 North Street, Shrewsbury, Shropshire, SY1 2JL
Tel. & Fax: 01743 343789; Mobile: 0585 700368; e-mail: s.j.whild@whild.icom-web.com

BSBI CO-ORDINATOR

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

BSBI PUBLICATIONS

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

BSBI WEB SITE ADDRESS

www.bsbi.org.uk

CONTRIBUTIONS INTENDED FOR

BSBI NEWS 91

should reach the Editor before

AUGUST 1st 2002

IMPORTANT NOTICES

BSBI WALES 10TH QUADRENNIAL MEETING AND 40TH AGM, 2002

Notice is hereby given that a meeting of members of the Society, normally resident in Wales, will be held at Plas Tan-y-Bwlch, Maentwrog, Gwynedd on Saturday 6th July 2002.

AGENDA

1. Election of Chairman and member to serve as Representative on BSBI Council
2. Election of Vice-chairman
3. Election of Hon. Secretary, Hon. Treasurer and members of Committee for Wales
4. Any other business

Nominations of members for election as Chairman and Representative on Council must be in writing, signed by two members normally resident in Wales, and accompanied by written consent of the candidate to serve if elected. Such nominations, and nominations for Vice-chairman, Officers and Members of the Committee for Wales, should be sent to the Hon. Secretary of the Committee for Wales, Mr R.G.Ellis, 41 Marlborough Road, Roath, Cardiff, CF23 5BU, to arrive not later than May 30th 2002.

AILSA BURNS, Hon. General Secretary

CONFIDENTIALITY OF RECORDS

Thanks to all of you who responded to my request in *BSBI News* 89 on this subject. Everyone who wrote was wholeheartedly in favour of complete openness and the need for information to be as freely available as possible.

Trevor James, who is the National Biodiversity Network's Development Officer for Schemes and Societies, pointed out that there is a need to handle data within a careful framework in order to ensure that there is freedom of exchange between interested parties. To this end, the NBN has issued a series of 'Data Exchange Principles', which are currently in draft form, the basic premise of which is that data should generally be freely available. But there are caveats, or example, to allow for confidentiality on grounds of damage to the environment and on ownership, management and accessibility of data.

The BSBI is developing its own principles along these lines. If you have an opinion on the subject and have not yet voiced it, please respond through the Hon. Gen. Sec.

RICHARD PRYCE, President Elect.

MONITORING RARE PLANTS ON SCOTTISH SSSIS

There is a chance that the Society, working with Scottish Natural Heritage, may be able to help monitor populations of Rare and Scarce plants on some Scottish SSSIs. These would include both upland and lowland sites, and would take place this year and next. Expenses would be available, plus, possibly, some funding.

This work would fit in well with what the Society wishes to do; to prepare County Rare Plant registers and develop site recording skills.

Would any member who might be interested contact me in the first instance, but I hope to delegate the organisation to someone else!

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

AMENDMENTS AND CORRECTIONS TO BSBI YEAR BOOK 2002

- 1) The Systematics Association (*Year Book* p. 39)
The contact names for this Association are:
Dr Zofia Lawrence, Secretary, The Systematics Association, c/o CABI Bioscience UK Centre, Bakeham Lane, Egham, Surrey TW20 9TY; and the membership Secretary is Dr Geraldine Reid, c/o Dept. of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD.
- 2) The correct address for The Wildlife Trusts headquarters office (*Year Book* p. 40) is: The Kiln, Waterside, Mather Road, Newark NG24 1WT.
- 3) Margaret Bradshaw has advised that the cost of the *Alchemilla* Identification Weekend (July 5–7) will be £75 and not £100 as stated in the details on page 34 of the *Year Book 2002*.

Thank you to members who have sent suggestions for additional 'Useful Addresses'. These are being checked out and will be added in due course, if those concerned would like to be included.

MARY BRIGGS, Hon. Editor *BSBI Year Book*

ATLAS 2000 LAUNCH DATE

The launch of Atlas 2000 or the *New Atlas of the British and Irish Flora* as it is now known has had to be put back from the provisional date of May 23rd to Wednesday July 17th at the Royal Botanic Gardens, Kew. The first set of page proofs has been returned and the second set has just arrived (23/3/2002), so with luck the *Atlas* will be ready by the new launch date!

EDITOR

PROFILE

RICHARD PRYCE

Richard Pryce was born in 1949 in Battersea, London, and joined the BSBI in 1978. Although interested in wild plants since childhood, it was not until 1972, when he met Mrs Irene Vaughan, his predecessor as Vice-county Recorder for Carmarthenshire, that he was inspired to study the subject seriously.

He attended the Haberdashers' Aske's School, Elstree and went on to study geology at Swansea University where he graduated in 1970 with a Special Honours Degree in Geology. His 23 year career with British Coal culminated in his appointment as their in-house ecologist for several years prior to his leaving the industry on its privatisation. He founded Pryce Consultant Ecologists in 1994 after leaving British Coal and he and his team have built-up an enviable reputation for thoroughness and impartiality when dealing with commercial interests which potentially conflict with nature conservation issues.

He is a Chartered Biologist, is a Member of the Institute of Biology, an Associate of the Institute of Ecology and Environmental Management and a Fellow of the Linnean Society of London.

Since the early 1970s he has gained considerable knowledge and experience as a field botanist through working closely, both with the BSBI, and with local voluntary bodies such as the Dyfed Wildlife Trust and Llanelli Naturalists. He has contributed ecological assessments and mitigation proposals for several environmental statements and numerous proofs-of-evidence for presentation at public inquiries, and has supported both barristers and expert witnesses, in addition to presenting evidence in his own right at planning inquiries.

Richard has advised on the incorporation of ecological interest and creation of wildlife habitats in current and future restoration schemes and was instrumental in setting-up and running programmes to harvest local wild seed from species-rich meadows for subsequent use in site restorations. Considerable progress was thus made in allaying criticism over the use of non-native seed from commercial sources in such schemes. In addition to ecological expertise, he has had training in vegetation and habitat mapping from airphotos, photo-geological interpretation, civil engineering, soils handling and media interviewing techniques. He is familiar with various computer software systems and was for some years Secretary of the BSBI Computer Users' Group.



Richard Pryce (left) and George Hutchinson recording for the Flora of Carmarthen at Pwll Edrychiad.

Photo © R.D. Pryce 1999

In 1978 he was appointed as BSBI Vice County Recorder for Carmarthenshire. In 1981 he launched a project to systematically record the distribution of the county's plants and has recently produced a County Rare Plant Register for Carmarthenshire for use by decision-makers and conservationists alike. The considerable amount of data amassed during the project has been stored on computer from the outset, which enabled easy retrieval of data when the time came to contribute to the Atlas 2000 scheme. In collaboration with Dr George Hutchinson at the National Museum and Gallery of Wales, Cardiff, he is currently working on the preparation of the first comprehensive county flora and plant atlas of the county. BSBI field weekends held in association with recording for the Flora have become something of a social event in the BSBI calendar. He is (until May 2002) Chairman of the BSBI Committee for Wales and Welsh Representative on BSBI Council, and will remain Co-editor of the *BSBI Welsh Bulletin*.

He was a founder member of the Llanelli Naturalists and has been its Hon. Secretary since 1974. He holds office on the steering groups of a number of voluntary conservation bodies and provides botanical advice to several nature conservation fora including the Carmarthenshire Biodiversity Action Plan Partnership.

My first contact with Richard Pryce came in the late 1970s when he took over as vice-county recorder for v.c. 44 (Carmarthenshire) from the redoubtable Mrs I.M. Vaughan. I seem to remember that we had a heated (well, fairly heated) argument about the spelling of a local town, Llanpumsaint, in Welsh Plant Records; with impeccable logic and balanced argument, he won! We have remained firm friends ever since and I am delighted that he is to be the first Welsh resident to be nominated as President of the BSBI.

GWYNN ELLIS

DIARY

N.B. These dates are supplementary to those in the 2002 Calendar in *BSBI Year Book 2002* and include dates of the BSBI's Permanent Working Committees.

2002

May 11	Executive (at AGM) Council (at AGM after Executive)
June 15	Francis Rose 80 th Birthday Conference, Cardiff (see <i>BSBI News</i> 89: 78)
June 21–28	<i>Spotlight on Plants</i> , free course for young persons at Preston Montford (see <i>BSBI News</i> 88: 72)
September 18	Meetings Committee (London)
October 3	Database (Leicester)
October 9	Records Committee (London)
October 17	Publications Committee (London)
November 14	Council (Linnean Society)

2003

May 8–12	Anglo-French meeting in Cornwall (see page 71 last issue)
September 13–14	International Oak Society Conference, Winchester (see insert with this mailing)

EDITOR

EDITORIAL

I wish I hadn't commented on the length of *News* in the last issue; due to pressure of work the Report of the Annual Exhibition Meeting 2001 has been held over until the next issue; and with fewer notes sent in, this has left me with less copy than I would really have liked. But it's an ill wind . . . so I have space for a few more seedling drawings. But seriously, do continue to send in notes for publication, anything from a paragraph to several pages, will be most welcome — don't forget that *BSBI News* is meant to be a vehicle for distributing **your** views among your fellow members.

I'm sure I am not alone in regarding the apparent demise of the official Threatened Plants Database a bit of a setback. I think Alex has done a tremendous job over the last couple of years and hope very much that he will be able to continue to develop and improve the unofficial TPDB — thank you Alex for all your hard work on the database and as Co-ordinator.

On pages 43-45 there are a couple of articles on *Laurus nobilis* (Bay) and its possible or imminent spread into the countryside as an invasive species. I have noticed in Cardiff, that seedlings of this tree abound in various parks and are starting to invade waste ground and roadsides. One particular problem that I have been instructed by my wife to mention in *News*, is the appearance of a black sooty deposit on leaves and twigs. Can any member tell me what this is and advise on ways of removing it?

BBC Radio 4 are broadcasting a half-hour programme on *Atlas 2000* at 11.00 a.m. on Tuesday May 7th. It will include contributions from David Pearman, Trevor Dines, Simon Leach (English Nature) and Roy Lancaster.

With this issue of *BSBI News* you should find the following inserts – BSBI Annual Report, Atlas 2000 pre-publication offer; Welsh AGM booking form, Gift Aid letter, *Watsonia* cumulative index leaflet, Summerfield Books catalogue, International Oak Society Conference, Flora Locale leaflet.

Catalogue No 7 of Bernwode Books, containing mainly botanical books is available from our member Stan Woodell, Wolfston College, Oxford OX2 6UD.

I have available a few copies of the 2002 Field Studies Council Overseas leaflet listing over 45 overseas trips; if any member would like a copy please let me know, or the full brochure can be obtained from FSC, tel: 01743 852150; fax: 01743 852155; e-mail: fsc.overseas@ukonline.co.uk, or visit <http://www.fscOverseas.mcmail.com>

EDITOR

HONORARY GENERAL SECRETARY'S NOTES

In the next and subsequent issues of '*News*' I intend, courtesy of Mike Walpole, our Membership Secretary, to list all those who have recently joined the Society, together with their home vice-counties so that local existing members might make them welcome. I realise, of course, that not every one concentrates on the plants of their own v.c. but we cannot know of more distant interests until we are told of them!

New membership is rather on my mind at present because, 40 years ago, after leaving Bangor [and even then one had to choose a university with great care in order to be looking at whole plants, their taxonomy and ecology rather than just biochemistry, physiology and genetics] and two years as Field Assistant at Slapton I joined this Society. This then is my bi-vigesimal BSBI year and I am very grateful indeed to the Society for all those years of botanical friendship.

Recently, together with several other BSBI members I attended the Memorial Meeting for David M^cClintock, when a remarkable man and a great botanist was remembered with affection and gratitude.

Congratulations are due to Dr R.A.H. Smith who was recently appointed MBE for services to conservation in Scotland.

In the near future, there are exciting developments in store for the Society — watch this space!

ALSA BURNS, Hon. General Secretary. NB My new e-mail address is — BSBIHonGenSec@aol.com

CO-ORDINATOR'S CORNER

Arable Weeds Survey 2002

The survey in 2001 was a bit thin, owing to Foot & Mouth, but I did receive a few dozen forms from around and about, including such exotic places as Cornwall, Co. Kerry and Orkney. On the original survey forms I was persuaded by Susannah Kay of the Northmoor Trust to specify two visits in the year, in order to be sure of getting all the species. This seems works well in the south of England, but simply isn't necessary from the Midlands northwards, as the growing season is too short to support two crops of weeds. So anyone in Scotland, Ireland and Wales can certainly be exempted from making two visits, if that makes life easier.

Another controversial point was over those counties, mainly in the highlands and Ireland, where there simply are no arable fields. I think we can accept vegetable gardens if needs must — anywhere where the soil is turned and the species have not been deliberately planted (except for the crop, of course).

I have too few lists yet to perform much analysis, but the character of arable fields in the different countries is beginning to emerge. Perhaps the most interesting discovery was of Purple Ramping-fumitory, *Fumaria purpurea*, new to Caithness, which John Crossley correctly predicted would be present in fields similar to those in Orkney.

Limonium binervosum project

The BSBI's own Biodiversity Action Plan involves Rock Sea-lavender, *Limonium binervosum*. Over the last year or so I have been collecting all the available data about this critical group and plotting on maps all the known populations. These are now available by 10-km square, showing precisely where each population occurs, which taxa are present (if known) and how many plants there are. Rock Sea-lavenders are not for the faint-hearted, but if anyone fancies their chances of identifying some, I would be happy to send them the details for a square of their choice. There may well be additional populations not marked on the maps, and it would be good to know these. So if you are going on holiday, and think you can help, please get in touch.

A few big questions have been raised by the *Limonium* project. One place where it is thought to have declined is Hampshire, but our researches seem to show that it was only ever recorded there in error. A small achievement for conservation, if you like, as it has not declined as much as we thought! Two mystery localities have emerged. It was once recorded on Lundy, but no-one has seen it there recently, despite Roger Key kindly making a special effort to look out for it this year. If it is there, it may well be an interesting new subspecies.

Another interesting location is on the Isle of Man. David Allen knows precisely where the plants are, on the cliffs near the southern tip, but they are out of reach. The war in Afghanistan saved me from having to go over the top in search of them, after this had all been arranged with the Paras — an experience I was not particularly looking forward to . . . Anyone else who wants to have a go at this may get in touch.

Developments on the web

Those who like the Internet might have noticed numerous improvements to the BSBI web site in recent months. Among the things you can now find are a searchable database of plant names and their synonyms together with an extensive cytology catalogue and an up-to-date list of plant names that can be downloaded for your own use.

The latest addition is a sample of the Threatened Plants Database, now no longer passworded, which you can get to from the BSBI home page, or directly at www.tpdb.org. This is intended primarily as a demonstration of what can be done by careful biological recording — many of the records are extremely detailed and are presented in full for your perusal. There is also an interactive map, so you can click on the dots and see what lies behind them, and even species accounts which look briefly into the ecology, conservation and monitoring procedure for each species. It has only half a dozen species at the moment, but maybe we will expand it at a later date. The species covered are

Dianthus deltoides (Maiden Pink), *Galeopsis angustifolia* (Red Hemp-nettle), *Luronium natans* (Floating Water-plantain), *Lycopodiella inundata* (Marsh Clubmoss), *Mentha pulegium* (Pennyroyal), *Pilularia globulifera* (Pillwort) and *Potamogeton compressus* (Grass-wrack Pondweed).

One nice feature of the site is the ability it gives you to send feedback. Just click on the button by each record and you are presented with the opportunity to correct any details that you are not happy with. For instance, Geoff Toone reported to me that William Bromfield left the Isle of Wight in 1850 and therefore could not have recorded *Mentha pulegium* there in 1851. And Andy Amphlett sent me useful new information on a *Dianthus deltoides* site in Banffshire. I'm not quite sure why, but this species seems to be far more often associated with rivers in Scotland than in England. Is this significant?

People might also like to know about a development by BSBI member Quentin Groom, again accessible through our home page. This is an interactive web site for identifying plants and submitting records. If you answer a series of questions about a plant it will either tell you which species you have or offer you a short list of possibilities. I tested it with a barren frond of *Thelypteris palustris*, Marsh Fern, and it got the answer right, but I confess I haven't tried the *Euphrasia* key yet . . . Once you have identified the plant, you can fill in a card and submit your record.

Threatened Plants Database

The TPDB project will be formally finished by the time you read this, but we set it up as a long term system for the BSBI to use for a whole variety of purposes, and we are keeping many parts of it going. This will include our annual collection of databases from counties and museums, our training and support to recorders, and our IT development. We have now got over 15 million records, but they are on literally dozens of different database systems. We still have a lot of work to do before we are able to utilise the data fully, but we are getting there.

I shall continue to work on rare plants and important sites as the need arises, and people are always welcome to get in touch if they have any queries.

Meanwhile the society is looking to appoint a volunteer co-ordinator to take forward some other aspects of recording. The new officer will be undertaking new initiatives and helping new v.c. recorders, while I shall continue to support the old, established ones. If all goes according to plan, we should be in a position to provide a fully integrated computerised recording system to some people, with palmtop computers for use in the field and records being transferred automatically from your desktop all the way to our web site. The key to all this is a program called Mapmate, which has all the key features for good recording and reporting, and is also simple to use. Dial up to www.mapmate.co.uk if you would like to know more. It is a program by naturalists and for naturalists, and it seems to be sweeping the board.

Science & Research Committee

Finally, I ought to mention the BSBI's Science & Research Committee, of which I have the honour of being clerk. The purpose of the Committee is to support the more scientific aspects of the Society's work. We have recently hit on a winning formula by holding virtual meetings over the internet, which has allowed us to recruit leading academics and other working scientists who otherwise would have been impossible to drag to a meeting in London. The Committee awards small grants to students and researchers, mainly for travel and laboratory costs.

In recent years Clive Jermy started compiling a directory of systematists, which unfortunately has now lapsed, but I have a copy of the database if anyone knows of a similar project elsewhere. Also, we wanted to advertise for potential new members of the committee — preferably, as I mentioned, working academics. We feel our virtual meetings should allow us to have better representation from outside England. At the moment we are well endowed with geneticists, taxonomists, phytosociologists and IT specialists, but we lack biogeographers and statisticians. Members of the Committee, I should add, may not apply for grants.

RECORDERS AND RECORDING

PANEL OF REFEREES AND SPECIALISTS

A few changes to report:

Mr A.W. Reid has agreed to take over the maintenance of the *Taraxacum* database since the death of A. Dudman (see *News* 89: 57), so please send your *Taraxacum* records to him. His address is already in the Referees list in *Year Book 2002*.

We have had a response to my pleas for help in the last *News*: Mr R.M. Burton has offered to referee *Galium*; his address is also in the Yearbook.

Rosemarie Rees has left the Natural History Museum, so now general v.c. boundary queries (other than Scottish) should be sent to: The Botany Librarian, Natural History Museum, Cromwell Road, London SW7 5BD email: mab@nhm.ac.uk

The address of Mr D. R. Glendinning (*Polygala* referee) is now: Lifra, Dundas Street, Comrie, Perthshire PH6 2LN.

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

PANEL OF VICE-COUNTY RECORDERS

Changes in vice-county recorders

Appointments

V.c. 89 E. Perth Mr M.C. Robinson, Dalroch Farm, Enochdu, Blairgowrie, Perthshire, PH10 7PK

Martin takes over from Ros Smith, who has been recorder since 1982 and a stalwart friend of the BSBI and the Scottish Committee over many years.

V.c. 100 Clyde Is. Dr A.C. Hannah, Croc an Raer House, Rothsay, Isle of Bute, PA20 0QT. Angus takes over from Tony Church, who has been recorder since 1986, and combined running the Youth Hostel with his voluntary work.

We thank both retiring recorders very much indeed, especially as they finished their part of the new *Atlas* at the end of their stints, and we wish the new incumbents well.

V.c. H07 S. Tipperary Miss R. Fitzgerald to be sole recorder.

Changes of Address

V.c. 1a Scilly Mrs R.E. Parslow, 17 St Michaels Road, Ponsanooth, Truro, Cornwall TR3 7ED

V.c. 12 N. Hants Mr A.R.G. Mundell, postcode should read GU52 6LS

V.c. 31 Hunts Mr T.C.E. Wells, postcode should read PE26 2QE

V.c. H17 N.E. Galway Dr C.M. Roden, 21 St Johns Terrace, Henry Street, Galway, Ireland

V.c. H26/7 E & W Mayo Mr G. Sharkey, 81 Jamestown Road, Finglas, Dublin 11, Ireland

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

NOTES AND ARTICLES

ALTITUDES

One of the by-products of the *Atlas* has been a 'database' with details of the highest record for each species found in the British Isles, and the source, and similar details for the lowest record for montane plants.

The last systematic compilation was that of Wilson in 1956. Since then the *Flora of Cumbria* has been published, with altitudinal details for most plants, and *Scarce Plants*, *Aquatics* and the *Red Data Books* have all had some details (we have not given bibliographic details but they are self-evident).

For the *Atlas* we have used one or other of these sources. Those from Wilson are referred, by and large, back to original sources, but quite a few of those are 19th Century works that just give a general figure — '2800ft in Scotland', or '1750ft in Atholl' (this from White's *Flora of Perthshire* (1898)). We had hoped to have output from this database ready for the 2002 field season, so that interested members could either look at a little draft booklet we aim to produce, or consult the BSBI Leicester web-site. But, alas, there just has not been time so far.

We would like to reach the state of having a six figure grid reference for each species, and we are possibly halfway there. As a start we list below records mentioned in *Scarce Plants* and the *RDB* for which we cannot immediately find supporting evidence, and we would be very grateful if any member can substantiate these figures (or better them).

ALTITUDES Ex RDB & Scarce Plants that are unsupported

I	Species	R = RDB	Height (m)	VC	Site
		S - Scarce			
HIGHEST	<i>Minuartia hybrida</i>	S	400	64	Langcliffe
	<i>Saxifraga rivularis</i>	R	1200	97	Ben Nevis
	<i>Alchemilla wichurae</i>	S	990	88	Ben Lawers
	<i>Daphne mezereum</i>	S	335	64	Ling Gill, Ribblesdale
	<i>Epilobium lanceolatum</i>	S	400	3	Dartmoor
	<i>Homogyne alpina</i>	R	600	90	Corrie Fee
	<i>Scheuchzeria palustris</i>	R	300	98	Rannoch Moor
	<i>Apera spica-venti</i>	S	690	64	Ingleborough
	<i>Dactylorhiza incarnata cruenta</i>	R	450	105	Ross-shire
" <i>lapponica</i>	R	310	97	Knapdale (or VC 108 ??)	
LOWEST	<i>Woodsia ilvensis</i>	R	365		
	" <i>alpina</i>	R	525		
	<i>Betula nana</i>	S	120	108	-
	<i>Minuartia stricta</i>	R	490	66	Widdybank
	<i>Salix lanata</i>	R	620	-	-
	<i>Saxifraga caespitosa</i>	R	520	49	Cwm Idwal ?
	<i>Potentilla crantzii</i>	S	250	108	Assynt
	<i>Oxytropis campestris</i>	R	25	101	Kintyre
	<i>Epilobium alsinifolium</i>	S	120	104	Eigg
	<i>Veronica alpina</i>	S	760	92	L. Callater
	<i>Artemisia norvegica</i>	R	700	-	-
	<i>Carex rupestris</i>	S	s.l.	108	nr. Durness ?
	<i>Poa flexuosa</i>	R	760	97	Ben Nevis
	<i>Deschampsia caespitosa alpina</i>	S	800	-	-
	<i>Schoenus ferrugineus</i>	R	200	88	L. Tummel

We also have a short list of species for which we have no source.

