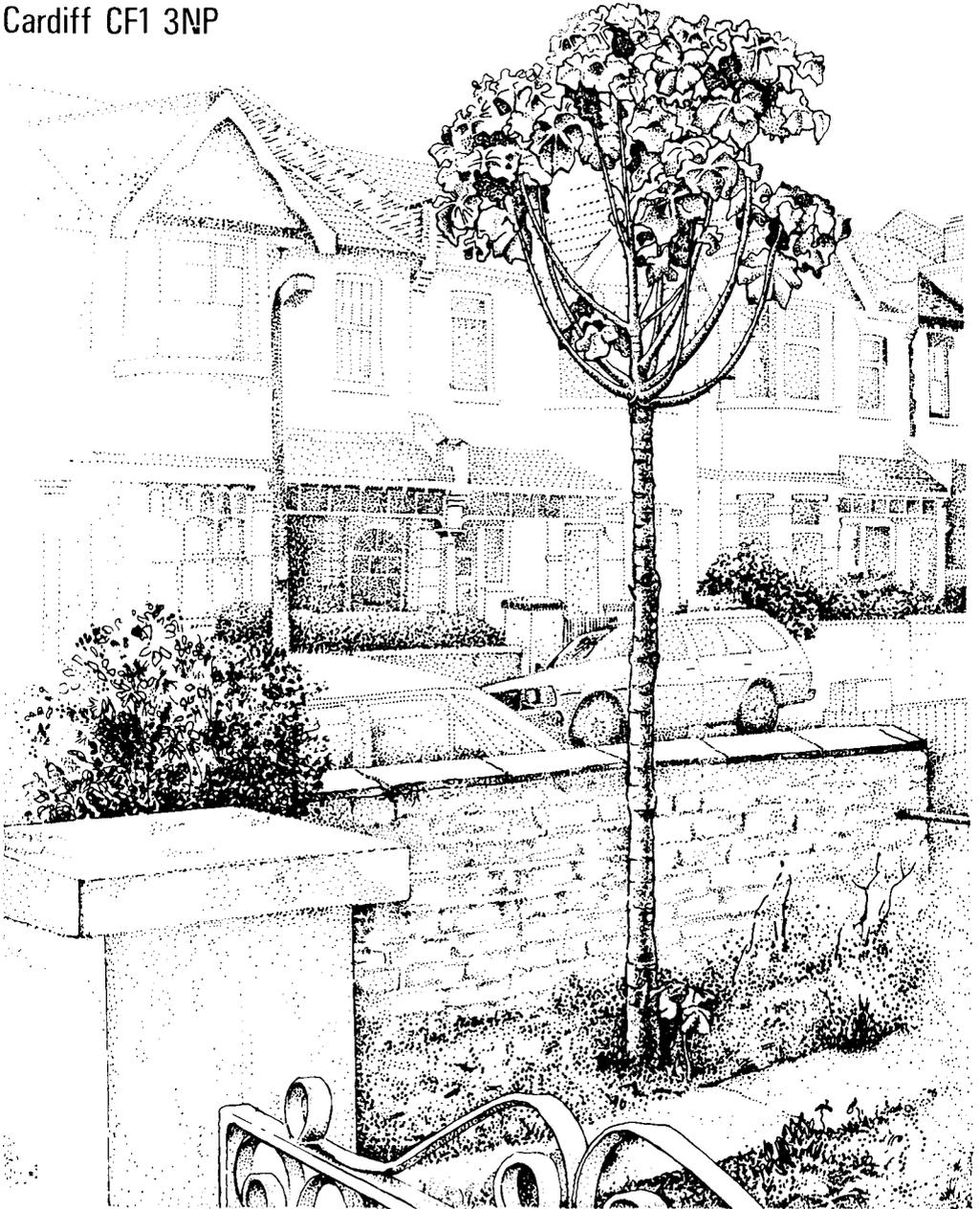


Edited by R.Gwynn Ellis

No.57

Dept. of Botany, National Museum of Wales

Cardiff CF1 3NP



*Lavatera arborea* L. in Brian Wurzell's garden, del. Laura Andrew © 1991

ADMINISTRATION

HON. GENERAL SECRETARY (General Enquiries) Mrs Mary Briggs, M.B.E.,  
9 Arun Prospect, PULBOROUGH, West Sussex RH20 1AL

HON. TREASURER (Payment of Subscriptions and change of address) Mr Michael Walpole,  
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).

HON. FIELD SECRETARY (Enquiries on Field Meetings) Mrs Elinor Wiltshire,  
62 Carroll House, Craven Terrace, LONDON W2 3PR

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CONTRIBUTIONS INTENDED FOR

BSBI NEWS 58

should reach the Editor before

28th JULY 1991

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PETER MACPHERSON : OUR NEW PRESIDENT

It has been the tradition that, as far as possible, the Presidency of the BSBI should alternate between prominent professional and amateur botanists. It is therefore fitting that the successor to Professor David Webb should be Dr Peter Macpherson, a keen and active member of the Society for many years.

