B.S.B.I. NEWS

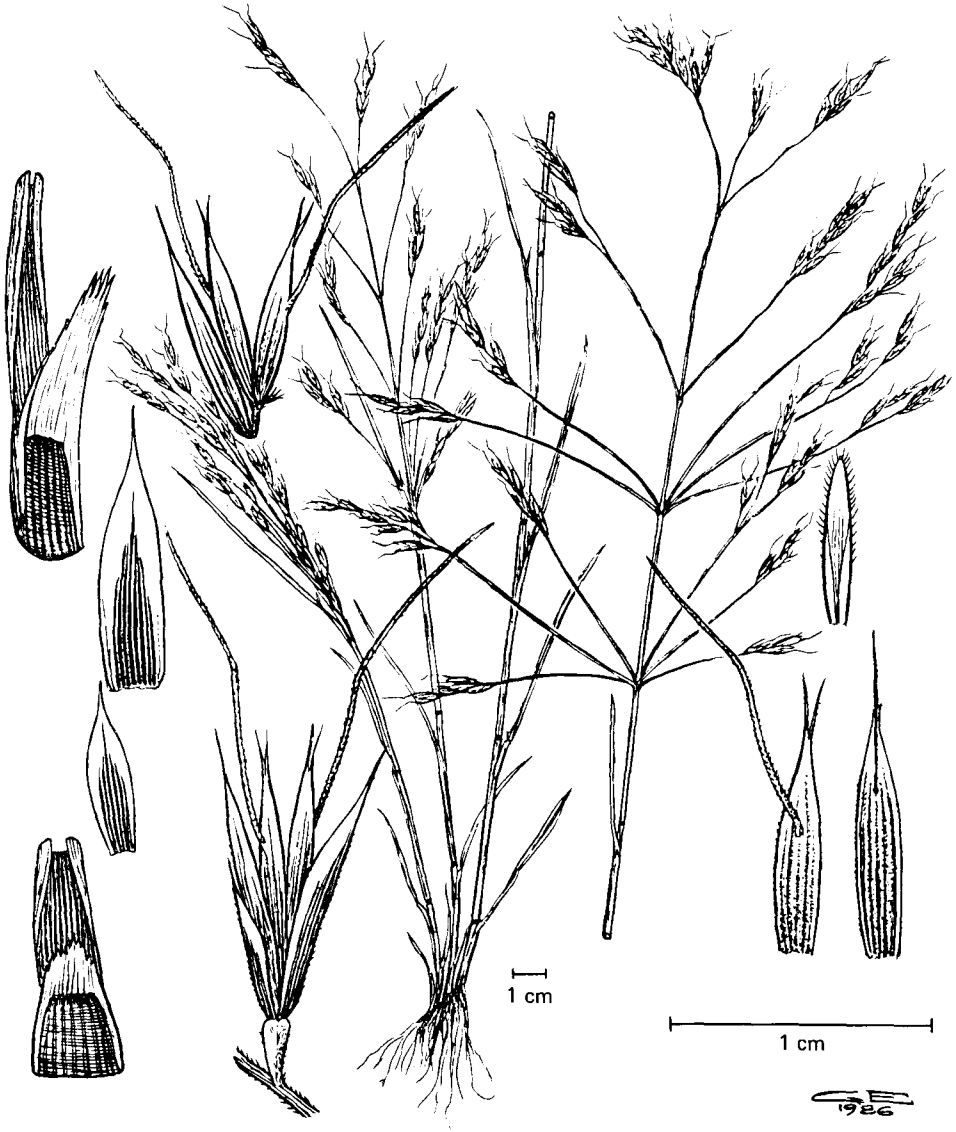
April 1987

No.45

Edited by R. Gwynn Ellis

Dept. of Botany, National Museum of Wales

Cardiff CF1 3NP



Ventenata dubia (Leers) F.W. Schultz del. G.M.S. Easy © 1986

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68 Outwoods Road, LOUGHBOROUGH, Leics. LE11 3LY
(Please quote membership number on correspondence concerning membership or subscriptions - your membership number is on the address label of your mailings).

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Dept. of Botany, British Museum (Nat.Hist.), Cromwell Road, LONDON SW7 5BD

MEETINGS: Mrs Ailsa Lee,
3, Rosliston Road, Stapenhill, BURTON-ON-TRENT, Staffordshire DE15 9RJ

RECORDS: Mr David J. McCosh,
13 Cottesmore Gardens, LONDON W8 5PR

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By invitation: Dr T.C.G. Rich (Scheme Organizer).

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D.A. Wells, F.H. Perring, C.D. Preston, D.J. McCosh,
To receive papers for information: Mr J. Hellawell (NCC), Mr M. Walpole (BSBI).

V.C. RECORDERS' CONFERENCE 1987

This will be held on 4th - 6th September at Jordanhill College of Education, Glasgow. The programme will include reports and discussions on the BSBI Monitoring Scheme, workshops on some critical species and an excursion. Programmes and application forms will be available in May and will be sent to all v.c. recorders (to whom priority for places is given). Other members will be welcome as space permits and those who are interested in recording but are not v.c. recorders, should request a programme from:

Dr T.C.G. RICH, Monitoring Scheme Organizer, Biological Records Centre, Monks Wood Experimental Station, Abbots Ripton, HUNTINGDON, Cambridgeshire PE17 2LS

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PROJECT SUGGESTIONS FOR BEQUEST FUND

Any proposals for the types of project on which the bequest fund income could be used, should be sent in writing to the Hon. Treasurer for discussion with Officers and Council. (No awards are anticipated before 1988).

M. WALPOLE, 68 Outwoods Road, LOUGHBOROUGH, Leics. LE11 3LY

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CONTRIBUTIONS INTENDED FOR

BSBI NEWS 45

should reach the Editor before

1st AUGUST 1987

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CORRIGENDA CORNER

I thought I might be tempting fate by hoping (in the last issue) that this section would not become a regular feature.

Mr Mark Kitchen has pointed out that in the note on **Stachys sylvatica** forma **viridiflora** (BSBI News **44**: 14 (1986)) the authors and references have been transposed; they should read:

Green, P.S. (1975). **Stachys** L. in Stace, C.A. ed. Hybridization and the Flora of the British Isles. London, Academic Press.

Grose, D. (1957). The Flora of Wiltshire. Devizes, W.A.N.H.S. Natural History Section.

Norman Robson has also pointed out that on page 4 of the last issue, Miss Mary Richards should read Mrs and M'Bala is really the new name for Abercorn.

Two further small corrections to the last issue: on page 7 the Amendment to Vice-county Recorders should read No. 3 not No. 2, and on page 17 it was Adventive News 35 that had to be postponed not 34.

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EDITORIAL

This is a bumper issue as it includes for the first time the report of the Annual General Meeting as well as the remaining 1985 field meeting Reports.

It is perhaps indicative of the varied interests of members, that I have received more correspondence on the trains at Lancaster than all other topics put together (see page 4 of the last issue). I thank all those who sent in their suggestions; the favoured explanation was maintenance work on the overhead power lines!

Some concern has been expressed over the mailing date of the December issue. To avoid the Christmas rush, mailing did not begin until December 29th and, because of various difficulties, was not completed until 10 days later. A new postal system has now been adopted which should avoid such delays in the future.

HON. GENERAL SECRETARY'S NOTES

Congratulations to Heather Angel - the University of Bath has conferred an Honorary Degree of Doctor of Science on Heather for her photographic achievements as a wildlife photographer.

Regional Mailing

You may have been pleasantly surprised to find in you last mailing a recording card appropriate to your territory. What you do not know is that this was the result of a combined operation by Tim Rich and Gwynn Ellis, who between them, sorted the members resident in the British Isles into the five areas of the monitoring scheme recording areas, and we record our thanks to Tim and Gwynn for carrying out this time-consuming task.

As a by-product we now have a breakdown of where members live as follows:

England, South	1245
England, North	671
Scotland	190
Wales	142
Republic of Ireland	56
Northern Ireland	37

(This does not include Family members, and in addition we have currently 112 members overseas).

Threatened Plants Stolen

The theft of all the seed-bearing stems from a colony of **Stachys germanica** at a site where research funded by the NCC, on the requirements for germination and growth of this declining species, was progressing, had wide coverage in the press. Any members seeing seeds or plants of Downy Woundwort offered for sale are asked to contact NCC, Foxhold House, Crookham Common, Newbury, Berks RG15 8EL (tel. (0635) 238881).

Essex leads the way with Churchyard Conservation

Essex Churchyards Conservation Group has a school natural history project during 1987 - and this is also Essex Churchyards Conservation Year. For young people in the County there is a competition for the best natural history survey and account of an Essex Churchyard (with a copy of the 3rd edition of the Flora of the British Isles, by Clapham, Tutin & Moore as prize), under the auspices of the Diocese of Chelmsford, and sponsored by Wimpey Homes Holdings Ltd., in association with Essex Naturalists' Trust and BSBI. Also any Junior School in Essex can request from the Churchyards Group, between April and July this year, a natural history expert to give one of their classes a guided natural history tour of their own parish churchyard.

Travel Guides

One of my most frequent requests through the winter months is 'which flower book shall I take to Crete?' For travellers I advise Flowers of Greece and the Aegean by A. Huxley & W. Taylor. Bob Press lists this in his excellent Guide to Identification Manuals (BSBI News **44**, Supplement (1986)), as a selective text for the Balkans and the Aegean (3A), and it is particularly good for Crete (and other E. Aegean Islands). Useful notes in the introduction include: 'Flowers of the Islands' (8 pages). Of the 660 species described, more than half may be seen on the islands, and 63 are special to Crete. The smaller Flowers of Crete by Y. Iatridis, describes 96 species with local comment; it is available there, and is an interesting souvenir of a visit to this most fascinating island. As I am writing these notes, Sir Colville Barclay's Checklist of the vascular plants of Crete has just been published in Englera, Berlin. This will be invaluable for botanical travellers there. The cost and availability are being investigated now with the hope that Margaret Perring can hold copies in stock for members, and details will be announced in the next issue of BSBI News.

Similarly, for those going to Majorca, Plants of the Balearics by A. Bonner is recommended for descriptions of many of the endemic plants (with illustrations not easily found elsewhere); combined with Flowers of the Mediterranean by O. Polunin & A. Huxley, a high proportion of plants seen can be identified - with a check-list from Flora Europaea (if time is available to prepare one) an invaluable asset. (I personally found Flora de Mallorca by Bonafè Barceló helpful, but unexpectedly heavy to carry for its size. Those particularly interested in **Ophrys** species should take one of the specialist orchid books; Wild Orchids of Britain and Europe by P.& J. Davies and A. Huxley is particularly

recommended. Useful local information (including maps for walks) is given in the booklet A Guide to Bird-Watching in Mallorca by E. Watkinson; this, and Flowers of Greece and the Aegean, Plants of the Balearics, Flowers of the Mediterranean and Wild Orchids of Britain and Europe are all currently listed by Margaret Perring, our book agent, in Botanical Books from Oundle, Stock list Autumn 1986.

MARY BRIGGS, White Cottage, Slinfold, HORSHAM, West Sussex RH13 7RG

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RECORDERS AND RECORDING

Amendment No. 4 to Vice-county Recorders, December 1985

Change of address:
v.c. 1b Scilly. Mrs R.E. Parslow, Gable End, 48 Main Street, Wood Newton, PETERBOROUGH PE8 5EB

Vice-county Recorders - New appointments and changes:
v.c. 24 Bucks. Mr P.R. Knipe retires;
Mr R. Maycock, 17 Osborne Street, Bletchley, MILTON KEYNES MK2 2LU has been appointed.

v.c. 63 & 64 S.W. Yorks & Mid-W. Yorks. Dr W.A. Sledge retires.

v.c. 63 S.W. Yorks. Temporarily vacant.

v.c. 64 Mid-W. Yorks. Mrs P.P. Abbott, Cedar Croft, 73 Ridgeway, LEEDS LS8 4DD has been appointed.

v.c. 75 Ayrs. Mr B. Simpson retires;
Mr A. McG. Stirling, 17 Austen Road, GLASGOW G13 1SJ has been appointed.

v.c. 84 W. Lothian. Miss J. Muscott, 69 Warrender Park Road, EDINBURGH EH9 1ES has been appointed.

v.c. 91 Kincardines. Mrs A.H. Sommerville retires; v.c. 91 temporarily vacant.

v.c. 99 Dunbarton. Mr A. McG. Stirling retires;
Miss A. Rutherford, Moniave, 19 South King Street, HELENSBURGH, Dunbartonshire G84 P07 has been appointed.

v.c. 100 Clyde Is. Mrs A.H. Sommerville retires;
Mr A. Church, Lochranza Youth Hostel, Arran KA27 8HL has been appointed.

Welcoming the newly appointed Recorders, we also sincerely thank all those retiring for their help in keeping county records for the Society. We send good wishes to Mrs Sommerville for successful eye surgery, and we particularly thank Dr Sledge who has been a v.c. Recorder since 1949 (I recently overheard him described as 'the evergreen W.A. Sledge of Leeds').

SUPPLEMENT No. 2 to Panel of Referees and Specialists, September 1986.

Additional Systematic Group and Referee:

CONIFEROPSIDA

PINACEAE, CUPRESSACEAE, TAXACEAE
General coniferous trees: Miss V.E. Hallett, side shoots plus shoot and bud, cone or flower if available, description of bark and crown.
18 Burnt Hill Way, Boundstone, FARNHAM, Surrey GU10 4RP

We are pleased to announce an innovation to our Panel of Referees, which was set up to advise on difficult British species, in that we now have generous offers to look at some European plants as follows:

Eastern Mediterranean (Greece, E. Aegean Islands, Mediterranean coast of Turkey and Jugoslav Macedonia): Dr J.R. Akeroyd.
Department of Botany, Plant Science Laboratories, University of Reading, Whiteknights, READING RG6 2AS

Spain and Morocco: Dr S.L. Jury.
Department of Botany, Plant Science Laboratories, University of Reading, Whiteknights, READING RG6 2AS

Herbarium specimens preferred, but John and Stephen tell us that they do not mind looking at slides or prints in moderate numbers (and so long as it is understood that the chance of successfully naming the plants is diminished if there is no specimen). They will also be particularly pleased to help those members who are prepared to donate specimens or slides to the Plant Science Herbarium. It will be appreciated if members planning to travel and who would search for particular plants in these areas, could contact the Referees beforehand.

MARY BRIGGS, Hon General Secretary
DAVID J. McCOSH, Hon. Secretary, Records Committee

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VOLUNTEERS WANTED: v.c. LISTS

Some vice-counties have no recently published flora or check-list and it is not easy in such cases for a new Recorder to know what species have been recorded as occurring in his or her vice-county and therefore what records fit the criteria for publication in Watsonia.

To compile such a list requires time, some modest botanical knowledge and, most important, access to one of the major botanical libraries. This last condition effectively rules out creation of a list by anyone actually living in one of the more remote Scottish, Welsh or Irish counties, which is precisely where there is the greatest need.

We are therefore looking for volunteers living in or near one of the major botanical centres who would be prepared to help with the compilation of such lists. Anyone who is interested should in the first instance contact:
DAVID McCOSH, Hon. Secretary Records Committee, 13 Cottesmore Gardens, LONDON W8 5PR (Tel: 01-937-4936).

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CABBAGE PATCH

Tim Rich has promised to produce regular articles under this heading. Ed.

BRASSICA RAPA L. AND B. NAPUS L.

Brassica rapa L. (wild turnip) and **B. napus** L. (rape) are commonly confused, partly because they look alike, and partly because the characters widely given to separate them are not always either reliable, or reliably interpreted. Two characters which can be used to identify live, flowering plants are given below. Herbarium material is harder to determine (**Brassicas** usually make lousy specimens), and I cannot (as yet!) name material without flowers with certainty. If possible, the flowers and inflorescence of the main axis of undamaged plants should be examined. Damaged plants (especially those recovering from cutting on road verges) are usually atypical, as are plants flowering late in the season. The key and notes below exclude cultivated swedes and turnips which are more variable; I presume nobody has trouble identifying them! [Ho ho ho. Ed.]

Range of petal lengths

This simple character is probably the most useful, and the range in petal lengths observed in 98% of plants or populations should fall within the ranges given in the key. Length is best measured by sticking petals dissected from flowers onto sellotape, and then sticking the sellotape onto paper [see note below. Ed.]. To get the **range** of petal lengths, select flowers from the centre of the inflorescence which have just opened fully, and select others from lower down the raceme which are mature or even senescent (this gives a range

because petals continue to grow after anthesis). The measurements given below are derived from, and apply to, fresh material only; petals are often 0.5-1.0 mm smaller after drying, unless pressed very carefully.

Position of buds relative to open flowers

The drawings of the inflorescences show how the flowers of **B. rapa** overtop the developing buds, and vice versa in **B. napus.** However, before using this character on specimens, it is CRUCIAL to check that the raceme is developing normally. All too frequently, racemes have aborted buds or interrupted development (usually caused by adverse weather conditions) which leads to 'flowers overtopping buds' in both species. Aborted buds are easily recognised as small, often dead, dense clusters at the end of the raceme. This is shown in fig. 3. Sometimes it is difficult to decide whether buds or flowers are overtopping, and the character should not then be used. The notes on inflorescence development in Wigginton & Graham's Guide to the identification of some difficult plant groups (1981) are also useful.

Fig.1. **Brassica rapa** inflorescence developing normally; flowers overtopping buds.

Fig.2. **Brassica napus** inflorescence developing normally; buds overtopping flowers.

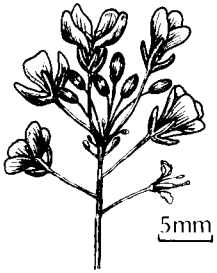

Fig.3. **Brassica napus** inflorescence with aborted buds. Note this can lead to flowers overtopping buds leading to potential mis-identification as **B. rapa.**

All drawings del. H. Reynolds ©1987

Key to the species

Petal length range 5.5-11.5 mm; flowers overtopping or equalling buds	**B. rapa**
Petal length range (10.5)11-18 mm; buds overtopping or equalling flowers	**B. napus**

The species also differ in flower colour, though there is some overlap; **B. rapa** usually has deep-yellow to yellow petals, whilst **B. napus** has pale-yellow to yellow petals. Other characters such as foliage colour and pubescence are variable, and I find them difficult to assess; Wigginton & Graham (1981) again give useful discussion. The ratio of petal to sepal length mentioned in some keys is unreliable.

Personal observation suggests **B. napus** is much commoner in the south and east and in cities, whilst **B. rapa** tends to be more northern and western. Do other members agree? I am prepared to check specimens sent with full locality details etc., and a s.a.e. Fresh

material should be sent 1st class, and it is simpler to keep your own duplicates, though material can be returned if requested.

TIM RICH, Biological Records Centre, Monks Wood Experimental Station, Abbots Ripton, HUNTINGDON, Cambs. PE17 2LS

[For long term storage, the petals should be drawn and the drawing, with measurements, attached to the specimen. Sellotape should **NEVER** be used on herbarium specimens it is intended to keep. Ed.]

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SQUARE VERSUS SITE RECORDING - AN EXERCISE IN PRIORITIES

My Berwickshire 10 km square in the monitoring scheme is NT64, Gordon, a rather featureless former moorland area in the middle of nowhere now largely agricultural land of moderate quality, but concealing several sites of considerable botanical interest. Not the place for tetrad-bashing, so I have been analysing my records whilst it snows to save my legs later. I now have a master card in the new nomenclature (phew) and have drawn up the following table.

	Species	
	Past	Present
Basic list	338	338
Local rarities	100	53
Probable omissions	15	15
Total species	453	406

This shows a loss of 10% of the flora in 100 years.

Noting that the local rarities were the species which had disappeared, I thought they were worth a closer look.