ALTITUDES **ATLAS with no Source**

1	Species	R = RDB S - Scarce	Height (m)	V.C.	Site
HIGHEST	<i>Quercus robur</i>		450	42	Talgarth
	<i>Vaccinium microcarpum</i>		850	96	Carn nar Tri-tighearnan, Nairn
	<i>Lysimachia thyrsoiflora</i>		310	99	Lily Loch
	<i>Acer campestre</i>		380	42	Llanthony
	<i>Bidens cernua</i>		310	57	Heathcote
	<i>Potamogeton obtusifolius</i>		480	69	Angle Tarn
	<i>Festuca rubra scotica</i>		825		Scottish Highlands
	<i>Anacamptis pyramidalis</i>		350	69	Brough, (Not in Fl. Cumbria)
	<i>Ceterach officinalis</i>		550		Wales, (ex Page)
	<i>Crepis paludosa</i>		915	96	E. Inverness

It would be really encouraging to know if any members feel they would like to help, not necessarily with the lists above, but when the draft book comes out. So please let us know if you are interested.

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

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

UMBILICUS RUPESTRIS — EASTWARD HO?

Navelwort, *Umbilicus rupestris*, is a markedly Atlantic species both in Europe as a whole and in Britain. Common in the west, it is hardly to be found in the east apart from scattered records from Surrey and Kent, and a cluster from coastal Sussex. Its distribution is demarcated quite well by the 35°F February minimum isotherm, Perring and Walters (1962) citing *U. rupestris* as a winter-growing species that is 'not necessarily frost-sensitive but probably fail[s] to compete successfully after a series of cold winters'.

Though never common in the east, the Dickensian winters of the mid-nineteenth century may have caused a further decline. After listing a number of sites in and around Oxford, Druce (1886) remarks 'This is given in Walker [*Flora of Oxfordshire and its contiguous counties*, 1833] as a common plant. It is fast disappearing from the county, if not already extinct', while a few years later it was 'decreasing in Berkshire' (Druce, 1897). Lousley (1976) lists six sites in Surrey, five around Frensham in the extreme south-west, and one which, together with a more recent record near Shere, seen during a London Natural History Society meeting in July 2000, might be a deliberate introduction or garden escape. There are a few old records from Kent, and a more recent one from a wall at Farningham (Burton, 1996), subsequently lost when the wall was rebuilt in 2000 (Burton, *pers. comm.*). *U. rupestris* has never been found in Essex, Herts or Bucks. Its first record from Middlesex (Kent, 1975) is Gerarde's much-quoted 'Upon Westminster Abbey over the doore that leadeth from Chaucer his tombe to the old palace' of 1597, while the second, and also the last, dates from 1763: Burton (1983) describes these as 'a couple of ancient and unconvincing records.'

I was therefore surprised to find, in November 2000, a single flowering plant and a number of seedlings of *U. rupestris* on the mossy top of a brick wall around the basement vestry of St Mary Magdalene, Munster Square NW1, a few hundred yards from Euston Station (see colour plates p. 31). Only a short while later another plant was seen, on a roof near Conway Hall, Holborn WC1, spotted,

appropriately enough, by Robin Blades and Rodney Burton himself during a committee meeting of the London Natural History Society. Most recently, in January 2002, I found a third plant growing in damp brickwork above a basement area in an early Victorian street just south of Kings Cross station. The plants I have seen are vigorous and growing well. That at St Mary Magdalene, whose incumbent has kindly agreed **not** to remove these 'weeds' from his churchyard, flowered again in 2001 and one of its seedlings is well established.

All these sites are in v.c. 21, Middlesex, and one can only speculate on the reasons for the (re?)-appearance of *U. rupestris* in this county. Relevant factors presumably include some twenty years of mild winters, with little frost in central London, and an even longer period since the Clean Air Acts dramatically reduced sulphur pollution. The latter may be particularly important for species whose period of winter growth coincided with the worst smogs from coal fires. Another consideration is the availability of suitable sites; these plants are typically found on Victorian brick walls whose lime mortar has decayed sufficiently (partly as a result of the prevailing rain being a dilute solution of sulphuric acid!) to offer water retention, a good range of nutrients, and a secure anchorage. These factors apply equally to mural ferns, another group of plants now much more common in central London (Edgington, 2000). Indeed, as Perring and Walters (1962) note, the distribution of Rustyback (*Ceterach officinarum*) is remarkably similar to, and governed by the same factors as, that of *U. rupestris*. It may be no coincidence that there are now at least three flourishing colonies of *C. officinarum* on walls in central London.

The three known sites for *U. rupestris* are separated by not much more than 1.5 km. It is tempting to ask whether they originated independently, whether there are more to be discovered, and whether the present population is large and fertile enough to be self-perpetuating and indeed to expand. It would be exciting to see *U. rupestris* once more upon Westminster Abbey!

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JOHN A. EDGINGTON, 19 Mecklenburgh Square, London, WC1N 2AD

MORE SITES FOR *OPHRYS APIFERA* var. *BELGARUM*

I was interested in David Lang's article 'A new variant of *Ophrys apifera* in Britain' in *BSBI News* 88: 38-39 (Sept.2001). He reports that var. *belgarum* has been recorded from Hertfordshire and North Somerset. I suspect, however, that I may not be the only orchid observer who was unaware of the existence of this variety until recently and that it could be much more widespread. I became aware of it when John Tucker reported that he had found it in limestone grassland near Corsham in Wiltshire in 1986. Looking through my slides soon after, I discovered that I had photographed it, in ignorance, on an unimproved lawn at Winsley, near Bradford-on-Avon in Wiltshire in 1989. John Tucker also reported that he had found a group of ten plants on a by-pass cutting near Ettington in Warwickshire in 2000. I now discover from Tony Mundell's listing of Hampshire v.c. 12 records for 2001 that it has been seen by Bill Helyar and Peter Brough beside a ditch at the base of a chalk cutting at a

roundabout near Winchester. And now I learn (*BSBI News* 89: 20) that Terri Tarpey has found it in Essex, noting it, like me, from a previously unidentified photograph. Where next, I wonder? [See below. Ed.]

JOHN PRESLAND, 175c, Ashley Lane, Winsley, Bradford-on-Avon, Wiltshire BA15 2HR.

OPHRYS APIFERA var. BELGARUM, ADDITIONAL RECORDS

Records of *Ophrys apifera* var. *belgarum* Ettlenger are becoming more prevalent as instanced in the article by Terri Tarpey in *BSBI News* 89.

From my own observations and information supplied to me by other botanists, I think that this is a widespread variety which has been largely unrecognised until fairly recently.

I have personally seen it at 6 sites in the UK, namely, one near Street, Somerset (v.c. 6); two near Winchester, Hants (v.c. 11); two N of Bath, NE Somerset (v.c. 6) and one at the Salisbury Plain Training Area, Wiltshire (v.c. 8).

The first encounter I had with this variety was at the site near Street in June 1985, when I considered it just an aberrant form of Bee Orchid. It was again seen at one of the two Winchester sites in June 1987 when it was described to me as *Ophrys apifera* var. *trollii*, an identification with which I did not agree. On the 29th June 1991 whilst examining the second Bee Orchid site on a roadside bank near Winchester, I did notice that amongst the 500+ Bee Orchids present, quite a significant proportion were of this aberrant form and close up photographs were taken (see colour photos, p. 32). A little while later on the 4th July 1991, whilst visiting the two Bee Orchid sites north of Bath, I noticed yet again that this same form was present in both these populations. I then became convinced that it ought to be recognised as a legitimate variety.

In subsequent correspondence with the late Derek Turner Ettlenger, he informed me, after his own observations, of his intention to write it up as a new variety and his article was duly published in *Watsonia* 22(1): 105–107 (Feb. 1998).

Since the publication of this article, I have seen and recognised this variety on the Salisbury Plain Training Area in South Wilts (v.c. 8).

More recently it has been found by Brian Laney (*pers. comm.* 2002) who has taken close up photographs of it at a site in north Northants (v.c. 32) and I agree with his identification. He has also photographed it at Portchester, Hants (v.c. 11) and his identification here was confirmed by David Lang.

Derek Turner Ettlenger expressed the view that this variety was probably quite widespread in the British Isles, and these latest records seem to confirm this view.

RICHARD LAURENCE, The Gables, Murtry, Frome, Somerset BA11 3NP

COLOUR VARIATION IN LATHYRUS SYLVESTRIS

Lathyrus sylvestris (Narrow-leaved Everlasting-pea) is native to Britain and grows in woods and hedges. It is often described as having pink or pink-purple flowers without mention of any other colour forms. Sometimes it is described as having greenish-pink or yellowish-pink flowers, again without mention of any other colour forms. The writers, presumably, simply describe the colour form with which they are familiar. The flower of *L. sylvestris* consists of an upright petal, called the 'standard', and two wing petals enclosing the two joined petals of the keel. In illustrations it is often shown as having pink or pink-purple flowers; and sometimes it is shown with a greenish-pink or yellowish-pink standard together with pink or pink-purple wing petals.

It would seem therefore that there is a considerable degree of colour variation in *L. sylvestris*; and it is strange that, as far as I can ascertain, the fact that this species sometimes appears in different

colour-forms never seems to be mentioned. I think this should be mentioned, at least in popular wild flower guides, bearing in mind that beginners rely rather heavily on flower colour for identification purposes. The only reference that I have found to colour variation is misleading. This is in the Reader's Digest Field Guide which states '... the everlasting pea occurs only in pink and white forms.' It should have been made clear that this applies only to *Lathyrus latifolius* (Broad-leaved Everlasting-pea) which, as a garden plant, has a white and a pink-white form.

Lathyrus are self-pollinating, therefore they tend to preserve and pass on to their offspring any unusual colour-forms which may arise. It follows from this that the flowers vary in colour between, and not within, colonies. This raises the question as to how the different colour-forms would arise, assuming that there was one original colour-form. I suppose there is some genetic explanation, but I note from reading Harvey (John Harvey, *Mediaeval Gardens* 1981) that *L. sylvestris* was probably grown in gardens in late mediaeval times, which might suggest that some colour-forms were developed at some time in the past.

In Bedfordshire, *L. sylvestris* appears in a small number of locations and sometimes the sites have only a few plants. However, in north Bedfordshire (Sharnbrook Summit NR) there is a large colony of plants in which the flowers seem to me to be an unusual colour variant with pale greenish-pink standard and pale pink wings which at the tip are a very dark dull purple (see colour photo, p. 33). I would be very interested in hearing from members who have seen this or any other unusual colour-form of this species in other counties.

PETER C. HORN, 22 Jowitt Avenue, Kempston, Bedford. MK42 8NW.

THE GREY SQUIRREL AND SYCAMORE BARK-STRIPPING IN NE DERBYSHIRE

Yellowing, wilting and defoliation of Sycamore (*Acer pseudoplatanus*) foliage has been newly observed last summer (2001) in rural north-west Chesterfield for the first time (since 1964 in Derbyshire).

The phenomenon is associated with debarking (bark -stripping) of sycamore (and some planted Norway Maple (*Acer platanoides*) saplings, smaller trees and whole branches of mature trees, attributed to the grey squirrel (*Sciurus carolinensis*). Ring-barking [Plate 2, p. 31] of leading shoots of sycamore saplings (up to wrist-sized in diameter), boles of smaller trees and branches of mature trees (up to leg-sized in diameter) result in the early wilting of all of the (next ?) summer's flush of leaves, the death of the saplings or branches, or the growth of multiple leaders. The dead leaves [Plate 1, p. 31] then take on a *Rumex*-like reddish-brown hue, conspicuous even from a distance (especially through sunglasses) amongst the high summer's dark green. Lesser damage short of ring-barking results in varying degrees of etiolation — light green or yellowish leaves [Plate 3, p. 31], with some terminal shoot die-back, presenting a sickly appearance, with early and noticeable differential defoliation. Sycamore is also subject to defoliation from Sooty Bark Disease and other conditions.

This affected sycamores and Norway maples were first observed in the course of a local volunteer Indian Balsam (*Impatiens glandulifera*) pilot control scheme (1996-2001), and most of the total of c.40 affected trees were found in moist valley bottoms, in and marginal to riparian woodland or the water margin at Linacre Reservoir. Far fewer damaged trees were noticed in, or reported from, farmland, hedgerows or roadside and suburban areas of Chesterfield away from water (the interfluve). However this might be a result of observations biased towards Himalayan balsam sites for several years.

The ecological implications of a continuing squirrel proliferation and damage to sycamore (and other species?) in rural woodlands locally are unclear, and present the complexities associated with interactions between incompletely known invasive alien species.

Amongst these are a reduction in sycamore growth rates, flowering and seed production (readers' feedback welcome) and in its competitive regenerative advantage over Ash (*Fraxinus excelsior*) and

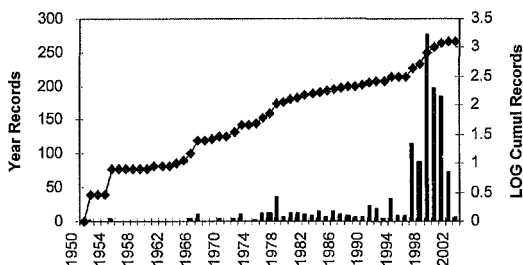
Pedunculate Oak (*Quercus robur*), and by analogy with the after effects of Dutch elm disease and loss of the Wych Elm (*Ulmus glabra*), a reduced life-span and increased mortality of sycamore resulting in increases in canopy openings and consequent weed growth.

In the pilot eradication scheme area, 'hotspots' of the strong light-demander Indian balsam are associated with tree-falls and windthrows in oak woodland, crack willow swamp and riparian sites where overwood has been cleared for increased pasturage, cattle access to water, maintenance by River Authorities and by rural newcomers 'improving the view' and even for clay-pigeon shooting! However Indian balsam has never been found beneath closed sycamore, and in the one instance observed has entered only after the canopy has opened after the death and fall of the sycamore.

Gill (1992) after a review of the literature, concluded '*Unfortunately there is very little quantitative data available on the ultimate loss in yield or on changes in species composition of the trees and ground flora*'.

The Chesterfield Borough Council's Tree Officer has reported grey squirrel damage from Ringwood Hall, and increased squirrel numbers are confirmed by the Recreation and Leisure Department, from the Peak District National Park, and in anecdotal reports (of grey squirrels at pest levels) by local landowners, and from elsewhere in the region.

Squirrels Rotherham 1951-2002



Grey squirrel records from W.A. Ely, Rotherham Biological Recording Centre, Countryside Unit, Rotherham Metropolitan Borough Council.

A total of 1263 records, 1951–2002 from Rotherham suggests a mean annual exponential rate of increase in grey squirrel records there of 15%, or a doubling every 5 years *over the period* (reflected in the slope of the close-fitting LOG Cumulative Records regression line). After 1995 there was a sudden many-fold increase in recording — best explained by a squirrel 'epidemic' (according to a National Park official) rather than as a new local enthusiasm for squirrel recording. [For comparison, the collared turtle dove population in Great Britain was reported to have risen from 6 to 10,000 in 6–7 years after 1955 — at over 200 per cent per year.]

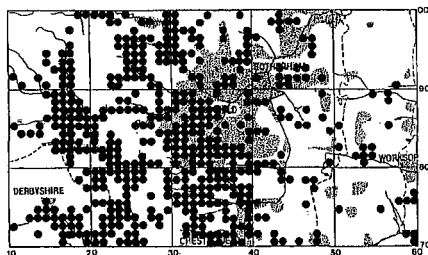


Figure 1 Grey Squirrel 1980 - 2000 Interim Map. *The Sorby Record (Mammals)*. 33, 1999. Reproduced by permission of the Sorby Natural History Society, Sheffield.

There are no recent records of the red squirrel from north-east Derbyshire.

There are at least two sides to attitudes to squirrels in the U.K. John Paling's (1979) history of a 'domesticated' grey squirrel suckled by his cat, is well illustrated with a grey squirrel shown chewing the bark of a sycamore branch, but in patches, not in longitudinal strips.

Jessica Holm (1987) gives a modern, compact general account of squirrels, including the change in the attitude to the reds in the last hundred years, the first of 33 introductions of the grey in 1876, maps its rapid spread, and summarises squirrels and the law.

John Sheail (1999) provides a model analysis of officialdom's decision-making processes (including the Prime Minister, Harold Macmillan's) when trying to deal with a rapidly developing invasive species problem, with '*insights into the circumstances and significance of the Grey Squirrels Order, 1937, wartime regulations, the free cartridges and tail-bonus schemes and grey squirrels (warfarin) Order of 1973*' (includes a select bibliography).

No local landowners, environmental groups, official or statutory bodies or Local Authorities acknowledge any centralised monitoring, of squirrels or their effects under past or present legislation. The Mammal Society of London collates squirrel records, and the Forestry Commission carries out some 'in house' monitoring — e.g. of their squirrel trapping in plantations.

The rapid availability of computerised or published regional red and grey squirrel records for analysis for this article emphasises the importance and value for environmental monitoring of well resourced and staffed Local Authority and museum-based Biological Records Centres and their supporting army of volunteer recorders.

Acknowledgements

David Goodwin, Tree Officer, Peak District National Park, Bakewell, W. A. Ely. Rotherham Biological Records Centre, Ms Valerie Clinging and Derek Whiteley, Sorby Natural History Society, Sheffield, Ms Jean Glasscock, City Ecologist, Sheffield, Nick Moyes, Derbyshire Biological Records Centre, Derby Museum, Ms Brenda Mayle, Forestry Commission, Forest Research, Farnham, Tom Watts, Tree Officer, Chesterfield Borough Council.

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JOHN R. CHARTER, Dunston Woodwatch, 16 Spring Wood Close, Dunston, Chesterfield S41 8BS
j.charter@sheffield.ac.uk; dunston.woodwatch@virgin.net; Fax 0114 222 0002

SCIRPUS OR CAREX?

Whilst botanising in 1999 I came across some tufts of young Cyperaceae leaves beside a stream and, in the absence of any flowers or fruit, it was difficult to decide whether they were *Scirpus sylvaticus* (Wood Club-rush) or *Carex pendula* (Pendulous Sedge).

A week or so later, on a Surrey Flora Committee field trip, we saw both these species in flower and it was remarkable how similar the leaves are. Eric Clement pointed out that several books confusingly describe the leaves of *Scirpus sylvaticus* and/or *Carex pendula* as 'flat' (i.e. as they normally appear when pressed in an herbarium). For example Rose (1989) describes the leaves of *S. sylvaticus* as 'almost flat' and *C. pendula* as 'flat and keeled', whilst Jermy *et al.* (1982) has 'keeled, ±flat' for *C. pendula*. To me 'flat' implies that the leaf cross-section is essentially in one plane. In fact all the leaves we looked at were distinctly channelled into an 'M' shaped cross-section with the height of the 'pleats' or 'folds' typically 1/5th of the leaf width, so this is not a distinguishing character. Jermy *et al.* (1982) define and illustrate this leaf section as being plicate (p.14, fig.7), quite different from flat (p.14, fig.3): both can be described as dorsiventral (having distinct upper and lower surfaces). The illustration of the transverse section of the leaf of *C. pendula* in Jermy *et al.* (p.127) clearly shows a flat leaf, presumably resulting from a pressed herbarium specimen. No *C. pendula* leaf in the field looks like this.

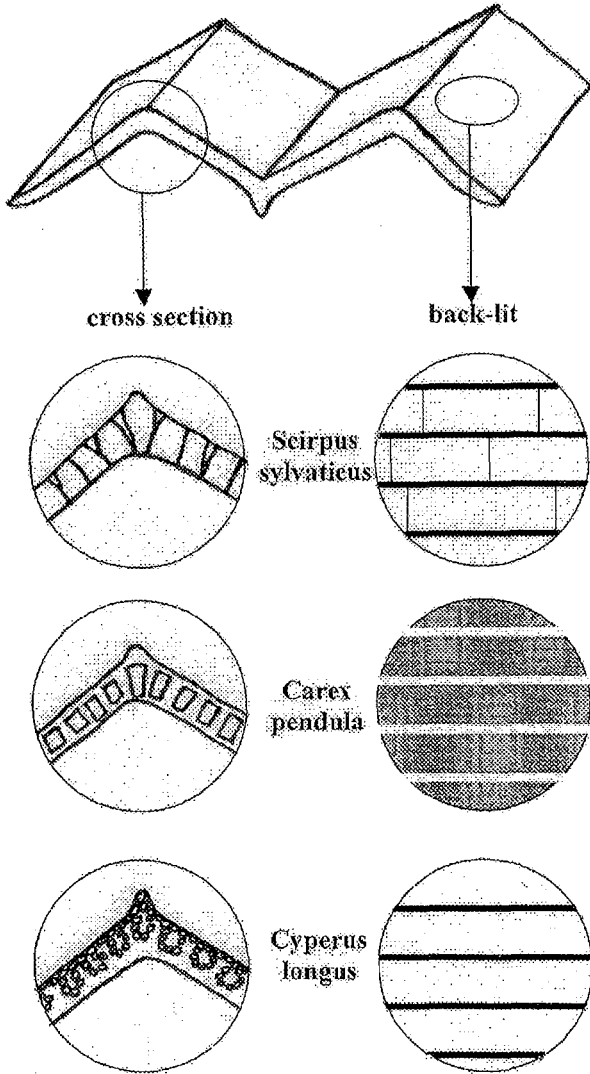
Eric challenged me to find ways to separate the leaves of *C. pendula* and *S. sylvaticus*, as often one is forced to identify plants from purely vegetative characters. This I have attempted below, and for good measure I have included *Cyperus longus* (Galingale) which also has surprisingly similar plicate leaves. This is only a provisional key as it was based on a small sample of leaves, but it could be helpful, especially if it can be validated by further use.

It is only the upper leaf surfaces that should be checked for roughness. All three species have forward-facing teeth on the leaf edges, and on the leaf underside — especially on the central underside keel. The longitudinal veins and their transverse cross veins (or septa) must be examined using a lens by looking through the leaf towards a bright light. All three species have, to a greater or lesser extent, some cross divisions close to, or below, the ligule (if a ligule can be found!) so to distinguish them it is necessary to look well above the base of the leaf. In fact each vein on *S. sylvaticus* and *C. pendula* appears as a very closely spaced pair of lines, but for simplicity veins are shown as single lines on the figure, p. 19. This figure is not to scale and is only intended to be diagrammatic. Details of the leaf cross-section need at least a ×20 lens, viewing a sharp cut made with a razor blade or scissors.