Dr Macpherson is a Scot, recently retired from the medical profession in which he specialised in radiology. Latterly he was consultant neuroradiologist at the Institute of Neurological Sciences at the Southern General Hospital in Glasgow. He is currently President of the British Society of Neuroradiology.

Our new President's interest in botany was first evident during his boyhood in his native Argyll and continued in later years when resident in Oban in the same county. It was the Distribution Mapping Scheme of the 1950s and a field meeting held in the Oban area under the leadership of the late Ursula Duncan which first brought the Society to Peter's notice, and as a result he joined the BSBI in 1957.

After moving to Glasgow, he joined what has become the Glasgow Natural History Society and has twice served terms as its President. In 1978 he succeeded the late Bob Mackechnie as BSBI Recorder for Lanarkshire and has since been actively investigating the flora of that vice-county. His wider interest in Scottish field botany is reflected in his very able secretaryship of the BSBI Committee for Scotland, a function he has performed for many years. He is a keen plant photographer and some members south of the border will have made his acquaintance through his ambition to see and photograph some of the country's rarer species.

Dr Macpherson is married, with three daughters, and they are very much a 'medical family', all having qualifications in that field. Wife Nan is a keen gardener and also renders much appreciated service to Scottish Committee through her proficiency with a word processor!

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The Queen Mother's Birthday Reserve

THE QUEEN MOTHER'S BIRTHDAY RESERVE  
SATURDAY JUNE 8th 1991

Members will be delighted that Her Majesty Queen Elizabeth the Queen Mother has agreed to open the Nature Reserve at Aldbury Nowers for which we have been collecting donations as our 90th birthday tribute to our Patron. She has chosen the afternoon of Saturday 8th June.

Doubtless many members will wish to be present on this special occasion. If so, please arrive at the Reserve by 2.00pm. The easiest parking is at Tring Station, grid reference SP951122, from where the entrance to the Reserve, SP950128, is about three-quarters of a mile. It is requested that as many as possible will park at the Station, and that the drivers at least will walk from there to avoid congestion at the Reserve. At the ceremony "The Queen Elizabeth The Queen Mother's Nature Reserve, Aldbury Nowers" sign, which will include the logos of the sponsors: BSBI, Herts and Middlesex Wildlife Trust, British Telecom and Nature Conservancy Council will be unveiled. We intend that major donors will be given a special position.

We still have some way to go to achieve our target - please, if you have not yet sent your donation, make a contribution by sending your cheque to Mr M. Walpole, 68 Outwoods Road, Loughborough, Leics. LE11 3LY, in an envelope marked Birthday Appeal or send £5.00 for 6 cards (or £1 each) to Dr F.H. Perring, 24 Glapthorn Road, Oundle, Peterborough PE8 4JQ. (See BSBI News 55: 3-4 and cover).

It is obvious from the response we have had to the Cards and the whole idea of a Reserve in honour of our Patron that our enterprise has caught the imagination of the general public one of whom wrote as follows after reading about it in Natural World.  
31.01.'91

Dear Sir,

May I compliment the Society on their brilliant idea of a water-colour of one of the most beautiful of flowers, and one of my favourites.

Not only the water-colour, but a pasque flower reserve - what an excellent way to celebrate Her Majesty's ninety years!

Congratulations to all concerned and thank you from a Nature-lover and a Queen Mother admirer.

Yours very happily,  
Mrs Mary Bellinger.

MARY BRIGGS, Hon. General Secretary  
FRANKLYN PERRING, Chairman Conservation Committee

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ADDITIONAL FIELD MEETING  
SATURDAY JUNE 8th, 1991  
THE QUEEN ELIZABETH THE QUEEN MOTHER'S NATURE RESERVE  
ALDBURY NOWERS, TRING  
Leader: Trevor James (BSBI Recorder for v.c. 20, Hertfordshire)

Meet at Tring Station, SP951122 at 10.30am, from there to walk to the Reserve. Bring Picnic lunch.

Linked to the opening of the Birthday Reserve there will be a field recording meeting at this chalk grassland Reserve in the morning. The Herts and Middlesex Wildlife Trust will be grateful for a current species list, for comparison with changes encouraged by future conservation management. At the same time Trevor will be pleased to take members on a tour of the Reserve, and after lunch he can guide the group to the site of the opening ceremony. Those who would like to join the morning meeting please send bookings to: Mr T.J. James, 56 Back Street, Ashwell, Baldock, Herts. SG7 5PE **before May 25th**; he will need to know expected numbers.