	Area ha	Rare species Past	Present	
SSSI - Dogden Moss	200	2	2	Raised bog
SSSI - Gordon Moss	30	54	29	Remnant of large wetland
Greenlaw dean, Blackadder water	100	4	4	Grassland by river
8 sites of botanical interest	130	32	21	1 wood, 1 loch, 2 mosses, 3 grassland, 1 moor
Other specific sites	-	15	3	
Unlocalized	-	8	3	
Total records		115	62	
Total species		100	53	

None of my three JAW tetrads are thought to have anything special so it will be revealing to see what the species total for their 1200 ha is in comparison with the 11 sites of 460 ha with known interest. These sites will be revisited with the emphasis on monitoring the 53 local rarities and updating species lists, there won't be much time for generalized square-bashing except for a few likely road verges, arable fields and gardens. Site-based recording within the 10 km square is therefore of key importance, both in efficient use of time and in understanding where the loss is taking place. That's the theory; if it appeals come and help, please, or do likewise at home.

M.E. BRAITHWAITE, Clarilaw, HAWICK, Roxburghshire TD9 8PT

B.S.B.I. MONITORING SCHEME

Telephone: (office hours)
Abbots Ripton (04873) 381
(outside office hours)
Peterborough (0733) 49398

Biological Records Centre,
Monks Wood Experimental Station,
Abbots Ripton, Huntingdon,
CAMBRIDGESHIRE PE17 2LS.

We (Ro FitzGerald, Rosemary Parslow, Chris Preston, Tim Rich, Helen Stace and Nick Stewart) would like to claim the first record for the Monitoring Scheme. New Year was celebrated in the Scilly Isles with **'Trifolium occidentale** On-the-rocks', at 1 second past midnight on 1 January; we then notched up a further 50 species by torchlight, ending up with **Zostera marina** in St Mary's harbour! There was supposed to be competition for the first record from South Wales, but he, who will remain nameless, (I'll give you a clue - edits BSBI News) was apparently celebrating New Year with something else 'on-the-rocks', finally resulting (so I hear) in a worm's eye view of a **Campanula** in a crack in crazy-paving ...

The Monitoring Scheme is off and rolling, with record cards beginning to arrive. It's fascinating seeing where people have been and what they've found and I hope you are all enjoying the recording. To keep you all in touch with what is going on, one or two updates to the Instruction Booklet are needed.

Organization of vice-counties

Vice-counties are being co-ordinated by the appropriate v.c. Recorders (September 1985 list and updates in BSBI News **42 - 45**) with a few exceptions, where the Monitoring Scheme is kindly being organized by the following:

Guernsey: Mrs J. Page, Les Asphodeles, Rue des Reines, Forest, Guernsey, C.I. is helping co-ordinate with Mr D. McClintock.

v.c. 21 Middlesex: The v.c. 21 part of the 51(TQ)/1.6. Esher 10 km square is being co-ordinated by Mrs J. E. Smith (Recorder for v.c. 17, Surrey), and the v.c. 21 part of the 51(TQ)/1.9. Watford square by Mr B. Sawford and Mr T.T. James (Recorders for v.c. 20, Herts.).

v.c. 34 The non-Gloucestershire part of v.c. 34 is being locally organized by Mr & Mrs M.A.R. Kitchen, The Cottage, Bevington, Berkeley, Glos.

v.c. 49 Caernarfon: Mr N.H. Brown, Treborth Botanic Gardens, University College of North Wales, Treborth, Bangor, Gwynedd.

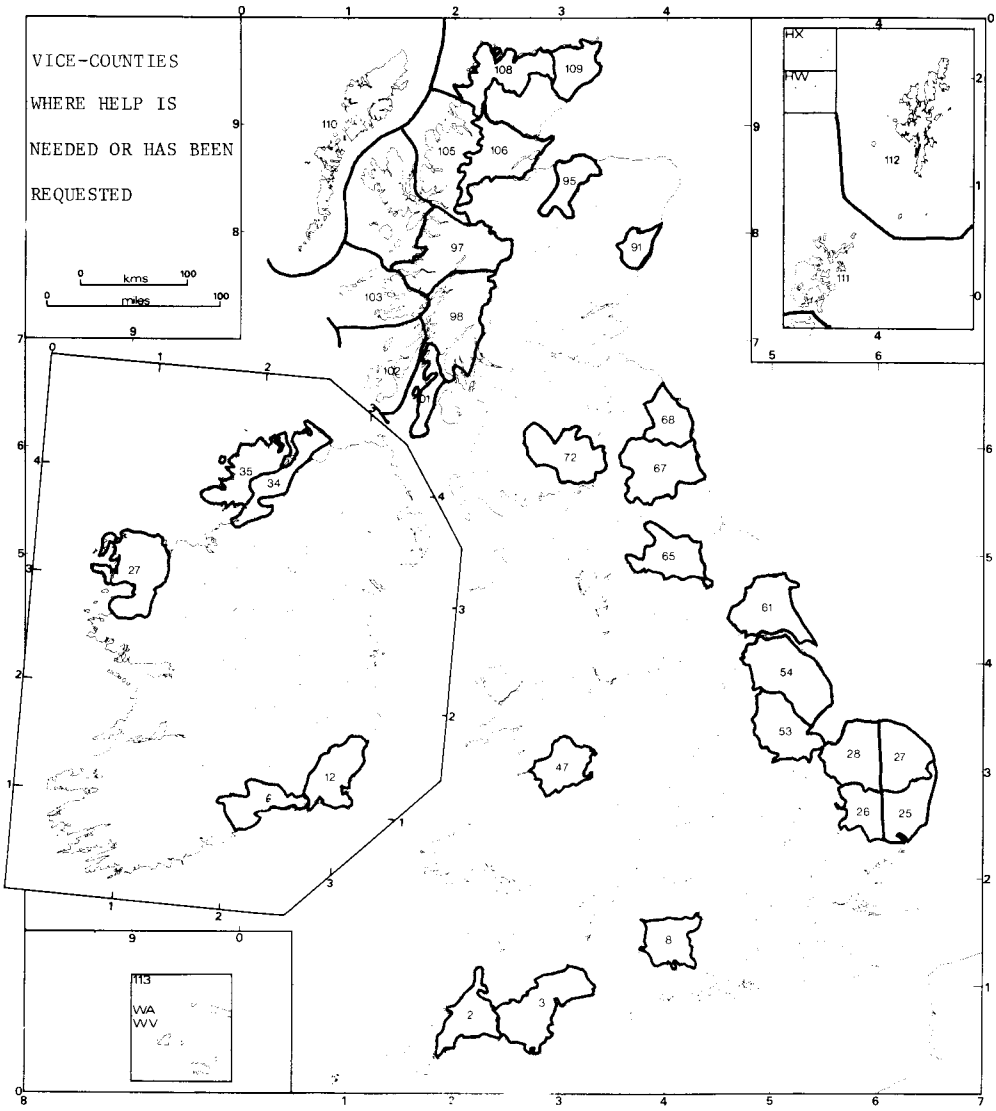
v.c. 63 S.W. Yorks.: Mr D.R. Grant, Speyside, 19 The Wheatings, Ossett, W. Yorks. WF5 0QQ.

v.c. 64 Mid-W. Yorks.: Mrs P.P. Abbott, 73 Ridgeway, Leeds LS8 4DD.

v.c. 100 Clyde Is.: Mr A. Church, Lochranza Youth Hostel, Arran KA27 8HL.

v.cc. 91 Kincardines., 95 Elgin, 109 Caithness and 112 Shetland are being looked after by Henry Noltie and myself for the time being.

In Ireland, v.cc. H6, H9, H12, H27, H34 and H35 are being looked after by Mr R. Goodwillie for the moment; please contact him if you can help.



Coverage and help needed

The map shows where help recording for the Monitoring Scheme has been requested or is particularly needed. There are many squares in north and west Scotland with a shortage of botanists, so if you can help, please contact the v.c. Recorders, Henry Noltie (Scotland Organizer) or myself, and we will put you on to all sorts of lovely places. One square in v.c. 97 is miles from the nearest road, others are in **Primula scotica** country, there is a smashing upland square on Mull, and in yet another you have to lean over a cliff to look for **Orobanche alba.** [See also Request on p. 31]

Planted and Naturalized Species

There have been requests for clarification on how to deal with planted and naturalized species; for instance, how far out of a garden does a plant have to be in order to be counted?

Any plant, either native or introduced, which has been deliberately planted or

cultivated should not be recorded for the Monitoring Scheme. However, as it is sometimes useful to know they have been deliberately planted in 'wild' situations (e.g. Juniper on road cuttings in Hampshire, or 'wild flower' road verges) such information can be noted under 'other details' or species can be marked 'P' (for **P**lanted) on the card.

Native species when naturalized in introduced localities (e.g. primroses in churchyards) should be marked 'I' (for Introduced). When both natural and introduced populations occur in the same square, native should be crossed off as usual and introduced sites noted on the front of the card.

There are 2 cases for introduced species. There should be no problem dealing with naturalized plants which are not cultivated (e.g. **Cardaria draba**); these can be recorded as usual. For garden species which occasionally escape (e.g. **Hesperis, Lunaria**), I suggest we follow Dr G. Halliday's rule in Cumbria where such plants have to be more than 100 m from the nearest garden in order to count as naturalized. Plants less than 100 m away are most likely to be of direct garden origin (even if self-sown); they can still be recorded but should be marked 'I'.

I realize this definition of 'naturalized' will not be to everybody's liking, but it is a practical solution which will allow us to assess the flora objectively. If in doubt, note it on your cards giving as much information as you can.

Record Cards: Corrections and Reprints

I must apologize to **Carex caryophyllea** for consistently misspelling it on all the cards. There are a few other minor errors which have been corrected on the reprints, but one on the habitat card may cause confusion; the second line on the reverse side should read 'Sketch map or copy'.

To help those who find the 'small print' hard to read in the field, large size species lists are now available for N and S England, and we also have an additional 'additional species' card too. When requesting cards from me, **please** indicate which you want: and if I get my leg pulled any more about the colours of the species cards, I will make them all bright purple. You have been warned!

Habitat Survey

Please note that habitat cards should be used for individual sites (e.g. a wood, or a field, or a pond), and not for simply listing the habitats present in a tetrad. The idea is to get detailed information about particular sites and habitats so we can return to them in the future to assess change (see Michael Braithwaite's note (p. 8) for the frightening value of site-related data).

News of the New Year Hunt ...

As a light-hearted introduction to the Monitoring Scheme for v.c. Recorders, Frances le Sueur suggested we had a small competition over New Year to find the most species in any one of the selected tetrads. At judging, there were 8 entries though a further 5 (Arthur Chater, Mary Martin, Guy Messenger, Alison Rutherford and Allan Stirling, and Bernard Thompson) could also have been included! The species totals recorded were as follows:

Frances le Sueur et. al.	Jersey	245
Rosemary Parslow (+ rabble)	Scilly	234
Rose Murphy & Ruth Lees	E Cornwall	147
Eric Philp & Jim Bevan	Kent	142
John Killick	Oxon	130
Alec Bull	E Norfolk	104
Chris Boon	Bedford	34
Frank Perring	Glamorgan	105

To decide who won the prize, I handicapped the scores by adding the v.c. number (to account for different species richness) and divided by the number of pairs of eyes involved (I didn't tell them I was going to do this!). This resulted in John Killick coming out on top, with Frank Perring a close second. John also deserved to win for an amazing find of **Cuscuta europaea**!

Frances le Sueur got soaked to the skin twice, Rose Murphy found the only tetrad in Cornwall without **Allium triquetrum** and Chris Boon made a good job of a pretty desperate tetrad just before dark. Ro FitzGerald got 2 new v.c. records for Scilly, and everyone seemed surprised at how much was in flower - Eric Philp listed 44 species for Kent alone. As the hunt was enjoyed by all (you never know what you're going to find), we thought we should have another one for everyone to join in...

Whitsun Monitoring Scheme Hunt

Rules

Date: Any period of time (10 minutes to all 3 days) over the Whitsun Bank Holiday weekend (23-25 May).

Place: Any one of the selected (A, J or W) tetrads. You can do more than one tetrad if you like, but **please** co-ordinate with the v.c. Recorders.

Aim: Not only to record as many (correctly identified!) species as you can, but also to do some serious work for the Monitoring Scheme.
Don't forget habitat cards, details of the more interesting finds, etc. Introduced species marked 'I' (cf above) should be noted on the cards as usual but will not be included in the final score.

Prizes: A copy of The Botanists by D.E. Allen will be awarded to the group or individual with the greatest handicapped score in each of the four regions: England, Ireland, Scotland and Wales. Everyone stands an equal chance, I have a completely different handicap system this time!

The competition is for **FUN** and it is taking part that counts; anyone taking it too seriously will be sent to record Rockall. Mark the cards 'Whitsun Hunt', make sure you've filled in all the details and send them as soon as possible to the v.c. Recorder or Organizer, who will check them and pass them on to me. We will announce all the scores and the winners in the next BSBI News.

Other News

Stan Beesley's (N. Ireland Organizer) phone number is 0232 862199, which you can add to the instruction booklet (p. 9).

The British Pteridological Society are being invited to contribute records towards the Monitoring Scheme, as they did for the Atlas.

Please send completed cards in to v.c. Recorders when ready, it helps to have them in small batches rather than big bundles.

Happy Hunting!

TIM RICH, Monitoring Scheme Organizer, Biological Records Centre, Monks Wood Experimental Station, Abbots Ripton, HUNTINGDON, Cambs. PE17 2LS

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GRID SQUARE NOMENCLATURE

'From CENTRADS, QUADRANTS and other bastard derivatives from the misunderstood classics may we pray to be delivered.'

The TETRAD has passed into common Botanical usage with remarkably little protest from the purists, and rightly so because both its syllables are soundly based on good Greek. Every now and then though one hears murmurings which suggest that we could do with a few more similar terms for squares of different sizes. Of course they are not too difficult to concoct but some of those which have hitherto been concocted would most certainly not get past the purists as readily as did the Tetrad. I have been having a bit of fun trying to concoct some acceptable ones for the most widely used Botanical recording units.

The unit most generally used is the 10 km square with an area of 100 sq km. It is a metric unit and in the Metric System when you multiply a unit by 100 you give the unit name the prefix Hecto-.

The HECTAD is a 10 km square in any system in which the TETRAD is a 2km square.

In the BSBI Monitoring scheme the organizers continue to use the reference numbers abandoned by the Ordnance Survey for designating 100 km squares in favour of pairs of letters, perhaps because the numbers suit the digestive system of the BRC computers better than letters would (I don't know). My particular Hectad in the Monitoring scheme is therefore 43/81, but when I go to buy a 1:25,000 map for it I have to remember to ask for

SK 81 because the OS agents have now forgotten that Muriad SK was once known as 43. Muriad? - yes, that's correctly derived from a Greek word for 10,000, and not to be confused with Myriad derived from a slightly different word meaning a large and probably uncountable number.

For the 100 metre square, which is a useful unit for recording in Nature Reserves and other smallish areas, I have for several years used Centiad. It is analogous to the established Metric System unit Centiare (not Centrare and hence not Centrad - see the sub-title of this article). Perhaps you remember Hectares, Ares and Centiares from your school-days. Hectares of course are the only ones used really widely in Britain today, but I assure you the others exist; and when you subdivide in the Metric System you use Latin prefixes, not Greek.

The best term I can come up with for the 500 metre square is Quatrad, but I cannot offer a satisfying term for the 10 metre square. I don't think the Romans had a single word for 10,000, any more than the Greeks had one for 25. The nearest I can get for a 5 km square is Pentapentad - a bit precious don't you think? Decimilliad would be even worse. But I have got a good one for the most basic of all. Remember your genetics? Tetraploid - Triploid - Diploid - Haploid. If you thought Haploid meant Half I am afraid you were mistaken - it means Single. The 1 km square must therefore most certainly be the HAPLAD!

And - please - we are British botanists, so killo-meeters not k'lommiters, which are weighing machines for kilos!

K.G. MESSENGER, 5 Wheatley Avenue, UPPINGHAM, Rutland, Leicestershire LE15 9SN

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THE RUBUS HERBARIUM OF E.S. EDEES

This was offered to and accepted by the National Museum of Wales in the spring of 1986. The collection consists of approximately 7500 numbered specimens. The entry '1000' in Kent & Allen's British and Irish Herbaria (1984), p. 283, is a misprint for 10,000, but that figure, though supplied by myself, is too high. About 4000 are correctly named specimens of British species, which have been determined or confirmed by myself. The remainder comprise:

1) incorrectly or doubtfully named British specimens
2) a large number of unnamed British specimens
3) a small collection of European brambles.

Most of the British specimens were collected by myself, but the herbarium includes numerous sheets gathered by other batologists. There is an important series of specimens collected by the late W.C.R. Watson from localities mentioned in his Handbook of the Rubi of Great Britain and Ireland (1958). Many of these are, in the judgment of A. Newton and myself, incorrectly named, but they are valuable as illustrations of Watson's work. The British collection of correctly named species is not quite complete, but most of the widely distributed species are well represented. The **Rubus** flora of Ireland is inadequately covered, but there are specimens from nearly every vice-county in Great Britain.

The herbarium contains the holotypes of the following species: **Rubus canterburiensis, R. carnkiefensis, R. milfordensis, R. pervalidus, R. brevistaminosus, R. infestisepalus, R. painteri, R. fuscicaulis, R. informifolius, R. malvernicus, R. infestior, R. angloserpens, R. obscuriflorus, R. intensior** and **R. pictorum.**

E.S. EDEES, 23 Dartmouth Avenue, NEWCASTLE-UNDER-LYME, Staffs. ST5 3NU

[Members may be interested to know that work should start soon on computerization of records in the National Museum of Wales. The E.S. Edees **Rubus** collection is to be used in a pilot scheme and, on its completion, it should be possible to provide enquirers with a print-out of records in any specified order. Ed.]

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THE HERBARIUM OF THE LATE TED WALLACE

The higher plants of Ted Wallace's herbarium have been presented to the University of Reading (RNG). He also had a large herbarium of bryophytes and lichens; these were

bequeathed to the National Museum of Wales (**NMW**) and the British Lichen Society respectively.

Ted Wallace housed his specimens in three large wardrobe-sized cupboards (each with 39 shelves), a smaller cupboard (20 shelves) and 15 herbarium specimen boxes. D.H. Kent & D.E. Allen's British and Irish Herbaria (1984) gives 25,000 specimens for the collection.

Before incorporation in RNG the specimens are being counted to determine accurately the number present. Ted Lousley, author of The Flora of Surrey (1976), had 3,570 gatherings from v.c. 17, Surrey, in his herbarium, and it was decided to keep a record of Wallace's v.c. 17 gatherings. Ted Wallace had also collected a large number of specimens from Scotland and a note is being kept of these, as well as other European and foreign gatherings. Totals are being recorded genus by genus, and to date the monocotyledons have been completed (and laid-in), work is progressing on the dicotyledons.

In the following table Scotland includes v.cc. 72-112 and the rest of the British Isles v.cc. 1-16, 18-71 and H1-H40.

	Surrey	Scotland	Rest of British Isles	Rest of Europe	Rest of World	Total
Carex	205	863	1162	205	67	2501
Other Mono-cotyledons (complete)	705	1254	2271	271	71	4572
Dicotyledons (to date)	942	1165	3035	196	83	5421
Total to date	1851	3283	6468	672	221	12494
%	14.1	26.2	51.8	5.4	1.7	
Estimated total number	3630	6438	12684	1318	433	24503

So far almost 80 shelves and boxes have been processed out of the 151, which gives, at a rough estimate, 24,500 specimens for the total collection!

The enormous number of **Carex** specimens should be noted.

It is interesting to note that Ted Wallace and Ted Lousley exchanged many specimens, both privately and through the Exchange Clubs. Where duplicates exist these are being removed and used for exchange. This has enabled RNG to gain some very useful Greek (P.W. Ball & R. Wagstaffe) and Spanish (V.H. Heywood) duplicates from the 1950's and early 1960's resulting from the incorporation of **LIVU** into **LIV**.

There are many specimens collected by Ted Lousley and then Ted Wallace (e.g. the local Reading rarity, **Leucojum aestivum** L.; by Lousley on 9 May, 1937 and then Wallace on 15 May, 1937) or vice versa (e.g. **Silaum silaus** (L.) Schinz & Thell.; Wallace on 5 August, 1935, Lousley on 14 August, 1935).