1. Upper leaf surface completely smooth (apart from teeth along leaf edges). With back-lighting, leaf away from its base having clearly visible septa c.1–3mm apart between the veins (see Figure, p. 19). Veins appearing as dark lines adjacent to lighter tissue. Leaf cross-section with very narrow Y, I or V shaped divisions between veins. Ligule on non-flowering shoot about as long as wide. Often growing in dense patches due to rhizomatous habit. ***Scirpus sylvaticus***
1. Upper leaf surface rough, with tiny forward-pointing teeth, especially on the raised ridges, more so towards the leaf apex. With back-lighting, leaf away from its base having obscure, or no, septa between the veins. Veins appearing either darker or paler than adjacent tissue. **2**
2. Cross-section of leaf with rectangular divisions. With back-lighting, longitudinal leaf veins pale with darker tissue between. Many septa just below ligule, often oblique. Septa not occurring beyond about 2 blade widths above ligule. Ligule on non-flowering shoot about 1.5 times as long as wide. Densely tufted but not forming a solid mat of rhizomes. ***Carex pendula***
2. Cross-section of leaf without rectangular divisions. With back-lighting, longitudinal veins appearing as dark lines with paler adjacent tissue. Ligule on non-flowering shoot an obscure local widening of hyaline edge to leaf blade. Spreading by rhizomes. ***Cyperus longus***

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Leaf details of three Cyperaceae species, del. A.R.G. Mundell © 2001

APIUM REPENS (CREEPING MARSHWORT) IN V.C. 28

This small umbellifer is now one of the rarest plants in Britain being known to survive in only one site, that in Oxfordshire and is considered a critically endangered species. It was formerly known in a handful of sites, but I have been unable to find any trace of a Norfolk record. Certainly none of the authors of the county's four Floras knew of it (including I must confess the authors of the present one).

A few weeks ago, while studying the two volumes described as *A Flora of Fakenham* which contain over two hundred pressed plants, I was very surprised and delighted to find a perfect specimen of this small marshwort collected on Hempton Green, West Norfolk. The collection was made in 1850 by William Notcutt, a chemist and keen amateur botanist then living in Fakenham and it is now part of the excellent Herbarium, formerly kept at the Castle Museum and now housed in the Castle Study Centre in Norwich. The plant was well pressed and showed all the diagnostic characteristics of the species, in fact the illustration in the BSBI Umbellifer Book could well have been taken from it. It is known to be a typical species of moist greens where grazing, often by geese, has kept the turf very short with some bare patches for successful seeding. *Mentha pulegium* (Pennyroyal), another typical plant of such sites and like the *Apium* now lost from the county, was also amongst the specimens found by Notcutt at the same site. So rather belatedly we can claim *Apium repens* as a new county record!

GILLIAN BECKETT, Bramley Cottage, Stanhoe, King's Lynn, Norfolk, PE31 8QF

DROSERA ANGLICA HUDS., THE 'ENGLISH SUNDEW' SAVED

Material of the three pan-boreal *Drosera* species, all of which occur in Britain, was known to Linnaeus. He recognised, however just two, *Drosera rotundifolia* L. and a second, *Drosera longifolia* L., based on elements of both of the other two, which he evidently did not distinguish. Many years later, the two species confused by Linnaeus in *Drosera longifolia* were described separately by other authors and have come to be known through North America, Japan, the former Soviet Union and Western Europe as *Drosera intermedia* Hayne and *Drosera anglica* Hudson. At intervals the spectre of *Drosera longifolia* has been raised as an earlier name for either *Drosera anglica* or *Drosera intermedia* (in several parts of their ranges), but the last two have always prevailed and *Drosera longifolia* has been informally branded a '*nomen confusum*'. The exception has been France, where *Drosera longifolia* has mostly been used in place of *Drosera anglica*. After many decades the *status quo* was disturbed when in Med Checklist *Drosera longifolia* was taken up in place of *Drosera anglica* and authors of some other Floras in Western Europe began to follow suit, most notably Stace in the first edition of his *New Flora of the British Isles*. In order to preserve the existing usage, principally of *Drosera anglica* but also of *Drosera intermedia*, a proposal was made under the Code to the Committee for Spermatophyta of the International Association of Plant Taxonomists to reject for all time the name *Drosera longifolia* L. (Cheek: Proposal to reject *Drosera longifolia*. (*Taxon* 47: 749–750, 1998). The Committee decided for the proposal by voting 12: 0 (Brummitt: *Taxon* 49: 275, 2000). Hudson's *Drosera anglica*, the 'English Sundew' is now safe.

MARTIN CHEEK, Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB.

SAVERNAKE FOREST MILLENNIUM TREE MAPS — BASELINES FOR FUTURE RESEARCH

Savernake Forest currently covers over 900 hectares, and is extremely varied with wild areas, glades, plantations, experimental plots, a young arboretum, and ancient veteran oaks, beeches, limes and chestnuts (maidens, pollards, ancient coppiced trees, and trees once coppiced and subsequently

pollarded in different past centuries). I have data on *most* veterans with girths over 3.5 m, and have attempted the same for *all* with girths over 4.5 m (measured at 1.5 m) from the ground). Concomitant with this, I have measured adjacent younger trees with the future in mind, larger representatives of all the arboretum species, and large or exceptional trees from peripheral areas around the Forest, including Tottenham and Brimslade Parks.

Data is available (including on seeding) on more than 30 tree species from the Forest and environs, more than 100 species (including Arboretum and Parks), and about 125 taxa in all (including hybrids, subspecies and variants). There are so far 175 pages, including 21 colour tree maps and colour keys, dealing with about 1100 individual trees. There is a provisional index cross-referenced with a selection of beautiful digital colour photographs by Joan Davies. Most of the earmarked trees have galvanised-iron tags, either from the Forestry Commission (public areas) or by myself (forest depths, often not by tracks). Their locations are described, map-referenced and indexed.

I would make this data available to anyone interested in further work over the next 30 years or so, but it might be of some use up to 500 years hence, from the Wilts. County Records Office at Trowbridge (under Savernake Parish, although covering other parishes also; Accession Nos. 3281, and 3255 for the photos by Joan Davies).

JACK OLIVER, High View, Rhyls Lane, Lockeridge, nr Marlborough, Wilts. SN8 4ED

COMMENT ON THE STATUS OF *RANUNCULUS MARGINATUS* IN THE ISLES OF SCILLY

Following the note by Carol Hawkins in *BSBI News* 88: 54 (Sept. 2001), I think it may be useful to comment on the history and status of St Martin's Buttercup *Ranunculus marginatus* var. *trachycarpus* Fisch. & Mey in the Isles of Scilly.

The buttercup was first found on St Martin's in 1950 and identified a few years later by Lousley (*The Flora of the Isles of Scilly*, 1971). It has only been recorded from a few fields near the church on St Martin's, other than an unconfirmed casual record from St Mary's. There is a photograph in the Isles of Scilly Museum which shows the field completely yellow with the blooms. Unfortunately the farmer at the time herbicided the fields and by the mid 1980s there were few plants left.

Visits by other botanists and myself failed to find the plant in the intervening years until 1997 when a few plants were again found. A change of ownership and possibly different horticultural regime had resulted in the reappearance of the buttercup, presumably from buried seed. By May 1999 there were several hundred plants in the field and a few in an adjoining field. Although the area of the field has recently been greatly reduced by new agricultural buildings the buttercup seems well established, especially along the field margins.

One note of caution, the most common buttercup in the area is the Hairy Buttercup (*Ranunculus sardous*) which is common throughout the whole suite of fields and has caused some confusion. Superficially, without examining the achenes the buttercups do look very similar.

As emphasised by Carol Hawkins, the buttercup grows on private land and visiting botanists are urged not to trespass on any fields, but always ask permission. All the farmland in Scilly is private and trespass is unwelcome; the tiny fields with narrow margins are easily trampled, eelworm, the dreaded pest of daffodils, can also be transferred on footwear from infected to clean fields. Those of us who are birdwatchers are also aware that the antics of some of our colleagues have not endeared us to the farmers in the past.

Beside *Ranunculus marginatus*, the fields also support a number of interesting arable plants species, some of which were sent to Kew as part of the Millennium Seed Bank project. Some local 'specialities' recorded from the field are listed below.

Allium ampeloprasum var. *babingtonii* (Babington's Leek), *Anisantha diandra* (Great Brome), *Briza minor* (Lesser Quaking-grass), *Ceratochloa cathartica* (Rescue Brome), *Claytonia perfoliata* (Springbeauty), *Erodium moschatum* (Musk Stork's-bill), *Fumaria bastardii* (Tall Ramping-fumitory), *Gladiolus communis* subsp. *byzantinus* (Eastern Gladiolus), *Lotus subbiflorus*

(Hairy Bird's-foot-trefoil), *Medicago polymorpha* (Toothed Medick), *Oxalis pes-caprae* (Bermuda-buttercup), *Polycarpon tetraphyllum* (Four-leaved Allseed), *Ranunculus muricatus* (Rough-fruited Buttercup), *Silene gallica* (Small-flowered Catchfly), *Spergula arvensis* (Corn Spurrey), *Valerianaella locusta* (Common Cornsalad), *Vulpia myuros* (Rat's-tail Fescue).

ROSEMARY PARSLOW (Recorder v.c. 1b), 17 St Michael's Road, Ponsanooth, Truro, Cornwall TR3 7ED.
E-mail: rparslow@cix.co.uk

ARE SOME URBAN WEEDS DECREASING?

Ten years ago I began work on an urban Flora of King's Lynn (Payne 1995), and I have recently done some intensive work on an urban Flora of Ely. The two towns are only 40 km apart, the area covered by the surveys is the same (c.130 hectares), the range of habitats is almost identical and the methods used in the two surveys are precisely similar.

As expected, most of the very common plants in the two towns are the same, but there are a few intriguing disparities, and the purpose of this note is to enquire whether these disparities reflect national trends in the frequency of the species concerned.

The figures in the following table show the proportion of the 100--odd localities into which each town was divided for survey purposes in which the species were seen.

	Lynn	Ely	
<i>Senecio squalidus</i>	79%	24%	Decrease over 10 years
<i>Epilobium ciliatum</i>	66%	16%	Decrease over 10 years
<i>Solanum nigrum</i>	63%	25%	Decrease over 10 years
<i>Chamerion angustifolium</i>	56%	17%	Decrease over 10 years
<i>Veronica filiformis</i>	16 sites	only 3 sites	Decrease over 10 years
<i>Epilobium tetragonum</i>	Nil	42%	Increase over 10 years
<i>Picris echinoides</i>	20%	36%	Increase over 10 years
<i>Mercurialis annua</i> *	48%	56%	Increase over 10 years

*Not a big increase overall, but in Ely it is the commonest of all garden weeds, whereas in Lynn it ranked only 6th in gardens.

In general, botanists do not keep records of the changes in abundance of common weeds, but two other Norfolk botanists have noticed similar local trends in the frequency of the two *Epilobium* species figured above, and Gillian Beckett has suggested to me that the abnormally high rainfall in East Anglia in recent years may have encouraged the spread of *E. tetragonum*, which she associates with damp habitats. She has also noticed a general increase of the *Picris* in Norfolk.

As regards *Veronica filiformis*, Dr Eva Crackles, commenting in a recent paper (Crackles 2001) on the apparent decline of the species in Hull, suggests that it may have lost some of its vigour. Other possible factors — if its decrease is general — may be

1. increased rainfall leading to its being overgrown by coarser rank-growing lawn plants, and
2. the recent trend to more widespread use of rotary mowers.

The views of botanists in other parts of Britain would be of great interest.

References:

- Crackles, E. 2001. The history of the flora of Hull. *The East Yorkshire Historian*. 2: 87–113.
Payne, R.M. 1995. The flora of King's Lynn. *Transactions of the Norfolk and Norwich Naturalists' Society*. 30(3): 317–342.

RON M. PAYNE, Applegate, Thieves Bridge Road, Watlington, King's Lynn, Norfolk, PE33 0HL

ARABLE WEEDS : NOT A THING OF THE PAST

As a farmer I very much like looking at the diversity of weeds in crops and it encourages me to explore the Scottish Border country more thoroughly. I was first stimulated to record arable plants by the need for Atlas 2000 records in 10-km squares, but soon found I was interested in the distribution of the plants themselves and their communities.

Weeds have always been a problem for food producers and as recently as 1930 Primrose McConnell wrote, 'From a third to a half of the field labour on a farm is devoted to the destruction of growing weeds . . .'. Presumably the weeds themselves have adapted to fit the particular systems of husbandry.

At the same time, various farming practices such as using seed from a different area and soil type to improve vigour in the crop, have contributed to the geographical spread of these plants, and provided a rich area of discussion as to what is native or how long has it been present.

In the area where I farm near Melrose in the Scottish Borders, we are lucky to have a diverse landscape and a range of crops and livestock, giving plenty of scope for different weed communities. Not only do these plants reflect the historic pattern of land use, but also new crops are being grown and new weeds are being introduced or in some cases reintroduced. It will be interesting to see which of these survive and prosper.

I would suggest there are perhaps two ways of looking at weeds, either to study communities or to concentrate on species. In the recently published *British Plant Communities* Volume 5, the vegetation of open habitats is described. I personally have not had much success with this method, as the groups of plants commonly found in the Borders do not seem to match the community types closely. Of the crops that are good for weeds, set asides regenerating naturally from cereal stubble are usually 'OV12's', while set asides sown with a grass mix and turnips are closer to 'OV13's'. The frequency of the main constituents can vary considerably, mainly, I think, depending on the previous cropping history and to a much lesser extent on soil type and aspect. In more 'natural' communities the influence of man is of secondary importance. It might be more profitable to look into past management in other ways than to read too much into the frequency of the constants in a particular field.

The second approach of looking at species and particularly the rarer ones suits my temperament better. The common weeds are so universal that their presence tells you very little. I surveyed 78 arable fields in 1999 and 2000, 17 species occurred in more than 75% with *Cirsium vulgare* (Spear Thistle) present in 99% of the fields examined. The less common species can tell you more.

Under recording is, I would suggest, a major factor in rarity. Tramping around weedy fields is not everybody's idea of fun. Even finding a suitably weedy crop before the farmer has taken action to control them is not easy. Taking the fumitories as an example, *Fumaria officinalis* (Common Fumitory) and *Fumaria muralis* (Common Ramping-fumitory) are nearly always present on disturbed ground. *Fumaria purpurea* (Purple Ramping-fumitory) is a red data book species and was thought to occur on only a few sites. Now it appears to be more widespread in the Borders, though rarely abundant and was present in 3% of my sampled fields. *Fumaria densiflora* (Dense-flowered Fumitory) is also uncommon, but I have found it on various sites recently; it was present on 6% of fields sampled. There are typically only a few plants in any one field making it difficult to spot among the much commoner *F. officinalis* to which it is superficially similar. Since *F. densiflora* appears to be a native of the more alkaline parts of the southern half of Britain, I presume it only persists in the Borders as the arable land is usually limed to a pH of 6.0 to 7.0. On the advice of Michael Braithwaite I started looking for *Fumaria bastardii* (Tall Ramping-fumitory) this year and found it in my fodder swedes, a first record for v.c. 80 and then another record on an adjacent 10-km square this time in set aside.

Again this species will not be native to the Borders, since its distribution appears western, but it is more likely to be an overlooked species rather than a recent arrival. Unlike the previous two fumitories, *F. bastardii* is relatively easy to spot among the commoner species as it forms large patches that have a distinctive pale mauve appearance. Hence in this case it was easier to find a plant that I was looking for rather than an unexpected one.

Other under-recorded species here include *Erysimum cheiranthoides* (Treacle-mustard) and *Stachys arvensis* (Field Woundwort). *E. cheiranthoides* before 1990 was thought to be a rare casual in Berwickshire last record 1931, Braithwaite and Long (1990) and was unknown in Roxburghshire.

Since then it has been recorded on a number of sites (Braithwaite, *pers. comm.*), in my case occurring in 9 out of 78 fields sampled. On my own farm *Erysimum cheiranthoides* has occurred in recent years in practically every field where a suitable crop has been grown. This suggests that it is not a recent introduction and the former scarcity of records may relate to its ability to blend in with the very common *Sinapis arvensis* (Charlock) (known locally as 'Runch') with which it is almost always associated. *Stachys arvensis* is abundant on my farm occurring on dry stony south facing banks. This is in distinct contrast to its favoured habitat of the wetter warmer west where it is more common. Incidentally a number of the associated species noted in Rowell's 'OV11' *Poa annua*-*Stachys arvensis* community have not been recorded in the Borders. Prior to my record, *Stachys arvensis* had not been seen in Roxburghshire since the early 1970s. However, since that record, I have found it in another locality and it is presumably present elsewhere.

Another under-recorded species in the area is *Centaurea cyanus* (Cornflower) that I have recorded in two crop fields. While this plant is an introduction in southern Scotland, it does seem to be maintaining a foothold and to suggest it is extinct as an arable weed is probably premature. I first saw this plant in the early 1980s in a crop of barley I was using as a nurse for a new grass ley. There was only one plant and I let it set seed. Since I was not a member of the BSBI at the time, I did not report its presence. My neighbours informed me then that the field had not been in crop for at least fifteen years. Although I no longer farm there, I do not think the field has been ploughed since so there is no way of telling if viable seed is still present. Unless more interested members of the public, and in the case of weeds this may mean farmers, report unusual species then these plants are likely to be missed.

Introductions still occur, and sometimes it is possible to demonstrate this. At a FWAG meeting last year, I spotted an interesting looking plant in a young grass ley sown as set aside. It was confirmed as *Silene noctiflora* (Night-flowering Catchfly) and on returning to the field I also found *Descurainia sophia* (Flixweed) and *Fumaria densiflora* though I might add that these plants were only identifiable in a strip that had been left when the farmers mower had broken down. I enquired who had supplied the grass seed and used the same source to sow thirty acres on my farm this year. I was pleased to find that I had about twenty plants of *D. sophia* a new record for v.c. 80, but disappointingly no *S. noctiflora* or for that matter *F. densiflora*. However, as mentioned earlier, I do not think the Fumitories are recent introductions. Sown set asides are excellent for weeds as the rules prohibit spraying and the grass mixes do not swamp all of the emerging weeds. In the case of seed impurities, numbers as low as one or two plants per acre can be spotted by the field walker, representing a fraction of 1% of the seed sown, well within the tolerance for impurities allowed under the seed purity certification rules. Other recent arrivals in the Borders include *Amsinckia micrantha*, (Common Fiddleneck), which is now quite well established in some crops, *Conyza canadensis* (Canadian Fleabane) and *Potentilla norvegica* (Ternate-leaved Cinquefoil). This year I found my first *Alopecurus myosuroides* (Black-grass) in a set aside of *Phacelia lancifolia* (Phacelia) and while I do not suppose the Phacelia will persist, *A. myosuroides* would not be welcomed.

In all, recording on farmland can be very rewarding. I trust that as foot and mouth disease restrictions are lifted, it will be possible to get back to exploring the Borders' fields this year.

References:

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- CORNER, R.W.M. 1985. *Flowering Plants and Ferns of Selkirkshire and Roxburghshire*. Botanical Society of the British Isles. Lancaster. 40 pp.
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APPRECIATING . . . WEEDS

Owing to the unexpected and undeserved success of a booklet entitled *Appreciating Lawn Weeds*, the coffers have been partially replenished and the time has come to broach a new subject. Would members be interested in contributing to a booklet enthusing over the weeds that get themselves into cracks in paving, drives and kerbs? Such a work would be pitched at the lay plant observer and I would be keen to get as many varied contributions as possible.

MARTIN CRAGG-BARBER, 1, Station Cottages, Hullavington, Chippenham, Wilts SN14 6ET

LAWN WEEDS

In *BSBI News* 87 (April 2001) Martin Cragg-Barber suggested the interest to be found in lawn weeds. I live in an estate of about 60 houses, developed probably in the late 1960s, with open-plan front lawns, at Melton in East Suffolk (v.c. 25), TM2950.

A handful of owners have hedged their gardens, more have laid them out with pebbles or concrete. There remain perhaps 45 patches of lawn, under different mowing regimes, and some with different grass mixtures, but none left to become hayfields. There are also grass verges maintained by the local council. Following Mr Cragg-Barber's article, I decided to record what grew in all these patches, treating them as one lawn. The underlying soil is sandy; before the war it was marshland, during the war it held oil-tanks.

I recorded everything that was cut down by a lawnmower, except for plants that had their roots firmly in flower-beds and only had their heads cut off when they grew beyond their home territory. Most plants date from the earlier part of the year; partly because very little new grew later in the season, partly through my loss of interest.

I was most pleased to find *Saxifraga granulata* (Meadow Saxifrage). I asked one old lady to get her grass-cutter to leave it, but she forgot. A little later it grew and matured in the next plot. A solitary daffodil, in the middle of a patch of lawn, was mown down in full bloom.

My complete list, comprising 59 species, was:

Achillea millefolium, *Agrostis capillaris*, *A. stolonifera*, *Alliaria petiolata*, *Alopecurus pratensis*, *Anisantha sterilis*, *Anthriscus caucalis*, *Arenaria serpyllifolia*, *Arrhenatherum elatius*, *Bellis perennis*, *Capsella bursa-pastoris*, *Cardamine flexuosa*, *Carex hirta*, *Cerastium fontanum*, *C. glomeratum*, *Cirsium vulgare*, *Coronopus squaleidus*, *Crepis capillaris*, *C. vesicaria*, *Erodium cicutarium*, *Festuca rubra*, *Hypochaeris radicata*, *Lamium purpureum*, *Lapsana communis*, *Leontodon autumnalis*, *Leucanthemum vulgare*, *Linum catharticum*, *Lolium perenne*, *Luzula campestris*, *Medicago arabica*, *Myosotis arvensis*, *Myosotis ramosissima*, *Narcissus* agg., *Pilosella officinalis*, *Plantago coronopus*, *P. lanceolata*, *Poa annua*, *Potentilla reptans*, *Prunella vulgaris*, *Ranunculus bulbosus*, *R. ficaria*, *Rumex acetosa*, *R. obtusifolius*, *Sagina erecta*, *Saxifraga granulata*, *Sedum acre*, *Senecio vulgaris*, *Sherardia arvensis*, *Stellaria graminea*, *S. media*, *Taraxacum* agg., *Trifolium repens*, *Veronica arvensis*, *V. chamaedrys*, *V. filiformis*, *V. persica*, *V. serpyllifolia*, *Viola odorata*, *V. tricolor*, *V. × wittrockiana*.

RICHARD ADDINGTON, 20 Riverview, Melton, WOODBRIDGE, Suffolk, IP12 1QU

LAWN PLANTS

I was interested in the article about *Trifolium micranthum* (Slender Trefoil) in lawns and road-verges (*BSBI News* 86 & 88). It is represented in both these habitats in the village where I now live, and looks well established in places. Nonetheless, it still needs careful detection. The deeper or richer yellow colour of *T. micranthum* is often a sound indication, but I have yet to convince myself that it

can be identified from *T. dubium* (Lesser Trefoil) with certainty unless one checks the sessile versus petioled leaf-arrangement (*T. micranthum* has minute apical stalk).

I wonder if another, similarly low-growing and ostensibly scarce, plant is following in its footsteps. Field Madder (*Sherardia arvensis*) is not something I associate with urban surroundings, but in the last five or six years I have encountered small patches in grassed areas at University College, Stockton, the headquarters of Tees Valley Wildlife Trust, and one or two other more anonymous road-verges.