MARY BRIGGS, Hon. General Secretary

DIARY

**N.B.** These dates are supplementary to those in the 1991 Calendar.

MAY

15-16 : 'A Bouquet for the Complete Naturalist', a joint celebration of the 80th Birthday of W.T. Stearn (see page 5)

JUNE

8(am) : Field Meeting at The Queen Mother's Birthday Reserve (see page 3)

8(pm) : Opening of The Queen Mother's Birthday Reserve (see page 3)

JULY

8-11 : British Pteridological Society International Symposium (see BSBI News 55: 38)

13-19 : British Pteridological Society, Centenary National Tour (see BSBI News 55: 38)

28 : Deadline for contributions to BSBI News 58

See also pages 40-41 & 57 for details of other courses and meetings

EDITOR

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A HUNDRED YEARS OF FASCINATION FOR FERNS

Congratulations and greetings to The British Pteridological Society, founded in 1891, which celebrates its Centenary in September this year.

See Diary above for dates of the Centenary Symposium and National Tour.

EDITOR

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CORRIGENDA CORNER

Only one item to apologise for this time; and that appeared in the BSBI Year Book 1991 and was my error not Sylvia Reynolds' (Irish Field Secretary)!

IRISH FIELD MEETING

SATURDAY 29th and SUNDAY 30th JUNE

SOUTH TIPPERARY (v.c. H7) and NORTH TIPPERARY (v.c. H10)

Please note that the co-leader for this meeting is Rosaleen FitzGerald, and not Lady R. FitzGerald as listed in the Year Book. Apologies to both.

EDITOR

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EDITORIAL

I should not have commented on the smaller size of the last issue; this one is back up to 60 pages and I must apologise to the authors of the 24 notes that have had to be held over until the September issue. But please do not let this stop any potential contributors from sending in articles; more are always needed and it is always a great relief to have some in hand.

Apologies for upsetting at least one member by my jocular reference to 'The Celtic Fringes' in the last editorial, I will try to avoid this phrase in future.

**Bluebells wanted or for sale**

Have other members been as annoyed as I have by the adverts appearing in the gardening and agricultural press, offering native Bluebell bulbs for sale, or offering to "thin out the crop" from "Spinneys or Woodland". Arthur Chater, in a note in Welsh Historic Gardens Trust, Newsletter No. 3, Feb. 1991, writes "As bluebells are virtually British endemics, we have a special responsibility to look after them, and bluebell woods mean a lot to people. I would be surprised if everything behind these adverts is above board". See also pages 22-25 for much more on bluebells.

**Conkers again**

I was a little dismayed to read in an Arboriculture Research Note that scientists are developing "...chemical treatments for reducing fruit formation in Horse chestnut" and making suggestions "...for alternative solutions to minimise the hazard caused by children collecting conkers in the autumn." Sound common sense this may be but I can't help muttering under my breath "spoil-sports".

**April Fool**

I trust that this will cause no offence to anyone this year.

EDITOR

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HON. GENERAL SECRETARY'S NOTES

**Year Book 1991**

Thank you to all members who have written in praise and appreciation of the 1991 Year Book, also to those who have sent in amendments. Some changes to the v.c. Recorders and Referees are published in this issue on page 8.

There are some apologies - I am deeply sorry for the omission of Pat Kertland from the List of Honorary Members - she is hereby reinstated with our sincere apologies. Also to those whose titles and qualifications are incorrect, including Elaine Bullard, M.B.E., Professor Sir John Burnett and Professor G.R. Sagar, C.B.E., M.A., D. Phil. - we plan to list all changes and corrections to the lists in Year Book 1992.

**Congratulations:**

To Mrs A.N. Gibby on her 90th birthday on February 28th. Nellie was a good worker for the Meetings Committee for some 20 years, mostly unobtrusively in the background; she will be known to many members from collecting tickets, helping with the refreshments and general organisation. As a regular Botanical Conference attendee, Nellie is also known to botanists around the world - to some of whom she is more formally Madame Antoinette. We were very pleased to welcome her at both AGM and Exhibition Meeting in 1990 and wish her many more meetings ahead.

**Congratulations** also to Professor W.T Stearn who is 80 this year. The Royal Horticultural Society, The Society for the History of Natural History and The Linnean Society of London have arranged a joint celebration symposium in recognition of Professor Stearn's remarkable contribution to world botany and horticulture on May 15 & 16 entitled 'A bouquet for the complete naturalist'. (Further details and booking forms from The Linnean Society, Burlington House, Piccadilly, London, W1V 0JQ).

Professor Stearn is a past BSBI Vice-President, and as the world expert on onions he has been BSBI **Allium** Referee for many years. His publications, large and small relating to bibliography, botany and horticulture (but exclusive of reviews and letters to newspapers) total 430 - with another 5 in the press around the world at the time of writing this.