Specimens of several groups have been examined by specialists, e.g. the **Potamogeton** sheets have annotations by J.E. Dandy and G. Taylor; many grasses by C.E. Hubbard, etc. Unlike Lousley's **Potamogeton** sheets, Ted Wallace's are in good condition. Ted Lousley's were on loan to the British Museum (Natural History) during the last war when they were damaged by enemy action and are annotated 'Burnt at Nat. Hist. Mus. 1940'. The edges have been trimmed (and hence the specimens), but considerable charring still remains.

BSBI members are very welcome to call and use the herbarium by prior arrangement. Small enquiries concerning specimens (localities, collectors, numbers and dates) are also welcome, but preferably by post rather than by telephone.

S.L. JURY, Dept. of Botany, Plant Science Laboratories, The University of Reading, Whiteknights, PO Box 221, READING RG6 2AS

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THE SEPARATES OF THE LATE TED WALLACE

Ted's very large collection of separates (offprints of papers from Journals, some in covers) has been donated to the BSBI by his Executors, and to ensure their maximum availability to members they are to be housed in the Department of Botany, British Museum (Natural History).

The collection is in the process of being incorporated into the two series of separates

in the British Herbarium, topographical and systematic, and all but a few are on British plants or localities. This comprehensive collection includes possibly the only extant copies of the Occasional Notes from the Department of Botany, King's College, Newcastle-upon-Tyne, mostly on Hebridean plants.

The separates can be consulted by members during normal open hours, Monday to Friday, 10.00 am - 16.30 pm.

MARY BRIGGS, White Cottage, Slinfold, HORSHAM, West Sussex RH13 7RG
MICHAEL J. MULLIN, British Herbarium, Department of Botany, British Museum (Natural History), Cromwell Road, LONDON SW7 5BD

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BSBI ARABLE WEED SURVEY

I would like to thank all those who took part in the survey during 1986, and to remind you that it continues through 1987! There has been a good response and some excellent sites have been identified.

Recorders with access to the warmer soils of the chalk and limestone areas have probably been more fortunate in finding a larger selection of the 25 species; those away from such regions have had to search a wider section of the countryside for their records. A pattern is beginning to emerge, demonstrating which parts of the country have retained a reasonable seed bank over the past 20 years or so, but it is too early to put a clear interpretation on the results of only one year.

For 1987, I would like to urge members to revisit their favourite site and compile a full species list which may be compared with that of 1986, as well as to explore new sites. Some parts of the country, for which records dating from 1975 onwards exist, were under-recorded in 1986. I have compiled a list of 10 km squares for which this is the case; if anyone would like a copy, or further recording cards, please contact me at the address given below.

Finally, to make matters easier in the arduous task of compiling the record cards, I would recommend that only 1 card is compiled for each grid reference; if more than one of the 25 species occurs, they should be listed under 'Associated Species' with an indication of their abundance.

Best wishes for a good field season.

AYLA SMITH, NCC Chief Scientist Directorate, Northminster House, PETERBOROUGH PE1 1UA

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OENANTHE PIMPINELLOIDES L.

Following my previous note (BSBI News **43**: 12 (1986)), I had a number of letters and specimens and I would like to thank all those who responded. I have also examined herbarium specimens, principally at the British Museum (Natural History), London and the National Museum of Wales, Cardiff. All seem to confirm that hollow stems are probably more common than solid stems for this species. Several correspondents noted that drawings in the standard works, including T.G. Tutin's Umbellifers of the British Isles show hollow stems.

From the specimens it seems that the outside diameter of the stem can vary from 3.5 mm in small specimens to 8 mm. The wall thickness is usually about 1 mm with an inner layer of pith about 1 mm thick. However this may vary from nothing, especially in the upper stem, to completely filling the hollow, but this is unusual except at the nodes. Simply squeezing the stem is not a good way of discovering if the stem is hollow as the pith presents no more resistance than air!

O. silaifolia on the other hand has a fairly large diameter stem with thinner walls and so is more straw-like. The illustration in the Umbellifer handbook, showing the way the stem is bent is admirable; you cannot do this with **O. pimpinelloides.**

ROBIN M. WALLS, 16 Leigham Vale Rd, Southbourne, BOURNEMOUTH, Dorset BH6 3LR

NOTES AND ARTICLES

MICROCOMPUTERS FOR BOTANISTS

I have been often asked recently, 'What kind of computer should I buy to handle my county records or Flora project?', so here are some notes for guidance. The answer much depends on what you want to do with your micro. If you ONLY want to do word-processing, then a BBC-B (or one of its variations), or one of the older Amstrads with a dot-matrix printer will be adequate. But beware if you want to exchange discs with data or programs on them with other people, because they are likely to be incompatible unless you both have the same machine. Also be warned that many first-time users, who thought they would only ever want to word-process on their own with their new machine, soon discover about databases and what compatibility means (by not having it) and other useful things that they could have done better, had they brought something else. If you want to make a DATABASE with your records, so that you can search and retrieve information from it, then you would be much better off with an IBM/PC compatible micro, such as the Amstrad 1512. Why? Because these are 16-bit micros, which means they can manage very much more data than the others, especially if you have a hard disc. It would be awkward to store the data for a County Flora on much less than a 20 megabyte hard disc. Value for money is much greater, although the initial outlay is higher. Compare the BBC-B with 32K fast memory (RAM) and about 300K per disc for about £400 with an Amstrad 1512 (512K RAM) with hard disc of 20 megabytes for about £1000. The latter also has industry standard floppy discs and there is an enormous variety of software available for it. These programs are also getting cheaper all the time. One catch; the Amstrad 1512 colour display is non-standard, so only the monochrome version is totally compatible. What about programs for Floras and mapping distribution on these machines? At the time of writing I don't know of any which are immediately available and specially written for the purpose, but something is likely to appear very soon. A last word of warning; these comments will go out of date very quickly, i.e. within one year, or two at most.

R.J. PANKHURST, Dept. of Botany, British Museum (Natural History), Cromwell Road, LONDON SW7 5BD

[I am sure some dedicated (and biased?) BBC users will have some comments to make. Ed.]

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RAILWAYS AND PLANT DISTRIBUTION - II

The article in BSBI News 44 is interesting because it shows the importance of railways as habitats for species which might otherwise be rare or absent in a particular region. It is understandable that some species, such as **Chaenorhinum minus**, should happen to find a congenial habitat in the railway ballast, but it is less easy to see why other species, not confined to the ballast, should be so characteristic of railways. One such species in Leicestershire is **Arabidopsis thaliana**, which is frequent on railway verges but not at all common elsewhere. So also is **Fragaria x ananassa** as an escape from cultivation. One would expect **Cochlearia danica** to be rare or absent in an inland county; our few Leicestershire records are confined to railway cuttings. A curious fact, which perhaps some reader may be able to explain, is that the tetrad distribution maps in Leicestershire of **Asplenium adiantum-nigrum** and **A. trichomanes** also show the distribution in the county of railway bridges built of blue bricks. **Asplenium ruta-muraria** shows a liking for blue bricks, but the map does not show this so clearly because it is quite frequent on old walls of any material. There must be some reason for the preference these ferns show for blue bricks. Our only Leicestershire record for **Cystopteris fragilis** is also on a blue-brick railway bridge.

In the old county of Leicestershire (excluding Rutland which has now been merged with it), there is some oolitic limestone in the north-east and a little magnesian limestone in the north-west. Elsewhere in the county, calcicole plants are more or less confined to the railways. This is understandable where deep cuttings expose calcareous strata. It is not clear, however, why species such as **Cerastium arvense** and **Origanum vulgare** should occur throughout the county in scattered localities on railway verges.

As regards the role of railways as a means of dispersal of species to new regions, one would expect the wind from passing trains to be a means of dispersal of light propagules such as fern spores and of fruit or seeds adapted for wind dispersal. I have always

understood that the classic example of this is **Senecio squalidus.** I have read that this species, escaping on to the Great Western Railway from the Oxford Botanic Gardens, gradually spread along the line to Paddington, its fruits with their 'parachutes' being admirably adapted to be wafted along in the breeze from passing trains. It was not until the London bombed sites provided it with a congenial habitat that the phenomenal increase of this species occurred, and I suspect that the railways then played a large part in its subsequent spread northwards.

A.L. PRIMAVESI, Ratcliffe College, SYSTON, Leicester LE7 8SG

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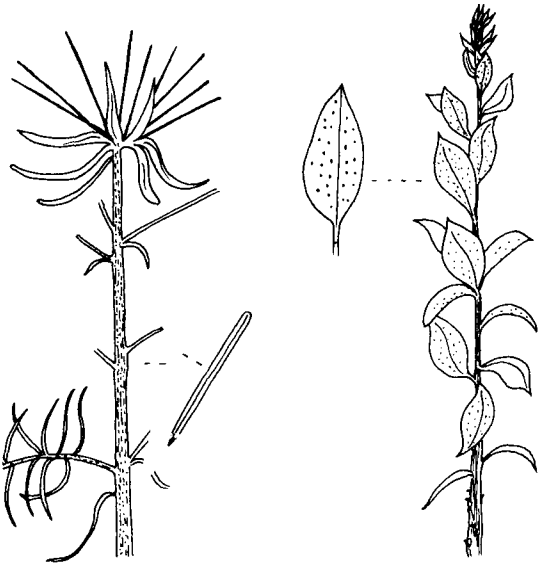
PUZZLE PLANT - III

A puzzle to many alpine travellers are the infected sterile shoots of **Euphorbia cyparissias.** It took me a while to realise that these often rather conspicuous yellowish barren shoots in alpine grassland were always in the vicinity of (although not always closely adjacent to) normal plants of **E. cyparissias,** and to discover that the cause of the abnormality was a parasitic fungus.



Normal shoot Infected Sterile shoot

The infected shoots are unbranched, with simple yellow-green leaves which are ovate - broader than the linear glaucous leaves of typical plants of **E. cyparissias,** and the shoots are always sterile.

MARY BRIGGS, White Cottage, Slinfold, HORSHAM, West Sussex RH13 7RG
[Puzzle Plant - I, appeared in BSBI News **35**; and Puzzle Plant - II (Another Puzzle Plant), in BSBI News **36.** Ed.]

TED WALLACE - ANOTHER MEMORY

Thanks to the media's nation-wide publicity for the Badgeworth Nature Reserve Open Day in June 1986, Ted Wallace was able to pay his first visit to the Reserve on a lovely sunny afternoon to see **Ranunculus ophioglossifolius** in flower. We have not got a photograph of him admiring the 'Badgeworth Buttercup' but we do have the prized signature of an eminent botanist in our Visitors' Book a few pages away from that of another Past President of the BSBI, John Dony.

SONIA HOLLAND, 64 All Saints' Road, CHELTENHAM, Gloucestershire GL52 2HA

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OF BEARS AND FOXES

I write regarding the remarkable restraint shown by Charles Nelson and Patrick Coker on seeing Dorset Heath (**Erica ciliaris**) being devoured in Ireland by half a dozen large caterpillars (BSBI News **44**: 14 (1986)). The 'woolly bears' as they say, were larvae of **Macrothylacia rubi**, commonly known as the fox moth, so perhaps they should have been described as 'woolly foxes' to avoid confusion with the larvae more often known as woolly bears, those of the garden tiger (**Arctia caja**). At one time this was common in gardens, where it fed on lettuce, groundsel and a variety of low-growing plants; regrettably it seems much scarcer now than it was 30 years ago.

Returning to the fox moth, its larva, as was stated, feeds on **Erica** and **Calluna**; it also eats **Rubus, Rosa, Sanguisorba minor** and **Salix caprea** though perhaps only with a little persuasion. Nevertheless, I am sure it does not regard **Erica ciliaris** as No. 1 in the good food guide, so my advice to any other visitors to Connemara who find themselves with the same problem would be to place the 'bears' or 'foxes' in a box, walk 50 metres, deposit them in a patch of **Erica tetralix** or **Calluna vulgaris** and leave them to it. In fact, by 29 September the larvae would have been more or less full-grown. They hibernate at this stage, reappear in the spring but do not feed then so there would be no damage to young shoots; hopefully then, an autumn pruning would not have done too much harm, though 6 of these larvae can consume a considerable amount of food-plant.

There are a number of combinations like this, and much more tricky would be the rare Breckland moth, **Anepia irregularis** (misnamed the viper's bugloss), which feeds almost exclusively on **Silene otites**; similarly what does one do on seeing a sand lizard about to be eaten by a smooth snake?

ALAN SHOWLER, 12 Wedgwood Drive, Hughenden Valley, HIGH WYCOMBE, Bucks. HP14 4PA

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CONSERVATION OF NATURALIZED ALIENS: AN OLD EXAMPLE FROM THE AVON GORGE, BRISTOL

Mary Briggs suggests that 'Conservation action for a naturalized alien species is very unusual' (BSBI News **43**: 20 (1986)). Even discounting trees of scenic or amenity value or species so long and so well naturalized that their status is obscure (e.g. **Crocus vernus**, BSBI News **43**: 18 (1986)), I wonder if this is indeed the case and give below an old example from the Avon Gorge.

An annotation on their gathering of the alien **Sorbus intermedia** (Ehrh.) Pers. (Swedish Whitebeam) in the herbarium at Kew, records the energetic work of Mrs Cecil Sandwith and her son Noel when they found 'a young tree by the Avon under Leigh Woods ... far from houses, origin unknown. When first noticed in May 1932, the tree was smothered with **Clematis vitalba** and undergrowth and not flowering: we had to take an axe to clear it. The following year the tree flowered and bore fruit'.

The reasons for their interest are not hard to discern. Prominent botanists both, Mrs Sandwith was the author of the Adventive Flora of the Port of Bristol, published in 1933. The Bristol Sorbi were at the time becoming understood: **Sorbus bristoliensis** Wilmott was published as a species in 1934. The tree (of **Sorbus intermedia**) represented a new county record for Somerset and the Sandwiths were presumably keen to show off their find: their fellow Bristolian H.S. Thompson, distributed it through his Watson Exchange Club (1933-34) and through the Botanical Society and Exchange Club, the BSBI's fore-runner, in 1935, this

being the last of many distributions from the Avon Gorge.

The tree in fact survives, and the species is further naturalized nearby, as reported to the Sandwiths in 1957 by P.J.M. Nethercott.

No doubt another correspondent can provide an earlier example of the conservation of a naturalized alien for its botanical interest.

CLIVE LOVATT, 2 Great Ostry, SHEPTON MALLET, Somerset BA4 5TT

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MICROLEPIDOPTERA ON RUMEX CRISPUS L.

Many plant eating insects, amongst them butterflies and moths, are known to be host-specific and are restricted to a limited number of species, frequently members of the same family. Among the smaller moths (Microlepidoptera) there are many examples of dependence on just one plant species, so that the serious microlepidopterist, who is not satisfied with netted moths but wishes to obtain perfect specimens by rearing their larvae, must of necessity become a competent botanist.

The British gelechiid **Scrobipalpa clintoni** Povolný, a small brownish-grey moth of 10-14 mm wingspan, depends entirely on the Curled Dock, **Rumex crispus**, the only known foodplant of its larva. The moth is only found where **R. crispus** grows on maritime shingle beaches along the high water mark. Its larva lives in the **Rumex** stem and eats the pith, ejecting its light brown frass pellets through a tiny hole that later serves as an exit for the emerging moth. When fully grown the larva pupates in the stem, and the small, light-brown pupae are usually found head-down at the nodes near an exit hole. The moths emerge from overwintered pupae in about April to June and are easily obtained from dead **Rumex** stems collected during the winter months. However, the presence of tiny exit holes in the stem is no proof of the presence of **S. clintoni** because identical holes are made by other insects, for example certain beetles.

S. clintoni was first discovered in 1966 on the Ardnamurchan Peninsula, Westerness (v.c. 97) and made known to science in 1968. It was subsequently found in Norway, Sweden and Denmark. When studying the distribution of **S. clintoni**, I suspected that it might also occur on the Baltic coast of north-western Germany, where I knew that suitable habitats existed. Indeed, an excellent colour picture of the typical habitat, showing dry **R. crispus** plants on the shingly beach of the nature reserve 'Gelting Birk' on the Baltic coast of Schleswig-Holstein, is found in Heydemann & Müller-Karch's Biologischer Atlas Schleswig-Holstein (1980). With reference to that picture I alerted my mother-in-law, who lives within easy reach of the illustrated locality, and requested a sample of the dock. From a quantity of cut stems sent by her, I reared a small series of moths, which are now preserved in the British Museum (Natural History), and thus demonstrated the presence of **S. clintoni** in Germany. Regrettably, other suitable localities on the German coast are threatened because the shingle beaches are increasingly converted to sand beaches for recreational purposes.

In the British Isles, **S. clintoni** appears to be restricted to the west coast of Scotland; **R. crispus** samples obtained for me in Wales by my botanical colleague Arthur Chater failed to yield any moths. However, further coastal areas in Britain with suitable habitats still await investigation.

If any member knows of a colony of **R. crispus** growing on maritime shingle and suspects that it might be infested with the moth, they are asked to contact the author, but no specimens at this stage please.

K.S.O. SATTLER, Dept. of Entomology, British Museum (Natural History), LONDON SW7 5BD (tel. 01-589-6323 ext. 347)

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CHURCHYARDS

A competition on churchyards, in which parishioners were invited to send a painting, a poem, and to list ten wild plants of local interest with photographs of five of these, was organized by The Field. The entries were very varied and provided a difficult task for the judges, but the interest and enjoyment of the competitors was evident. Many were beautifully presented and an Exhibition of the entries will be held from Monday 5th May until Friday 22nd May at the Museum of Garden History in the Church of St Mary-at-Lambeth,

next Lambeth Palace, Lambeth Palace Road, London (at the southern end of Lambeth Bridge), by permission of the Tradescant Trust.

The Museum is closed all day on Saturdays, but open Monday to Friday from 11.00 - 15.00 and on Sundays from 10.30 - 17.00.

The lists of plants give a fascinating selection of wild plants in churchyards across Britain. Thirty three counties from Inverness to Cornwall and to Kent were included; and most counties were represented by 2 or more parishes, with 9 from East Anglia and 7 from Yorkshire. Wales and Scotland sent 3 and 2 good entries respectively - the last particularly pleasing as in Scotland the majority of churchyards are in the care of the Local Authority and are too well mown to show many wild flowers. Some plants were repeated in many entries - outstanding among these was the primrose, (highlighting the value of churchyards as oases for wild life?). The next most commonly selected were **Leucanthemum vulgare** and **Primula veris.** Thirty seven plants were recorded in only one entry, as specialities of their district or of historical interest. Varying habitat types were reflected by some less widespread species, e.g. **Trollius, Polygonum bistorta** and **Cirsium helenioides** in northern damp pasture; **Knautia arvensis** and **Sanguisorba minor** from dry grassland; **Anemone nemorosa** and **Galium odoratum** from relict woodland, and **Hypericum humifusum,** typical of dry moorland, recorded at St Mary-le-Moor in Bucks. Members interested in their local churchyards will be welcome at this exhibition in May.

MARY BRIGGS, White Cottage, Slinfold, HORSHAM, West Sussex RH13 7RG

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ALIENS AND ADVENTIVES

ADVENTIVE NEWS 35 compiled by Adrian L. Grenfell

ALIEN PEPPERWORTS

G.M.S. Easy's illustration (p. 21) depicts Pepperworts collected by the artist from huge populations (over 11-12 acres) in abandoned railway marshalling yards at March, Cambridgeshire during the autumn of 1986. Graham emphasizes that 'generally all were quite easily separable even before being examined closely'. **Lepidium densiflorum** Schrader (B) is distinguished by its short pedicels (shorter even than those of **L. ruderale**), congested fruiting heads and smaller seeds, only partly winged. Petals (white) are absent or minute in some plants but this character cannot be used to separate this taxon from the usually conspicuously petalled **L. virginicum** L. (A) which sometimes produces apetalous examples. (See also BSBI News **29**: 8 (1981)).