CHRIS LOWE, 25 North End, Hutton Rudby, Yarm, TS15 0DG

LEONTODON SAXATILIS

I have found plants near Swanage in three or four locations since the end of August 2001 the pappi of which all have feathery hairs, i.e. they lacked an outer ring of achenes with scales only (and the outer ones were not hidden in the bracts). Is this a late season variation? Has anyone else observed this please?

I have also observed that the reddish dots along the midrib of the leaves to which reference is made in *Plant Crib 1998* p. 288 are only present early in the year and not at flowering time.

Reference:

Rich, T.C.G. & Jermy, A.C. 1998. *Plant Crib 1998*. BSBI. London.

EDWARD PRATT, 7 Bay Close, Swanage, Dorset, BH19 1RE. Tel & Fax 01929 421862

FESTUCA CAMBRICA (WELSH FESCUE) — A PROGRESS REPORT

Introduction: A previous article (*BSBI News* 87: 24-26) described some problems related to the name *Festuca cambrica* published by William Hudson in 1778. Although the use from c.1790 for what is now called *Festulopia hubbardii* is surely a mistake, the other assumption that it is the almost unique large-flowered fescue at BM and K, found on Snowdon by Banks and Lightfoot in August 1773, is equally suspect as Hudson describes his plant as abundant. Hudson's own collections were destroyed by a fire in 1783, which according to Rees's 'Cyclopaedia' (1819) was started deliberately by a 'confidential servant' to disguise the theft of a large sum of money received by Hudson a day or two previously. Meanwhile the name *F. laevigata*, used on the 1773 material, was never published — but is used here for convenience.

I was able to search Snowdonia last autumn and the results are discussed later. Several flocks of sheep which normally graze there were lost to the foot-and-mouth cull whilst over-wintering on Anglesey and in England. I gather that the hill farms have now restocked, although some have agreements with CCW to limit grazing. One surprise was that *F. rubra* was scarce or absent on the more acid soils — which helped limit the search area.

A point which troubled me was whether the pattern of grazing had altered since Hudson's time. Sheep have all but replaced cattle, horses and ponies since the 1700s, but there was then a substantial goat population on Snowdon according to W.M. Condry in '*The Snowdonia National Park*' (1966 p. 39). These are even more effective at clearing mountain ledges, and have been used for this purpose to prevent suicidal excursions by sheep.

***Festuca laevigata* — a significant find?** Large-flowered fescues do still grow on Snowdon. Specimens were found trailing from two very wet mossy overhangs, and a sample brought into cultivation. Although it has yet to flower again, it is now producing distinctive robust sharply pointed leaves c.10 cm long, and up to 1.25 mm from midrib to edge on fresh material. They are V-shaped in section and tend to trap dew which magnifies the grey-green upper surface, producing a striking

glaucous effect. The glumes and lemmas are \pm identical to the 1773 specimens described previously, but disposed in normally shaped spikelets and panicles (*viz.* not divaricate and subspicate). I hope further study will reveal its affinities and present distribution.

Hudson's *Festuca cambrica*: An English version of Hudson's rather vague description can be found in Withering's '*Botanical Arrangement of British Plants*' from ed. 2 of 1787 to ed. 6 of 1818. (The remarks on cultivated specimens are Withering's and refer to \times *Festulpia hubbardii*). The mention of egg-shaped spikelets with short awns in a compact panicle points to *F. rubra* subsp. *arctica*, but this normally has very hairy, not smooth, lemmas. Also Hudson says the fruit-stalks [pedicels] are nearly as long as the spikelets — this rules out subsp. *arctica* and also the *F. laevigata* of 1773 — both of which have very short pedicels. The stated similarity to *F. duriuscula* implies a tufted plant, and I suspect Hudson may have seen what appear to be intermediates between subsp. *arctica* and subsp. *scotica*, which are discussed below.

***Festuca rubra* subsp. *arctica*:** This does occur on Snowdon, but may be confused with *F. ovina* as noted by Scott and Palmer in '*The flowering plants and ferns of the Shetland Islands*' (1987). It can be mat-forming and has fused leaf sheaths, most easily seen on young fresh shoots. The degree of hairiness varies greatly, some plants have just papillose lemmas. The florets are crowded together, the lemmas often abruptly contracted into the short awns, and the glumes broad; the spikelet shape is reminiscent of a *Poa*. The panicles are also very compact, even during anthesis, and are usually strongly coloured beneath the dense white hairs.

***Festuca rubra* subsp. *scotica*:** At a very late stage in the preparation of the previous article I realised that the description of this subsp. in Stace's '*New Flora*' could include the large-flowered plants, the awn lengths being stated as additional to the lemmas. However the original Latin description in *Watsonia* 18: 315-6 (1991) gives the same lengths, but in a form which could imply the awn length is included in that given for the lemma, so the florets would be smaller. Prof. Stace (*in litt.*) says the *New Flora* account is correct.

The only montane specimens of this taxon that I have seen are quite unlike *Festuca laevigata*. Three plants from Cumbria, two confirmed or determined by Prof. Stace, are surprisingly gracile with lemma and spikelet dimensions at or below the lower end of the ranges defined in the *New Flora*. Similar examples can be found in Cwm Idwal. They have short narrow panicles with \pm erect branches, well exerted on slender culms. The spikelets are usually green and glabrous, the glumes and lemmas narrower and more tapered than in subsp. *arctica*, the awns longer. The plants are usually tufted, although Prof. Stace (*in litt.*) suggests this may be due to confinement in rock crevices.

A further complication is that several intermediates between the two subsp. seem to occur — a selection can be found amongst the tumbled blocks beneath Twll Du in Cwm Idwal. If I am right that Hudson's *F. cambrica* is just one of these forms, then sadly the name is of little significance, and will sink back into obscurity. *F. laevigata* meanwhile awaits further study.

Corrections & amendments: The words 'was done' near the end of the **Introduction** to the previous article should be deleted.

Gallt-y-llan in the Hudson and Davies 'rout' appears on a geological cross-section in *Snowdonia* by F.J. North (1949 p.15). This places it on the N.W. spur of Snowdon, probably below the Halfway Station and near the tourist path back to Llanberis.

Collecting permits for plants in the Snowdonia NNR which do not have scheduled legal protection should be obtained from: Warden for North Snowdonia NNR, N.W. Area Office, Countryside Council for Wales, Llŷs y Bont, Parc Menai, Bangor, Gwynedd, LL57 4BN. Further information can be obtained from the warden, Hywel Roberts, at Bangor tel. 01248 672500.

I have re-examined the specimens of *F. laevigata* at **K** and **BM** — neither the sheaths nor lemmas are completely glabrous when examined with a good lens. The edges of the glumes have curled under, so they are not as narrow as implied by my description prepared from photographs.

Acknowledgements: In addition to those mentioned previously, thanks are due to: Dr G. Halliday for the loan of Cumbrian specimens; to Mr W. Scott and Mr R.C. Palmer for information on the Shetland

material of *F. rubra* subsp. *arctica* and *scotica*; to the Chairman and the Curator of the South London Botanical Institute for access to the Shetland specimens held there; and to Prof. C.A. Stace for clarifying several points.

PETER L. THOMAS, 13, Sycamore Avenue, Upton, Wirral, CH49 4QJ

PENNYROYAL AGAIN

Alex Lockton's note on Pennyroyal, *Mentha pulegium*, in *BSBI News* 89 sent me back to my notebooks for a time when I lived in the southern Netherlands, near Maastricht. Here the plant was very common, and even abundant in some patches, on a large piece of waste ground, which had been used for dumping soil from nearby motorway works. The ground was fairly wet with a large shallow pool and drainage ditches, bounded on one side by a railway line. The embankment to the line also had some Pennyroyal growing at its base. The accompanying vegetation was pretty much what you would expect for such a disturbed area, with an excellent patch of Corn Marigold, *Chrysanthemum segetum*, at one end. The Pennyroyal tended to accumulate in damp areas where it had little competition. The surrounding land was farmed, with maize and wheat.

Given this I would have thought that the most likely origin for the plant was a persistent seed bank, although I am unaware of any work on the longevity of seeds for this species. The origin of the seed bank is, of course, another matter entirely. When I contacted Alex about these observations I had forgotten that the nearby town of Heerlen was a major Roman centre so perhaps his Roman link may have something in it?

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

DATABASES

In his cornerpiece in *BSBI News* 88, the Co-ordinator rightly drew attention to the dangers of plagiarising databases. BSBI members should be aware that the protection databases get under copyright law has been extended by something called database right.

This right arises through the act of creating a database in which there has been 'a substantial investment in obtaining, verifying or presenting the contents of the database'. It is separate to and independent of the copyrights, if any, in the constituent data. For example, a database of out-of-copyright literary works still gets protection, subject to the 'substantial investment' criterion.

The right in a published database lasts for fifteen years from the end of the calendar year in which it was first made available to the public. If the database is not published, the right expires fifteen years after it was created.

Database right is a Europe-wide initiative, applicable only to databases created by EEA citizens and firms. (The EEA — the European Economic Area — is the EU plus Iceland, Liechtenstein and Norway.) In Britain, it was given force by the Copyright and Rights in Databases Regulations 1997, which came into effect on 1 January 1998. These amend the 1988 Copyright, Designs and Patents Act, which is the main current British legislation on copyright.

ROGER WHITEHEAD, 14 Amy Road, Oxted, Surrey, RH8 0PX; Tel.: 01883 713074;
e-mail: rgw@office-futures.com

YOUNG DIOECIOUS TREES, SEX UNKNOWN

An all male assemblage is a depressing prospect, whether comprising humans, primates or plants; but at least one male is required for fruition. With dioecious shrubs (e.g. *Aucuba japonica* (Spotted-laurel), *Ruscus aculeatus* (Butcher's-broom), *Hippophae rhamnoides* (Sea-buckthorn),

shrubby *Salix* species, etc.) all is revealed in 5 years or so. However one, two or three human generations may pass before the sex of a dioecious (or usually dioecious) tree seedling is known. Examples growing in Britain include all or most species from the following genera: *Populus* (Poplars), *Salix* (tree species) (Willows), *Ilex* (Hollies), *Ginkgo*, *Ailanthus* (Tree-of-heaven), *Cercidiphyllum* (Katsura), *Ilex*, *Araucaria* (Monkey-puzzles), and of course *Taxus* (Yew).

I've worked out a table, I hope correctly, to give the chances of both sexes from seedlings:

No. of treelets	1	2	3	4	5	6	7	8
Chances of both sexes	0	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{15}{16}$	$\frac{31}{32}$	$\frac{63}{64}$	$\frac{127}{128}$
% chance	0	50	75	87.5	93.8	96.9	98.4	99.2

So one would need at least 4, and preferably 6+ Yew seedlings to be reasonably confident of a new Yew grove with at least one berry-bearing tree. To any mathematicians looking at the above table, is there a known or practical formula to fit the progression?

Since submitting this note for publication, Brian Davies has provided the following formula:

$$\frac{2^n - 2}{2^n}, \text{ which can be reduced to } \frac{2^{(n-1)} - 1}{2^{(n-1)}} \text{ where } n = \text{no. of treelets}$$

Much harder than I would have first thought!

JACK OLIVER, High View, Rhyls Lane, Lockeridge, nr Marlborough, Wilts. SN8 4ED

BRACKEN HEIGHT RECORD

I was interested in the note concerning the height record of Bracken (*Pteridium aquilinum*) in *BSBI News* 87 (April 2001).

In October 1998 I discovered a specimen growing through a Hawthorn tree (*Crataegus monogyna*) at Fort Agnes Grove, Kilcolman, Milltown, Co. Kerry measuring 5.76 m (16 ft 3 ins).

This ancient site is well shaded and would be considered ideal for such an unusual growth incidence.

MICHAEL O'SULLIVAN, Knockavota, Milltown, Co. Kerry, Ireland.

PROFESSOR JOHN NORTON MILLS' HERBARIUM AT THE MANCHESTER MUSEUM

John Mills' herbarium was generously donated to The Manchester Museum in 1978 following his tragic death in 1977. It consists of an outstanding collection of approximately 1,250 sheets of British *Hieracium* (accession number Kk1506) and 1,000 sheets of other vascular plants (accession number Kk1505). This represents an invaluable and unique scientific resource.

Mills' early interest in botany is demonstrated by the fact that the earliest specimens in the collection so far traced were made in 1926, when he was only 12 years of age. A large proportion of the British flora is represented in his herbarium, and it is evident that he travelled widely throughout Britain and Ireland. Many specimens came from mountains and hills, which were a particular love of his. Although he is best known for his work on *Hieracium*, he also made important collections of some other critical groups, notably *Sorbus* and *Epilobium*. His herbarium includes 21 sheets of *Hieracium naviense*, a species he described. Eight of these sheets were collected from Winnats Pass in Derbyshire between 1961-69; the remaining 13 came from his garden in Didsbury, where he often grew hawkweeds on his rockery. Mills published his description of *H. naviense* in *Watsonia* (1969), naming the species after the nearby Roman site of Navio. The holotype of *H. naviense* is in the University of Cambridge Botany School University Museum Herbarium (CGE) but there are two isotypes in The Manchester Museum.

The collection also includes a small book '*Yet further illustrations of the British Flora*' which contains 28 beautiful illustrations, probably by Mills, of some of the plants he collected between

1931-54 and which are preserved in his herbarium. These include *Aristolochia clematidis* (Birthwort) from Godstow, *Pyrola rotundifolia* (Round-leaved Wintergreen) from Ainsdale and *Artemisia norvegica* (Norwegian Mugwort) from West Ross.

The *Hieracium* collection of The Manchester Museum, formed from the Mills collection and pre-existing collections, contains representatives of approximately 90% of recognised British species, a remarkably high percentage for such a critical group. Information and images of specimens in this collection are being databased to make information accessible throughout the world over the Internet as part of the Museum's Designation Challenge Fund project, which will be located on The Manchester Museum's website at www.museum.man.ac.uk.

Reference:

MILLS, J.N. 1969. A new species of *Hieracium* in Derbyshire. *Watsonia* 7(1): 40-42.

HENRY MCGHIE, DAVID P. EARL, PRISCILLA TOLFREE, The Manchester Museum, Oxford Road, Manchester M13 9PL

PROFESSOR J.N. MILLS — SOME PERSONAL MEMORIES

The authors of the above article are to be congratulated on the excellent work they have done with the J.N. Mills herbarium. As it is 25 years since his premature death in a climbing accident, most readers of *BSBI News* will not have known him. I have therefore been invited, since he was a major influence on my life, to add this post-script.

John and I met in 1932 through being in the same dormitory at Winchester. We found we had a similar outlook on life and immediately became close friends. He introduced me to mountains, to Youth Hostels, and above all to botany, sponsoring (as was then required!) my admission to the Botanical Society and Exchange Club, the forerunner of the BSBI. I stayed at his parents' home near the Birmingham Botanical Gardens and their country retreat in the Severn Valley, where I first saw *Cardamine impatiens* [Narrow-leaved Bitter-cress]. He stayed at my parents' home in Surrey, from which we walked (in 3 days!) the Pilgrim's Way to Canterbury. We passed *Lathraea squamaria* and had lively debate on whether the 'oo' in Toothwort was 'as in foot' or 'as in boot'! He introduced me to *Aristolochia clematidis* [Birthwort] at Godstow (see above) with typical medical-student humour as to why it had been cultivated at the nunnery in whose ruins it grows.

I first saw a mountain by going with him to Snowdonia in 1934, with such mysteries as *Subularia [aquatica]* (Awlwort) flowering under water and *Lloydia [serotina]* (Snowdon Lily), visible but inaccessible up a vertical cliff. Later, when we both had children of our own it was mostly seaside; Brean Down for *Koeleria vallesiana* [Somerset Hair-grass] and *Helianthemum polifolium [H. apenninum]* (White Rock-rose); Pembrokeshire for *Hypericum undulatum* [Wavy St John's-wort] and *Centaureum portense [C. scilloides]* (Perennial Centaury); Formby dunes for *Centaureum littorale* (Seaside Centaury) and *Scirpus americanus [Schoenoplectus pungens]* (Sharp Club-rush).

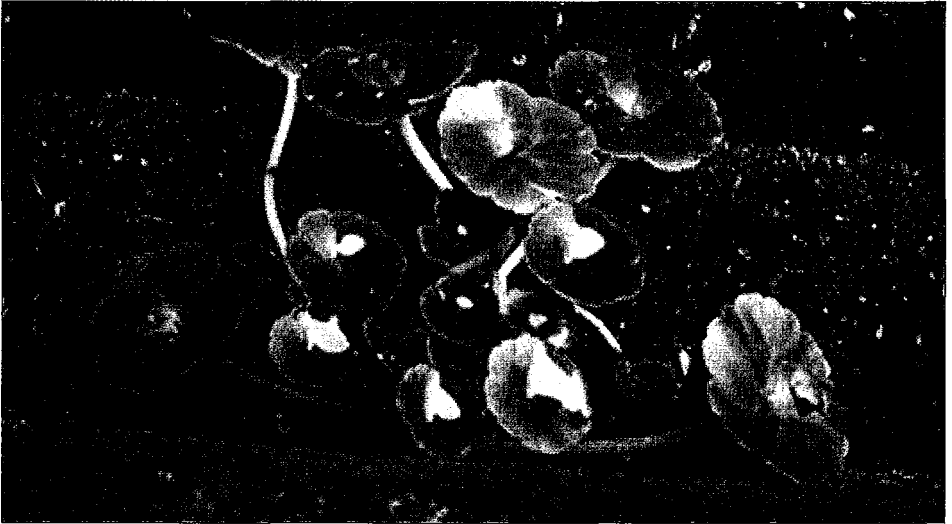
John's mother had introduced him to botany as a small child, with the time-honoured objective of seeing all the (only about 1320!) species listed in 'Bentham & Hooker'. They were 'lumpers'; and I, on the whole as a mere amateur, remained with them. John, an amateur botanist but a professional scientist (see his obituary, Valentine 1978) became famous as a 'splitter' (see above). But he had a critical eye, even as a schoolboy, and published on some Dactyloorchids in the Itchen and Test valleys.

I am most grateful for having the chance to pay this tribute to a great friend; and hope I may be forgiven for sticking to the plant names we used to use! [I have taken the liberty of adding the modern equivalents and English names in square brackets. Ed.]

Reference

Valentine, D.H. 1978. John Norton Mills (1914-1977) [Obituary]. *Watsonia* 12: 187

JOHN OUNSTED, Apple Tree Cottage, Woodgreen Common, Fordingbridge, SP6 2BO

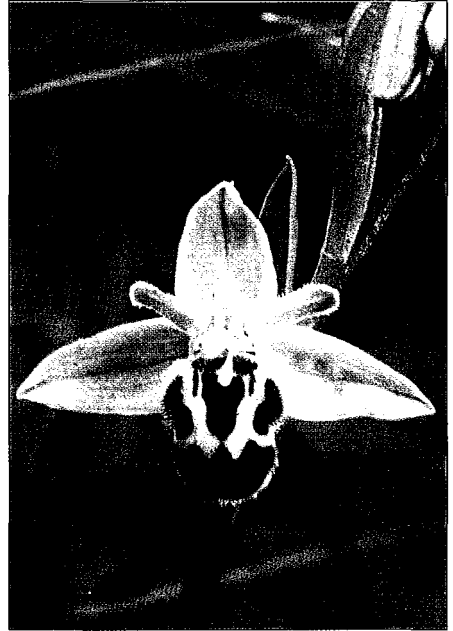


Umbilicus rupestris basal rosette 18/3/2001



Umbilicus rupestris in flower 20/6/2001

Both photos Munster Square, London NW1, © John A. Edgington 2001 (see p. 12)

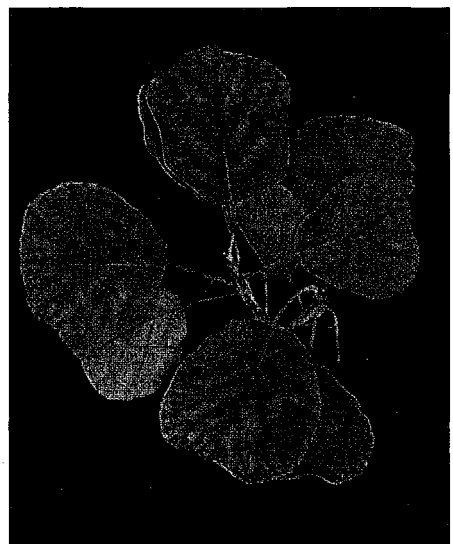
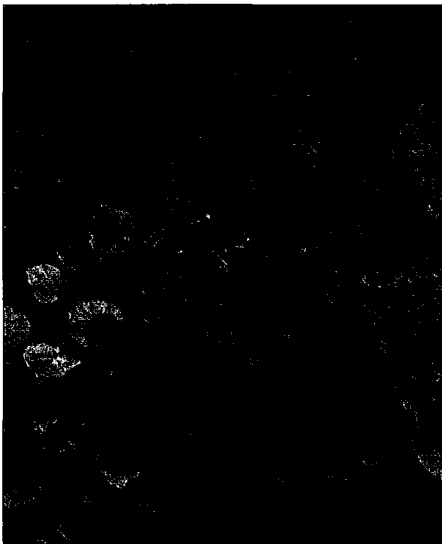


Ophrys apifera var. *belgarum*

Near Wichester, Hants

Near Street, Somerset

Photos © R. Lawrence 1991 (see p. 14)



Actinidia chinensis near Widnes (v.c. 59)

Photo © P. Hayes 2001

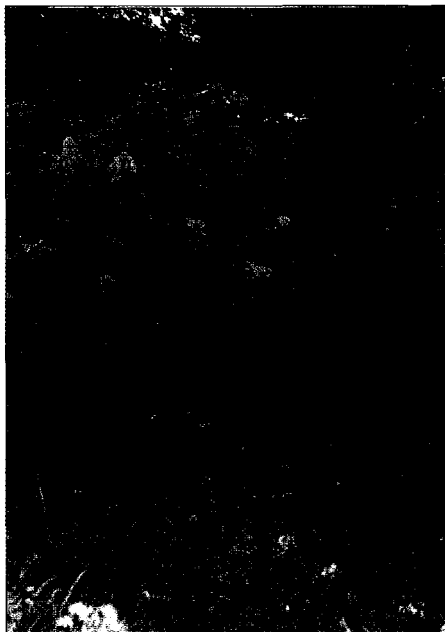
Actinidia chinensis specimen in MANCH

Photo © Manchester Museum 2001

(see p. 48)



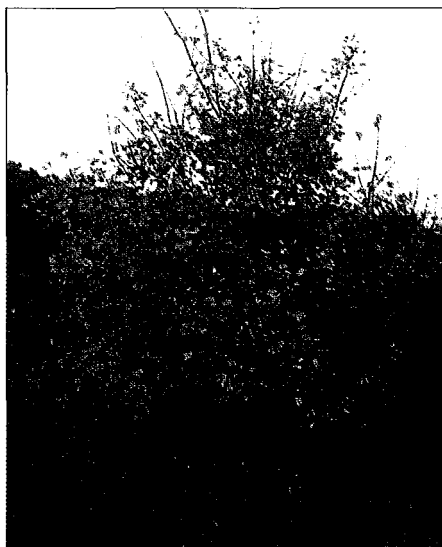
Unusual colour variant of *Lathyrus sylvestris*
Sharnbrook Summit NR. Photo © P. Horn, 2002
(see p. 13)



Sycamore bark-stripping by squirrels – photo 1

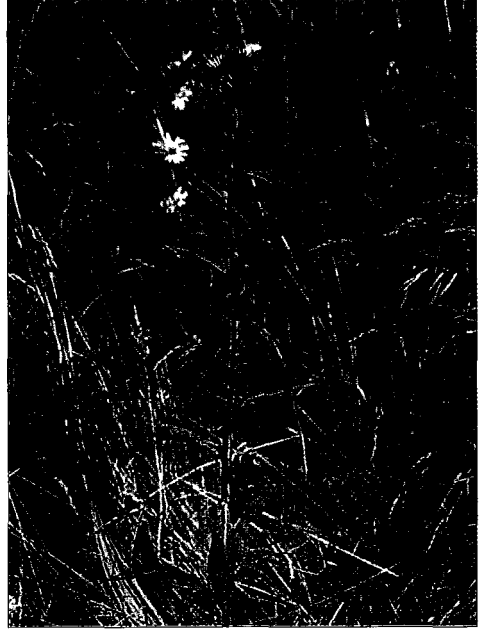


Sycamore bark-stripping by squirrels – photo 2



Sycamore bark-stripping by squirrels – photo 3

All sycamore photos © J.R. Charter, 2000 (see p. 13 for details)



Centaurea uniflora at Aberford (v.c. 65). Photos © P. Abbott 2001 (see p. 24)



Bertil Hylmö (1915-2001) at the Hillier Arboretum in 1993, surrounded by *Cotoneaster hymoei*
Photo © J. Fryer, 2002 (see p. 58)

PROGRESS WITH THE DOCUMENTATION OF BRITISH VASCULAR PLANTS AT THE MANCHESTER MUSEUM HERBARIUM

Readers will be pleased to know that a database providing details of at least one example of each British vascular plant represented in the herbarium will be available to view on The Manchester Museum website very soon. In the majority of cases a colour image of the herbarium specimen will accompany the record. In addition a series of images of colour slides will also be available.