Finally **congratulations** to Joyce Smith, Recorder for v.c. 17, Surrey, who, last November, received a Surrey County Council Award for Achievement. This was instituted in 1989 to celebrate the centenary of the Council. She quotes "the purpose of the scheme is to honour people in the County for exceptional personal achievement in which the Surrey community can take special pride". In the inaugural year Awards were confined to County staff. This year (1990) they were principally in recognition of voluntary service. Many awards were for work with the aged, disabled, amateur sports etc. Joyce's was for nature conservation and is well deserved - Joyce is one of the BSBI v.c. Recorders who anticipate a planning application for comment to be in her post almost every day.

### Is this a record?

Mrs Irene Vaughan, our Honorary member who is 101 this year, qualified for a Degree in Modern History, with Mediaeval Land Tenure as a special subject, in 1911 in the Society of Oxford Home-Students. Degrees at that time were not conferred on ladies, but on 24th October 1987, St Anne's College, Oxford, conferred on Mrs Vaughan the long-delayed Degree of B.A. and M.A. Irene tells us that she had wanted to read Botany when at College, but at that date it was not available as a Degree subject - and as she says, "a bit of Modern History can be read into that!"

Irene also reports that in 1988 she collected seed of her local Sweet Briar *Rosa rubiginosa*, from Suffolk (its county of origin) at the request of Edgar Milne-Redhead for a friend in Newfoundland. Last month she heard from the recipient that none of the seed germinated in the first season, but following an exceptionally cold winter in 1989, a thick crop of seedlings appeared in the spring of 1990. These have been distributed and Irene thinks that some may be planted in the wild of "that land that has only 3 months frost free" in the year - and has recorded the source in case *R. rubiginosa* is ever reported as a new record for Newfoundland.

### Dr Charles Petch

John Akeroyd sends this note from Norfolk:

Dr Charles Petch (1909-87) will have been familiar to many in the BSBI, both as an active field botanist and as a member of our Council. The Winter 1990/91 issue of Tern, the newsletter of the Norfolk Wildlife Trust, includes a photograph of a wooden seat that has been installed in his memory at the NWT's reserve of Thomson Common near Watton.

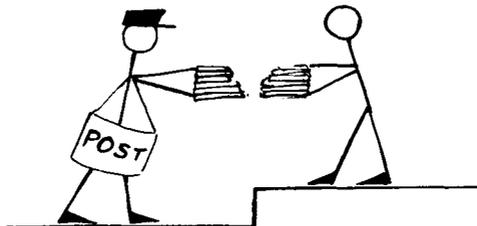
[Incidentally it is very helpful if members send in notes of local anniversaries and celebrations significant to this Society, so that these events are not missed.]

### BSBI Book Prices

The very competitive price of the Special offer to members of Crucifers of Great Britain and Ireland, T.C.G. Rich, was possible due to the generosity of the author and four of the artists who are BSBI members and who gave their services free. This is very much appreciated by the Society and we gratefully thank Tim Rich, Pat Donovan, Graham Easy, Trevor Evans, and Hilli Thompson. This latest in the BSBI Handbook series has been widely acclaimed and we congratulate Tim Rich; early sales have been splendid - 1300 copies had been sold by March 5th, which is over half the membership of the Society!

### BSBI Post

Since Michael Mullin left the Natural History Museum, a team of members now reply to the BSBI post sent to the Dept. of Botany, N.H.M. (our official address). Ruth Stungo, who has been appointed by Council as Assistant Hon. General Secretary and has been acting stand-in postal assistant for some months, has now been joined by Elinor Wiltshire, Eva Modin (until she returns to Sweden), Caroline Bateman and Elspeth Beckett (when she returns from Australia). The enquiries are varied and assorted, and I am very grateful to all the helpers. In all a vast number of letters are dealt with by BSBI - I remember Tim Rich during the Monitoring Scheme measuring his post vertically in centimetres, and when living at White Cottage, from where post was collected and delivered, I used to stand on the doorstep, chest to chest with the postman, while we eyed the size of the bundle of mail



each offered, assessing whether more was going out than coming in? Now the Pulborough post-people are equally impressed. Proof-reading also accumulates much paper-work - Duggie Kent reported 2 dustbin liners of proofs going out when Brambles of the British Isles, E.S. Edees and A. Newton 1987, was published.

**BM(NH) and NHM**

Some members, it seems, do not realise that the British Museum (Natural History) and The Natural History Museum, Cromwell Road, London are one and the same. Statutorily the Museum is still the BM(NH) - the name change was for post and to assist the visiting public. But those in the Dept. of Botany still refer to BM(NH), and those of us who prefer this can still think of it as the British Museum (Nat. Hist.).

The collection of British specimens, including many voucher specimens, is housed in the British Herbarium of BM(NH), or NHM, but this is one and the same Museum.