MIXED BAG

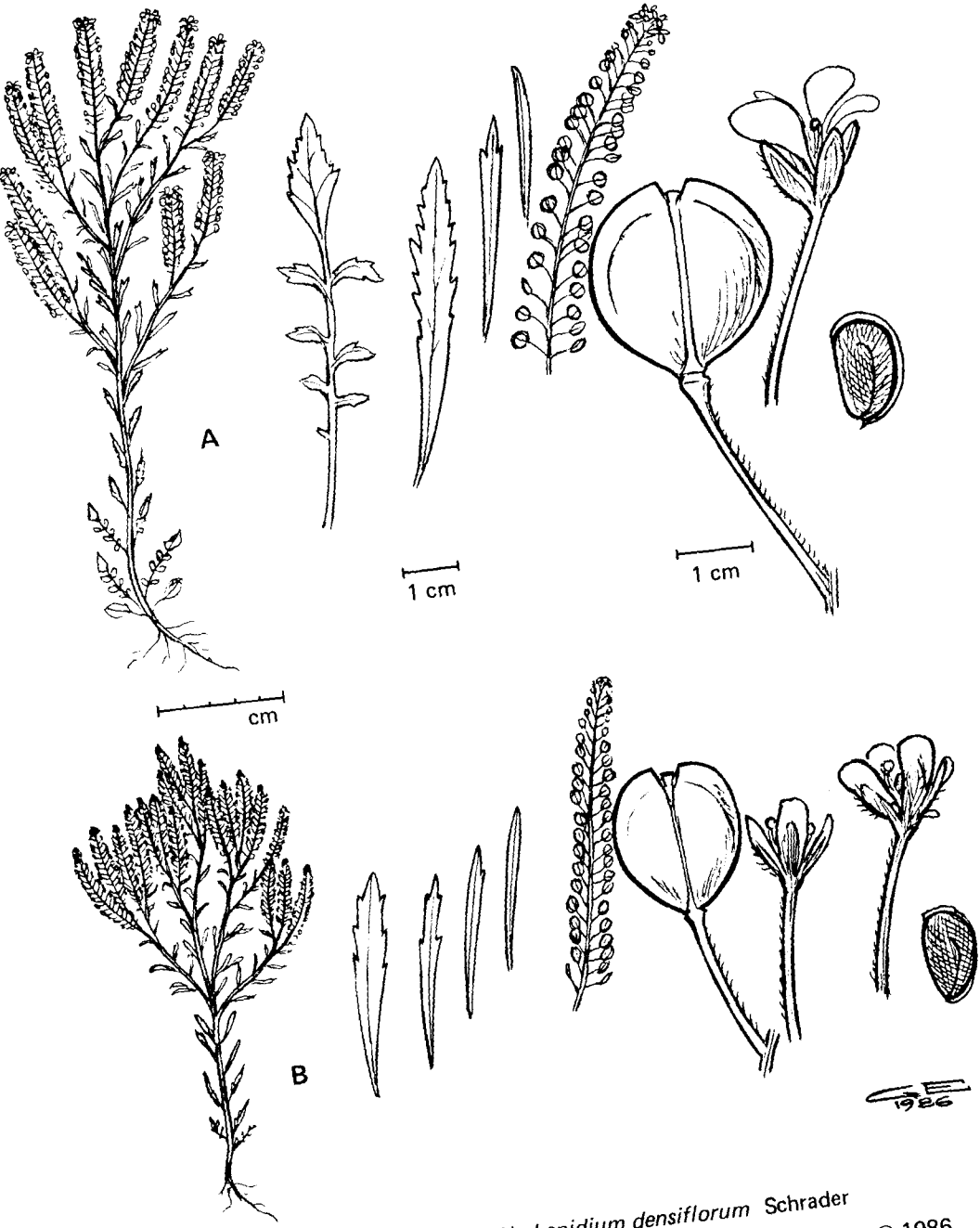
Agrostis scabra Willd.: Abundant on disused railway tracks and sidings to the north of Kilmarnock railway station, Ayrshire, August 1986. A.L. Grenfell. Herb ALG. Also a few plants on dumped gravel by railway line near Mauchline, Ayrshire.

Alopecurus aequalis Sobol.: Up to 50 plants in a cement plant container, Stratford Place, off Oxford Street, opposite Bond Street underground station, London, July 1985. A. Copping. In view of the bizarre location of the plants, apparently annuals, a specimen was sent to E.J. Clement for confirmation. An interesting example of an uncommon native species appearing as an adventive.

Anchusa barrelieri (All.) Vitman: Clump on loam, gravel pit, Beckford, Worcs., May 1984. P.F. Whitehead. Det. ALG. Also **Sedum hispanicum** L. on debris.

Arachis hypogaea L.: (Ground-nut) - a single seedling on tan bark waste heap, Grampound, Cornwall, July 1986. ALG & K.L. Spurgin. Det. E.J. Clement. Herb. ALG. In an otherwise dull year for tan bark aliens only **Trifolium affine** and a fine flowering and fruiting plant of **Onobrychis aequidentata,** previously recorded as a seedling, were noteworthy.

Artemisia biennis Willd.: With numerous other aliens on recently landscaped parking and picnic area, Eden Bridge, north of Lazonby, Cumbria, August 1984. R.E. Groom. Comm. Dr G. Halliday. Det. ALG. **LANC.** (See also p. 25).



(A) *Lepidium virginicum* L. (B) *Lepidium densiflorum* Schrader

del. G.M.S. Easy © 1986

Brassica juncea (L.) Czern.: Weed in gutter, Bexhill-on-Sea, E. Sussex, 1986. K.E. Bull. Det. E.J. Clement. Presumably of bird seed origin. In quantity on mill sweepings, with **Lappula squarrosa** (Retz.) Dumort. and **Camelina sativa** (L.) Crantz, Avonmouth Docks, W. Glos., September 1986. A.L. Grenfell. Herb. ALG.

Campanula poscharskyana Degen.: Garden cast-out, Hackthorpe, Cumbria, 1986. R.W.M. Corner. Comm. Dr G. Halliday. Det. ALG. Also from Grassmere, Cumbria, (undated). Both **LANC.**

Consolida ambigua (L.) P.W. Ball & Heywood (**Delphinium ambiguum** L., **D. ajacis** auct., **Consolida ajacis** auct.): 'Abundant in rail sidings in Lowestoft opposite grain silo in dock. Has been present for 10 years...', Dr Edwina Beaumont, a newcomer to our panel of artists, who has kindly provided the diagnostic drawing reproduced (on p. 23) of this much misunderstood plant. (See synonymy!). **C. ambigua** (Larkspur) appears to be on the increase as a grain alien especially from N. America where it is also, as here, a frequent garden escape. A freely-seeding annual, it occurs in many colour forms and often with double flowers. Flora Europaea Vol. 1 lists the closely related **C. orientalis** as a British alien: I have yet to see convincing evidence of this.

Erodium stephanianum Willd.: In winter cabbage field previously manured with wool shoddy, Woodhouse Lane Farm, East Ardsley, Wakefield, Yorks., 1986. J. Martin. Det. ALG. Herb. ALG & Herb. J. Martin. This striking wool alien hailing from Russia, India and China has rich pink flowers with dark veins: it occurs regularly but uncommonly.

Erucastrum gallicum (Willd.) Schulz: Barry Docks, Glamorgan, 1986. J.P. Curtis. Det. T.C.G. Rich. (First county record since 1939). The Hairy Rocket, a well-known introduction on the army ranges on Salisbury Plain in Wiltshire, has also been abundant in Avonmouth Docks, W. Glos., in recent years after a long absence.

Fraxinus ornus L.: One small tree on waste ground by Barnes station, Rocks Lane, S.W. London, June 1985. J.B. Latham. 'In flower. (Nothing is planted on this site)'.

Galactites tomentosa Moench: One large plant, presumably from bird seed, of this well-known Mediterranean thistle on 'slaggy' path of South Walsham church, Norfolk, 1986. K.E. Bull.

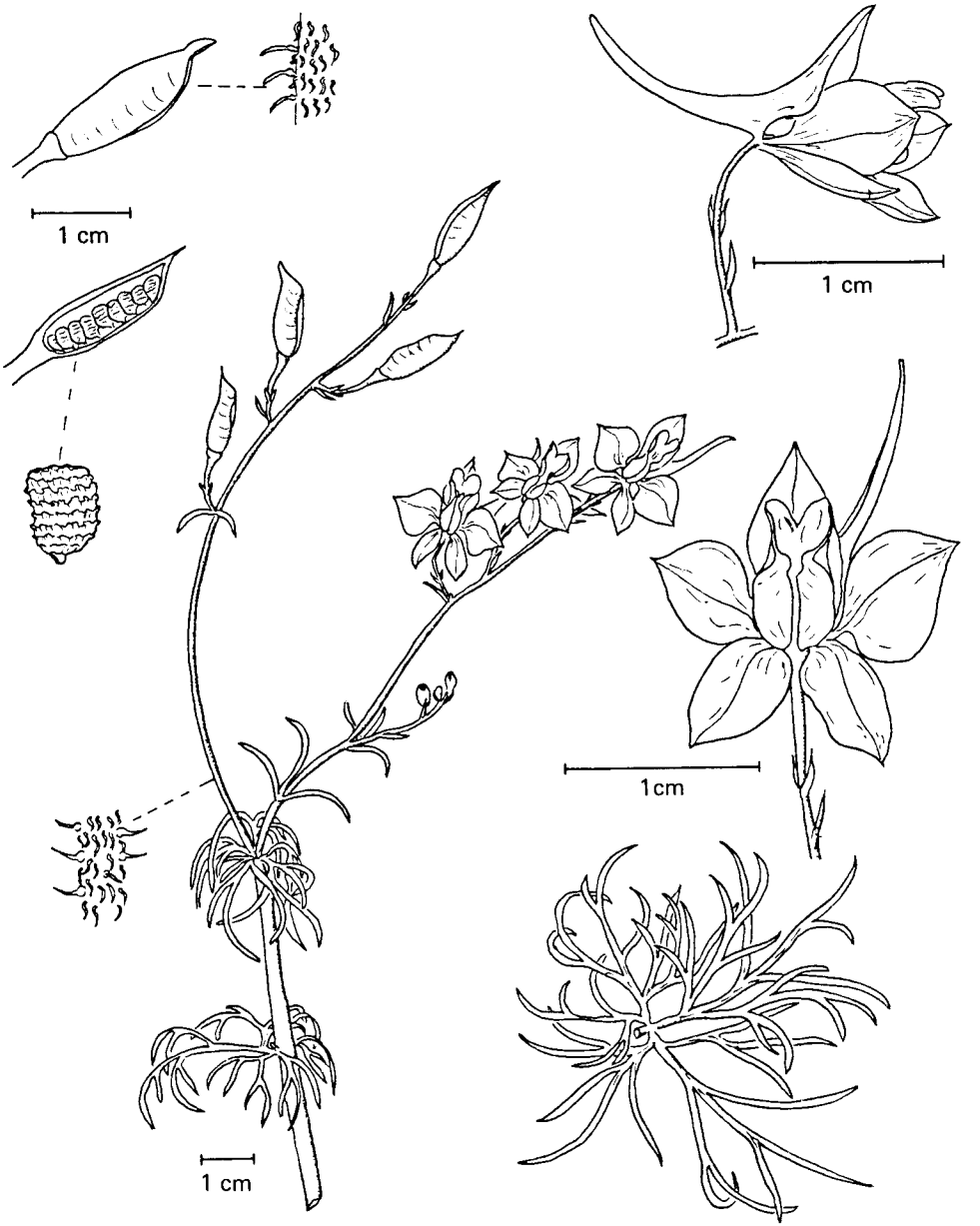
Juncus pallidus R. Br.: Lower Moor, Fladbury, Worcs., August 1980. P.F. Whitehead. Almost certainly a relic of the former use of shoddy in the area.

Kerria japonica (L.) DC.: Many tiny seedlings from parent bushes, Holland Park Road, London W8, May 1985. J.B. Latham.

Lathyrus sativus L.: '...growing at Bournemouth, straggling over the grass, in the flat area of grass between the cliff top and the footpath by the road, to the east of the pier, towards Boscombe'. Many dried-up plants in October 1985 when noted by N. Gilmour, comm. Mrs S. Gilmour. Seed was grown by the finder in 1986 and the determination confirmed by ALG. **L. sativus** is a striking plant cultivated for fodder in C. S. and E. Europe and widely naturalized. The white, pink or blue flowers to 24 mm across are borne singly on 30-60 mm peduncles: the large legume, up to 18 mm wide, has two conspicuous wings on the dorsal suture. **L. sativus** has very few previous Br records; its presence here is, at present, a mystery.

Lupinus luteus L.: A yellow-flowered annual Mediterranean species grown on from Brian Wurzell's Victoria Park "Agrimix" (see BSBI News **39**: 17 (1985)), as was **Dorycnium pentaphyllum** L., a perennial legume also from the Mediterranean det. E.J. Clement. One of the 'robust Dandelions' from this site grown on by the writer turned out to be **Cichorium intybus** - perhaps not a surprising constituent of the extraordinary collection thus far described.

Phacelia tanacetifolia Benth.: One plant on grassy verge of old lane at Westleton, Suffolk, 1985, where a hedge had been removed earlier in the year. Far distant from habitation. F.W. Simpson. Det. E.J. Clement.



Consolida ambigua (L.) P.W. Ball & Heywood del. Edwina Beaumont

Polypogon viridis (Gouan) Breistr. (**Agrostis semiverticillata** (Fôrskal) C. Chr.): Cooden, Bexhill-on-Sea, E. Sussex, 1985. K.E. Bull.

Solanum laciniatum Aiton: With **Malva alcea** L. on waste ground, Great Dixter Gardens, Northiam, E. Sussex. K.E. Bull. Det. E.J. Clement.

Solanum sublobatum Willd. ex Roemer & Schultes: 'One or two plants as weed, border by large greenhouse, R.H.S. Gardens, Wisley, Surrey'. K.E. Bull. There are very few British records for this perennial Nightshade: its provenance at Wisley is unknown. It has been known on Guernsey since 1958.

Symphytum bulbosum C. Schimper: Very abundant on spoil heaps, site of new restaurant, Leonardslee Gardens, W. Sussex. K.E. Bull.

Veronica austriaca L. subsp. **teucrium** (L.) D.A. Webb: A fine clump in Broadway Gravel Pit, Broadway, Worcs. (now a WTNC reserve), July 1986. P.F. Whitehead. Det. ALG. Herb. PFW. One of the many hortal forms of this variable species better known to gardeners as **V. teucrium.** Also from dumped garden rubbish, **Atriplex hortensis** L., **Alchemilla mollis** (Buser) Rothm. and a thriving clump of **Yucca recurvifolia** Salisb. first noted there ten years ago.

Once again I thank you for your correspondence, records and specimens. I should also take this opportunity of reminding you to send details to your vice-county recorders. Specimens, preferably dried and accompanied by colour notes, can be sent to myself or to J.M. Mullin, Department of Botany, British Museum (Natural History), Cromwell Road, LONDON SW7 5BD.

For reasons beyond my control, I am somewhat behind with correspondence; I shall endeavour to rectify this as soon as possible. Meanwhile, good hunting in 1987!

ADRIAN L. GRENFELL, 19 Station Road, Winterbourne Down, BRISTOL BS17 1EP

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VENTENATA DUBIA (LEERS) F.W. SCHULTZ IN GRAYS CHALK QUARRY, ESSEX, 1986

Housing development is taking place in the southern part of Grays Chalk Quarry, Essex, and during a visit to this site on 30th June 1986, a number of adventive grass species were found on the west-facing landscaped slopes. A mixture of **Lolium perenne** subsp. **perenne** and **Festuca rubra** had been sown by the contractors in 1985 and the adventives are presumed to have arisen from impurities in the seed. Of greatest interest was the presence of **Ventenata dubia** (Leers) F.W. Schultz, scattered thinly over an area approximately 300 metres by 30 metres. Associated species included **Bromus commutatus, B. tectorum, Apera spica-venti** and **A. interrupta.**

Ventenata dubia is a tufted annual, each plant bearing about five slender culms 30-60 cm tall. The inflorescence at anthesis is an open panicle, in the manner of **Bromus diandrus,** but with 3 to 6 branches at the lower nodes, (the panicles of collected material contracted upon drying, so it is possible that fruiting panicles may behave similarly in nature). The spikelets are loosely clustered in groups of 3-5 at the end of each branch and superficially resemble those of **Arrhenatherum** or **Avenula.** However, they possess features which make **V. dubia** strikingly different from representatives of native British grass genera. The lower glume, c. 6 mm, is 5-7 nerved, and the upper, c. 8 mm, 7-9 nerved. Both glumes have long, hyaline, acuminate tips. The spikelets are 2-3 flowered, the lowest lemma 5-nerved, awnless, c. 8 mm, with a single terminal seta, 2-3 mm. The remaining lemmas terminate in 2 setae, and bear twisted and geniculate dorsal awns, 10-15 mm long. Each callus has dense, silky hairs up to 1.5 mm.

Attempts at identification using Flora Europaea foundered at dichotomy 141 in the key to genera. The character 'Glumes nearly as long as to longer than the florets and ± enclosing them;...' was felt to be misleading as it required **Ventenata** to join **Avena, Holcus** and **Aira,** three genera where this character is very pronounced. With hindsight, it is clear that the continuation of 141 '...awn usually dorsal, often geniculate.' should have dispelled the uncertainties. Identification was straightforward, however, using the key in Flora of Turkey.

Material was sent to Eric Clement who kindly confirmed the record and provided additional information. **V. dubia** is new to the alien flora of the British Isles and Eric

can find no reference to its appearance as a casual in North West Europe. It is native in Central Europe, the Mediterranean, Crimea, Caucasia and southern Russia, but appears to be local everywhere. It was introduced into the western United States of America about thirty years ago and Eric suggested that the seed sown at Grays may have been imported from there, where **Bromus tectorum** and both **Apera** species are well-established aliens. This suggestion has subsequently been confirmed by the seed suppliers in a communication sent to the Thurrock Wildlife Society.

No trace of **V. dubia** could be found on a second visit to the site in early September, but additional landscaping was then taking place, so there is a good likelihood of the species reappearing in 1987, either through self seeding or further introductions.

I am grateful to Graham Easy for the excellent drawing accompanying this article (see front cover).

A. COPPING, The Nook, The Green, Roydon, DISS, Norfolk IP22 3SD

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ARTEMISIA BIENNIS WILLD.

Salisbury in Weeds and Aliens (1964) refers to **Artemisia biennis** as a casual 'appearing with increasing frequency'. I have myself seen it as a casual at Newport and Avonmouth Docks, and in North Somerset Captain Roe tells me that he knew it at two sites near Bath, in one of which it persisted for some years.

Although it is not included in Flora Europaea, several recent Floras of western European countries do include it (e.g. Germany, Belgium, France, Netherlands, Norway), and Fournier in Les Quatre Flores de France (1961) says it is tending to naturalize itself in Europe. American Floras refer to it as a native of the western U.S.A. It is briefly described in Clapham, Tutin & Warburg's Flora of the British Isles, 2nd edition.

The purpose of this note is to draw attention to one locality where it is completely naturalized. It was first recorded on the banks of the Chew Valley Reservoir, North Somerset (v.c. 6) by I.I. Jeffries in 1961 (Proc. Bristol Nat. Soc., 1961). Unfortunately Jeffries, who was a Somerset naturalist whose main interests appear to have been fungi and birds, died in 1969, and we do not know how much of the plant was present when he found it, or anything about its rate of spread. But it was recorded again in 1980 by Mrs M.A. Silcocks, and I have seen it each year since, so the assumption must be that it has persisted for at least a quarter of a century. The reservoir was first filled in 1952, so the plant may of course have been present before 1961.

Artemisia biennis grows in discontinuous colonies along the flat shores of the lake, over a total distance of about 3 miles (the circumference of the lake is 10 miles). It is invariably amongst **Tripleurospermum inodorum**, to which it bears a superficial resemblance, with its very finely divided bright green leaves. In about half of its sites it occurs also with **Myosoton aquaticum, Gnaphalium uliginosum** and **Juncus bufonius.** Other plants associated with it include **Rorippa palustris, Veronica catenata, Bidens tripartita, Chenopodium rubrum, Polygonum amphibium** and **Hippuris vulgaris.**

Despite its specific name it appears to behave here as an annual. All its sites are completely submerged by the waters of the reservoir for a large part of the year. The level usually recedes towards the end of the summer, and the plants then grow quickly on the muddy margins, reaching a maximum height of about 12 inches, and flower from September onwards. In 1986 it was still flowering freely as late as 4th December.