The most outstanding contributions to the project will include the provision of data and herbarium sheet images for the critical genera *Euphrasia*, *Hieracium*, *Rubus* and *Sorbus*.

Why not check to see if the database has been launched at www.museum.man.ac.uk

DAVE EARL & HENRY MCGHIE, The Herbarium, Manchester Museum, University of Manchester, Oxford Road, Manchester M13 9PL

TREES THAT DON'T KNOW ABOUT WINTER

In reply to Tony Mundell (*BSBI News* 89), when I read about the Christmas Green Oak in *The Flora of Hampshire* I asked the late Paul Bowman for more details, only to find that, untypically for him, he had not checked it.

When I enquired of foresters I learned that it had been felled some years before when the M27 Motorway was constructed and the A31 widened. I was told of a similar Oak a kilometre or two north-east of Brockenhurst but when I searched for it I failed to find it.

Chris Hall has told me that on 18th January 1992 he saw a very few partially opened leaves on the lower branches of some oaks near the road near the Rufus Stone in the New Forest. He has given me permission to quote him further:

'In my experience, winter leaves on Oaks are almost always smaller than typical spring leaves and frequently do not unfold fully from the bud. If there are severe frosts in December they are usually frost-damaged by January. I have never known them to persist through the winter. "Christmas Green Oaks" is something of a misnomer for all the oaks I have seen have no more than scattered leaves . . . [and] not every year.'

Reference:

BREWIS, LADY A, BOWMAN, R.P., & ROSE, F. 1996. *The Flora of Hampshire*. Harley Books, Colchester.

EDWARD PRATT, 7 Bay Close, Swanage, Dorset, BH19 1RE. Tel & Fax 01929 421862

BOTANY IN LITERATURE — 26

Margaret Souchier in her article (*BSBI News* 88: 28 (2001)) says she's 'been reading too much Freud'. Certainly she makes a wonderful 'Freudian slip' two lines before, when she gives the Latin for the words she translates as 'Twenty males' — 'Maritis VIRGINTI' instead of VIGINTI. And why does she here translate the noun *maritus* as *male*, instead of sticking to the dictionary translation *husband* as before?

JOHN OUNSTED, Apple Tree Cottage, Woodgreen Common, Fordingbridge, Hants. SP6 2BD

[Margot was shown a copy of John's note and offers the following reply. Ed.]

Apropos of John Ounsted's comments (above), *virginti* (for *viginti*) was unfortunately a *lapsus linguae Latinae* (and nothing to do with Freud, although he does say (p. 87, vol. 1, Penguin Freud Library) 'Cases of slips of the tongue and of the pen, etc., may occur on a purely physiological basis.' (*i.e.* not psychical)) while the use of 'males' relates to the use of the term firstly in Linnaeus's classification (and the Botanical Society at Lichfield's translation) *viz.* (1. MONANDRIA (ONE MALE), 2. DIANDRIA (TWO MALES) . . . 12. ICOSANDRIA (TWENTY MALES)), and secondly as a continuum of the theme of 'marriage of plants' where 'husbands' are commonly male. Moreover, one is usually allowed a modicum of artistic license when expounding on matters of literature. However I thank Mr Ounsted for his comments.

MARGOT E. SOUCHIER, 26A Dryden Avenue, London, W7 1ES. E-mail:m.c.souchier@amservice.net

BOTANY IN LITERATURE — 27

Apropos of George Eliot and her use of Linnaeus in her work, for example, in the novel *Adam Bede* (see Souchier, *BSBI News* 88:27-28) herewith further mention of him, this time in a book review entitled 'Evangelical Teaching: Dr Cumming' first published in the periodical *Westminster Review* in 1855 and republished posthumously in her *Selected Essays, Poems and Other Writings* by Penguin Classics in 1990 (p. 42):

His [Dr Cumming's] argument continually slides into wholesale assertion and vague declamation, and in his love of ornament he frequently becomes tawdry. For example he tells us (*Apocalyptic Sketches*, p.265) that 'Botany weaves around the cross her amaranthine garlands; and Newton comes from his starry home — Linnaeus from his flowery resting-place — and Werner and Hutton from their subterranean graves at the voice of Chalmers, to acknowledge that all they learned and elicited in their respective provinces, has only served to show more clearly that Jesus of Nazareth is enthroned on the riches of the universe: . . .'

NOTE

In order to savour this extract to the full it is necessary to understand that, in the words of A.S. Byatt and N. Warren (*ibid.*), 'the idea of natural history is central, both to the thought of Eliot's time, and to her own work as a novelist' and that this 'natural history of the earth included Charles Lyell's geology and Darwin's study of the *Origin of Species*.'

Thus the mention of Newton (Sir Isaac; 1642–1727; English mathematician and physicist), Linnaeus (Carolus (his Latin name for Carle von Linné); 1707–1778; well known to most for his classification of flowering plants based on stamen type and number of pistils as well as his zoological classifications), Werner (Abraham Gottlob; 1749–1817; the German geologist who formulated the Neptunian theory (the belief that rocks such as granite were formed as crystalline precipitates from a primeval ocean)), and Hutton (James; 1726–1799; the Scottish geologist who countered Werner's theory by stating that rocks such as granite were igneous in origin), as household names. (Dr Thomas Chalmers (1780–1847) was a Scottish presbyterian and theologian, influenced towards evangelism).

However, botany is not a Penelope sitting at her loom weaving wondrous textures and patterns and certainly not garlands of everlasting purple flowers (unless they're from an *Amaranthus* herbarium sheet in which case they will be very much faded) around a cross. Purple though is the colour of the Passion (and passion-flower) and the colour worn by the whore of Babylon ('And the woman was arrayed in purple and scarlet colour . . .' (Rev. XVII. 4)). But what is the colour of Dr Cumming's cross? Gold? Silver? Love-lies-bleeding red? We do not know, for he does not say, but we can feel the tawdriness. For his vision or sketch is not real, and as such is pure show ('a noisy gong or a clanging cymbal' (I Cor. 13.1)); trumpery in other words.

But it is the inaccuracy of the language that Eliot is commenting on and, as she writes in her essay on Ruskin (*ibid.*) the 'substituting of vague forms ['Newton's starry home' when Newton, although

he invented the Newtonian telescope, was not first and foremost an astronomer] bred by imagination on the mists of feeling [‘Linnaeus’s flowery resting-place’, when the frugal Linnaeus was anything but florid] in place of definite, substantial reality.’

What she is emphasising is that Cumming’s statements are a series of overblown truths (to wit, with reference to Werner and Hutton, that graves usually are underground).

Eliot writes (*ibid.*) ‘Of Dr Cumming personally we know absolutely nothing: . . . We know neither how he looks nor how he lives. We are ignorant whether, like St Paul, he has a bodily presence that is weak and contemptible, or whether his person is as florid [flowery, like his vision, of Linnaeus’s grave] and as prone to amplification as his style.’

In fact Dr John Cumming (1807–1881) was the Minister of the evangelical Scottish National Church, London, from 1832 to 1879, and a prolific author on the subject of biblical prophecy.

However, in the light of the way in which he views botany as something showy rather than a serious science, his mind, to quote Eliot again, ‘is evidently not of the pietistic order’ which conjures up a certain picture of the American Southern Baptist preacher, Billy Graham, hands in the air and mouth wide open, the epitome of evangelical fervour, to which someone had written the less-than-reverend caption ‘Next to God, I like thighs!’

Linnaeus, if he had seen this, would have no doubt rolled in his grave and with reference to himself corrected him (and Dr Cumming) with ‘No! Next to God, I like classifying flowers.’

References:

Eliot, G. 1990. *Selected essays, poems and other writings*. (Edited by A.S. Byatt and Nicholas Warren). London: Penguin Classics.

MARGOT E. SOUCHIER, 26A Dryden Avenue, London, W7 1ES. E-mail:m.c.souchier@amservice.net

BOTANY IN LITERATURE — 28

From the Journals of Dorothy Wordsworth (sister of William)

June 1802. Saturday 19th . . . ‘On Thursday morning Miss Hudson of Workington called. She said “O! I love flowers! I sow flowers in the Parks several miles from home and my mother and I visit them and watch them how they grow.” This may show that Botanists may be often deceived when they find rare flowers growing far from houses.’

Reference:

Journals of Dorothy Wordsworth. 1971. Oxford University Press

EDWARD PRATT, 7 Bay Close, Swanage, Dorset, BH19 1RE. Tel & Fax 01929 421862

FOUR POINT CRAMPONS

Feeling the need of some extra support when botanising on the steep hillsides which are not infrequent around here, on passing my sixtieth birthday I purchased a pair of Four Point Crampons. I warmly commend them to anyone who feels a similar need. Sports Shops do not carry them in stock as there is little demand for them, climbers crampons having many more points. But they can be ordered from their catalogues.

Two suggestions may be valuable to some who are unfamiliar with crampons. Passing the long straps around the heels of your boots as well as over the top prevents them slipping forwards. They should be fitted with their buckles on the outside of the foot, otherwise standing on a loose end of a strap can send you rolling downhill, as I once found!

EDWARD PRATT, 7 Bay Close, Swanage, Dorset, BH19 1RE. Tel & Fax 01929 421862

MORE BAD BOTANY OR NONE AT ALL?

'Early purple orchid butterfly': This new species of plant — or insect, I know not — was recently announced in a local newspaper, somehow misrepresenting completely two pieces I submitted (as a sample 'for information purposes only', not meant for publication, but one evidently cannot offer snippets to the Press on this basis). This sorry tale recapitulates what has happened before on a number of occasions, starting with my earnest endeavours, as a student, to devise a watertight definition for that elusive subject, 'geography', whereby the crunch phrase 'causal relationships' became translated, under the typist's fingertips, to 'casual relationships'. From this blow, my academic career never recovered.

The problem arises in many instances from simple typographic carelessness, but may also bear witness to a deeper malady, namely the conspicuous lack of 'general' knowledge that afflicts environmental subjects. In these circumstances, it is not recognised that factual checks are advisable, nor even that the printed statement is totally ludicrous. I had a graphic example of this pervading ignorance a few months ago, in showing botanical slides to a 30-strong group of undergraduates on an Environmental Science Course. Not one was able to identify early-purple orchid (*Orchis mascula*) from a perfectly clear illustration; indeed, not one suggested 'orchid', even. The only answer forthcoming was 'foxglove', which I suppose was at least the right colour, sort of.

What can we do to offset bad, or even mad, botany? It is an uphill task, I'm sure, without quick-fix solutions. Is it appropriate to do what I refrained from doing in the example outlined in the first paragraph, and berate the journalist/editor/newspaper for the mistake; or does this simply lead to deeper problems, of their withdrawing even further from matters of 'technical correctness', and increased scope for bad botany?

CHRIS LOWE, 25 North End, Hutton Rudby, Yarm, TS15 0DG

QUERCUS EUROCENTICA, spec. nov.

It is with much pleasure that I have followed the progress made in Britain in the taxonomy of pseudophytes such as Telecomicaceae and Poleaceae (E.C. Nelson, *BSBI News* 87: 9-10) with remarkable representatives like *Ferromastus defoliatus* (epithet corrected here in accordance with art. 60 ICBN) and others, which occur also in Central Europe though neglected so far by German botanists. But a new *Quercus* species has recently been discovered here in Germany, as shown on the reverse of the German version of the new 1, 2 and 5 cent coins. Even during the early Pre-Eurozoic Period, leaves of an oak were to be seen on the German 'Pfennig' and the DM and could easily be recognised as *Quercus petraea* Liebl. For the new German cent this species has been bastardised by the addition of fruits of *Quercus robur* L., thus creating the new species *Quercus eurocentica*. Unfortunately, this strange taxon has been overlooked by the German public, obviously due to their rather poor botanical knowledge. But should the German Eagle with the webbed feet of a duck or the Bavarian lion 'improved' with an udder of a cow have been depicted, it would probably have thrown our country into turmoil.



HEINRICH E. WEBER, Am Buehner Bach 12, 49565 Bramsche, Germany, heweber@uos.de.

TREE RECORDS BREAK THE LOOKING-GLASS BARRIER?

I had a dream the other day, at least I hope it was a dream!

I was reading *Plant Records* in the August copy of *Watsonia*, and I can clearly recall that almost all the tree records were for trees that had been planted. And I remember thinking, *a la* Lewis Carroll

— that's odd, that's very, very odd! And then later, I remember musing — well, you know what dreams are like — on the new records I could claim after my next visit to the Garden Centre. Though to qualify and be valid I would need to plant my choice specimens on the edge of the field over my garden wall apparently, as I don't have a grass verge in front of my house and garden. Preposterous I know, but this was so unsettling and left such a strong impression that I thought I should share it with members, particularly as now I dare not read (reread?) my copy of *Watsonia* in case it is true.

BRIAN K. BYRNE, 82 Low Ash Drive, Shipley, West Yorkshire, BD18 1JH.

WHAT'S IN A NAME?

Liz Hammler (*BSBI News* 89: 43), a relative newcomer to botany, admits (with tongue in cheek) to being dismayed by changes in botanical nomenclature. But we know she won't let changes spoil her interest. To quote from Lewis Carroll in *Alice Through the Looking-Glass*, 'What's the use of their having names,' the Gnat said, 'if they won't answer to them?'

'No use to them,' said Alice, 'but it's useful to the people that name them, I suppose.'

Interestingly, in the Arachnida, zoologists have long had a species of tropical whip-scorpion in the family Thelyphonidae, namely *Thelyphonus insularis*.

KEITH H. HYATT, 1 Tremcelynog, Rhandirmwyn, Llandovery, Carmarthenshire SA20 0NU

THE GAME OF THE NAME

I am indebted to Malcolm Storey (*BSBI News* 88: 14–15) for reminding us of standard nomenclatural procedure. Both his proposal of family Poleaceae and his confirmation of genus *Polea* are undoubtedly correct and will be adopted by the authorities in due course.

However the validity of *Polea telegraphica* at species level is subject to the usual laws of research and priority and so may be changed either on the results of DNA analysis or if it can be established that anyone uttered an earlier epithet upon unexpected reminder of its presence whilst otherwise engaged in the bathroom.

I must furthermore draw readers' attention to the phrase 'tall form with quadrifid base' and state that basal quadrifidy is diagnostic of a related family Pylonicaceae which additionally differs in the reticulate structure and canescent pigmentation of the primary stem (Wurzell 2001). All British material examined so far falls into *Pylonicus electricus*, a taxon widespread and morphologically rather constant at low altitudes. It is likely that local populations belong to a single clone.

Our literature to date makes it clear that both *Polea* and *Pylonicus* are critical genera (indeed they have received frequent criticism even from non-botanists). As such, their reproductive biology would repay closer investigation, as would also the possibility that either one might respond to cultivation for our own domestic benefit. Their broader ecological values at least are well documented, as perch sites for kestrels, shelter niches for woodlice and death traps for model aircraft. It is, however, a matter of considerable regret that voucher specimens appear so poorly represented in the national herbaria and I trust this omission may speedily be rectified.

Reference

Wurzell B.S. 2001. Up The *Polea* from *In Touch and Other Tall Stories* (unwritten) G.B.

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

Crossword answers (see p. 59)

Across: 1-Potamogeton, 6-Peapod, 7-Open, 9-Runner bean, 11-Fasciation, 15-Ilex, 16-Lanose, 17-Cypress tree.

Down: 1-Papyri, 2-Alpinus, 3-Order, 4-Typha, 5-Nana, 9-Extinct, 10-Sneeze, 12-A neep, 13-Isles, 14-Disc

CONSERVATION NOTES

C = ONE HUNDRED OVER ERN

Although this may seem like a collection of humorous remarks made by the famous Lancashire comedian Eric Morecambe towards his companion Ernie Wise e.g. 'tea urn?' it is in fact a phrase to associate with a value (coefficient) I have devised for species distribution analysis.

In order to assess the conservation requirements of certain species of critical genera with limited distributions I have devised a simple mathematical formula to evaluate a conservation coefficient C.

The formula is designed so that a very localised endemic species scores a maximum conservation coefficient value of 100. Species with a conservation coefficient value of >1 are at present considered to have conservation requirements. Alien species are given a value of 0. Conservation coefficients can be summed together to give cumulative figures for areas of conservation value such as national parks, nature reserves, areas owned by the Natural Trust, Areas of Outstanding Beauty, heaths, woodlands and even hedgerows. The application of conservation coefficients to specific areas would certainly identify 'hot spots' of diversity such as the Hampshire — Dorset heaths.

The formula is: $C = \frac{100}{ern}$

where e = the endemic number, r = the species range, and n = the number of hectads.

Endemic number (e)

A species may be endemic to certain areas, e.g. Europe (EUE), the British Isles (BE) or to a single country such as England (EE).

Suggested numbers to enter into the formula are:

- 1 Endemic to a single country
- 2 Endemic to the British Isles
- 3 Endemic to Europe
- 4 Species with a distribution extending beyond Europe.

Species Range (r)

A good example of categorising species according to the range of distribution is presented in Edees & Newton *Brambles of the British Isles* (1988). The definitions are repeated here together with a numerical code for use in the formula.

Widespread	= 3	diameter of species range > 400 km
Regional	= 2	diameter of species range 50-400 km
Local	= 1	diameter of species range < 50 km

The range of a species should probably be looked at on the global scale.

Number of 10-km square, hectad records (n)

Simply the number of hectad records for the area of study in which the species occurs. The area may be the British Isles or a specified country.

Once the figures e, r, and n have been evaluated the multiple of the three figures is then expressed as a reciprocal percentage (for an easily comprehensive numeric range) to obtain the conservation coefficient. This works very well for our very localised endemic species, several of which score the maximum value of 100 and include *Rubus salteri*, *Hieracium tavense* and *Sorbus bristolensis*.

Have a go at producing some figures for those species/habitats/areas of interest to you the reader from my coefficient. Summations should prove very interesting. What would the New Forest score for *Rubus* species, or the crags near Crickhowell with endemic species of *Sorbus* and *Hieracium*?

A bit of fun and not exactly $e = mc^2$, therefore my apologies to the mathematicians. This coefficient is however easy to evaluate and the formula can be applied to spreadsheet columns so that the C values can be recalculated automatically. There are no set rules. The formula may prove useful for studies of rare species within vice-counties where (n) may be applied to tetrads rather than hectares.

DAVE EARL, The Herbarium, The Manchester Museum, The University of Manchester, Oxford Road, Manchester M13 9PL.

FEEDBACK TO 'HAUNT HIJACK'

The comment that '... environmental protection seems to mean adaptation of the environment for mankind in its daily pursuits' is an apt statement for much of the current situation; conservation is too often treated as a convenience to be relinquished when it gets in the way, rather than an abiding imperative. However, some of the criticisms Peter J. Cook makes in 'Haunt Hijack' (*BSBI News* 89: 16) strike a less harmonious chord with my experience.

In particular, Mr Cook's middle paragraphs seem to give the notion of SINCs (Sites of Interest for Nature Conservation) a bad press. I would be the last to say that everything in the SINC-system is rosy. For example, he is right to bemoan their fundamental weakness in having no statutory protection; this is further discussed below. However, in case BSBI readers are not so familiar with the way SINCs are organised, I offer the following exposition.

Corresponding to the 'SINC'-label Peter Cook refers to in his area are many similar titles favoured elsewhere. Several systems simply 're-cycle' the four initials into 'SNCI', and the 'I' may stand for 'Importance' as well as 'Interest'. One may also encounter such terms as 'Sites of Biological Interest' or 'Countryside Heritage Sites'. **It is thus vital to know precisely which version is in use in one's own locality.**

Collis and Tyldesley (*Natural Assets*, 1993) made a full analysis of this complicated situation, and the County Wildlife Trusts (in *The Wildlife Sites Handbook*, 1997) advocated the adoption of a standard name nationally, viz: 'Wildlife Sites'. For the sake of consistency with Peter Cook's article, I use 'SINC' here, though I would normally choose the term 'County Wildlife Site'.

County (and Urban) Wildlife Trusts have in fact usually led the formulation of SINC-type systems. English Nature often acts in an advisory capacity. County and Unitary Councils have been involved in most cases (67% according to Collis & Tyldesley). Thus, there is a fairly strong implication that SINC-systems have, in principle at least, a sound and authoritative basis; the careful definition of processes governing their development reinforces this presumption.

For example, both Collis & Tyldesley and the *Wildlife Sites Handbook* include flow-diagrams from the outset of the scheme (such as 'Bringing Together Working Partners') to ongoing scrutiny ('Monitor and Review'), which (a) summarise the sequences under which SINC-systems have been instituted, and (b) suggest best practices for future schemes. These main operations broadly divide into **collecting data and forming judgements**.

For the first of these, it is pretty much axiomatic that 'Phase II' *Vegetation Survey* (i.e. detailed analysis of plant-communities) is done. This major emphasis on botanical phenomena is sufficient in its own right to justify the interest of BSBI members. Equally, the assessment of 'SINC-worthiness' should be subject to strict and as far as possible objective guidelines. These incorporate, as one would expect, features such as: fragility and fragmentation of habitat; 'nativeness'; species-diversity; occurrence of rarities; potential for management or enhancement; and, albeit as secondary considerations, value to the local (human) community.