**Meetings hazards**

Various hazards hit your stalwart Officers and Committee members attending the February meetings in London. On one of the snowiest days and the Committee secretary in bed with 'flu, the Hon. Gen. Sec. took the precaution of checking the Rules for the required committee quorum. However by 5pm, six of the committee members were already in the BM, having taken the opportunity to come to work in the Department during the day. The secretary was able to send his son to the meeting rooms as a runner with the Minute Book and the meeting, with useful discussion, was held successfully. But after, the Hon. Gen. Sec. had 3 hours very cold wait at Victoria while BR struggled with 'multiple points failure' and 'irresponsible passengers walking on the line near Croydon', but did get home just on midnight. We feared for Gwynn Ellis on his longer journey from Paddington - his train was on time, but he arrived home with a damaged ankle. Chris Preston was home at 3am, and our President, who reached London but did not make the meeting owing to tubeline closures, spent the whole of the next day in a fruitless attempt to return to Dublin. But John Akeroyd is the record holder taking 26 hours to get home to Hindolveston after his meeting the day before. [puts 'Paddington Bear' to shame doesn't it? Ed.]

**Vascula**

Three more traditional Vascula have been given to the Society. Two come from Nigel Hepper; one battered and in poor condition, but with brass hinges soldered on, belonged to W.B. Crump of Derbyshire, and this one has been offered to the Derby Museum. The second, which is 15" x 9" x 3 1/2", still sturdy and with "piano hinge and good trombone catch", Nigel when about 11, inherited from his father - who was the founder of the Wrekin N.H.S. The third was given to the Society by Mrs R.A. Boniface, and the 2nd and 3rd are available to any member with a use for a vasculum on long loan on request.

**Ghostly links?**

One of our Sussex members, Howard Matcham, who is a taxi driver, had a passenger who told him that she was from the University of Dallas, a specialist artist whose drawings of prehistoric flint tools are in the British Museum. In talking, Howard told her of his off duty obsession with botany - especially now with mosses and lichens, and Lucille Addington gave her spare time activity as writing ghost story thrillers. Some months later Howard walked through the doorway of his firm's office, to be greeted with "there's a phone call for you from Dallas"! It was his passenger, writing her latest ghost story and wanting the name of a moss which might be found on the walls of an old Sussex castle, but at present known only on the continent. Howard was instantly able to suggest **Grimmia tergestina** (having just heard that the moss had recently been found in Belgium and Holland, so bryologists should be looking out for it in Britain). These coincidences were stretched further by Howard having changed firms between meeting the author and the phone call. She did not know the name of his firm but picked one in Chichester from yellow pages international directory enquiries - and as Howard walked through the doorway it was now his firm.

MARY BRIGGS, Hon. General Secretary

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RECORDERS AND RECORDING

**BSBI v.c. Recorders – Amendments to Year Book 1991:**

We are pleased to welcome the following new Recorders:

v.c. 092, S. Aberdeen: Dr Heather Salzen, 25 Rubislaw Park Crescent, Aberdeen AB1 8BT  
H22, Meath: Miss Margaret P. Norton, Tinode, Manor Kilbride, Blessington, Co. Wicklow, Ireland  
(Con Breen will still be Recorder for H23, Westmeath)

and as Assistant Recorder:

055, Leics: Mr M.B. Jeeves, 239 Long Furrow, East Goscote, Leics LE7 8ST  
and a change of address:  
001, W. Cornwall: Keith Spurgin, Campion Cottage, 7 Carclew Terrace, Truro, Cornwall TR1 2EF

**BSBI Panel of Referees and Specialists – Amendments to Year Book 1991:**

In response to our appeal for Referees to fill vacancies we welcome David Parker to the panel.

**SAXIFRAGACEAE**

**Saxifraga:** Dr D.M. Parker, sterile shoots.

In his work on this genus David's 2-year studies of the germination and habitat requirements of *Saxifraga caespitosa* made possible the restocking of the threatened colony at Cwm Idwal in Snowdonia. His paper on this at Liverpool *The Conservation of Saxifraga caespitosa in North Wales* was summarised in *Watsonia* 14: 104 (1982), and it is a reference which I frequently give to enquirers on introductions, as being one of the very few published examples of a successful restocking. David tells me that the population is still doing well.

**v.c. as and bs**

From time to time parts of Watsonian Vice-counties have been divided; a small distinct part of the v.c. has been called "b" leaving the main part of that v.c. as "a". Currently there are 4 of these sub-divisions in our published lists of v.cs; two are considered to be no longer necessary and these will now be listed as:

v.c. 069, Westmorland & Furness  
096, Easternness & Nairns.

For the present

001, W. Cornwall, 001b, Scilly  
and 055, Leics, 055b, Rutland

will remain in use.

MARY BRIGGS, Hon. General Secretary

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**PEDICELLATE FLOWERS IN OROBANCHE AND THE STATUS OF OROBANCHE MARITIMA**

The production of pedicellate flowers by plants referred to *Orobanche maritima* Pugsley (Carrot Broomrape) by Hambler, has been reported recently (Hambler, 1990), with the suggestion that this feature may be of taxonomic significance. The pedicellate condition, while common in other sections of the genus *Orobanche*, is unusual in Section *Osproleon* Wallr. Where pedicels occur in this section they are almost invariably on the lowermost flowers, as reported by Hambler. Very elongated pedicels, >30mm are uncommon, most fall within the range 1-10mm, and may, when at the lower end of this range, be overlooked. They are apparently most frequent in the *O. minor* agg. but this is perhaps just a reflection of the number of specimens collected. A range of species however show a tendency of the stem to be more pronounced and project slightly beneath the lowest flowers.