Huge numbers of wildfowl and other birds frequent the lake, and may have been responsible for introducing the plant from the continent. It would be interesting to know if it occurs similarly on the margins of any other reservoirs that are frequented by migrating birds.

Perhaps this note should end with a warning that there is no general right of access to the lake, which is the property of the Bristol Waterworks Company.

R.M. PAYNE, Beech Cottage, Orchard End, EAST HARPTREE, Bristol BS18 6AT

[An excellent drawing of **Artemisia biennis** by Hilli Thompson, appeared in BSBI News **37**: 27 (1984). Ed.]

AN ALIEN SILENE IN SCOTLAND

In August 1986 I found a small white **Silene** on a bank by the Lochan na Lairige, Perthshire, looking most out of place among the common species of the area, such as **Selaginella, Saxifraga aizoides, Thymus** and small **Juncus** and **Carex** species. It looked at first sight rather like a **Stellaria - S. graminea** or indeed **S. holostea**; but a closer look showed that it was certainly a species of **Silene**, with quadridentate petals that were most distinctive.

It turned out, as a result of some researches, that a plant was found in 1974 'on the lower slopes' of the Ben Lawers region by Mrs M.A. Goodall which was determined by experts as being within the **Silene pusilla** group. In 1984, Miss Helen Stace recorded a **Silene** from a 'roadside verge, Lochan na Lairige'; this was determined as **Silene alpestris** Jacq. and exhibited as such at the Scottish Exhibition Meeting in Glasgow in 1984. It seems likely that both these, and almost certainly the latter, were the same plants as I saw in 1986. I submitted a specimen to several experts, and opinions proved to differ as to whether to name it **Silene pusilla** Waldst. & Kit. or **S. alpestris** Jacq. Finally Dr S.M. Walters wrote to me as follows: 'According to Flora Europaea your plants belong to the "**Silene pusilla** group". This however is quite a critical group and I am not able to determine your plant as **S. alpestris**... I would have thought that the best thing to do is to root one or two basal vegetative cuttings (and/or collect seed if it forms ripe capsules) so that we could cultivate it to get material for critical determination.'

Flora Europaea says that **S. pusilla** is native in south and central Europe, northwards to the French Jura and West Carpathians; and **S. alpestris** in the eastern Alps and the northern part of the Balkan peninsula. Whichever species the Perthshire plant turns out to be, the mystery of how it got to Scotland is an intriguing one, and it is in any case interesting that, having arrived, it should have persisted there for over ten years.

ELIZABETH NORMAN, 12 Addison Crescent, LONDON W14 8JR

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NOTICES (BSBI)

FIELD MEETINGS 1987

Additional Meeting - Ireland

SATURDAY 25th AND SUNDAY 26th JULY
WESTMEATH area
Leaders: R.D. Meikle & D.M. Synnott

This meeting will concentrate on the many Willows and Poplars in the area.

Please apply for details to Miss E. ni Lamhna, An Foras, Forbartha, St Martin's House, Waterloo Road, DUBLIN 4, Republic of Ireland.

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FIELD MEETING 1988

FRENCH PYRENEES JUNE 27 - JULY 4, 1988

The Meetings Committee, thinking some members may want a short break from 'monitoring' next year, had an idea for a possible excursion in and near the Parc National des Pyrenees above Lourdes. We are in touch with a suitable simple hotel, a local transport firm, and the director of the Parc who tells us that a new Flora of the Parc is to be published in March 1987, and that the local staff might help by suggesting routes. The hotel will take 7-10 pairs of people sharing (no singles); half-board for one week about £100. There is a weekly air service to Lourdes (currently £116 return). Cost of local transport (depending on numbers and excursions) about £25. Total cost not much over £250.

Is there a member who knows the Pyrenean Flora and would be willing to join the party as its botanical leader? Otherwise we should go simply as explorers. In any event, individuals would be responsible for their own travel, hotel bills and insurance, except

that all must share the cost of local transport.

Interested members should contact John Ounsted (Co-ordinator) preferably by telephone in the first instance:

JOHN OUNSTED, Apple Tree Cottage, Woodgreen Common, Near FORDINGBRIDGE, Hants. SP6 2BD (tel. 0725-22271)

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FIELD MEETING - 1989

ADVANCE NOTICE - POLAND

It is proposed to visit Poland in 1989, possible dates being from Saturday 29th July to Saturday 12th August. A tentative itinerary would include air travel from London to Warsaw, 2 or 3 days in Balowieza Forest, 3 days in Kraków with a rich calcareous flora nearby, and the final week at Zakopane in the Tatra Mountains.

Will members who are interested please contact:

A. Copping, The Nook, The Green, Roydon, DISS, Norfolk IP22 3SD

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NOTICES (OTHERS)

RARE PLANTS - THEIR CONSERVATION AND LEGISLATION

Lynne Farrell, Botanist for the Nature Conservancy Council in Peterborough, has recently spent two months in Australia and New Zealand on a Winston Churchill Travelling Fellowship studying how these countries protect and conserve their countries' rare plants.

Lynne's first month was spent in SW Australia travelling 3000 km with two Australian botanists identifying and collecting some specimens for taxonomic work on 43 species of Spider Orchids. She learnt, amongst other things, that each State has different legislation and that a national group has recently been formed to work out an overall strategy for plant conservation.

In New Zealand, in contrast to Western Australia where all the plant species were new to her, Lynne found that she was immediately 'at home' with the rhododendrons, azaleas and gorse in full bloom. Although their rare plants are different species from ours she found many of the problems concerning them to be similar to those in the UK.

LYNNE FARRELL, NCC, Northminster House, PETERBOROUGH PE1 1UA (tel. 0733 40345)
Miss CONNER, Winston Churchill Memorial Trust, 15 Queen's Gate Terrace, LONDON SW7 5PR (tel. 01 584 9315)

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NATIONAL WILD FLOWER WEEK, 16 - 25 MAY 1987

Think of Britain and you think of quiet country lanes, hedgerows, meadows and, above all, our beautiful wild flowers. However, in the last fifty years, 11 species of wild flowers have already disappeared in Britain and well over 300 others are dangerously close to following them. To focus attention on this very real threat to one of the most beautiful aspects of our natural heritage, The Royal Society for Nature Conservation is organizing a National Wild Flower Week for 16th - 25th May. This follows on the huge success of the first such 'week' last year.

National Wild Flower Week will take place during the RSNC's British Wildlife Appeal, which the Society launched just over a year ago specifically to raise money to help acquire land and fight to protect the endangered habitats of our dwindling wildlife.

During National Wild Flower Week events for all the family will take place throughout the country. The RSNC's 47 associated local Nature Conservation Trusts will be holding special exhibitions, school events, and guided walks, and many of Britain's most famous wild flower reserves will be opened to the public. In addition, with the support of major national commercial organizations a number of campaigns will be launched.

'Endangered Plants' Booklet
Throughout 1986, the RSNC has been gathering information on wild flowers from the 47 local Nature Conservation Trusts. This information will be used to compile an up-to-date, comprehensive survey of extinct wild flowers, to highlight the continuing damage to our environment.

Orchid Wardening Scheme 1987
National Wild Flower Week will again see the launch of a special scheme to protect Britain's rarest orchids. Wardens employed by the RSNC's local Trusts in Berkshire, Buckinghamshire, Oxfordshire, Suffolk, Cambridgeshire, Kent and Yorkshire will give round-the-clock protection to precious orchid plants during their vulnerable flowering and seeding period from May until September.

What You Can Do
Donations to support the RSNC's British Wildlife Appeal in the fight to save Britain's natural heritage, including our wild flowers, should be sent to Sir David Attenborough, Chairman, British Wildlife Appeal, 164 Vauxhall Bridge Road, London SW1V 2RB.

A programme of events in each area and copies of the special Wild Flower Week publications will be available from the Royal Society for Nature Conservation.

WAYNE TALBOT and TRINA PASKELL, RSNC, The Green Nettleham, LINCOLN, LN2 2NR (tel. 0522 752326), who can be contacted for further information.

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WATER-LILY SURVEY, 1987

As many botanists will be aware, pollution from various sources has had a major impact on our aquatic flora. Of most concern are the increasing levels of nitrates and phosphates entering our fresh-waters, the former principally from agriculture, and the latter principally from sewage.

In order to publicize these problems, CABS, with the support of RSNC, are co-ordinating a survey of water-lilies. This will be launched during National Wild Flower Week (16th-24th May), and will continue through the summer. The survey is primarily aimed at the general public, and articles will appear in various magazines.

BSBI members who wish to join in will be welcomed. Recording forms can be obtained from the address below, but please send an addressed envelope or label. All contributors will receive, if they wish, a free colour water-lily poster.

NICK STEWART, Conservation Association of Botanical Societies, 323 Norwood Road, LONDON SE24 9AQ

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THE ECOLOGY OF INSECT INTRODUCTIONS

The Entomological Club will be marking the Centenary of the 'Verrall Supper' by organizing a three day conference in 1987 on 'The Ecology of Insect Introductions'. The conference will be based at Reading University and will run from 23rd - 25th September, 1987.

Topics include: Aspects of ecology and genetics of introduced species, Biological control, Ecology of rare species and their breeding and re-introduction, Re-creation of habitats and habitat 'improvement'.
Further details will be available later but meanwhile, interested members are invited to place their names on the mailing list for further circulars by writing to either:

Prof. H.F. van EMDEN, Department of Pure and Applied Zoology, Building No. 1, Earley Gate, READING, Berks. RG6 2AT
or
Dr PAUL WHALLEY, Dept. of Entomology, British Museum (Natural History), Cromwell Road, LONDON, SW7 5BD

[Dr Whalley writes that the conference 'could do with "Botanical input" under many headings!' Ed.]

GRASSES FOR BEGINNERS

A two day course on Grasses for beginners, students and others finding difficulty in identification of this distinct family, is to be held on June 20th - 21st, 1987. The course will be non-residential but limited accommodation may be available locally for overnight stay. Both field and laboratory work will be included in the course which will be held at Bore Place, West Kent.

Dr LINDA DAVIES, Commonwork Land Trust, Bore Place, Chiddingstone, nr EDENBRIDGE, Kent, TN8 7AR (tel. (0732) 463255), who can be contacted for further information.

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OPEN DAYS AT THE RIVER LABORATORY

A series of Open Days are to be held at the Freshwater Biological Association's River Laboratory in Dorset from July 8th - 12th 1987. Special exhibits will be on display illustrating the research projects in progress. The general public are invited on July 11th and 12th. Admission free.

The Secretary, The Freshwater Biological Association, River Laboratory, East Stoke, WAREHAM, Dorset, BH20 6BB (tel. (0929) 462314), who can be contacted for further information.

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EXHIBITION OF HERBALS IN MANCHESTER

The John Rylands University Library will be mounting an exhibition of herbals in connection with the annual conference of the Pharmaceutical Society of Great Britain to be held in Manchester in September. On show will be interesting and rare illustrated herbals from the collections of early books. The exhibition will be open to the public from the 12th of September to Christmas (Monday to Friday, 10.00 am - 5.00 pm; Saturday, 10.00 am - 1.00 pm) and will be held in the Library Building on Deansgate which is close to the city centre and not to be confused with the Main University Library on Oxford Road, one and a half miles away!

Miss M.P.G. TOLFREE, 36 Finney Drive, MANCHESTER, M21 1DS

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MORE MAPS FROM THE SOIL SURVEY

Detailed soil information is a key to the alternative uses of land. The Soil Survey announces the recent publication of fifteen detailed soil maps (at a scale of 1:25,000) and their accompanying Records. Widely distributed, they give an account of the soils and land use of selected areas in the counties of Buckinghamshire, Cambridgeshire, Clwyd, Cumbria, Essex, Lincolnshire, Norfolk, Oxfordshire, Surrey, Warwickshire, Wiltshire and Yorkshire.

Mrs C.M. LAPWOOD, Publications Department, Soil Survey of England and Wales, Rothamsted Experimental Station, HARPENDEN, Herts. AL5 2JQ

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CERTIFICATE AND DIPLOMA IN FIELD BIOLOGY

Members are reminded that the University of London Certificate and Diploma in Field Biology are two and three year courses by correspondence, and with two residential summer schools of two weeks duration at a field centre.

A detailed scheme of study and application forms are available.

Miss HANNAH BOONE, Dept. of Extra-Mural Studies, University of London, 26 Russell Square, LONDON WC1 B 5DQ

COURSE ON BOTANICAL ILLUSTRATION

A residential course on Botanical Illustration has been organized by Aberystwyth Arts Centre. It will be based on the campus of the University College of Wales Aberystwyth, from May 18th-22nd 1987. The course leader will be Keith West, who is recognized as one of the leading Botanical illustrators in Britain today, and author of the book How to draw Plants (Herbert Press (1983)).

POLLY MASON, Aberystwyth Arts Centre, Penglais, ABERYSTWYTH, Dyfed SY23 3DE (tel. 0970-4277), who can be contacted for further information and booking forms.

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REQUESTS

CYRIL WEST LIBRARY

With the exception of the Local Floras all Cyril West's scientific books were left to the Botany School at Cambridge. Unfortunately they were stored in the Maidstone Museum and many were given away by mistake, particularly to members of the Kent Field Club. I am trying to record the distribution of Cyril West's effects and would be grateful if anyone who has any of this material would let me know so that I can record it. Books usually bear his very characteristic signature. In particular among the missing books are: H.W. Pugsley, 'A Prodromus of the British Hieracia' in J. Linn. Soc. (Bot) **54** (1948); F.J. Hanbury, An illustrated Monograph of the British Hieracia (1889-1898); F.N. Williams, Prodromus Florae Britannicae (1901-1911); F.H. Perring & P.D. Sell, Critical Supplement to the Atlas of the British Flora (1968); T.G. Tutin et al., Flora Europaea 4 (1976); and a set of the Botanical Exchange Club Reports. All these and particularly the Prodromus are probably annotated and would be useful to me in preparing a monograph of the British Hieracia. I am depositing my own books on Hieracia with those of Cyril West in the Botany School, Cambridge, together with all the letters he sent me over a period of 30 years. If anyone has any letters from him on **Hieracium** which they do not want, or are prepared to lend me to copy, I would be pleased to add them to the collection.

P.D. Sell, Glen Devon, Perth, 30/7/1959. N.D. Simpson (in 1926 Alvis), Cyril West Photo P.D.Sell.

P.D. SELL, Botany School, Downing Street, CAMBRIDGE

POA ANNUA L.

I am interested in the national distribution of herbicide resistance in **Poa annua**, and would be grateful if members would send me **fresh** samples in a plastic bag, together with a label noting locality, habitat and, if known, history of herbicide (especially paraquat) treatment. All postal expenses will be refunded.

Dr R. HALL, Department of Plant Sciences, University of Oxford, OXFORD OX2 8BQ

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ESCHSCHOLZIA IN TENERIFE

On a recent December visit to Tenerife, it was pleasing to find a large number of plants in flower. Many of these were endemics and were identified with the aid of Wild Flowers of the Canary Islands (1974) by Bramwell & Bramwell, while others were familiar plants of the Mediterranean. However, my wife and I were surprised to find an **Eschscholzia** species in flower (on December 16th) on a few road verges in the **Pinus canariensis** forest on the central ridge at a height of some 2100 m. It must surely be introduced, yet was in a part far from habitation and was seen nowhere else on the island. It is not mentioned by Bramwell & Bramwell; can anyone provide any more information?

ALAN SHOWLER, 12 Wedgwood Drive, Hughenden Valley, HIGH WYCOMBE, Bucks. HP14 4PA

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FLORA OF CHESHIRE

Mr A. Newton is compiling a supplement to his Flora of Cheshire (1971), which he hopes to complete in 1987. He would be pleased to hear from anyone with any interesting records made in the county since 1971.

ALAN NEWTON, 10 The Fairways, LEAMINGTON SPA, Warwickshire CV32 6PR

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ALLIUM AMPELOPRASUM L. VAR. BABINGTONII BORRER

In the 'Short Note' on **Allium ampeloprasum** in Watsonia 16(3): 335-336 (1987), the description of var. **babingtonii** mentions '...an irregular umbel having few flowers...'. This is very different from Sybil Roles' illustration in Clapham, Tutin and Warburg's Flora of the British Isles, Illustrations part IV (1965), plate 19, which shows a plant with numerous bulbils and as many flowers.

An **Allium** occurs in two sites on the Dorset coast that has always been referred to var. **babingtonii.** Last year I visited both sites and found that the plants (several hundred at one site) correspond exactly with Sibyl Roles' drawing. Moreover all the Dorset plants had persistent, two-valved spathes, whereas Clapham, Tutin and Warburg, states that **A. ampeloprasum**, and by implication, var. **babingtonii**, has a caducous, single-valved spathe.

Are the Dorset plants var. **babingtonii** and the descriptions wrong? or are the descriptions right and the Dorset specimens wrongly named?

I would be grateful if any member could throw some light on this problem.

A.H. ASTON, The Folly, Roman Road, TWYFORD, Winchester, Hants., SO21 1QW

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BSBI MONITORING SCHEME: RECORDING IN ARGYLL (V.C. 98)

It would be much appreciated if anyone holidaying in Argyll during 1987-88 and willing to do some recording, would send their records to me at the address below.

The 10 km squares for survey are: 17/80, 17/83, 26/17, 27/10, 27/13, and 27/16. For further information please contact:

B.H. THOMPSON, "Glenlussa", Ford, Lochgilphead, Argyll PA31 8RH (tel. 0546-81-234).

LETTERS

'COTTON TREE' IN LANCASHIRE

Glancing through a recent AA publication, Secret Britain, my eyes caught the heading 'Sunderland Point'. This one-time seaport on the estuary of the River Lune in Lancashire is the site of a famous Black Poplar, a female tree which tradition says was planted by the skipper of one of the ships trading between Lancaster and North America.

The author of the item in Secret Britain, however, does not agree with this tradition, for he refers to 'a 50-foot high cotton tree which must have germinated from an imported bale of cotton'!

E. MILNE-REDHEAD, Parkers, 43 Bear Street, NAYLAND, Colchester, Essex CO6 4HX

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PLANT PHOTOGRAPHY

So 'words almost fail' Mr Turner Ettlinger do they? - at his fellow photographers being called 'guilty' of getting close to the subject. Well, they quite failed me, on seeing the patch of bare mud there was in front of x **Dactyloglossum mixtum** on Noar Hill, Selborne, a few years ago; but now my tongue-strings have been loosed. One point Mr Ettlinger forgets, which applies, not only to photographers, but to all of us. Whereas, in the days of Linnaeus, you had Nature to yourself, nowadays we have the motor car and its attendant ills. It is what happens when hundreds of people kneel on the same spot, to photograph one wretched plant (far more pressure than any cow, Mr Ettlinger!) that matters. Until you have tried to warden these places, you do not realize the extent of the problem. Our fly orchids and our bee orchids get all their seedlings knelt upon, and the earth compacted, to discourage germination, and if our hybrid frog orchid had been viable, it would never have seeded itself.

The point that I think Mr Ettlinger forgets, is that we are not all such exquisite photographers as he is. I am sure there is something somewhere in the Bible, about the innocent suffering for the guilty.

LADY ANNE BREWIS, Benhams House, Benhams Lane, Blackmoor, LISS, Hampshire GU33 6BE

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Dr CYRIL WEST

The obituary of Cyril West, in Watsonia **16**(3) (1987), reminded me of my own acquaintance with this very modest and kindly man. We first met shortly after the war, in Plymouth where I was able to show him **Carduus pycnocephalus** and the pink-flowered **Silene vulgaris** var. **macrocarpa** on Plymouth Hoe, and **Eryngium campestre** at Stonehouse where John Ray saw it in 1662.