Of course, this theoretical rigour and thoroughness depends on both proper commitment of resources and adequate skills on the part of the practitioners. Peter Cook is quite right in saying that short-cut surveys in January should be regarded with suspicion; but a SINC-system worth the name

should recognise and specify the occurrence of a Vice-comital rarity, and avoid treating the odd barn owl or water vole population, important items though these are, as a substitute for full documentation and appraisal, on which conservation value is properly based.

Thus, any disappointments with SINC's could be interpreted as failures of personnel or organisations rather than indicating a generally flawed concept. This may, of course, be no real consolation. Boundaries may be wrongly drawn on Local Plans; the v.c. rarity may be inadvertently 'hidden' amongst a host of technical information on the Phase II data-sheets or Site Appraisal forms; good sites may be overlooked because they were not in the records from which candidates for survey were selected . . .

The non-statutory character of SINC's does leave the door open to abuse, in that private landowners may do pretty much as they will, though good practice within a SINC-system should endeavour both to acquaint and convert, and Councils may show a lesser respect than one would wish. In particular, the temptation to develop land for remunerative housing schemes may be difficult to resist for cash-strapped Local Authorities: 'Money Talks', as a Wildlife Trust official ruefully said to me recently.

It is in these sorts of circumstances that SINC's may be involved in a 'loss + mitigation' process. My interpretation is somewhat different to the censorious tones used by Peter Cook, though I sympathise with his frustrations. Conservationists, especially those in professional roles, may find themselves with no trump-card to play, and must follow suit by agreeing to, and hoping to guide, some form of damage limitation or habitat-creation. Acting tough, or screaming abuse at legalised vandalism, is superficially virtuous, but spoils relationships in the longer term.

There is, I recognise, a likely consequence of detrimental trends affecting future occasions: SINC-landowners may become habituated into destructive practices, and the next generation of conservationists may look upon tree-planting and translocation as validly routine operations. So, my comments above must not be seen to justify such compromises — the word can be interpreted in both of its meanings — but merely to explain them in an informed and less castigatory fashion.

Yes, it would be great to have a botanical lobby of equivalent force to the RSPB. Recent BSBI utterances are, however, somewhat ambivalent. Peter Cook seems to exhort a more active interventionist role, but, harking back some two issues, Alex Lockton in *BSBI News 87* advocates quite clearly a traditional data-gathering function rather than involvement in 'direct conservation'. . . . Now there is a subject for exciting debate!

CHRISTOPHER J. LOWE, 25 North End, Hutton Rudby, Yarm, TS15 0DG Tel.: 01642 701 832

THE WILDFLOWER ARK — AN UPDATE

The Wildflower Ark (*BSBI News 84*, April 2000) has now been in existence for three years and continues to expand its activities.

The Wildflower Ark Project aims to investigate, conserve and maintain local plant biodiversity in Teesside and the Tees Valley area and to broaden public awareness of the importance of local habitats and their diversity.

We have now

- Established a collection of local native plant species with a seed bank of local genetic origin.
- Organically grown hardy stock, some of which has been reintroduced onto Teesside industrial sites.
- Updated information on local plant habitats and advised on maintenance to increase individual species numbers in open spaces and school grounds.
- Introduced wildflower seed germination kits into several local primary schools with a manual covering seed germination and the life cycle of plants. The resulting plants are then used in the school grounds by the children.

- We are currently setting up wildflower trails at Nature's World Middlesbrough and assisting the education officer with the development of plant habitats for the public and visiting school's programme.

This work has been funded by the Northumbrian Environmental Trust and supported by Groundwork, Middlesbrough.

As a result of the contacts with both professional and amateur botanists and local authorities a need appeared for an integrated, up-to-date plant database for 'Old Cleveland' an area covering the lower Tees Valley and crossing the boundaries of v.cc. 66 & 62.

We owe the finalisation of our initial list to Ian Lawrence and Pat Wood, with additional data from John Durkin for v.c. 66, and we would like to thank them for their efforts.

Working in partnership with the Tees Valley Wildlife Trust, and a very positive supporter's group, two years funding has been obtained from the Esmee Fairburn Foundation to set up a rare / scarce plant database for this area. This project forms part of a much greater whole, enabling the continuation and further development of education in schools and local community groups, surveying open spaces, and continuing the build up of our nursery and seed bank at Nature's World.

Our long term intention is to set up a full local database to support the LBAPS. If you would like a copy of our species list or any other details, please contact us.

JOHN JENKINS & HELEN HERRING, Joint Project Co-ordinators the Wildflower Ark at Nature's World,
Ladgate Lane, Middlesbrough, TS5 7YN. Tel: 01642 576611 E-mail:
wildflowerark@hotmail.com

ALIENS

BAY (*LAURUS NOBILIS*) AS AN INVASIVE SPECIES

Laurus nobilis was commonly planted in Victorian gardens and shrubberies on the Isle of Wight (v.c. 10). It flourished and writers of Victorian holiday guides commented upon the luxuriant growth of Bay and other evergreen shrubs as evidence of the favoured climate of this southern island.

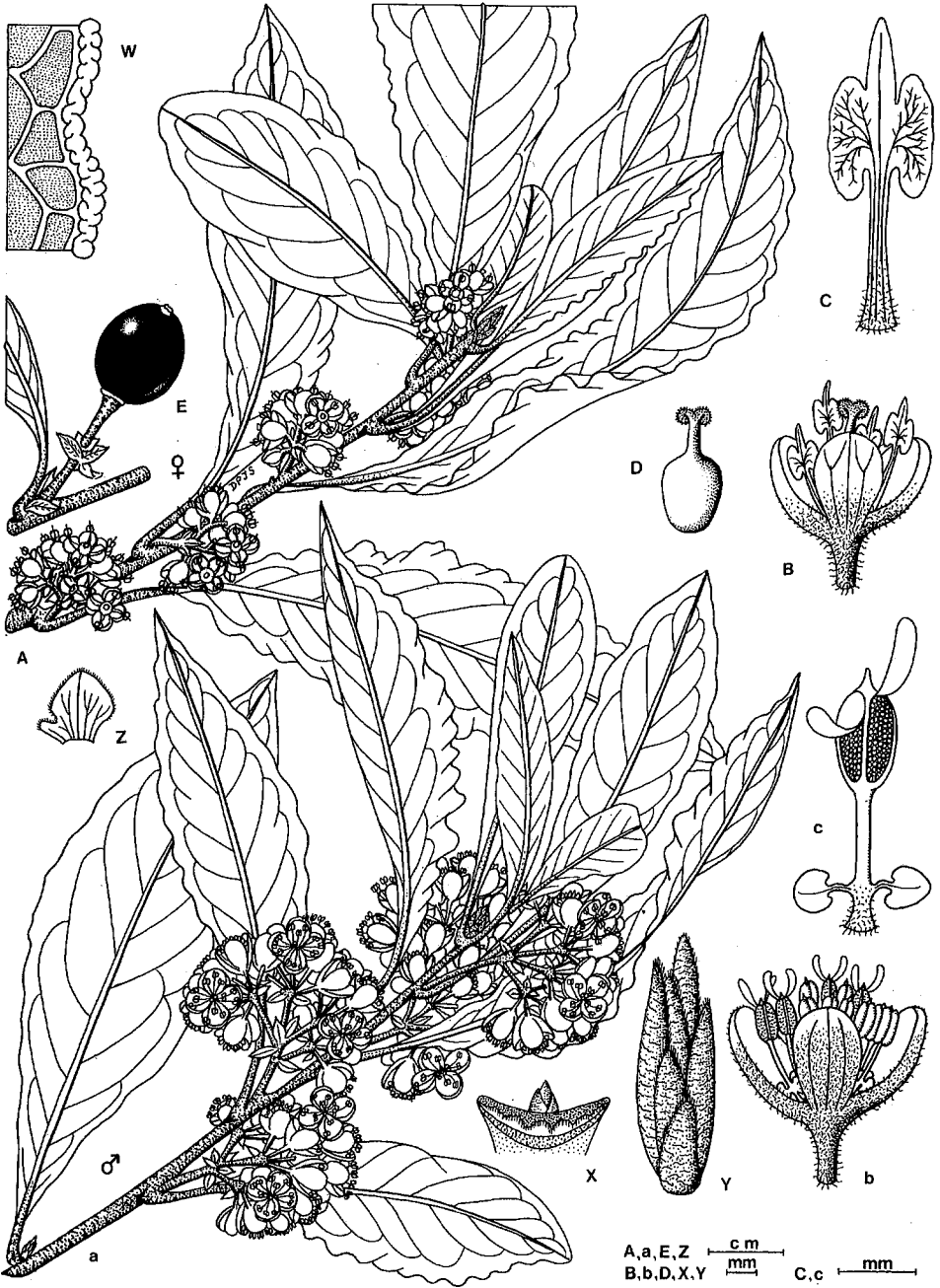
Bay can grow to tree-like proportions in gardens on the Island and it fruits freely; in the autumn, female bushes are often laden with black berries which drop to the ground or are eaten by birds. The seeds germinate readily to the extent that it can become a nuisance in gardens.

It was first noticed that Bay was spreading into the wild in 1978 when Bill Shepard came across several well-established bushes in scrub on the coastal slopes of Headon Warren near the western extremity of the Island (Shepard 1985). More recent survey has shown that this plant must have been colonising the countryside for much longer than this. It is not uncommon to find individual plants within both ancient and secondary woodlands and in more recent mixed scrub. It would appear to be most successful on clay soils and on south facing chalk slopes. To date, it has always been found within scrubby or wooded areas although, particularly on the downs, it can occur within quite small scrub patches. Bay appears to be most successful at invasively colonising south facing slumped cliffs, where the warm conditions and open ground appear to be particularly conducive to its spread.

This invasive habit appears to be a relatively recent phenomenon and, to date, its spread has not caused the ecological problems we see with *Quercus ilex* (Evergreen Oak).

References:

Shepard, B. 1985. A supplement to the Flora of the Isle of Wight, 1978. *Proc. Isle Wight nat. Hist. archaeol. Soc.* VII(VIII): 569-576.



Laurus nobilis L. del D.P.J. Smith © 2001

DANGEROUS LAURELS — NOT LAURELS IN DANGER

Dr Colin Pope's very interesting article (p. 43) about *Laurus nobilis* (Bay) indicates an imminent danger (over the next 30 years) that we should not ignore. *Rhododendron ponticum* (Rhododendron) has already become a very expensive elimination problem: other exotic laurophyllous species seem likely to follow this trend.

The term 'laurophyllous' is used herein to cover 'evergreen broad-leaved shrubs and trees', as defined in the account of '*Laurophyllisation in Switzerland*', a doctorate dissertation by Walther (2000). Therein, we read that more than 20 exotic laurophyllous species are involved. 'On the southern side of the Alps, especially in areas lower than 600 m a.s.l., the structure and composition of forests has completely changed due to the shift in the shrub layer from deciduous to evergreen broad-leaved species . . . their increase in abundance has occurred in the last thirty years, strongly implies changes in environmental factors within that period' (Walther, 2001). A 'twofold set of climatic parameters, smaller absolute minimum temperatures and lower frequency of frost' are suggested as the causes. Noteworthy, the 1990s were probably the warmest decade of the millennium in the Northern Hemisphere. The ten warmest years ever recorded all occurred in the 1980s and 90s. On the northern side of the Alps, a similar pattern is beginning to emerge involving more frost-hardier species.

It seems inevitable that a comparable situation will arise in southern England, at least near the coastline. Amongst the species likely to become dominant are *Quercus ilex* (Evergreen Oak), *Laurus nobilis* and *Prunus laurocerasus* (Cherry Laurel). One native species is also likely to become 'too abundant', *Ilex aquifolium* (Holly). I am, alas, dismayed to notice over the last fifteen years how this species has increased in woodlands about the Devil's Punchbowl (Hindhead, Surrey, v.c. 17): it has now utterly ruined habitats where a very local bird (Wood Warbler) once bred plentifully. Even a human can no longer push through parts of the current prickly jungle. Young saplings of both *Laurus* and *Ilex* are satisfyingly easy to uproot by hand (after the owner's permission has been obtained).

The aggressiveness of *Laurus* (and allies) is still little known in England (and Ireland, too) but our talented artist, Delf Smith (DPJS) has put on his boxing gloves and *still* been able to provide a striking picture for our Rogues Gallery (see p. 44).

It shows:

- | | |
|------------------------------------|------------------------------------|
| A Flowering branch of female plant | b Male flower |
| B Female flower | c Stamen from male flower |
| C Staminode from female flower | W Detail of leaf margin |
| D Pistil | X Leaf scar |
| E Fruit (a one-seeded black berry) | Y Winter bud |
| a Flowering branch of male plant | Z Bract (from involucre of bracts) |

Some plants escaping have markedly undulate leaf margins, but they do not merit a varietal name, and they can equally well be used in cooking dishes (Mike Grant, *pers. comm.*) — the more the better (EJC)! It is possible that saplings of this dioecious species have, on occasions, been overlooked as a variant of *Quercus ilex* or *Prunus lusitanica* (Portugal Laurel), but the distinctive aromatic smell (on crushing) is diagnostic, as also are the highly translucent leaf veins and vein islets when viewed with a hand lens against a bright light (fig. W). The mature stamens (fig. C) appear to display some comic semaphore message (Laurel and Hardy like!): the filaments have two large kidney-shaped glands at their base and each theca (=anther cell) dehisces by means of a valve that opens up, from the bottom, somewhat like a trapdoor or roller blind to release pollen. Valvate opening of anthers is a rare flowering-plant character, but the (also-primitive) family Berberidaceae shares it (e.g. *Berberis vulgaris* (Barberry)): it is typical of the family Lauraceae.

Although the flesh on the berry is remarkably thin, it is apparently much relished by (some) birds: the large seed is most probably usually disgorged instead of passing through the intestines. DPJS tells

me that young bays keep springing up in his garden in North End, Portsmouth (S. Hants, v.c. 11). In the spring he found 50+ seeds on his patio which obviously were introduced by a pair of blackbirds that had a nest in a tree nearby. The source tree was not in evidence. DPJS also remarks how the seed tastes strongly of nutmeg (*Myristica fragrans*) in the related, primitive family Myristicaceae.

Debbie Allan possesses many 1-km square records for *Laurus* in the Gosport area (S. Hants), including several self-sown bushes on the tiny Burrow Island in Portsmouth Harbour (together with *Quercus ilex* seedlings!) — I presented some records from this area and elsewhere, in *BSBI News* 79: 68–69 (1998). The ?1st record for v.c. 11 (S. Hants) is much earlier than I suspected — the indefatigable J.R. Palmer found it in scrub by the river at Wick [now in Dorset] in 1964 — see *Wild Flower Mag.* 343: 29 (1965).

Leslie (1987) gives no records from Surrey, but Barry Phillips (BSBI recorder for v.c. 17) tells me that it is now well known in eight 10-km squares, the first three, scattered records all dating from 1993. Most of the records are of seedlings or saplings, e.g. plants 60–150 m tall on Ham river-lands in 1995.

Doubtless, other vice-counties could produce similar statistics. Yet, only a few years ago, Clapham, Tutin & Moore (1987) had no reason even to mention this species briefly; although known in cultivation in Britain since 1562, it had scarcely begun its Great Escape! Instead of a 30-year event (as in Switzerland) we appear to have primarily a 10-year phenomenon. Interestingly, an exact avian parallel exists: the Little Egret, from warmer climes, has become since 1990 an established breeding species in southern England, Gosport being one of its chosen homes. It is, of course, immediately obvious that this correlates positively with the well-known Met. Office statistics: nine of the world's ten hottest years since the 1850s have occurred in the last decade. And, ominously, 2001 has already been pencilled in as the second warmest year since records began. Laurophyllisation in Britain has begun: what should we do about it? . . . Rest on our laurels?

References:

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- Walther, Gian-Reto. 2000. Laurophyllisation in Switzerland. *Diss. ETH* nr. 13561. 140pp. Zurich
- Walther, Gian-Reto. 2001. Summaries of Ph.D. theses (2000). Laurophyllisation in Switzerland. *Bull. Geobotanical Institute ETH*. 67: 127–128.

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

AEONIUM AND AICHRYSON ON THE ISLES OF SCILLY

Following the note by Eric Clement on *Aeonium* and *Aichryson* on the Isles of Scilly (*BSBI News* 88: 57) I have a few additional observations that may be of interest.

Aeoniums have been planted on all of the inhabited islands of the Isles of Scilly and occasionally become established on walls and other places well away from gardens. The plants will grow quite easily from leaves or stems that have been broken off and it is usually impossible to be sure how the plant has become established, so I record anything apparently growing away from obvious garden sources. There are several intriguing records of plants growing in more remote places, especially on the uninhabited islands. These clearly have not been planted — or at least not by man! Those on the uninhabited islands are believed to result from material taken there by gulls to build their nests. There is already evidence that gulls take stems of Hottentot Fig (*Carpobrotus edulis*) for nest building in their colonies (Lousley 1971, *pers.obs.*). Most of the records of Aeoniums in Scilly refer to *Aeonium cuneatum*, mainly from the inhabited islands. Records of plants that have been found established away from planted sources include; *A. cuneatum* among rocks on waste ground at Porthcressa (R. Murphy, May 1995), among garden debris above the beach at Green Bay, Bryher (2000), and on a dump in the dunes on Tresco (A. Underhill, June 1992). I have also found plants on three

uninhabited islands; Little Ganilly (July 1983), Great Ganinick (July 1984), South Hill, Samson (July 1984). Although bits of *Aeonium arboreum* are frequently found on rubbish dumps there are fewer records of it becoming established outside cultivation. One interesting record is of a plant I saw growing among the rocks on Guther's Island, off St Martins (1999).

That I have not recorded Aeoniums on more recent visits to uninhabited islands suggests that the plants may be short-lived in such exposed situations.

Aichryson laxum is very common around the Abbey Gardens on Tresco. It also grows in cracks in the path as well as on walls and even in crevices in the wall of the ladies' toilets! It is surprising that so far the plant does not appear to have become established away from the Gardens.

References:

LOUSLEY, J.E. 1971. *The Flora of the Isles of Scilly*. David & Charles, Newton Abbott

ROSEMARY PARSLow (BSBI Recorder Isles of Scilly), 17 St Michael's Road, Ponsanooth, Truro, Cornwall TR3 7ED

HYPERICUM OLYMPICUM IN THE BRITISH ISLES

Hypericum olympicum L. (no English name traced) receives a brief mention in Stace's *New flora of the British Isles*, 2nd edn (1997), p. 206, as being 'self-sown in a few places in England and Scotland.' It has, of course, been an established favourite in British gardens for many years. It is a variable plant — see Dr N.K.B. Robson's fine article in *The Plantsman* 1(4): 193–200 (1980), plus facing colour frontispiece — wherein there is a key to the five *formae* that he recognises, with a map showing their natural distribution in the Balkans and Turkey.

I possess old records for only v.c. 3, 22 (as *H. polyphyllum*), 23 and 89 which I believe have already been published elsewhere. But five more recent records deserve promulgation. I disregard here the happily self-sowing records from the rock gardens at RHS Gardens (Wisley, Surrey) and at Sir Harold Hillier Gardens and Arboretum (Ampfield, S. Hants).

This species is established on the rocky seawall of the estuary at Lynmouth (N. Devon, v.c. 4): it was first collected (and, alas, misdet. as *H. aegypticum* L., presumably because of its atypically tiny leaves) by the late Dr H.J.M. Bowen in May 1984. But, during 2000 R.W. Rutherford spotted the error and redet. the voucher (in **RNG**) as *H. olympicum* — *comm.* Dr S.L. Jury. The herbarium label says 'curry scented', a fact that I have not confirmed for myself. Remarkably, the late A.J. Underhill (AJU) refound it (in c.1995) at map reference SS724.496, **herb. EJC**. As a result, *H. aegypticum* should now be deleted from the British list.

AJU also knew of it as established on a roadside bank of the A429, near Stow-on-the-Wold (E. Gloucs., v.c. 33) — there were two patches of it flowering in late June 1995. Also present, and in flower, were three clumps of *H. coris* L. (conf. EJC, from photograph only), which is new to the British list of aliens. Superfluous garden-plant seed has repeatedly been scattered here, reputedly by a local nurseryman.

Two more ephemeral records follow: the Rev. E.A. Pratt found it, in June 2000, on a pavement edge, at Swanage (Dorset, v.c. 9), **herb. EJC**; and D.I. Jolly, spotted it, in August 2001, at the base of a wall outside a Public House at Garswood, Ashton in Makerfield (S. Lancs., v.c. 59), **herb. EJC**.

Finally, Graham Easy (GMSE) tells me of his discovery of it in 2000, in two colour forms, growing 30–45 cm tall in compact clumps scattered across an area of waste ground, near factory sites, in Cambs. (v.c. 29), with no indication of its origin. GMSE has very generously provided the striking front-cover illustration for this issue of *News*, based on his plant.

It is a glabrous perennial, usually less than 40 cm tall, ± woody at the base, with attractive glaucous leaves. The large yellow flowers (20–60 mm in diam.) are in few-flowered cymes, with the stamen-fascicles and styles both in 3's. As a native, this species thrives in dry, stony places. It seems likely that more records will emerge over the coming years.

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

ERIC CLEMENT'S TREE-MALLOW: *LAVATERA* × *CLEMENTII*

Lavatera × *clementii* was recently published as a new name for the hybrid between *L. olbia* and *L. thuringiaca* (Cheek *Kew Bull.* 55: 1013–1014, 2000). Both parents are rarely seen in British gardens, whereas the hybrid, in the form of cultivars including 'Barnsley' and 'Kew Rose', is extremely common. In fact it is probably the commonest Malvaceous subject in this context. It has begun to appear in the wild in waste places and hedges (Clement, *BSBI News* 78: 59–60, 1998). This plant had long been cultivated as *Lavatera olbia* 'Rosea' when it was brought to me for verification in the course of an R.H.S. award being made to a cultivar 'Kew Rose'. Keying it out in *Flora Europaea* produced the identification *Lavatera thuringiaca* rather than *L. olbia* and the material was a much better match with the first than the second, as far as herbarium material was concerned (Cheek, *The Lavatera imbroglio. The Garden* Jan. 1989: 23–27). At the time I discounted the possibility of the plant being a hybrid and overlooked the significance of two important characteristics that did not tally with *L. thuringiaca* but did with *L. olbia*. Firstly, it over-winters as a shrub, and secondly, its mericarps are not quite glabrous but have a few hairs. It was not until I read Eric Clement's article in these pages (see reference above) that I realised my error, although several articles in the 1990s discussed the possibility of this plant's hybrid origin. Mr Clement pointed out that these plants were largely sterile. This is a feature of many hybrids and is in contrast to the state in 'true' *L. olbia* and *L. thuringiaca* where almost every flower produces a fruit with numerous mericarps. Being now in little doubt that this ubiquitous garden plant is in fact a hybrid between these two species I duly named it in his honour. That is the story of how one of Britain's most popular horticultural subjects came to have the name of Britain's best known specialists in 'aliens & adventives'.

MARTIN CHEEK, Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB.

KIWI PLANT IN SOUTH LANCASHIRE V.C. 59

As part of the v.c. 59 recording project I visited SJ58, near Widnes, on August Bank Holiday, 27th August 2001. The area is very industrial, so that it was quieter than usual for a Bank Holiday.