Factors effecting the production of pedicels is unclear. They are most frequent on specimens collected late in the flowering season and may rarely be produced when a spike is in some way damaged. Most however are formed on very robust and seemingly healthy

spikes. It is probable that the simple spike inflorescence in this family has been derived from a more complex branched structure and the sporadic production of pedicels represents a 'throwback'.

Specimens in my herbarium with pedicels include:

**O. hederæ** - v.c. 17, Kew Gardens, on **Kaplapanax**, to 105cm tall, 24/8/1984. Pedicels to c.5mm on lowest few flowers.

**O. minor** - v.c. 12, near Micheldever Station, on **Trifolium** spp., F.J.R. & S.L. Jury. Pedicel on lowest flower to 10mm.

**O. minor** - v.c. 15, Sandwich, seashore by Royal St Georges, on **Eryngium maritimum**, 25/6/1983, F.J.R., S.L. Jury & G.M. Smith. Pedicel on lowest few flowers to c.30mm.

The last is of particular interest in that this population has been in part referred by some to **O. amethystea** Thuill. (Philp, 1982) and by Hambler (1958) to **O. maritima** Pugsley. To link these plants with the latter would seem untenable as Pugsley (1940) in his original description clearly excludes forms of **O. minor sensu lato** parasitizing **Eryngium maritimum**. Assessment of taxonomic status where based on a species concept founded on incorrectly identified material must be treated with caution.

After careful examination of the Sandwich material in major herbaria and in situ, I believe it represents not 3 closely related species, each restricted to different host species, but a continuously variable spectrum of variation of one species, namely **O. minor** Sm. The differences in morphology and phenology being due to host related effects. The population may consist of races physiologically adapted to certain host species (Musselmann & Parker, 1982), but these cannot be meaningfully discriminated on morphological grounds.

## References

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- Philp, E.G. (1982). Atlas of the Kent Flora, Maidstone.
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FRED J. RUMSEY, Dept. of Cell and Structural Biology, Williamson Building, University of Manchester, MANCHESTER M13 9PL

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## TARAXACUM FLORA OF NORTH LANCASHIRE

Between 1983 and 1989, **Taraxacum** specimens were collected in North Lancashire. This is an area of about 220 square miles in the north of the County and represents approximately 45% of v.c. 60.

The Taraxaca listed below represent over 40% of the currently known **Taraxacum** flora of the British Isles. It is firmly believed that more species remain to be found in this area. Some species have been recorded from only a single site whilst others are extremely common.

Taraxaca recorded for North Lancashire are as follows:

### Section ERYTHROSPERMA

- T. argutum** Dt., **T. brachyglossum** (Dt.) Raunk., **T. fulviforme** Dt., **T. fulvum** Dt.,  
**T. glauciniforme** Dt., **T. inopinatum** C.C. Haworth, **T. lacistophyllum** (Dt.) Raunk.,  
**T. oxoniense** Dt., **T. rubicundum** (Dt.) Dt.

### Section SPECTABILIA

- T. faeroense** (Dt.) Dt.

### Section NAEVOSA

- T. euryphyllum** (Dt.) M.P. Chr., **T. maculosum** A.J. Rich., **T. pseudolarssonii**  
A.J. Rich., **T. richardsianum** C.C. Haworth, **T. stictophyllum** Dt., **T. subnaevosum**  
A.J. Rich.

Section CELTICA

**T. berthae** C.C. Haworth, **T. bracteatum** Dt., **T. duplidentifrons** Dt., **T. excellens** Dt.,  
**T. gelertii** Raunk., **T. haematicum** Hagl., **T. hespericum** C.C. Haworth, **T. inane**  
A.J. Rich., **T. lancastricense** A.J. Rich., **T. luteum** C.C. Haworth & A.J. Rich.,  
**T. nordstedtii** Dt., **T. subbracteatum** A.J. Rich., **T. tamesense** A.J. Rich.,  
**T. unguilobum** Dt.

Section HAMATA

**T. atactum** C.I. Sahlin & vS., **T. boekmanii** Borgvall., **T. hamatifforme** Dt.,  
**T. hamatululum** H., vS & Z., **T. hamatum** Raunk., **T. hamiferum** Dt., **T. lamprophyllum** M.P.  
Chr., **T. marklundii** Palmgr., **T. pseudohamatum** Dt., **T. quadrans** H. Øllg.,  
**T. spiculatum** M.P. Chr., **T. subhamatum** M.P. Chr.