Later, when my wife and I had moved to Totnes, he was a frequent visitor and I recall his rather mischievous delight in pointing out **Epilobium lanceolatum** on a wall top adjacent to my house - I, of course, had failed to notice it! Between the late 1960's and 1977 he often stayed with a relative at Tavistock, and we used to drive over and take him for botanical tours in our car. I remember climbing down into a railway cutting near Liskeard in 1973 to secure specimens of **Erica lusitanica** which he wanted for the Cambridge herbarium, and, on another occasion, visiting Holes Hole on the River Tamar so that he could see **Geranium purpureum** again, on a stony bank where he had found it many years before.

Our last trip was in 1977 when, as I now know, Cyril was ninety. We went to the churchyard at Lamerton, near Tavistock and I wondered whether his interests had widened to include old churches, but soon discovered that the object of the trip was to see **Arenaria balearica** growing beside the churchyard path.

I well remember Cyril's invariable 'uniform' of dark suit, white scarf and grey tie, and I shall always be glad that I was privileged to enjoy his friendship and, in a small way, to contribute to his interest in the flora of this area. [See also p. 30]

E.N. MASSON PHILLIPS, Chestnut Cottage, Maudlin Road, TOTNES, Devon TQ8 5EX

BOOK NOTES

In the July 1987 part of *Watsonia*, Vol. 16(4), reviews of the following books will be included:

Biology of Plants (4th ed.), by P.H. Raven, R.H. Evert and S.E. Eichhorn.

Plant Breeding Systems, by A.J. Richards.

John Hope, 1725-1786, Scottish Botanist, by A.G. Morton.

Bracken. Ecology, land use and control technology, edited by R.J. Smith & J.A. Taylor.

European Garden Flora, Vol. 1, edited by S.M. Walters *et al.*

The Secret Life of an Oakwood, by S. Dalton & J. Bailey.

A Catalogue of the Natural History Collections in North East England, by P.S. Davis & C. Brewer.

Retkeilykasvio [Flora of Finland], 3rd ed., by L. Hämet-Ahti *et al.*

The Colour Cauldron, by S. Grierson.

The following books have been received recently. Those that will NOT be reviewed in *Watsonia* are marked with an asterisk:

**Cell Biology*, edited by B. King. Modern Views in Biology. Pp. xiv + 265, with numerous text figures. Allen & Unwin, London. 1986. Prices not stated (ISBN 0-04-574046-1, hardback; 0-04-574026-1, paperback).

**Cell Movement and Cell Behaviour*, by J.M. Lackie. Pp. xv + 316 with numerous text-figures. Allen & Unwin, London. 1986. Prices not stated (ISBN 0-04-574034-8, hardback; 0-04-574035-6, paperback).

**The Theory of Plant Breeding* (2nd ed.), by O. Mayo. Pp. xv + 340, Clarendon Press, Oxford. 1987. Prices £30.00 (ISBN 0-19-854172-4, hardback); £15.00 (ISBN 0-19-854171-6, paperback).

**Freshwater Studies*, by J.H.R. Gee. Practical Ecology Series. Pp. x + 86, with 29 text-figures. Allen & Unwin, London. 1986. Price not stated (ISBN 0-04-574024-0). This short school and college textbook on the ecology of fresh water is essentially practical. It includes keys to invertebrates, but its treatment of macrophyte zonation is very basic.

**The Botany of Mangroves*, by P.B. Tomlinson. Cambridge Tropical Biology Series. Pp. xii + 413, with 155 photographs and text figures. Cambridge University Press, Cambridge. 1986. Price £47.50 (ISBN 0-521-25567-8). Although its subject is outwith the official concern of the BSBI, I must draw members' attention to this book. Barry Tomlinson has produced an admirable definitive account of the mangrove community (composition, structure, water relations, etc.) and of its constituent species. The second half of the book comprises a detailed treatment, family by family, of each tree and shrub that is regularly or occasionally found among mangroves. His familiarity with the behaviour of these plants in the field is made abundantly clear.

**The Startling Jungle; Colour and Scent in the Romantic Garden*, by S. Lacey. Pp. xxi + 254, with 16 plates of colour photographs. Viking, Penguin Books, Harmondsworth, Middlesex. 1986. Price £12.95 (ISBN 0-670-80614-5).

**A Naturalist in Borneo*, by R.W. Shelford, edited with biographical introduction by E.B. Poulton. Pp. xxvii + 331, with 32 black & white photographs. Oxford University Press, Singapore. 1985 (reproduction of original 1916 publication). Price £4.95 (ISBN 0-19-582634-5).

A Garden of Eden. Plant Life in South-East Asia, by W. Veevers-Carter. Pp. v + 59. Oxford University Press, Singapore. 1986. Price £6.95 (ISBN 0-19-582658-2).

Protect Our Planet. An Anniversary view from the World Wildlife Fund, by P. King *et al.* Pp. 96 with numerous colour and black & white photographs. Quiller Press, London. 1986. Price £3.95 (ISBN 0-907621-78-3). This most readable booklet, about the history of biological conservation and the urgent need for it today, should be in every biologist's library. It provides in a popular form much basic data from which the case for global, biological conservation can be adduced.

The Different Forms of Flowers on Plants of the Same Species, by C. Darwin, with a new foreword by H.G. Baker.

Herbals (3rd ed.), by Agnes Arber, with introduction and annotations by W.T. Stearn.

Plants in Danger. What do we know?, by S.D. Davis *et al.*

The Botanists: a History of the Botanical Society of the British Isles through a Hundred and Fifty Years, by D.E. Allen.

Med Checklist 3, edited by W. Greuter, H.M. Burdet & G. Long.

Iconographica Palynologica Pteridophytorum Italiae, by E. Ferrarini *et al.*

The Royal Botanic Gardens, Sydney, by L. Gilbert.

Pollen and Spores, Form and Function, edited by S. Blackmore & I.K. Ferguson.

Systematic and Taxonomic Approaches in Palaeobotany, by R.A. Spicer & B.A. Thomas.

The Correspondence of Charles Darwin, Vol. 2, 1837-1843, edited by F. Burkhardt & S. Smith.

Pasture-Woodlands in Lowland Britain, by P.T. Harding & F. Rose.

Coevolution and Systematics, edited by A.R. Stone & D.L. Hawksworth.

The Cactus Primer, by A.C. Gibson & P.S. Nobel. Pp. x + 286, with numerous text-figures. Harvard University Press, London. 1986. Price £33.95 (ISBN 0-674-08990-1). This well produced book provides those interested in Cactaceae with an excellent introduction to these fascinating plants. It covers all aspects, from the general features of the plant to the evolutionary relationships in the family, in a scholarly and interesting way, and will be an almost inexhaustible source of information.

Orchids from Curtis's Botanical Magazine, edited by S. Sprunger with introduction by P. Cribb. Pp. 525, with 1176 colour plates. Cambridge University Press, Cambridge. 1986. Price £85.00 (ISBN 0-521-32595-1). This magnificent volume includes reproductions of all the paintings of orchids in 'Curtis's Botanical Magazine' from 1787 to 1948, along with bibliographical details. It is a feast for the eye and should be invaluable to the horticultural orchidologist. Phil Cribb's introduction provides a useful historical background.

N.K.B. ROBSON, Dept. of Botany, British Museum (Natural History), LONDON SW7 5BD

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NEWS FROM OUNDLE BOOKS

From now on we intend extending our service to BSBI members by operating a search for second-hand Botanical and other natural history books. If you have any particular needs please send us your list. Likewise if you have books or pamphlets, especially local Floras, you no longer require, we may buy these to pass on to other members.

We are shortly becoming computerised and hope thereby to give an efficient and prompt service.

Handbooks

Corrigenda slips for Sedges of the British Isles and Willows and Poplars of Great Britain and Ireland have been produced and are available from the address below in return for a s.a.e., marked 'Corrigenda'.

MARGARET PERRING, 24 Glapthorn Road, OUNDLE, Peterborough PE8 4JQ

[Margaret informs me that due to other commitments she may not be able to deal promptly with orders received during August; so if you have any urgent orders or queries, please try and get them off in good time. Ed.]

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EXHIBITION MEETING 1986

Following a recent decision of the Society's Publications Committee, the report of the Annual Exhibition Meeting will, in future, be published in BSBI News.

The Annual Exhibition Meeting was held in the Department of Botany, British Museum (Natural History), London, on Saturday 29th November 1986, from 12.00 to 17.00 hours. The following exhibits were shown.

REVISION OF FLORA EUROPAEA VOLUME 1

This exhibit included further new information being assembled for the revised edition of Flora Europaea Volume 1, currently being prepared at Reading University. The examples exhibited were:

Chenopodium exsuccum (C. Loscos) Uotila, a taxon recently recognized at specific rank, from Spain and Portugal.

Dicentra formosa (Haw.) Walpers, from N. America, that has become widely naturalized in N. & W. Britain.

Fumaria bracteosa Pomel and **F. munbyi** Boiss. & Reuter, N. African species that have been recorded in S. Spain.

Polygonum lanigerum R. Br., found on Crete (new to Europe) by H.J.M. Bowen in 1983 was exhibited in 1985. The present exhibit included living material.

J.R. AKEROYD

SOME NOTEWORTHY IRISH PLANTS

A number of interesting plants were found on a two week visit to Ireland in late July 1986. These included variants of **Anthyllis vulneraria** L. from coastal habitats; **Plantago major** L. subsp. **intermedia** (DC.) Arcangeli from Co. Dublin; **Fumaria officinalis** L. subsp. **wirtgenii** (Koch) Arcangeli from Co. Dublin; **F. muralis** Sonder ex Koch subsp. **boraei** (Jordan) Pugsl. var. **brittanica** Pugsl. and a glabrous variant of **Sonchus arvensis** L. from W Cork. These intraspecific variants were compared with other material of the species. Critical species in Ireland would repay study.

J.R. AKEROYD, S.L. JURY & C.J. HORA

FURTHER HAMPSHIRE RUBUS DISCOVERIES

Two 'named' species added to the **Rubus** list for v.cc. 11 and 12 in 1986 are of particular interest from a phytogeographical point of view.

Rubus boudiccae Bull & Edees, a distinctive bramble belonging to the R. **cardiophyllus** aggregate, has been known for some years in plenty on the Greensand of the south-east of the Isle of Wight (v.c. 10) in heathy woodland and scrub and in alder-willow carr. More recently, it has been encountered in several widely different parts of Hampshire, including in particular quantity on Hengistbury Head, near Christchurch. It had eluded

determination until this year, when A.L. Bull recognized it as identical with this species which he and E.S. Edees had described in 1980 from East Anglia. It has recently been detected in several places in the Midlands as well.

Remarkably, this is the second supposed East Anglian endemic in two years to have turned out to be widespread in Hampshire. It is a jolting reminder of how much still remains to be discovered about even the well-distributed **Rubus** forms in even so well-explored a region as south-eastern England.

Rubus hylocharis W.C.R. Wats. is a strongly western species characteristic of very acid woodland in high-rainfall districts (though it is also common in east Norfolk, very anomalously). Somerset is one of its strongholds and from there it trickles eastwards into the far north of Wiltshire. Such a distribution hardly promises its presence in Hampshire, but in 1986 a single bush was found in a wood at the extreme north-western tip of the county.

Herbarium specimens of the two were exhibited from the respective vice-counties concerned.

D.E. ALLEN

REYNOUTRIA HYBRIDS IN THE BRITISH ISLES

Research at Leicester over the past few years is beginning to show the extent to which taxa in the genus **Reynoutria** hybridize in this country; not only with each other, but also with the Russian Vine (**Fallopia baldschuanica/aubertii**). The exhibit featured herbarium specimens of each of these putative hybrids, plus some artificial hybrids, and a distribution map of cytologically known **R. japonica** clones and hybrids. It could be seen from this map that **R. japonica** x **R. sachalinensis** at the hexaploid level (2n=66) is of fairly widespread occurrence. The hybrid **R. japonica** var. **compacta** x **R. sachalinensis** has only been found at four localities.

Both of these hybrids may be distinguished from the normal octoploid (2n=88) **R. japonica** by their possession of much larger basal leaves with cordate leaf bases. The possession of male flowers is, in our experience, invariably good evidence of hybridity, although female hybrids may also be encountered. A hybrid name has been published for these plants, **R. x bohemica** Chrtek & Chrtkova (1983). The name **R. x vivax** Schmitz & Strank (1985), cited in BSBI Abstracts, 1986, is invalid on several counts.

The second group of hybrids is that between **Reynoutria** taxa and Russian Vine. Whilst these have as yet only been found as seed in the wild, it has been shown that such seeds are capable of surviving the winter and germinating in spring in this country. Since it is unlikely that these seedlings could survive their first winter unprotected in the wild, any reports of germinating **Reynoutria** seedlings in the wild would be of great interest to us.

J. BAILEY

VARIATION IN THE BRITISH AND IRISH SPOTTED-ORCHIDS

The two species of spotted-orchid, **Dactylorhiza fuchsii** and **D. maculata**, have different ecological preferences but show similar trends in morphological variation within the British Isles. Multivariate analyses, using data for 52 characters from 43 populations, showed that much of the variation in both species is polarized along two axes, representing vigour and degree of pigmentation. These axes reflect genetic, ecological, geographical and ontogenetic factors.

Populations of **D. fuchsii** 'subsp. **okellyi**' and 'subsp. **hebridensis**' are poorly differentiated from the type and best regarded as varieties. **D. maculata** 'subsp. **rhoumensis**', supposedly endemic to Rhum, is morphologically indistinguishable from populations elsewhere and the name is therefore superfluous.

Numerous photographs and figures illustrated the range and trends of variation in both species. Factors contributing to this variation, and the taxonomic implications of the research, were outlined.

R.M. BATEMAN & I. DENHOLM

THE GENUS OENOTHERA L. IN BRITAIN

Despite Dr K. Rostański's account in Watsonia, February 1982, difficulties are still experienced in identifying **Oenothera** in Britain. This continuing confusion is due mainly to the absence from British Floras of adequate descriptions (if any) of the third most common British species. This was named as a new species, **O. cambrica** Rostański, in 1977 after having been exhibited to the BSBI in 1975.

Herbarium sheets were exhibited of **O. erythrosepala** Borbás, **O. biennis** L. and **O. cambrica** Rostański and their hybrids (subgenus **Oenothera**); and **O. stricta** (subgenus **Raimannia**).

It was shown how specimens of **O. cambrica** differ from the published descriptions of **O. parviflora** L. and **O. ammophila** Focke (under which they were often included) in Clapham, Tutin & Warburg's Flora of the British Isles, 1st & 2nd eds, 1952 and 1962, and Excursion Flora, 2nd ed., 1968; and also, with the name changed to **O. cambrica** (but not the description) in their Excursion Flora, 3rd ed., 1981.

J.C. BOWRA

CAREX APPROPINQUATA SCHUMACH. x C. PANICULATA L. (C. x SOLSTITIALIS FIGERT), A HYBRID NEW TO IRELAND

In June 1983, **Carex** x **solstitialis** was found growing with both parents in extensive fens on the south-western shore of Lough Iron, Co. Westmeath (v.c. H23). This was the first confirmed Irish record for the hybrid - the site for an earlier record in 1971 by R.W. David at Lough Coura, Co. Offaly (v.c. H18), being since destroyed. Further stations for the hybrid in v.c. H23 have been found at Lough Makeegan (1983), Tullaghan Bog (1984), and Mount Dalton lake (1985).

Herbarium material of the hybrid from these sites was exhibited, together with material of both parents. Also on display were specimens of **C.** x **solstitialis** from Glengarry House fen and Twy Bog collected in 1986, whose identity was confirmed by A.O. Chater and R.W. David.

C. BREEN

CICENDIA FILIFORMIS (L.) DELARBRE IN E SUSSEX (v.c. 14)

Cicendia filiformis (L.) Delarbre was refound in v.c. 14, East Sussex in 1986 by P.L. Sollars and this is significant for two reasons. In Sussex, this Lusitanian plant is on the eastern limit of its distribution, but this new locality near Forest Row is 10 km further east of any previously recorded in the county. Secondly, **Cicendia filiformis** has drastically declined in Sussex since 1800 - the last sighting in v.c. 14 was in 1954 near Turner's Hill; in 1963 a single plant was seen near a pond in St Leonard's Forest in v.c. 13. On **BM** Sussex herbarium sheets **Cicendia** is recorded from Slaugham Pond in 1806, from St Leonard's Forest plentifully in 1858, and from Tilgate Forest 'in profusion' in 1843.

The good colony found by Peter Sollars in 1986, on a golf course in Ashdown Forest, was growing along 17 m of a damp, sandy track. The plants were in clusters of approx. 100 plants, many less than 5 mm tall; less than 20 were taller than 60 mm, and only one plant measured 80 mm and had 3 branches. Some plants in flower measured only 4 mm including the closed flower on a sunless day. They were in flower from July, and some were still flowering on 23rd November.

M. BRIGGS & P.L. SOLLARS

AZOLLA LAM. IN THE BRITISH ISLES

The tiny American aquatic fern **Azolla** was first recorded from the British Isles in Middlesex in 1883. It probably spread here from Europe, where it had been naturalized for nearly ten years. Initially all reports were of **A. caroliniana** Willd. Then for some decades both **A. caroliniana** and **A. filiculoides** Lam. were recorded. More recently all British material has been referred to **A. filiculoides.** Dunham and Fowler's neighbouring exhibit [see p. 39] showed that **A. caroliniana** is synonymous with **A. filiculoides** and that

another species, as yet undescribed, occurs in South-eastern U.S.A. and has been recorded in the Netherlands. It may well be found in Britain.

The spread of **A. filiculoides** throughout the British Isles has been comparatively slow compared to that in Europe and its distribution is still largely southern, with very few records from Ireland or Scotland. This species may apparently disappear from a locality only to reappear some years later. The ecological causes of this are not known.

The authors (at the Dept. of Botany, British Museum (Natural History)) will be interested to receive any fertile material of **Azolla** from both the British Isles and Europe.

J.M. CAMUS & A.M. PAUL

W. LLEYN RECORDS 1986

This season golf-links have been particularly rewarding: **Orchis morio** in thousands on Abersoch golf-links over at least 1 square km; apparently not previously recorded from here though well-known to locals. Apart from the Great Orme area, there is only one - pre 1895 - record from Caernarfonshire (v.c. 49). A single shoot of **Botrychium lunaria** on Pwllheli golf-links; prior to this, one plant was shown me in 1972 and it was reported from Porth Neigwl in c.1890. The hybrid **Cochlearia danica** x **C. officinalis** is confirmed by Tim Rich for a specimen from Aberdaron churchyard; this is the first localized record for v.c. 49. **Koeleria macrantha** seen last year for the first time in Lleyn, has now been seen in another 10 km square (Abersoch golf-links).

Among the non-native new finds in Lleyn are **Verbascum virgatum** on a ruined cottage wall, and **Aster** x **salignus** in a roadside ditch away from houses; both with only a single previous Caernarfonshire record. A preliminary survey of poplars, all planted trees, but some spreading by suckers, showed mature trees from two or three sites for **P. tremula, P. alba** and **P.** x **canadensis** var. **serotina** and more recent plantings of **P.** x **canescens, P.** x **robusta** and the Lombardy Poplar. Among the 'Balsam Poplars' are **P. candicans,** probably **P. trichocarpa,** and others as yet undetermined in the absence of catkins.

A.P. CONOLLY

LONGEVITY OF SPORES OF SOME TERRESTRIAL ISOETES SPECIES

In July 1957 small soil samples were taken from sites of **Isoetes histrix, Juncus capitatus,** etc. on the Lizard peninsula (v.c. 1). In April 1957 a soil sample was collected from a site of **Isoetes durieui** Bory near Vidauban, Var, S. France. Portions of the dry samples kept at room temperatures were placed in a mist-propogating apparatus at intervals from 1971 to 1986 and have in every case produced copious sporelings of **Isoetes,** generally within six weeks of moistening. In 1986, 5g of soil produced 126 plants of **I. histrix** (some already fertile) within six months, and 4 plants of **I. durieui** have also appeared in a few grams of 29-year-old soil. Among many other plants germinating after 14 to 29 years are **Juncus capitatus** (both from England and France) and the rare Lizard liverwort **Riccia crozalsii.**

D.E. COOMBE

CRASSULA HELMSII (T. KIRK) COCKAYNE: IS IT AN AGGRESSIVE ALIEN AQUATIC SPECIES IN BRITAIN?