A most unusual plant was seen to be growing behind the steel railings surrounding a long disused factory at a secured waste site at Moss Bank SJ526.852. The plant was sprawling and woody and was leaning over an old metal bar. It was thought to be a Kiwi plant *Actinidia*; the only reachable twig was collected and a search on the Internet seemed to confirm its identity as *Actinidia chinensis*. In order to confirm this I contacted Alan Kahan of the Working Class Library in Salford, where a kiwi plant grows in the garden. Alan kindly allowed me to collect a sample, and the two specimens were then sent to Brian Wurzell, who confirmed my identification (now held at **herb. B. Wurzell**).

Another example of a kiwi plant can be seen in the courtyard of Dunham House, Greater Manchester (National Trust).

It is conjecture whether the Widnes kiwi plant was planted, grew from a discarded fruit, or grew from seed dispersed by an animal. It grew to a height of around 2 m and had new branches sprawling out, but no fruits were visible. The site is closed off by a high metal fence and the kiwi plant may perhaps remain, unless the site is sold.

Special thanks go to Peta Hayes for photographing the specimen (see colour photos, p. 32).

AUDREY R. LOCKSLEY (Honorary Curatorial Associate), Herbarium, Manchester Museum, University of Manchester, Oxford Road, Manchester M13 9PL

MORE NEW PLANTS AT ABERFORD

Since the A1–M1 link road was completed in 1998 a number of interesting eastern European plants have appeared near the village of Aberford, east of Leeds, on the embankments of associated local roads which were re-landscaped at the same time. (See John Taylor's article *BSBI News* 85: 45).

Last year (June 9th 2001), *Centaurea uniflora*, another plant new to Britain, was discovered during a Bradford Botany Group meeting (see photos, p. 34). This species occurs naturally from the Alps and Carpathians to central parts of the Balkan peninsula. Later in the year (August 5th 2001), members of Leeds Naturalists' Club discovered a handsome *Verbascum*, which keyed out to *V. bombyciferum*, a native of Turkey. A native British plant new to v.c. 64 was *Medicago sativa* subsp. *varia*, and *Arenaria serpyllifolia* subsp. *leptocladus* was seen for the first time for 30 years. These, too, had undoubtedly been introduced in the same seed mix.

One would perhaps have preferred a few cowslips and orchids but this variety and the challenge of identification certainly add to the spice of life.

PHYL ABBOTT, Cedar Croft, 73 Ridge Way, Leeds, LS8 4DD

AQUATIC GARDEN CENTRES

A few years ago, whilst working for the local Wildlife Trust, the arrival of *Crassula helmsii* (New Zealand Pigmyweed) on Teesside aroused my interest in and concern about alien aquatics. During a single-day exercise, I visited about 15 local Garden Centres and like establishments that provided vegetation for garden ponds and aquaria, looking for signs of *Crassula* and other potentially problematic waterweeds.

I handed out leaflets that showed how these aliens, especially *Crassula*, can be identified, and requested that the Centre Staff be made aware of the invasive qualities of this species. I was pleasantly impressed with the willingness of managers to listen to my arguments, especially since I could not prearrange appointments in every case. Whether my brief campaign did any good is impossible to judge — I have not followed up the initial visit, I'm afraid — but at the time I felt that it had been worthwhile.

Perhaps other BSBI members would be able to do this type of awareness-raising. I can supply copies of the sort of material I had available on that occasion, and still use in talks about gardening and conservation. Please send a stamped, addressed envelope to me at the address below:

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

SHORE MEDICK, *MEDICAGO LITTORALIS*, IN KENT

On 7th June 2001, whilst in the Whitstable area (TR16) I followed up a report by a Mr C.J. Miller of a strange 'Lotus-like' plant on the beach there. The area concerned was a small, firm, shell-sand/gravel beach that had been much trampled over the years by yachtsmen tending their boats. At first sight the beach looked bare of vegetation, but on closer inspection revealed some twenty or so, slender, prostrate plants between 5–10cm in diameter. It was obviously a species of *Medicago*, unknown to myself but rather similar to *M. minima* (Bur Medick). I sent a specimen to David Pearman who kindly identified the plant as *Medicago littoralis* Rohde ex Lois.

The Shore Medick is a native of the Mediterranean region where it is found on sandy shores, extending round onto the Atlantic coast, with recent records as far north as far as Brest in France. In the past this species has only been found as a casual on ballast or as a wool alien within the British Isles. Could these Kent plants be a genuine further northward extension in the range of this species?

ERIC PHILP, 6 Vicarage Close, Aylesford, Kent ME20 7BB.

NOTICES (NON BSBI)

CHANGES IN THE BRITISH FLORA

a lecture by C.D. Preston

The London Natural History Society is pleased to invite BSBI members to a lecture entitled *Changes in the British Flora*, to be given by Dr C.D. Preston at 6.30 p.m. on Thursday 28th November 2002, in the Garwood Lecture Theatre of University College London, Gower Street, London.

The lecture will be based on analysis of Atlas 2000 results and perhaps also on more detailed local studies such as CDP's work on v.c. 21 & 29 and Kevin Walker's as yet unpublished work on v.c. 32.

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

PLANTLIFE'S COUNTY FLOWERS PROJECT

To commemorate HM The Queen's Golden Jubilee, Plantlife is co-ordinating an exciting project which, with the help of our partner organisations, will put our flora well and truly on the map. The idea is very much to stimulate a wider interest in wild plants, and get people thinking about wild flowers and what they mean to them.

Flowers can be a powerful means of expression. The poppy has become our symbol for remembering those who have died in war. The imagery of flowers has a great and long history. In literature, art, and in life itself, plants have been used as symbols for centuries. The purity of the lily or the simple beauty of the hedge-rose have appeared on heraldic banners and coats of arms for over almost a thousand years. Shakespeare's Ophelia adds to the list: rosemary for remembrance, pansies for thoughts, fennel for frailty, rue for repentance, and daisy, love's victim. In classical times, poets used flowers as symbols: Ovid's Narcissus metamorphoses into a flower, which assumes his name as a permanent tribute to his vanity.

Wild flowers often take on symbolic meanings, or help to express the identity of a particular area. In the United States and Canada, for example, every state has an emblematic wild flower: Texas bluebonnet, Californian poppy, or the prairie crocus of Manitoba. Most European countries, too, have a national flower: Austria's edelweiss, the German cornflower or the Irish shamrock. Their choice reflects different things. The plant may be purely symbolic, like the shamrock, whose trefoil leaves represent the Trinity. It may bring colour to the local landscape, or it may, like the Scottish thistle, express something of the nation's character. In this case, hardiness and defiance against enemies. Many towns and villages are named after plants. Bromley is named after Broom (*Cytisus scoparius*) and Ramsey after Ramsons (*Allium ursinum*). Wild flowers have also been used by latter day local authorities to express their identity, such as Grass-of-Parnassus (*Parnassia palustris*) of Cumbria, the Summer Snowflake (*Leucojum aestivum*) of Hampshire or the Coralroot (*Cardamine bulbifera*) of Amersham.

The language of flowers is obviously still strong, despite the loss of so many flower-rich corners in today's countryside. But which flowers say most about a particular place? A strong association with a special wild flower might come through its rarity, or as a local symbol, perhaps in a place-name, or for some other reason. For example, the blue Round-headed Rampion (*Phyteuma orbiculare*) has a particular importance for Sussex, despite the fact that it grows in many other counties. Perhaps it is more common in Sussex, or perhaps it symbolises the pride the people have in the downland landscape as it rolls down to the sea at Beachy Head.

Plantlife has made a selection of wild plant species characteristic to each vice-county, as well as species appropriate for our capital cities and larger metropolitan areas. This list appears on our web

site (www.plantlife.org.uk), and everyone is invited to place their vote for the plant they would like to see as their county flower. You can also register a vote for any other counties.

The list of species for each county, however, is just a stimulus to get you thinking, and you are welcome to suggest and vote for other species on the web site. It should be a flower that means something to the community. Perhaps it lends a special quality to the local scenery, whether woodland, open fields or coastal cliffs and dunes. Perhaps it has some character, or even use, that people value, or perhaps it is a rare and precious flower that is valued for that reason. Or perhaps there is no particular reason, but that you value it anyway. The key point is that you are not limited. If there is any flower that you feel is special to your locality or to other places, please register your vote on the Plantlife web site. Voting closes on Sunday 1st December 2002 and the results will be announced in February 2003.

TREVOR DINES, Plantlife Officer Wales, Rhyd y Fuwch, Near Bethel, Caernarfon, Gwynedd LL55 3PS

REQUESTS

ILLUSTRATIONS OF ALIEN PLANTS: HELP REQUIRED

Ian Thirlwell, Delf Smith, Graham Easy, Phil Rye and Eric Clement are currently working on producing a book illustrating some 500+ alien plants that occur in the British Isles, but for which good line drawings are difficult or (impossible to!) locate. It is largely based on the work organised by the late David McClintock (mostly in the 1960s and 1970s) when he had seven artists drawing plants for him. The great majority of these drawings are now in my (EJC) possession, but others, either partly completed, or sent long ago to referees and others for assessment I have lost track of. Can any member (or reader) locate any of them for me? A good photocopy would suffice: the book will be the poorer without them. Ferns, conifers, *Crocus*, *Hieracium*, etc., are involved. I also seek documentation about all the drawings (e.g. from whence they were drawn).

Within the volume we hope to incorporate many of the fine illustrations in old issues of *BSBI News*. After this, there still remain 'missing' species, so we additionally seek budding artists to fill some of the gaps. A good line drawing, plus enlargements of botanical details, is required. No funds are available for payment, but it is hoped that a free copy of the completed book will be presented to any artist whose work (3 drawings or more) we accept.

Finally, we seek co-operation from field botanists who could supply artists with fresh material for new drawings. A list of *desiderata* will be available shortly from EJC.

We are hoping that the work will be published inexpensively by the BSBI. The camera-ready copy will be available in December 2003.

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

BROMUS SPECIMENS WANTED AND DETERMINED

Specimens of brome-grasses (*Bromus*, *Bromopsis*, *Anisantha* and *Ceratochloa*) collected in the British Isles or abroad are needed for a research project. Fresh or dried specimens will be determined and returned with explanatory text. Postage and all other expenses will be refunded. Whole specimens are preferred but to facilitate dispatch these can be folded 2 or 3 times to about A4 size, and placed between newspaper sheets with a mention of the habitat where found.

Laurie M. Spalton, 6 Marine Parade, Budleigh Salterton, Devon, EX9 6NS, Tel: 01395 445813

SEDGES AND *SEDUM ALBUM*

If possible I would like to receive specimens of sedges either fresh or pressed, any species or subspecies and including hybrids from anywhere in British Isles (especially from Ireland for comparative studies) with all relevant details, Grid Ref., etc., (foreign material welcome if expertly determined), if rare send the main ligule-leaf, (incl. ligule) and a spikelet of mature utricles, making sure it is from a correctly determined population. If anyone has any of the rarer sedges in cultivation I would appreciate a plant or 'fruits' to grow some myself.

Sedum album (White Stonecrop)

Specimens wanted of *S. album* for comparative study. Please send those with narrow leaves and those with ovoid leaves. Preferably, living specimens with a few roots so they can be potted and grown on. Plants close to flowering of several shoots. Either 'wild' or from garden, source details please.

Please ensure that all collecting is done 'within the law'; all postal expenses will of course be reimbursed. Send to:

MICHAEL WILCOX, 48 Ailsa house, Fairhaven Green, Idle, Bradford BD10 9ND. Note this address may change in September. Anyone writing will be informed.

REQUEST FOR *CARDAMINE FLEXUOSA* × *C. PRATENSIS* (*C.* × *FRINGSII*) SITES

In collaboration with Klaus Mummenhof, University of Osnabrück, Germany, I am investigating the genetic make-up of *Cardamine flexuosa* × *C. pratensis* hybrids in Britain, and request details of any plants found in 2002 so we can collect DNA samples for analysis.

The hybrid can be easily picked out from both parents by the intermediate size of the petals at flowering, typically c.6-11 mm long and lilac or more rarely white, and its sterility (note *C. pratensis* is self-incompatible and often does not set seed). The hybrids are sterile but can reproduce vegetatively and form patches of clones.

So far David Allen and myself have traced records from V.cc. 5, 9, 13, 14, 16, 17, 21, 22, 34, 35, 36, 37, 38, 41 and 61, and I can provide details if anyone wants to search for old sites. I am happy to determine any possible material.

TIM C.G. RICH, Department of Biodiversity and Systematic Biology, National Museum & Gallery, Cardiff CF10 3NP. Tel 02920 573218. E-mail tim.rich@nmgw.ac.uk.

BOTANICAL RECORDS FOR SOUTH LANCASHIRE (V.C. 59)

May I draw the attention of readers to the progress being made towards the compilation of the vascular plants section of the *New Flora of South Lancashire*. Work on the project began in 1995 with the bulk of field recording being carried out at tetrad level. Excellent progress has been made and the team envisage a cut off point for field recording by the end of 2003. The publication is expected to be available by 2006 at the very latest.

To view the progress made by the v.c. 59 recording team visit our Northwestern Naturalists' Union website at www.ivyhouse.u-net.com/nwnuhome.htm maintained by Mike Walton. Work through the website selecting the following sequence of underlined headings: *VC59 Flora Project*; *Current state of progress*; *table*. A tabulated map of v.c. 59 will appear presenting the number of species recorded for each tetrad (compiled by D.P. Earl & H. McGhie). It is hoped that this table will be updated on a regular basis to reflect the results of further recording and data entry.

If anyone has any records for v.c. 59, please forward the details to my home address given below. Historical data from museums would be greatly appreciated, especially for the more casual taxa, species which have declined significantly, and difficult taxa.

DAVE EARL, The Caretaker's House, 2A Ash Street, Southport, Merseyside PR8 6JH

TRICHOPHORUM CESPITOSUM nothosubsp. FOERSTERI cont. . . .

Due to the problems of carrying out field work during the Foot-and-mouth crisis, the survey for taxa in the species *Trichophorum cespitosum* will continue in 2002 and subsequent years. Please refer to the article in *BSBI News* 87: 20 (April 2001) for details.

MICHAEL WILCOX, 48 Ailsa House, Fairhaven Green, Idle, Bradford, W. Yorks. BD10 9ND

OFFERS

WATSONIA

I have the following issues of *Watsonia* which I would be happy to pass on for the cost of the postage. Contact me on 01453 873297

Vols 12(1); 13(3); 14(1,2,3,4 & index); 15(1,2,3,4 & index); 16(1,4); 17(3,4); 18(2,3,4); 19(4 & index); 20(1,2).

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

GOFYNNE SEED LIST 2002

A small quantity of seed from any of the following species is available free upon receipt of a SAE.

Cardamine impatiens
Carex depauperata
Chenopodium rubrum
Chenopodium vulvaria
Cynoglossum germanicum
Dianthus armeria
Dianthus deltoides
Illecebrum verticillatum
Kickxia elatine
Kickxia spuria
Lychnis viscaria
Lythrum hyssopifolium
Marrubium vulgare
Moenchia erecta
Myosurus minimus
Oenanthe pimpinelloides

Papaver argemone
Papaver hybridum
Potentilla argentea
Potentilla rupestris
Primula elatior
Ranunculus arvensis
Rumex maritimus
Rumex palustris
Scandix pecten-veneris
Scrophularia scorodonia
Silene gallica
Stachys germanica
Torilis arvensis
Trifolium ornithopodioides
Vicia bithynica

ANDREW SHAW, Gofynne, Llanynis, Builth Wells, Powys. LD2 3HN E-mail: andrewgshaw@hotmail.com

WEST DOWN SEEDS

Humphry Bowen had harvested seeds of about 40 species before his sudden death last August. If any member would like any (I guess the species are much the same as in past years), please send me a SAE for either a list or specific requests.

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

SEEDS FROM WARE — 2001

A self-addressed envelope will bring you any of the following from my garden.

<i>Actea rubra</i> (cult)	<i>E. platyphyllos</i> (Berks.)
<i>Agrimonia odorata</i> (Surrey)	<i>E. pubescens</i> (Majorca)
<i>Amaranthus blitoides</i> (Majorca)	<i>E. rigida</i> (Sicily)
<i>Anaphalis longifolia</i> (Java)	<i>Geranium palmatum</i> (Maderia)
<i>Anemathela lessoniaca</i> (Cornwall)	<i>Hieracium trichocaulon</i> (France)
<i>Angelica pachycarpa</i> (Guernsey)	<i>Impatiens balsamina</i> (Java)
<i>Avena sterilis</i> (Corsica)	<i>Inula racemosa</i> (cult.)
<i>Bellardia trixago</i> – yellow form (Sicily)	<i>Lathyrus</i> eg. <i>czottianus</i> . (Turkey)
<i>Calendula maderense</i> (Madeira)	<i>Nicandra physalodes</i> (Herts.)
<i>Centaurea debeauxii</i> (cult.)	<i>Nonea lutea</i> (Suffolk)
<i>C. rhenana</i> (Yorks.)	<i>Parietaria debilis</i> (Argentina)
<i>Cephalaria joppensis</i> (Israel)	<i>Peucedanum verticillare</i> (cult.)
<i>Chenopodium quinoa</i> (cult.)	<i>Phasalis paradoxa</i> (Hants.)
<i>Chrysanthemum coronarium</i> (Majorca)	<i>Physospermum cornubiense</i> (Bucks.)
<i>Datura ferox</i> (wool alien)	<i>Polygonum equisetiforme</i> (Israel)
<i>Digitalis grandiflora</i> (cult.)	<i>Rumex maritimus</i> (Berks.)
<i>Digitaria ternata</i> (S. Africa)	<i>Scorpiurus muricatus</i> (birdseed alien)
<i>Elymus virginicus</i> (USA)	<i>Scrophularia trifoliata</i> (Corsica)
<i>Eragrostis virescens</i> (USA)	<i>Setaria parviflora</i> (Argentina)
<i>Erodium cygnorum</i> (wool alien)	<i>Silene gallica</i> (Sicily)
<i>Erodium malacoides</i> (Sicily)	<i>Sorghum nigrum</i> (cult.)
<i>Eryngium agaviifolium</i> (Andes)	<i>Spergularia bocconei</i> (Sicily)
<i>E. bourgatii</i> (Spain)	<i>Tragopogon porrifolius</i> (Corsica)
<i>Euphorbia coralloides</i> (cult.)	<i>Tribulus terrestris</i> (Majorca)
<i>E. heterophylla</i> (Israel)	<i>Verbascum dumulosum</i> (cult.)

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

SEEDS OF DIANTHUS ARMERIA (DEPTFORD PINK)

When my late father, Edgar Milne-Redhead, moved from his Suffolk home to live with us in north Essex in 1993, he brought with him a number of his most treasured plants which he had cultivated in his Nayland garden, including the Deptford Pink (*Dianthus armeria*). This has now become widespread in our garden to the extent that it has become a weed! It flowered particularly prolifically last year and set a lot of seed. I was wondering whether any members would like to have some, if this is not breaking any rules about introductions. A s.a.e. would be appreciated.

ANNETTE HARLEY, Harley Books, Martins, Great Horkesley, Colchester, Essex CO6 4AH, UK Tel. 01206 271216 Fax. 01206 271182; e-mail: harley@keme.co.uk

BOOK NOTES

I apologise for the brevity of these — proof-reading the *Atlas* used up all my spare time.

The Evolution of Plants. K. Willis and J. McElwain. Pp. x + 378. Oxford University Press. 2002. Price (Pbk) £22.95 (ISBN 0-19-850065-3).

Naturalists and Society (The Culture of Natural History in Britain, 1700–1900). D.E. Allen. Pp. xiv + 298. Ashgate Publishing. 2001. Price £55 (ISBN 0-86078-863-6).

The Forgiveness of Nature (The Story of Grass). G. Harvey. Pp. xii + 372. Jonathon Cape. 2001. Price £17.99 (ISBN 0-224-06047-3).

Flora of Assynt. P.A. & I.M. Evans, G.P. Rothero. Pp. 284. Privately printed. 2002. Price (Pbk) £20 (ISBN 0-9541813-0-1).

A Supplement to Flora of Northumberland. G.A. Swan, in *Transactions of the Natural History Society of Northumbria* 61: 71-160. Dec. 2001.

Copies may be obtained from: The Secretary, The Natural History Society of Northumbria, The Hancock Museum, Newcastle-upon-Tyne, NE2 4PT, enclosing a cheque for £7 (£6 + p. & P. £1) payable to that Society.

[Included in my copy, on pp. 161–168 of the same offprint, was *The Durham Flora – corrigenda et addenda* by Rev. G.G. Graham.]

The Plant Life of Snowdonia. P. Rhind & D. Evans (eds). Pp. xv + 173. Gomer Press. 2001. Price £19.95 (ISBN 1 84323 044 5).

Other notes

Suffolk Natural History 37, 2001, contains papers from the 2000 conference of the Suffolk Naturalists' Society. This conference *Playing God or gardening*, was on re-introductions, and contains papers on many groups, including plant translocations and conservation genetics of plant populations. An interesting and sobering read.

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

WILTSHIRE BOTANY

Issue No. 5 of this journal is now published. It contains:

- An account by various authors of plant recording in Wiltshire, including its history, current practice and discussion of issues
- A brief history by Tim Rich and Andy McVeigh of recording some *Gentianella* species in Wiltshire and of the rediscovery of *Gentianella germanica* (Chiltern Gentian)
- Clarification of an old site for *Salvia pratensis* (Meadow Clary) by Michael Smith
- Recording of rare arable weeds in the County by Jane Banks
- A National Vegetation Classification study of Morgan's Hill Nature Reserve described by Louise Denning
- An account of the ecology of orchids at Morgan's Hill Nature Reserve by Louise Denning
- A second set of keys for identifying Wiltshire crucifers by John Presland
- a selection of the Society's plant records for 2000 and some v.c. 7 updates for 1994-1999

Contributions to the journal are welcome on any aspect of Wiltshire botany. Articles should be submitted to John Presland at the address below, who will also be pleased to discuss proposed articles informally (Tel: 01225 865125). A leaflet is also available offering guidance to authors on the most helpful forms in which to submit articles.

Copies of No. 5 and some earlier issues are available from Jean Wall at Withybeds, Dark Lane, Malmesbury, Wilts SN16 0BB (Tel 01666 823865). The cost is £2.50 post free. Cheques should be made out to Wiltshire Botanical Society.

JOHN PRESLAND, 175c Ashley Lane, Winsley, Bradford-on-Avon, BA15 2HR,

OBITUARY NOTES

With regret we report the death of Prof. K. Faegri of Bergen, an Honorary Member who had been a member of the Society since 1968. Prof. Faegri was a speaker at the Conference *The pollination of flowers by insects*, organised by John Richards for BSBI and the Linnean Society at Newcastle in 1977. Prof. Faegri gave the introductory paper *Trends in research in pollination ecology*, as published in the Conference Report edited by A.J. Richards. Knut Faegri maintained links with the BSBI, and he will be missed as a distinguished member.

We are also sad to report that in January this year, Joan Sylvester-Bradley died. Joan and her husband were together BSBI members from 1951, half a century of good support of the Society. Joan's husband Peter was Professor of Geology at the University of Leicester. He organised for BSBI early *Rosa* surveys between 1952–55, and these he reported in *Proceedings of the Botanical Society of the British Isles* 1: 254–255. Sadly Prof. Sylvester-Bradley died as he was approaching retirement in 1979.