Section RUDERALIA

**T. acroglossum** Dt., **T. acutifidum** M.P. Chr., **T. acutifrons** Markl., **T. aequilobum** Dt.,  
**T. alatum** H. Lb, **T. altissimum** H. Lb, **T. "anceps"**, **T. ancistrolobum** Dt., **T. aurosulum**  
H. Lb, **T. brodssonii** ined., **T. cophocentrum** Dt., **T. cordatum** Palmgr.,  
**T. croceiflorum** Dt., **T. cyanolepis** Dt., **T. dahlstedtii** H. Lb, **T. dilatatum** H. Lb,  
**T. ekmani** Dt., **T. exacutum** Markl., **T. expallidifforme** Dt., **T. fagerstroemii** Saltin,  
**T. fasciatum** Dt., **T. hemicyclum** Hagl., **T. horridifrons** Railonsala, **T. insigne** M.P.  
Chr. & Wiinst, **T. laeticolor** Dt., **T. laticordatum** Markl., **T. latissimum** Palmgr.,  
**T. linguatum** M.P. Chr. & Wiinst, **T. linguatum** Markl., **T. longisquamum** H. Lb,  
**T. lunare** M.P. Chr., **T. macrolobum** Dt., **T. melanthoides** Dt., **T. necessarium** H. Øllg.,  
**T. oblongatum** Dt., **T. pachymerum** Hagl., **T. pallidipes** Markl., **T. pannucium** Dt.,  
**T. pannulatifforme** Dt., **T. pannulatum** Dt., **T. pectinatifforme** H. Lb, **T. piceatum** Dt.,  
**T. planum** Raunk., **T. polyodon** Dt., **T. pseudoretroflexum** M.P. Chr., **T. rhamphodes**  
Hagl., **T. sagittipotens** Dt. & R. Ohlsen, **T. scotinifforme** Dt., **T. sellandii** Dt.,  
**T. sinuatum** Dt., **T. subcyanolepis** M.P. Chr., **T. sublaeticolor** Dt., **T. sublongi-**  
**squamum** M.P. Chr., **T. subpraticola** Hagl., **T. trilobatum** Palmgr., **T. tumenitilobum**  
Markl., **T. undulatiflorum** M.P. Chr., **T. undulatum** H. Lb & Markl., **T. vastisectum**  
Markl., **T. xanthostigma** H. Lb.

Our grateful thanks to those who carried out the determinations, 1983-1988 the late C.C. Haworth and 1989 Dr A.J. Richards.

LEN & PAT LIVERMORE, 8 Durham Avenue, SCOTFORTH, Lancaster, Lancs. LA1 4ED

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NEOLITHIC TREES ON WEST SUSSEX DOWNS

The following is an extract from the Introduction to The Atlas of Sussex Mosses, Liverworts and Lichens by F. Rose, R.C. Stern, H.W. Matcham and B. Coppins, currently in press.

*Tilia platyphyllos* is now known to occur in at least 16 separate populations along the lower part of the escarpment of the western South Downs, from the Hampshire border (where one ancient tree exists on the actual bank of the ancient county boundary at The Miscombe) east to Springhead Hill SW of Storrington, in ten tetrads. It occurs always in ancient, former coppice-woodlands, within ancient boundary banks, along the lower part of the scarp, never in the (often quite mature) secondary woodland on what was former open sheepwalk.

Most of the trees are ancient coppice stools, though in a few sites, what look like ancient pollards occur. Prof. Donald Pigott, the authority on *Tilia*, has visited several of the populations with me, and says that the trees have the characters of the native form of *T. platyphyllos*, and some of the huge stools may be upwards of 1000 years old. *Tilia cordata* appears to be quite absent from the Sussex chalk scarp in natural situations (though it does occur further west on the Hampshire chalk).

The best locality so far discovered for *T. platyphyllos* is at Rook Cliff, south of Treyford, where between 50 and 80 trees occur in an almost pure stand, mixed with Wych Elm (*Ulmus glabra*), Field Maple (*Acer campestre*), Hazel (*Corylus avellana*), and Whitebeam (*Sorbus aria*). There is a little Ash (*Fraxinus excelsior*), but Beech (*Fagus sylvatica*) and Yew (*Taxus baccata*) are rare and marginal.

The possibility is that this type of *Tilia* - *Ulmus* - *Acer* - *Corylus* woodland was the dominant tree cover of the South Downs escarpment, and of other chalk scarps in South England, in early, perhaps pre-Neolithic times, though then of course, as high forest, not coppice; pollen evidence suggests strongly that the present abundance of Beech is comparatively recent, and much of it on the chalk scarps today may derive from earlier plantings.