This alien aquatic has rapidly increased during the last decade, reaching c. 100 sites mainly in England; these range from shallow acidic seasonal pools to small more alkaline nutrient-rich lakes. It is frequently dominant and can grow in an emergent form to a submerged form up to 1.3 m in length, to depths of c. 3 m. Plant biomass is generally high, with little seasonal cessation of growth, and the habit is frequently a dense sward growth that smothers out other plants. It is present in about six reserves and is causing concern. It is widely available from aquatic suppliers, it has an enormous potential to propogate from small fragments, and has a high growth rate. It is associated with soft sediments and possibly iron-rich areas; this is confirmed by growth trials in static water tanks. In flowing water trials, growth was even faster in water velocites up to 32

cm s^{-1} indicating its potential although no river sites are yet known. Control by physical removal, recommended, results in numerous propagules and should be combined with a secondary technique. This initial study suggests that this plant will remain a problem and caution is required to prevent its further spread, but studies of techniques for its control are needed.

F.H. DAWSON

ALOPECURUS x HAUSSKNECHTIANUS ASCHERS. & GRAEBN. IN BEDFORDSHIRE

A specimen of **Alopecurus** x **haussknechtianus** Aschers. & Graebn. from Leighton Linslade, v.c. 24 [Beds.] was exhibited, together with its putative parents **A. aequalis** Sobol. and **A. geniculatus** L. from the same site. Measurements of the anthers, awn protrusion and spikelet of the hybrid were shown to be intermediate, the anthers were indehiscent and the scarce pollen was misshapen. This is the only confirmed record for the British Isles since it was recorded by C.E. Hubbard from Appleton, W Norfolk, v.c. 28, in 1936 (K) (Stace 1975).

J.G. & C.M. DONY & P.J.O. TRIST

AZOLLA LAM. IN N.W. EUROPE

Scanning Electron Microscope examination of all known species of **Azolla** reveals characters useful in taxonomic separation. Vegetative features are of little value, apart from leaf surface trichomes; all taxa possess 2- or more - celled trichomes, except for **A. filiculoides.** Reproductive structures provide the most useful characters, particularly megaspore apparatus morphology, sporoderm sculpturing and structure.

Only **A. filiculoides** Lam. and **A. caroliniana** Willd. are recorded from N.W. Europe, the former being the more common. However, examination of type material indicates that these two species are synonymous and the name **A. caroliniana** must be rejected. Another taxon, apparently restricted to The Netherlands and often designated as **A. caroliniana,** differs from **A. filiculoides** in trichome and sporoderm features. It is unlike other described taxa and will be formally described as a new species. Present work emphasizes the importance of collecting sporulating herbarium material and the need for more detailed distributional and ecological data on N.W. European species.

D.G. DUNHAM & K. FOWLER

WEED OR WILD FLOWER? A LOOK AT SOME ARABLE WEEDS IN 1986

It is well known that arable weeds have changed status dramatically since the invention of the seed drill in 1700. More efficient weeding of crops, cleaner seed after the development of the threshing machine, and finally chemical herbicides, have all been important factors in the decline. The Nature Conservancy Council, assisted by the BSBI, are currently studying the changes in our weed flora, with the hope that a conservation strategy can be developed. Decreasing subsidies for intensive grain production may make fallow fields and unsprayed headlands a possibility again, while alternative crops may anyway use less totalitarian regimes. Photographs were shown, principally of weed species and agriculture in SE England, to illustrate aspects of these points, together with material relating to 19th Century arable practices, and some examples of relevant literature.

R. FITZGERALD

RIO MAZAN PROJECT

Series of photographs and samples from the spirit collection were exhibited to indicate the botanical side of the multi-disciplinary Rio Mazan Project. This consists of an invited team of British scientists and voluntary field workers to establish a management plan for a recently rescued cloud forest in southern Ecuador. Possibly unprecedented in

South America, this forest was saved by the local community from exploitation by a logging company.

Primary forests in montane valleys, especially in the equatorial belt, have been almost completely lost because they are by nature too small to attract attention or achieve the status required to become a National Park, even though their diversity is amongst the richest known to us, due to climatic isolation from even adjacent valleys.

The project is indebted to the generous assistance given, among many others, by the R.G.S., F.F.P.S., I.U.C.N., I.C.B.P. and the British Museum (Natural History).

V. FLEMING

UMBELLIFERAE - THE GENUS SESELI L.

Although there are 34 species of **Seseli** in Europe, only one, **S. libanotis** (L.) Koch is considered to be truly native in Britain. The genus is not well understood and is poorly represented in British herbaria. Recent collections from Europe, of 15 taxa, were displayed. In addition, living plants of the following species were exhibited: **S. peucedanoides** (Bieb.) Kos.-Pol.; **S. lehmannii** Degen; **S. vayredanum** Font Quer; **S. granatense** Willk.; **S. elatum** L. subsp. **osseum** (Crantz) P.W. Ball; **S. dichotomum** Pallas ex Bieb. and **S. globiferum** Vis. All were grown from either recent collections by the exhibitors or else from seed obtained through Botanic Gardens international seed exchange via Reading University. Cultivation of critical taxa in any family is always valuable and has proved especially useful in the case of the Umbelliferae. Several characteristics which are not normally apparent in mature plants emerge during the seedling stage. Furthermore, herbarium gatherings often fail to include the vital details, such as mature fruits, which may be necessary for accurate determination of a species. These data can be supplemented from living collections. Range extensions of several species in the genus have emerged as a result of our recent studies, although in some cases, e.g. **S. malyi** A. Kerner, the distributions are much narrower than noted in Flora Europaea.

M.F. GARDNER, S.G. KNEES & M.J. SOUTHAM

RAILWAYS AND WILDLIFE IN NORTH LONDON

In the urban area of North London, railway land is particularly important for its diversity of aspect, landform (cuttings, embankments and flats), and variety of soil types. The latter are derived from ballast, sand and other materials introduced or excavated during railway construction and maintenance. Habitats include heathland, wetland, acid and neutral grassland, and calcareous areas; giving rise to a wide range of vegetation communities.

The characteristic fenced-off strips of land following railway lines may be regarded as ecological corridors providing a continuous link between the inner city and the countryside. This makes possible the successful migration of species such as the Oxford Ragwort, which has spread into otherwise inaccessible urban areas.

The comparatively undisturbed land bordering railway lines provides refuges for plants and animals that were once widespread in the former rural suburbs of London.

The display depicted some of the notable railway sites for wildlife in North London, including: Adelaide Road Nature Reserve, Camley Street Natural Park, Gillespie Road Park, Hatchard Road Site, Farkland Walk, and Railway Field.

M. HALE

DOCUMENTATION OF PLANT COLLECTIONS

There is an increasing awareness of the need to give better documentation of plant specimens, both in herbaria and in living collections. The advent of word-processors has resulted in the efficient generation of labels and easy storage of information. However, this can only be done if data is recorded at the time of collection in a field note-book: memory cannot be relied on. Examples of several methods of recording data in the field in

note-books were presented, as well as an annotated model label lay-out and supplementary maps for marking the locality.

S.L. JURY

GYNODIOECY AND POLLINATION IN SERRATULA TINCTORIA L.

Although Thomas Smith clearly described gynodioecy in **Serratula tinctoria** as early as 1822, recent British Floras state that it is dioecious or subdioecious. Observation of several populations in southern Britain from 1984 to 1986 showed that they were gynodioecious. The overall proportion of females was 50.1% in five populations in South Wales (n = 655) and 54.9% in three chalkland populations in southern England (n = 452). Females set more seeds per capitulum (the overall mean was 17.9, compared with 14.3 for hermaphrodites) and seeds set by females were heavier (3.21 mg, compared with 2.46 mg in hermaphrodites). The offspring of hermaphrodites are nearly all hermaphrodite (146 hermaphrodites and 2 females in 17 progenies) but the females produce varying proportions of females and hermaphrodites among their offspring (86 females and 37 hermaphrodites in 7 progenies). Hermaphrodite capitula were about twice as attractive to pollinators as female capitula (hermaphrodite capitula received 7.15 visits per hour, female capitula 3.15 visits per hour, during two 3-hour 4 x 4 array comparisons).

Q.O.N. KAY

NEW RECORDS OF HAWKWEEDS FROM S.W. SCOTLAND

The exhibit showed some specimens collected during the recent Galloway field meeting, which was aimed at little-worked areas of v.cc. 73 and 74. At least 16 species of hawkweed were seen in the three days, of which eight proved to be new vice-county records: **H. centripetale** (v.c. 73), **H. dasythrix** (v.c. 73), **H. ampliatum** (v.c. 73), **H. langwellense** (v.c. 73), **H. sommerfeltii** (v.c. 74), **H. lissolepium** (v.c. 74), **H. latobrigorum** (v.c. 74) and **H. subcrocatum** (v.c. 74).

D.J. McCOSH & J. BEVAN

THE GUERNSEY BAILIWICK 1986: SOME RECORDS

Guernsey: **Coronilla varia** (new to the Channel Islands); **Ammi majus** (previous records 1888 and 1968); **Solanum physalifolium** var. **nitidbaccatum** (new island record); **Veronica officinalis** (1st record this century); **Lamium album** (new island record); **Viburnum lantana** (new to Channel Islands); **Juncus bulbosus** (2nd record this century); **Orchis morio** (1st record for 60 years); **Lemna minuscula** (new to the bailiwick); x **Festulolium loliaceum** (previous records 1790 and 1851); **Bromus rigidus** (previously only 1949).

Alderney: **Crassula helmsii** (new to the bailiwick); **Allium subhirsutum** (misnamed earlier as **A. neapolitanum**).

Sark: **Montia sibirica** (new island record); **Euphorbia exigua** (last seen 1930); **Muscari neglectum** (new island record; seen also in Guernsey); **Avena sativa** (new island record); **Polypogon viridis** (new island record).

Herm: **Taraxacum atactum** and **T. polyodon** (new island records).

J. PAGE

SOME SURREY SALIX HYBRIDS

The aim of the exhibit was to indicate that progress has been made towards determining the present status of **Salix** hybrids in v.c. 17.

Herbarium specimens of ten hybrids were displayed, together with the species involved in the various crosses. Examples of hybridity between native species included **S. aurita** x **S. cinerea** subsp. **oleifolia** and **S. caprea** x **S. cinerea** subsp. **oleifolia**. The Osiers (probably not native) have produced many interesting intermediates. The following were

among those exhibited: **S. triandra** x **S. viminalis**, **S. purpurea** x **S. viminalis** and **S.** x **forbyana** (**S. cinerea** x **S. purpurea** x **S. viminalis**). Also included was **S. alba** x **S. fragilis** which may be the most widespread willow hybrid in the area.

K. PAGE

A FLORISTIC DATABASE FOR BRITAIN

Computer programs already exist which will make keys, help to identify specimens, and write descriptions. We have sets of data which deal with genera or families, e.g. grasses. Why not extend this to include all the British flora? One problem with this is the choice of characters. A pilot database has been prepared with 50 widely differing species and over 300 characters, chosen initially to cover the important taxonomic characters.

R.J. PANKHURST

STUDIES ON POLYGONUM AROUND LOUGH NEAGH, IRELAND

This work looked at the populations of **Polygonum mite** Schrank and related species in Sect. **Persicaria,** which grow along the shores of Lough Neagh. Previous observations had suggested the presence of a complex hybrid swarm between **P. mite** , **P. minus** Huds., **P. hydropiper** L. and **P. persicaria** L. We decided to study these populations using Principal Components Analysis, to determine the likely presence of intermediates.

Our initial observations showed the occurrence of **P. mite, P. minus** and **P. hydropiper,** and suggested the presence of intermediates between **P. mite** and **P. minus.** Principal Components Analysis confirmed our preliminary findings. Plants with the characters of **P. mite** made up the largest group of points on a scatter diagram of the analysis, with smaller groups corresponding to **P. minus** and **P. hydropiper.** However points occurred which were intermediate between the **mite** and **minus** groups. Therefore hybridization may well occur between these two species. The work is continuing, with detailed examination of these intermediate plants.

J.A.N. PARNELL & D.A. SIMPSON

DISTRIBUTION OF SALICORNIA SPECIES IN THE BRITISH ISLES

In the Atlas of the British Flora (1962) it was only possible to map the two most distinctive species of **Salicornia, S. perennis** and **S. pusilla.** Since then, sufficient information has accumulated to make it possible to produce provisional maps of the other taxa which are generally recognized in the British Isles. Distribution maps were exhibited of the diploid annual species **S. europaea, S. pusilla** and **S. ramosissima,** of the tetraploid annuals **S. dolichostachya, S. fragilis** and **S. nitens** and of the perennial **S. perennis** (often placed in a separate genus). Records of **Salicornia** were requested, as our knowledge of the distribution of the species is still patchy.

C.D. PRESTON

SCANNING ELECTRON MICROGRAPHS OF CAREX LEAF SURFACES

Carex species appear at first sight rather uniform in their vegetative parts. However their leaves vary greatly in detailed anatomy and surface ornamentation. Micrographs were exhibited of critical-point dried fresh material of eight species. **C. ericetorum** is similar to **C. caryophyllea** but has thicker leaves, rather rougher on the upper surface and more strongly toothed at the margin. **C. pilulifera** has numerous characteristic small forward-pointing scale-like spines on the upperside. **C. montana** has sparse slender appressed hairs scattered among the mamillate cells of the upper epidermis. **C. hirta** is predictably distinctive, but like the preceding species has stomata only on the underside. **C. curta** has numerous stomata in the rough epidermis of both surfaces. Of three aquatic species, **C. rostrata** and **C. lasiocarpa** both have very large air spaces in the leaves; **C. rostrata** has most of its stomata on the papillose upper surface, but those of

C. lasiocarpa are confined to the smooth lower surface. **C. limosa** has narrow sharply keeled leaves, covered on the upperside with prominent sharp papillae, and with stomata in rows between the finger-like papillae on the lower surface.

M.C.F. & M.E. PROCTOR

THE CARMARTHENSHIRE FLORA DATABASE: A COMPUTER DATA STORAGE AND RETRIEVAL SYSTEM ADAPTABLE FOR ANY HOME-BASED VICE-COUNTY RECORDER

An enhanced version of the Carmarthenshire Flora Database, written to run on BBC microcomputers, was demonstrated. The database as set up comprises only two floppy discs, enabling online storage of the records for all of Carmarthenshire's 698 tetrads. When inputting, the program displays a series of screens of species lists, based on the BRC's field card. Plants recorded are selected with the cursor and date, status and habitat information is appended to each using only three keystrokes. Interrogation enables, for example: the plotting of a distribution map of tetrads in which a selected species or group of species occurs by date, status or habitat; the combination of tetrads to create a list of species occurring in a 10 km square; to list species occurring in, for example, less than three tetrads; or an English translation of a species list.

S. RHODES & R.D. PRYCE

JOHANN JACOB DILLENIUS (1684-1747)

Johann Jacob Dillenius is one of the most celebrated botanists of the 18th century and an important figure in the history of British botany.

He was born at Darmstadt in Germany, and was educated at the University of Giessen, in Upper Hesse. His outstanding botanical work established Dillenius as a first rate botanist and resulted in correspondence with many leading European botanists including William Sherard (1658-1728), who persuaded Dillenius to come to London.

During his distinguished career Dillenius wrote and illustrated many works, including Catalogus Plantarum sponte circa Gissam nascentium (1718), a new edition of John Ray's Synopsis methodica stirpium Britannicarum (1724), and Hortus Elthamensis (1732). In 1734 Dillenius became the first Sherardian Professor of Botany at Oxford, and it was during this time that he completed his greatest work, Historia Muscorum (1742).

Dillenius died on 2nd April 1747 and was buried at St Peter's-in-the-East, Oxford. He left extensive collections of manuscripts and drawings, many of which are now in the Botany Library of the British Museum (Natural History).

N. ROUND

ABISKO - ITS FLORA AND FACILITIES

The Abisko area of Swedish Lapland has a remarkably rich flora. Thus within the 75 square kilometre national park area are recorded about 160 Hepatic species, 365 Moss species, and 530 Vascular plant species (c. 90 probably introduced). The lichen flora is not well known but is thought to number c. 750 species.

Within this general area are the only Swedish localities for **Silene furcata** subsp. **angustifolia, Ranunculus sulphureus** and **Platanthera obtusata** subsp. **oligantha.** The last named is Northern Europe's rarest orchid. A careful survey this year has shown that the populations are larger than previously believed, with c. 1,500 plants scattered over a small area on the slopes of Mt Nuolja and the fens beneath.

The richness of this area has long been appreciated and the first scientific research station was established in 1903. Since 1935 the research station has been run by the Swedish Royal Academy of Science and continues to provide a marvellous base for scientific study. It is well equipped, with easy access by train, air and (since 1983) road. The flora, fauna, geology and meterology are all well documented. For these reasons the

station is popular with researchers in many fields and from many countries, this promoting useful inter-disciplinary discussion.

F.J. RUMSEY

BEDFORDSHIRE DANDELIONS

Dandelions have been studied in Bedfordshire (v.c. 30) since 1982, 69 species having been recorded. Thirteen specimens were exhibited, showing some of the commoner as well as more interesting species from the six groups currently recognised. These included a new British species, **Taraxacum diastematicum** Marklund found by AJR in 1983 in a wet meadow where it would appear to be native; and the very rare **T. palustre** L., collected by CMD in 1986 in another wet meadow adjacent to the site (which was ploughed in 1953) where the species was originally found by J.C. Dony in 1945.

A.J. RUNDLE & C.M. DONY

SUFFOLK ORCHID SURVEY

Of the 29 species of Orchid that have been found in Suffolk, seven are already extinct and another eleven are rare. Seven hybrids have been found of which one is probably extinct and another three considered rare. This leaves eleven species and three hybrids which occur commonly in the County.

Loss of suitable habitat is rapidly decreasing the numbers of even these 'common' species and continual monitoring is needed to assess changes in their distribution and frequency. The Suffolk Orchid Survey is run by the Suffolk Biological Records Centre. The aim is to collect as much up-to-date information on all the Suffolk species as possible. After one year of the survey, a provisional atlas at tetrad level has been produced; this contains all past and recent records and should be a stimulus to recorders to fill in the gaps and to update old records.

M.N. SANDFORD

BSBI ARABLE WEED SURVEY, 1986 - 1987

The growing concern regarding the rapid disappearance of once common broad-leaved annual weed species of cultivation gave rise to this survey. The aims were outlined, together with a brief summary of the results to date (November, 1986): 656 records received from 146 10 km squares.

Maps were displayed to show: the distribution of the records received; and the distribution, as taken from the Atlas of the British Flora (1962), for the most common of the species in the survey, namely **Euphorbia exigua, Kickxia elatine** and **K. spuria.** Comparison demonstrates the need for new ground to be covered in 1987.

Some sites have emerged as having conservation potential - the Nature Conservancy Council is drawing up proposals to safeguard some of these. Work in progress and future requirements for arable weed conservation were indicated.

A. SMITH

DID MERTENSIA MARITIMA (L.) S.F. GRAY EVER OCCUR IN THE SOUTHERN BRITISH ISLES?

The distribution of **Mertensia maritima** (L.) S.F. Gray is known to have extended further southwards in the past. This exhibit discussed twelve records of occurrences to the south of the generally accepted southern range of the plant, in Kent, Hampshire, Devon, Cornwall, Jersey, West Wales, Co. Kerry and Co. Clare, and discussed the likelihood of its having occurred there.

Although the documentation on each record is by no means conclusive, the possibility of the occurrence of Oyster Plant in some of these areas cannot be ruled out. The exhibit arose out of a study of the past and present distribution of **Mertensia maritima** being

undertaken by Dr R. Randall and the author to assess its current status and reasons for its past decline.