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

DR BERTIL HYLMÖ 1915–2001

Scientist, co-founder of *Findus*, botanist & expert on *Cotoneaster*

[**Editor's note:** Although not himself a member of BSBI, Bertil Hylmö has been of considerable service to members. For over 15 years, he, with Jeanette Fryer, has identified or confirmed many thousands of problem *Cotoneaster* specimens. It is with this in mind that this appreciation is published here.]

Bertil Hylmö, son of the marine botanist David Hylmö, was born 8 March 1915, in Varberg, on the Swedish west coast and died on 20 June 2001, in Bjuv in southern Sweden.

In 1940, on completion of his academic career which included botany, genetics and microbiology at the University of Lund, and a short time working at the Plant Experimental Station, Alnarp (now the Swedish University of Agricultural Sciences) Bertil Hylmö was drafted into the Swedish army and stationed at the furthest northern reaches of Sweden ('keeping Stalin out' as he liked to say!). Here the temperature plunges to -30–35°C, and food is stored by the Lapps in natural outdoor freezers. It was here (in much the same way as Clarence Birdseye) that he came to realise the commercial viability of growing, freezing and marketing frozen food.

In Sweden in 1943 around 120 people died during an outbreak of *Salmonella* poisoning. Bertil Hylmö's professor at Alnarp recommended that, due to his knowledge in microbiology, he be recalled from the army and sent to Stockholm to try to deal with this awful problem. This he achieved — and went on to take his knowledge with him to *Findus*.

On his return to civilian life he worked for *Marabou* (today owned by *Kraft Foods Inc.*); his task, to find a place to establish a fruit and vegetable processing industry. In Bjuv, in

the fertile flatlands of southernmost Sweden, he discovered a small liquor company which was duly purchased. A new company was set up and given the name *Findus* — originating from fruit industry.

It was here that Bertil Hylmö first met up with Dr Karl Evert Flinck, with whom, later, he was to collaborate in researching and writing papers on the classification of *Cotoneaster*.

By the late 1940s Bertil Hylmö had already been involved in the introduction of frozen food to the Scandinavian market. His work not only involved the development of agricultural methods but also the continuation of the important work of eradicating *Salmonella* from the Swedish meat industry — especially in poultry. Our own Prince Philip visited *Findus* in 1954 and was shown around the poultry section by Bertil Hylmö. To this day all Swedish meat remains *Salmonella* free. For this he received the 1972 Food Technology Award for Services to the Food Industry.

His next task was to research the chemical processes (*in vivo*) during the maturity of peas (where glucose is rapidly converted into starch). This led to his discovery of the importance of the complex combination between sowing time, water, soil composition, heat and harvesting time and now the harvesting of individual fields is programmed to an exact hour to produce the optimum quality. For this Bertil Hylmö received a PhD and a visit to the pea fields of Bjuv by King Gustavus VI Adolphus of Sweden.

In 1963 *Findus* was sold to the Nestle group. Bertil Hylmö became the head of management for agricultural, technical and product development for *Nordreco*, the research group affiliated to Nestle. During this period (1962–1976) he and his colleagues devised a method (the *Findus / Hylmö Method*) of storing potatoes which is influenced by controlled heat, humidity and temperature.

Another successful project was to lead to the minimum usage of pesticides on growing crops. During his period with *Nestle* Bertil Hylmö travelled widely — frequently visiting and working with the food industries in as many countries per year as weeks within. His knowledge of this world-wide food industry was immense.

In 1980 he received the Swedish Academy of Engineering Sciences gold medal for his pioneer work on the industrial storage of potatoes and other root vegetables and for the growing of vegetables and berry fruit.

Bertil Hylmö's private research into *Cotoneaster* began in the mid 1950s. Always having a keen interest in the native Swedish flora, he naturally wished to correctly identify the *Cotoneasters* (of which there are at least six species native to Sweden, as well as a number of garden escapes) that he came across in his field studies. His interest in this fascinating and difficult, mostly apomictic genus, became a lifelong passion, and along with Karl Evert Flinck he produced '*A List of Series and Species in the Genus Cotoneaster*' (1966) (see full list of publications below). He amassed a '*Cotoneasteretum*' of around 400 specimens in his garden in Bjuv so that he could study the living shrubs as well as herbarium specimens (he said that many botanists make the mistake of doing only one or the other); visited many botanic gardens and large collections (including RBG Kew; NBG Glasnevin; RBG Edinburgh; the Hillier Arboretum, and also the Arnold Arboretum and Seattle BG in the USA) studying, collecting (with permission) and putting names to *Cotoneasters*, many of which had been un-named (or mis-named) since their introduction from the wild, also visiting herbaria throughout the world. He also studied *Cotoneasters* in their native habitats, including China. His personal herbarium at his home consists of around 10,000 — yes, ten thousand sheets, which includes a complete set of Swedish flora specimens along with his *Cotoneasters*.

In 1987, following a twenty year gap he restarted his work on *Cotoneaster* — this time mostly working with Jeanette Fryer towards producing a monograph on the genus. This was nearing completion when Bertil Hylmö sadly died, aged 86, surrounded by his wife Ulla, his son and three daughters, and hundreds of his beautiful and much loved, blossoming *Cotoneasters*.

During his lifetime Bertil Hylmö had undertaken revolutionary work in the systematizing of the around 400 species in the genus *Cotoneaster* and had taken part in the describing of 30 *species nova*. Only one week prior to his death he had participated in the commencing of a new project intending to

analyse the DNA to discover the origin of Cotoneasters in the vicinity of the Baltic Sea, especially the apomictic species.

Cotoneaster hylmoei (Hylmö's Cotoneaster), a lovely pendulous, pale-pink flowered and rusty-red late fruiting species which was a favourite of Bertil Hylmö was dedicated to him in recognition of his love of, and work with, the genus *Cotoneaster* (Flinck & J. Fryer 1993) see colour photo, p. 34.

The *Cotoneaster* monograph is to be completed by Jeanette Fryer and will in due course be published by Timber Press.

Publications (relating to *Cotoneaster*):

- Flinck, K.E., & Hylmö, B. 1958. Cotoneasters as Garden Escapes. *Bot. Not.* 3: 4.
- Flinck, K.E., & Hylmö, B. 1962. *Cotoneaster harrysmithii*, a new species from Western China. *Bot. Not.* 115: 29.
- Flinck, K.E., & Hylmö, B. 1962. Two recently described species of *Cotoneaster* of North-western Europe. *Bot. Not.* 115: 343.
- Flinck, K.E., & Hylmö, B. 1962. *Cotoneaster sikangensis*, a new species from Western China. *Bot. Not.* 115: 376.
- Flinck, K.E., & Hylmö, B. 1964. *Cotoneaster splendens*, a new species from Western China. *Bot. Not.* 117: 124.
- Flinck, K.E., & Hylmö, B. 1966. A list of series & species in the genus *Cotoneaster*. *Bot. Not.* 119: 445.
- Flinck, K.E., & Hylmö, B. 1967. *Cotoneaster* i Svensk odling. *Lustgarden* p.5.
- Flinck, K.E., & Hylmö, B. 1991. Two new species of *Cotoneaster*. *Watsonia* 18: 311.
- Fryer, J., Hylmö, B., & Stace, C.A. 1991. Cotoneasters — in Stace, C.A. (1991) *New Flora of the British Isles*. p.451; *ibid.*, 2nd edn (1997) p.378.
- Flinck, K.E., & Hylmö, B. 1992. Slaktet *Cotoneaster* - Oxbar. *Lustgarden* p.35.
- Hylmö, B. 1993. Oxbar, *Cotoneaster*, i Sverige. (The genus *Cotoneaster* in Sweden). *Svensk Bot. Tidskr.* 87:305.
- Fryer, J., & Hylmö, B. 1994. The Native British *Cotoneaster* - Great Orme Berry - Renamed. *Watsonia* 20: 61.
- Fryer, J., & Hylmö, B. 1995. *European Garden Flora* 4: 426.
- Fryer, J., & Hylmö, B. 1997. Five new species of *Cotoneaster* Medik. (Rosaceae) naturalized in Britain. *Watsonia* 21: 335.
- Fryer, J., & Hylmö, B. 1998. Seven new species of *Cotoneaster* in cultivation. *The New Plantsman* 5(3): 132.
- Flinck, K.E., Fryer, J., Garraud, L., Hylmö, B. & Zeller, J. 1998. *Cotoneaster raboutensis*. *Bull. mensuel de la Soc. Linneene de Lyon.* 67(10): 272.
- Flinck, K.E., & Hylmö, B. 1998. Slaktet *Cotoneaster* — Oxbar. *Tradgardf Amatören* 61: 80.
- Hylmö, B., & Fryer, J. 1999. Cotoneasters in Europe. *Acta Bot. Fennica* 162: 179.
- Bartish, I.V., Hylmö, B., & Nybom, H. (in press). RAPD analysis of interspecific relationships in presumably apomictic species. *Nord. Journ. Bot.*
- Fryer, J., & Hylmö, B. (in press). Eleven more new species of *Cotoneaster* in cultivation. *The New Plantsman*.
- Fryer, J., & Hylmö, B. (in progress). The Genus *Cotoneaster*.
- Fryer, J., & Hylmö, B. (in progress). Cotoneasters — *Flora of North America*.
- Hylmö, B., & Fryer, J. (in progress). Cotoneasters — *Flora Nordica*.
- Fryer, J., & Hylmö, B. (in progress — delayed). Cotoneasters — *Flora of China*.

CROSSWORD

BOTANICAL CROSSWORD NO. 2

by *Cruciada*

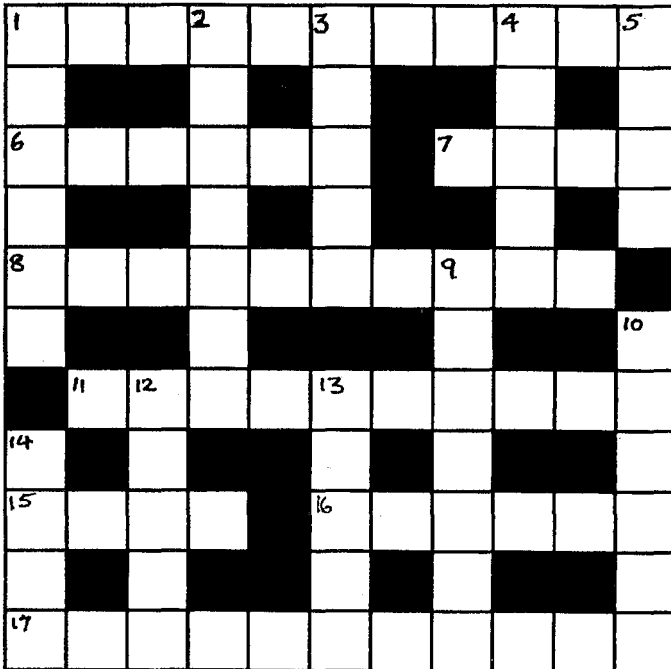
ACROSS

1. One got to map tangled pondweed (11)
6. Leguminous container of proverbially identical entities (6)
7. Acknowledged state of corolla in full display (4)
8. 6's neighbour, perhaps, meandering near burn, north and east (6, 4)
11. Looking for numberless bewitchment? Botanical bundling's the answer! (10)
15. One law for holly (4)
- 16 another seal on woolly (6)
17. 'Plant thou no roses at my head, Nor shady leylandii, say' (7, 4)

DOWN

1. Ancient mss on 'Egyptian galingale' (6)
2. One old record in America describes some montane species (7)
3. Dispose between family and class (5)
4. The Plant Kingdom re-arranged for bulrush (5)
5. Wendy's dog is a miniature species (4)
9. Lost and gone forever — conservationist's worst-case scenario (7)
10. *Achillea ptarmica* a remedy for this? (6)
12. A Scottish turnip (1, 4)
13. (BSB)I (5)
14. Compact, for example, not radiating in composite flower (4)

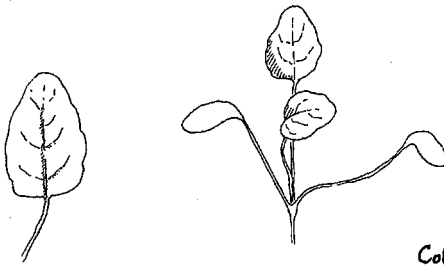
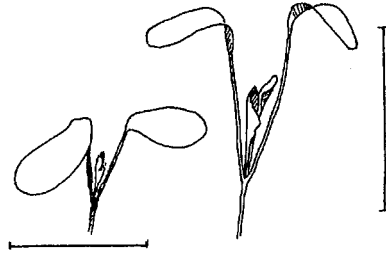
(for answers see p. 39)



DRAWINGS OF WILD FLOWER SEEDLINGS

See *BSBI News* 83: 68 (Jan. 2000) for a more detailed explanation of these drawings, but the following paragraph is repeated here for clarity.

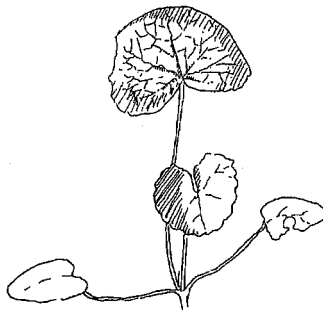
The artist Stanley Evans wrote: 'These drawings are not to scale. The rate of expansion of cotyledons and stems of the various species was variable and the measurements given are generally those made at the time of the drawing and not necessarily when maturity had been reached. Moreover, the growing-medium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

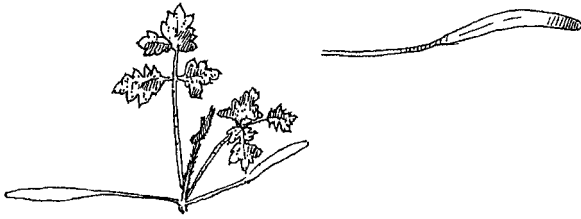
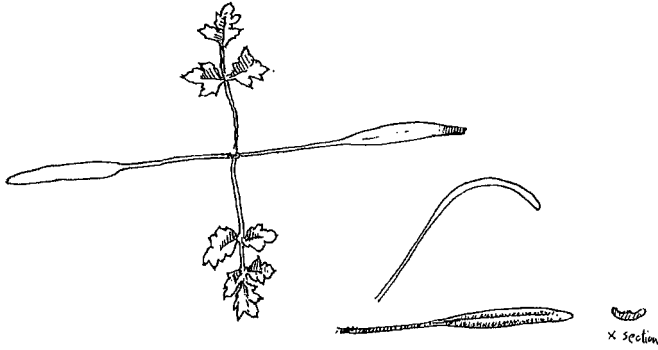


Cot. pet. 20 mm
lam. 10-13 x 4-6 mm. Doll

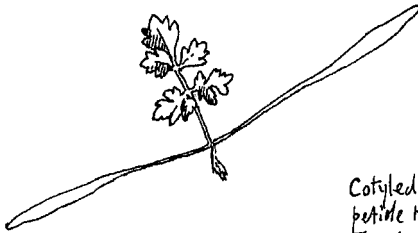
1st five leaves glabrous, clearly net
veined. Petioles long, a few hairs
especially near the base.

SPRING



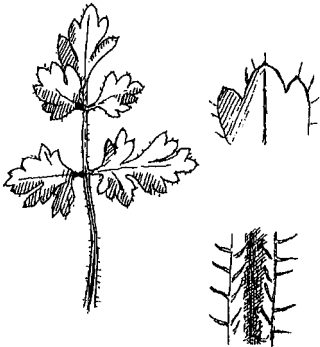


SPRING



Cotyledons long & narrow, shiny
petiole tinted

True leaves ± downy. Lobes ± mucronate
usually attenuated into prickly hair. Leaf segments
overlap; surface undulating. Petiole hairs
seldom cross each other across petiole channel.
Leaves may be hairy only along edges.



STOP PRESS

VANISHED CHICHESTER ELMS

Since spring 2001 I have been attempting to identify the provenance and titling of the Chichester hybrid elm, first officially recorded by the young John Lindley in 1823 but known to have been sold by his father George Lindley at Catton in Norwich as early as 1801. Humphry Repton was a consultant at Catton Park and both men were members of the Norwich United Friars Society but no correspondence or day book linking Repton with Lindley senior is known.

Two hybrid elms at Queens' College, Cambridge, were recorded by Peter Bourne from Brighton in 1999. They were 135 ft and 141 ft high probably the tallest trees of this type ever recorded. The hybrid is a possibly a cross between the native Wych Elm (*Ulmus glabra*) and the smooth-leaved field elm (*U. minor* or *U nitens*). The naming of these trees in Cambridge is of interest to Sussex gardeners because they are now called 'Huntingdon' elms, a 'fashion' hybrid originally raised by Wood & Ingram at Brampton c.1760 from a chance seedling in nearby Hinchinbrooke House. J.C. Loudon was a firm advocate of this hybrid in *Arboretum & Fruticelum* (1838) for it grows quickly, holds its leaves for a long period and in a good year, has fine autumn colour. Its early history is not well documented. Loudon's enthusiasm for this tree came some 65 years after its release at Brampton at a time when hybrid trees commanded a retail price 200 times that of 'ordinary' seedlings. Ford's elm from Exeter in 1823 cost the Duke of Buckingham 3s.6d. for planting at Stowe yet Wych elms at that time cost 15s. per 1,000.

In 1823, the young John Lindley, after whom the Lindley Library at the RHS headquarters in Vincent Square was named, was editing the 10th *Hortus Cantabrigiensis* and listing four more elms than his predecessor had done. One of these was the Chichester elm which Lindley referred to as *Ulmus vegeta*. Similar in form probably to the earlier Huntingdon elm, it was sold by his father George Lindley at Catton near Norwich in 1801. Sadly however, generations of tree writers were unaware of the name Chichester and writers as eminent as Bean and Mitchell merge the two names.

Probably there were two hybrids but no firm information exists as to who raised the elm or even why it was named Chichester. It may not have been called after the town at all. Owen Johnson records in *The Sussex Tree Book* that the Earls of Chichester at Stanmer, gifted elms to Brighton

If any member can suggest a propagator prior to George Lindley and give a clue to the name itself, I would be most interested.

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RICHARD SMITH, Summersbury, Chichester Road, Midhurst, West Sussex GU29 9PF.

The Editor Gwynn Ellis can be contacted by **phone** or **fax** on 029-2049-6042 or
E-mail: bsbihgs@aol.com or rgellis@ntlworld.com

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Continued from back cover

COLOUR SECTION	31-34
NOTES AND ARTICLES (continued)	
Professor J.N. Mills — some personal memories	30
Progress with the Documentation of British Vascular Plants at The Manchester Museum Herbarium	35
Trees that don't know about winter	35
Botany in Literature — 26	35
Botany in Literature — 27	36
Botany in literature — 28	37
Four point crampons	37
More <i>Bad Botany</i> or none at all?	38
<i>Quercus eurocentica</i> , spec. nov.	38
Tree Records Break The Looking-Glass Barrier?	38
What's in a name?	39
The game of the name	39
CONSERVATION NOTES	40
C = One Hundred Over Ern	40
Feedback to 'Haunt Hijack'	41
The wildflower ark — an update	42
ALIENS	43
Bay (<i>Laurus nobilis</i>) as an invasive species	43
Dangerous laurels — not laurels in danger	45
<i>Aeonium</i> and <i>Aichryson</i> on the Isles of Scilly	46
<i>Hypericum olympicum</i> in the British Isles	47
Eric Clement's Tree-mallow: <i>Lavatera</i> × <i>clementii</i>	48
Kiwi plant in south Lancashire v.c. 59	48
More new plants at Aberford	49
Aquatic Garden Centres	49
Shore Medick, <i>Medicago littoralis</i> , in Kent	49
NOTICES (Non BSBI)	50
<i>Changes in the British Flora</i> — a lecture by C.D. Preston	50
Plantlife's County Flowers Project	50
REQUESTS	51
Illustrations of alien plants: help required	51
<i>Bromus</i> specimens wanted and determined	51
Sedges and <i>Sedum album</i>	52
Request for <i>Cardamine flexuosa</i> × <i>C. pratensis</i> (<i>C. × fringsii</i>) sites	52
Botanical Records for South Lancashire (v.c. 59)	52
<i>Trichophorum cespitosum</i> nothosubsp. <i>foersteri</i> cont.	53
OFFERS	53
<i>Watsonia</i>	53
Gofynne seed list 2002	53
West Down seeds	54
Seeds from Ware — 2001	54
Seeds of <i>Dianthus armeria</i> (Deptford Pink)	54
BOOK NOTES	55
Wiltshire Botany	55
OBITUARY NOTES	56
Dr Bertil Hylmö 1915–2001	56
CROSSWORD	59
Botanical Crossword No. 2	59
DRAWINGS OF WILD FLOWER SEEDLINGS	60
<i>Alliaria petiolata</i> seedlings	60
<i>Anthriscus sylvestris</i> seedlings	61
STOP PRESS	62
Vanished Chichester Elms	62

CONTENTS

ADMINISTRATION and IMPORTANT ADDRESSES	2
Deadline for contributions for <i>BSBI News</i> 91	2
IMPORTANT NOTICES	3
BSBI Wales 10 th Quadrennial Meeting and 40 th AGM, 2002	3
Confidentiality of Records	3
Monitoring rare plants on Scottish SSSIs	3
Amendments and corrections to <i>BSBI Year Book 2002</i>	4
Atlas 2000 launch date	4
PROFILE	4
Richard Pryce	4
DIARY	6
EDITORIAL	7
HONORARY GENERAL SECRETARY'S NOTES	7
CO-ORDINATOR'S CORNER	8
Arable Weeds Survey 2002	8
<i>Limonium binervosum</i> project	8
Developments on the web	8
Threatened Plants Database	9
Science & Research Committee	9
RECORDERS AND RECORDING	10
Panel of Referees and Specialists	10
Panel Vice-county Recorders	10
NOTES AND ARTICLES	11
Altitudes	11
<i>Umbilicus rupestris</i> — eastward ho?	12
More sites for <i>Ophrys apifera</i> var. <i>belgarum</i>	13
<i>Ophrys apifera</i> var. <i>belgarum</i> , additional records	14
Colour variation in <i>Lathyrus sylvestris</i>	14
The Grey Squirrel and Sycamore bark-stripping in NE Derbyshire	15
<i>Scirpus</i> or <i>Carex</i> ?	18
<i>Apium repens</i> (Creeping Marshwort) in v.c. 28	20
<i>Drosera anglica</i> Huds., the 'English Sundew' saved	20
Savernake Forest Millennium tree maps — Baselines for future research	20
Comment on the status of <i>Ranunculus marginatus</i> in the Isles of Scilly	21
Are some urban weeds decreasing?	22
Arable weeds : not a thing of the past	23
Appreciating . . . weeds	25
Lawn Weeds	25
Lawn Plants	25
<i>Leontodon saxatilis</i>	26
<i>Festuca cambrica</i> (Welsh Fescue) — a progress report	26
Pennyroyal again	28
Databases	28
Young dioecious trees, sex unknown	28
Bracken height record	29
Professor John Norton Mills' Herbarium at The Manchester Museum	29

Continued on inside back cover