N.F. STEWART

NEW RECORDS FOR V.C. 73

The following were recorded in 1986: **Hirschfeldia incana, Descurainia flexuosa, Cardaria draba, Erucastrum gallicum** and **Fumaria capreolata** (first record since 1930). The first record of **Plantago major** L. subsp. **intermedia** (DC.) Arcangeli in v.c 73 was from a saltmarsh at Port Mary.

Artemisia stelleriana, first recorded at Southwick Merse, is increasing on the Solway. Two further sites were found in Kirkcudbrightshire and two in Cumbria in 1986.

Juncus subulatus appeared on reclaimed land at Grangemouth; first found by Nick Stewart in 1983. The exhibit showed the present status of the plant; that it had increased in size in the three years since its discovery.

O.M. STEWART

GALEOBDOLON ARGENTATUM SMEJKAL AND OTHER YELLOW ARCHANGELS IN SCOTLAND

Members of the genus **Galeobdolon** are generally acknowledged to be introduced in Scotland, although some populations are known to have existed since the mid-19th century. These belong to **G. luteum** subsp. **montanum** and occur usually in old estate policies, as both ordinary and variegated forms. A variegated form of **G. luteum** subsp. **luteum** occurs in two localities in Kirkcudbrightshire (v.c. 73). Of later introduction is a recently described species, **G. argentatum,** which is rapidly becoming frequent as a garden outcast. Living and herbarium material of the three taxa was exhibited, also colour photographs showing **G. argentatum** in a Dunbartonshire (v.c. 99) wood.

A.McG. STIRLING & A. RUTHERFORD

FLORA OF DIEGO GARCIA, BRITISH INDIAN OCEAN TERRITORY

Diego Garcia is the largest and southernmost of the atolls which, with some 50-odd other islands, form the Chagos Archipelago. It lies approximately 7° 20' South 72° 27' East and has a continuous land rim of some 60 km enclosing a lagoon some 21 km long and up to 11 km wide. The land area is 30 sq km (6,720 acres or about 10.5 sq miles). The island is heavily vegetated and annual rainfall averages just over 2600 mm (102 inches).

The annotated check-list of the flora records 65 species more than the last survey nearly 20 years ago. A total of over 180 species were reported, together with notes on distribution and ecology.

J.M.W. TOPP

ACID RAIN EFFECTS ON THE CORNISH FLORA

A species-by-species comparison of two detailed Cornish Floras published in 1909 and 1980 shows a particular and significant decline of calcicolous species. Soil acidification by atmospheric pollutants may be the main cause in non-agricultural habitats.

The proportion of native calcicoles which have declined is more than double that among native species in general. Acidophiles show an opposite trend. Cornwall has mainly base-poor soils, vulnerable to acidification, with a few well defined base-rich areas. The calcicole decline affects both agricultural weeds and the plants of the least disturbed base-poor habitats. It cannot be explained simply as an artefact of calcicole rarity in Cornwall, and it has not affected base-rich habitats.

The data also shows a significant pattern of gain of species found in two very nutrient-poor calcareous habitats - sand dunes and mortared walls. Pollutant nitrogen oxides may be the cause of this change.

N.J.C. TREGENZA

A REMARKABLE VARIANT OF BIDENS CERNUA L.

During a holiday in Connemara, W. Ireland, with Prof. D.A. Webb, SMW and he found a population of a **Bidens** with very handsome, bright yellow capitula. This remarkable plant proved to be the radiate variant of **Bidens cernua** L., the typical plant of which has relatively inconspicuous greenish-yellow capitula with no ray-florets. The plant was growing in a marsh by the coast road at Ardnagreevagh, near Renvyle Castle (L 66/64).

The difference between the two variants is so impressive that Linnaeus treated the radiate one as generically different from the familiar **Bidens cernua** L., calling it **Coreopsis bidens**! In 19th century Floras, the taxon was related to **Bidens cernua** as it became apparent that individuals or small populations of the radiate variant recur sporadically throughout the range of the species, at least in W. Europe. It is now generally recognised as **Bidens cernua** var. **radiata** DC.

Good photographs of this plant are given (in black and white) in Hegi's Illustrierte Flora von Mittel-Europa, ed. 2, 1979 VI: 3, 234; and (in colour) in Petch & Swann's Flora of Norfolk (1968), pl. 80.

S.M. WALTERS

HOLCUS MOLLIS L. IN W. IRELAND

Holcus mollis is such a common grass over much of the British Isles that British botanists may not be familiar with the fact that there are two areas in which the species seems to be rather rare. The dot-map in the Atlas of the British Flora shows these areas quite well. One is the area around Cambridge, where **H. mollis** is a local grass of boulder-clay woods only; the other is the West of Ireland! Webb and Scannell, in their Flora of Connemara and the Burren (1983) say the grass is 'very rare', and not unreasonably treat as 'needing verification' most of the field records made in the preparation of the Atlas.

During a holiday in Connemara this year, SMW recorded (and D.A. Webb verified) a small population of **Holcus mollis** in woodland in the grounds of Curreravagh House hotel, by Lough Corrib, in 'District 8' of the Flora. It seems possible, therefore, that some field records made during the Atlas preparation are, after all, correct. Planted or semi-planted woodland in 'gentleman's seats' in W. Ireland would be the place to look, and the search for authentic records of **Holcus mollis** in Connemara and the Burren is recommended to sharp-eyed holiday visitors. Specimens, please, to Prof. D.A. Webb, Trinity College, Dublin 2!

The statement in the Flora of Connemara and the Burren, incidentally, that the hybrid between **H. lanatus** and **H. mollis** is 'known from the Continent, but not so far from the British Isles' is quite erroneous. Details of studies by Jones (1958), Jones & Carroll (1962) and Beddows (1971) are given in Stace (1975) Hybridization and the Flora of the British Isles. There are three authenticated records of the hybrid in Britain from v.cc. 26, 46 & 83 - in other words from England, Wales and Scotland. So a record from Ireland is not surprising.

S.M. WALTERS

THE GAME CONSERVANCY'S CEREALS AND GAMEBIRDS RESEARCH PROJECT: THE ARABLE WEEDS OF A HAMPSHIRE FARM

The Game Conservancy set up the Cereals and Gamebirds Research Project in 1982, in order to investigate and reverse the decline in farmland Partridge populations over recent years. The scope of the project has broadened since, and in response to a growing concern about the future of the associate plant species of arable crops, work was started in 1986 to study the implications of the project for botanical conservation. This work is to be expanded and intensified during the next few years. One of the main aspects of the project

is the exclusion of broad spectrum herbicides from arable field headlands, and surveys have been carried out on several farms to determine the effects of this on weed floras. Many interesting and rare species have turned up, especially on the main Hampshire study site, where noteworthy discoveries have included good populations of **Scandix pecten-veneris** and **Galeopsis angustifolia.**

P. WILSON

The following also exhibited:
M. BRIGGS. **Carex vesicaria** L. as shoe-hay in Lapland. [Note coming in BSBI News **46**]
The late Mary McCallum Webster's annotated copy of Atlas of the British Flora.
A.C.S. COLSTON. Small-leaved Lime in Hampshire.
S. EVERETT. Research on rare plants.
Mrs A.N. GIBBY. Botanical postage stamps.
F.N. HEPPER. Rev. William Wood: an 18th century Leeds Botanist.
V.H. JOHNSTONE. Photographs of British wild flowers.
S. JONES. Wild flowers from Dumfries and Galloway.
S.L. JURY. The herbarium of the late Ted Wallace. [see p. 13]
S.L.M. KARLEY. 'Help!'
S.L.M. KARLEY & E.G. PHILP. British Plant Gall Society.
T.C.G. RICH. The BSBI Monitoring Scheme. [see p. 9]
F. ROSE. **Cephalanthera rubra** (L.) Rich in Hampshire.
Mrs O. STEWART. Flower paintings.
H.S. THOMPSON. 'Weeds, weeds, weeds!'
Miss J. TUBBS. Exploring flora with a camera.

In the lecture-hall, the following members gave short talks illustrated by colour slides:
J.C. BOWRA. **Oenothera** - the common British species.
R.M. BURTON. Hazards of Alpine botany.
A.P. CONOLLY. A.G.M. Excursion 1986.
V. FLEMING. Rio Mazan, a high Andean Valley in Ecuador.
F.H. PERRING. Dodecanese delights.
T.C.G. RICH. BSBI Monitoring Scheme.

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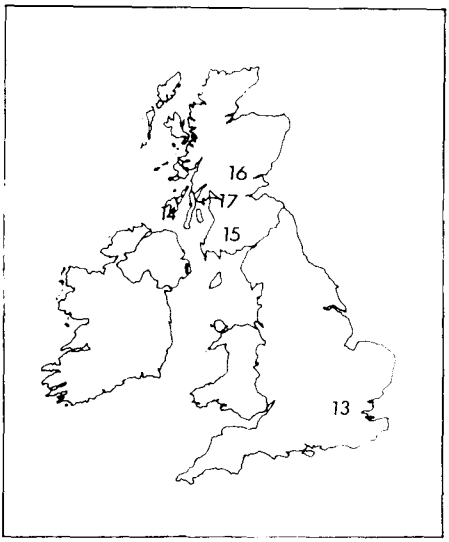
FIELD MEETINGS, 1985

The map shows the approximate locations of the field meetings reported below only.



ENGLAND

13. ROTHAMSTED EXPERIMENTAL STATION. 21ST JULY

Conflicts of interest between agriculturalists and botanists were temporarily reconciled during this half-day visit by members of BSBI and the Hertfordshire Natural History Society to Rothamsted Experimental Station, the oldest and largest agricultural research institute in the U.K.

After a brief introduction, the party proceeded to survey two of the Rothamsted 'Classical' Experiments - long-term studies of the effect on crop yield of inorganic compounds that were set up in the mid-19th century and have remained essentially unchanged since that time. The Park Grass experiment, laid down in 1856, demonstrates very strikingly how continued manuring with different combinations of fertilizers affects both the botanical diversity and yield of well-established grassland, whilst the Broadbalk Winter Wheat experiment, dating from 1844, is sited in what has a claim to be the most famous field in the world. On this day, however, the subtleties of factors influencing wheat development were largely overlooked in favour of the profusion of weeds in one small area never treated with herbicides. These plots retain such declining or rare species as **Lithospermum arvense, Scandix pecten-veneris, Ranunculus arvensis** (the latter two in abundance), and **Galium tricornutum** in possibly its only remaining reliable locality in the British Isles.

The leader thanks Mr J. McEwen for permitting access to the sites and Miss Joan Thurston for information and entertaining guidance on the day.

I. DENHOLM

SCOTLAND

14. ISLAY. 22ND-28TH JUNE

A party of ten BSBI members travelled to Islay on the 22nd June with two main objectives - to localize by 10 km squares as much as possible of Morton's 1959 Flora and to visit as many of the island's varied habitats. As a result the selection of sites and areas to be visited involved all of the fourteen 10 km squares and included dunes and saltmarshes, bogs and fens, coastal cliffs, maritime vegetation and coastal meadows, limestone grasslands and native broad-leaved woodland.

Of the 800 or so species recorded by Morton, 515 were located during the week and comprehensive distributions recorded for most of the commoner species. Although many well-known botanical areas were visited, by splitting the party into small groups, good lists (including many less common species) were compiled for all squares including the moorlands of the Mull of Oa and the woodlands of the south-east of the island.

In the south Rhinns the colony of **Eryngium maritimum** described by Morton was relocated together with a colony of **Mertensia maritima**, a plant not recorded by him. The dune grasslands were rich in orchids with **Coeloglossum viride, Dactylorhiza incarnata, D. ericetorum** and **D. purpurella.**

Several stands of **Cirsium dissectum** were located and described, confirming Islay as the Scottish stronghold for this southern and western species. Islay's ecological affinity with the south and west of Ireland was also seen at the hyperoceanic bog of Glac na Criche near Sanaig. Here a typically Irish peatland community dominated by **Schoenus nigricans** (rather than **Eriophorum** spp.) was seen with **Melampyrum pratense** growing amongst **Sphagnum magellanicum** hummocks. **Drosera rotundifolia, D. intermedia** and **D. anglica** occurred and **Sphagnum imbricatum** was common.

Perhaps the most spectacular find of the week was in the Ballgrant valley between Bridgend and Port Askaig. Here an area of limestone pavement and base-rich flushes and seepages held an outstanding eleven species of orchids: **Listera ovata, Coeloglossum viride, Gymnadenia conopsea, Pseudorchis albida, Platanthera bifolia, Orchis mascula, Dactylorhiza fuchsii, D. purpurella, D. maculata, D. incarnata** and **D. maculata** x **D. purpurella.** Also in this area was **Botrychium lunaria** as well as **Eriophorum latifolium** and **Carex diandra.** This area has been brought to the attention of the Nature Conservancy Council.

Despite some indifferent weather, the week was productive and of great value to the

provisional flora in preparation. Accommodation at Gruinart Guesthouse was first-class, providing good food, hospitality and facilities to work on specimens during the evenings.

E. BIGNAL

15. DUMFRIESSHIRE. 29TH JUNE

This one day joint Field Meeting allowed morning and afternoon visits to two contrasting habitats. By kind permission of the owner of Jericho Private Fishing Loch, the Dumfries Support Group of the Scottish Wildlife Trust met members of the BSBI to spend a day together. The botanical interest lay in this artificially shaped hole which had filled with water and which has been invaded by plants over the last five years. The water's edge was becoming colonized by **Alisma plantago-aquatica, Ranunculus aquatilis, Sparganium erectum, S. minimum,** common **Glyceria fluitans** and some **G. declinata.** The commonest large grass was **Phalaris arundinacea** but a patch of Reed Sweet-grass (**Glyceria maxima**), was also found.

As an outworked sand and gravel quarry, the restoration of a derelict industry to a peaceful scene has given us a loch with two sides that are different. The E was low lying with a good show of riverside plants and grasses like those at the nearby Lochar Water. In fact, almost every one of the 50 commonest plants might be there. On the steeper W side the ground was not completely colonized, and here grew botanical delights. Small Cudweed (**Filago minima**) was in 'splendid heart' as were **Ornithopus perpusillus,** blue **Jasione montana,** Sheep's Sorrel (**Rumex acetosella**), Annual Knawel (**Scleranthus annuus**), and both Hair Grasses, **Aira praecox** and **A. caryophyllea. Viola arvensis** had also found a niche, and another plant, hardly in flower, was **Solidago virgaurea.**

After partaking of lunch in the ample parking area, beside **Carex muricata** subsp. **lamprocarpa,** the party of ten botanists which included members of the WFS and eleven members of the Wildlife Trust, set off for Shaw Wood near Moniaive. The land owner of Maxwelton House Estates gave encouragement and permission for this visit. This is an extensive wood, planted on a morainic topography and sloping south-westwards down to the Cairn Water. By the amount of shade cast, and the size of Oak, Beech, Horse-chestnut and Sycamore, this was certainly an old wood. The conifer species were mainly Norway Spruce and remarkably tall Douglas Fir. There had been Garlic under this thick canopy and a covering of Bluebells was passing. A report was made of Beech Fern (**Phegopteris connectilis**) having been seen, though quite the commonest fern in the wood was the Broad Buckler-fern (**Dryopteris dilatata**).

An informed member of the group led us into a filled up kettlehole. No sun penetrated this gloomy glade with Sedges on the wetter side, changing over to **Sphagnum** and tussocks of Hair Moss where it was drier. The place was special and perhaps a little eerie. A clump of the less common Narrow Buckler-fern (**Dryopteris carthusiana**) displayed itself to perfection and two other plants were **Galium uliginosum** and **Corydalis claviculata.** Only a few of the party found their way to the marshy edge of a pond and reported **Scutellaria galericulata** and **Apium inundatum.** So ended an enjoyable and happy Field Meeting.

M.E.R. MARTIN

16. CREAG MHOR. 14TH JULY

A joint field meeting of the BSBI and the Perthshire Society of Natural Science was held at Creag Mhor approached from Glen Lochay, by kind permission of Mr Ian Stewart (Ben Challum Ltd.). Eleven members and friends attended on a cool but mostly dry day.

By using the very adequate Hydro-Electric track the walk-in distance was halved, and we soon ascended to the large south-east corrie. The rich mica-schist rocks were examined in some detail and the usual species of this habitat were noted: **Carex atrata, C. capillaris, C. saxatilis, C. vaginata, Cerastium alpinum, Cystopteris fragilis, Draba incana, Dryas octopetala, Juncus castaneus, J. triglumis, Poa alpina, Salix arbuscula, S. myrsinites, S. reticulata, Saxifraga nivalis, S. oppositifolia,** Silene acaulis, and **Thalictrum alpinum.**
Of particular note were **Dryopteris expansa, Bartsia alpina** and **Woodsia alpina,** the latter in several sites.

R.E. THOMAS

17. GLASGOW PIT BINGS. 17TH AUGUST

Fourteen participants recorded plants of bings (coal spoil heaps) in the southeast of the Flora of Glasgow 'rectangle', v.c. 77 (Lanarkshire). First to be visited was the large bing at Dalton (65T68) where **Hieracium flagellare** was demonstrated. **Epipactis helleborine** and **Pyrola minor** grow under mature birches on the west-facing slopes of the bing. Next to be visited was the spread of mining debris on the east-facing banks of the Clyde at Blantyre Priory, opposite Bothwell Castle (65T88); here again was **Pyrola minor,** this time in some profusion.

In the afternoon the main site was the large bing at Newton (66T60) where there were large amounts of **Poa compressa** virtually unaccompanied on flat areas. The day ended with brief recording on arable fields at Newton Farm (66T60) which produced **Lamium moluccellifolium,** seldom seen around Glasgow.

J.H. DICKSON

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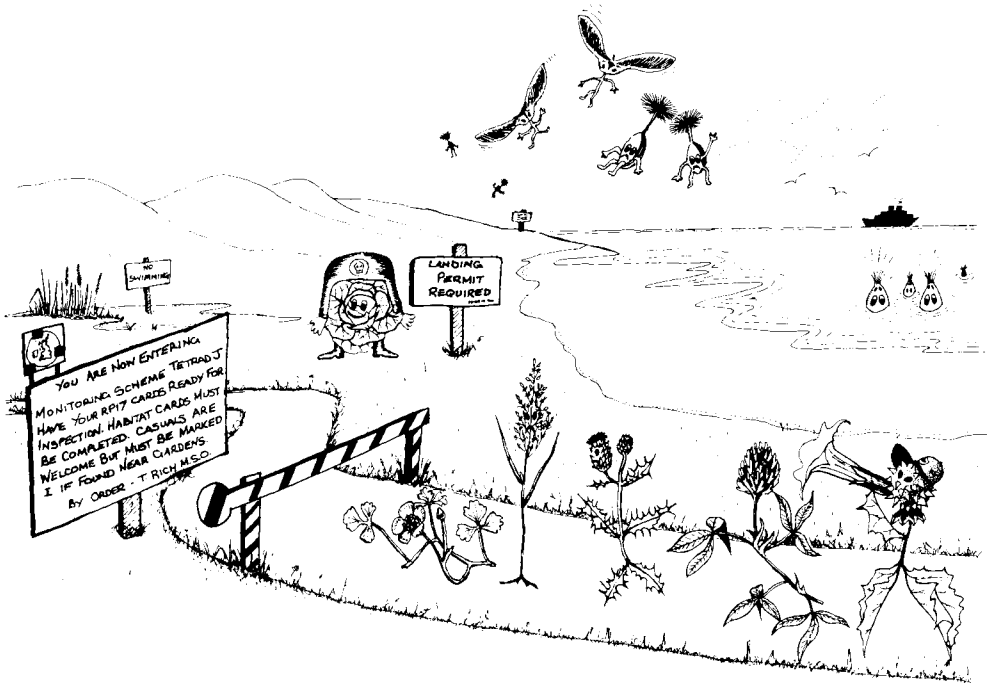

With thanks to the artist Howell Reynolds and due acknowledgement to S.P. Garland and the Biological Curators Group.

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A number of interesting notes have had to be held over until the next issue; I apologise to the authors and artists concerned. Ed.

Contents (continued from back cover)

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