Further east than Storrington, William Borrer noted one "ancient tree of the Large-leaved Lime, on the north side of Chanctonbury Hill", (specimen in the Hb. Borrer at K). This tree was still there until at least the 1960s, but it could not be found in 1990, though nearby, strangely, there is an old plantation, of trees planted in straight lines, of a cultivated form of *Tilia platyphyllos* x *T. cordata* (but with many *T. platyphyllos* characters, teste Prof. C.D. Pigott). Even further east, old *T. platyphyllos* specimens are known from Steyning (hb. Guernonprez) and at Clayton Holt (1838, hb. Borrer, **BM**); the latter is marked "apparently wild".

Clearly further field survey is required, not only to locate and to record the size of, further *Tilia platyphyllos* populations along the South Downs (and elsewhere on the English chalk), but to record the ground flora in these sites, which may contain relict ancient woodland species. At Springhead Hill, Fly Honeysuckle (*Lonicera xylosteum*) occurs in close association with the *Tilia*; while below Chanctonbury, Lady Orchid (*Orchis purpurea*) was seen near the *Tilia* site (and also further west) up to the 1960s.

We thank Frances Abraham for help in field surveys.

FRANCIS ROSE, Rotherhurst, 36 St Mary's Road, LISS, Hampshire

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H.W. PUGSLEY AND ORCHIS MAJALIS

*Orchis majalis* Reichb. was first recognised in the British Isles when Pugsley (1935) described var. *occidentalis* from Co. Clare. He discovered this variety in 1933. On 19 June 1934 Pugsley and R.L. Praeger met with another plant "connected with *O. majalis* Reichb." (Pugsley 1936) in Co. Kerry. On 23 June 1934 A.J. Wilmott and Francis Druce noticed the same plant at another site in Co. Kerry (Wilmott 1936, Pugsley 1936). Wilmott (1936) described it as a new species: *Orchis kerryensis*.

On his return from Co. Kerry in 1934, Pugsley noticed yet "another form allied to *O. majalis*" in the herbarium of the Dublin Museum (Pugsley 1936). In 1935 he received fresh material from two stations in Co. Wicklow. On 29 May 1920 Pugsley had collected this plant near Grassington in Upper Wharfedale, Yorkshire, near a major site discovered by W.A. Sledge (pers. comm.) in 1919 or 1920 and followed up by him (Pugsley 1935, 1936). Pugsley's specimen is in **BM**. It is labelled '*Orchis majalis* Rchb. cf v. "eborensis Godf."

Thus, Pugsley noticed the existence of three marsh orchids in Ireland "... all allied to *O. majalis*, ..." (Pugsley 1936). He decided that "...they do not appear to merit specific rank. It consequently seems advisable to treat them as subspecies of *O. majalis* Reichb." (Pugsley 1936).

Pugsley and Wilmott read their papers (Pugsley 1936, Wilmott 1936) to the Linnean Society on 2 April 1936. They appeared in print on 26 August 1936. Thus, just when Pugsley (1936) was making known his view that the plant described by Wilmott (1936) was best treated as a subspecies of *O. majalis* Reichb., Wilmott was describing it as *O. kerryensis*. However, Wilmott (1936) acknowledged that "Mr Pugsley would probably place the plant as a subspecies of *O. majalis* Reichb., ..."

Although Pugsley (1936) had decided to treat the three Irish marsh orchids as subspecies of *O. majalis*, it is interesting to note that he later states that it was at Wilmott's suggestion that he changed *O. majalis* Reichb. var. *occidentalis* Pugsley to *O. majalis* Reichb. subsp. *occidentalis* (Pugsley) Pugsley (Pugsley 1940).

The plants from Co. Wicklow were described by Pugsley (1936) as *O. majalis* Reichb. subsp. *Traunsteinerioides* Pugsley.

Hall (1937) published a paper on "The Irish marsh orchids". In his summary he points out that "The position of *O. kerryensis* Wilmott cannot yet be exactly defined, but it appears to mark one extreme limit of the range of variation of *occidentalis*." This paper led to the resignation of Miss M.S. Campbell from the Botanical Exchange Club in 1938 "... following a difference of opinion with the Editor [Hall] over acceptance of a controversial paper on Dactylorhiza which she saw as a deliberate affront to her

colleague Wilmott" (Milne-Redhead 1984). Clapham (1987) treats *O. kerryensis* Wilmott as a synonym of *Dactylorhiza majalis* (Reichenb.) P.F. Hunt & Summerhayes subsp. *occidentalis* (Pugsley) P.D. Sell.

In the year following the publication of Hall's paper, Wilmott raised Pugsley's *O. majalis* subsp. *occidentalis* to a full species: *O. occidentalis* (Pugsley) Wilmott (Campbell 1938). Was this retaliation? Pugsley (1939) commented "The taxonomic position of the two subspecies of *O. majalis*, *occidentalis* and *Traunsteinerioides*, as well as of *O. kerryensis* Wilmott, is perhaps debatable, for while their points of distinction from the typical Saxon species seem greater than those characterising most recognised varieties of European orchids, all three plants bear such a clear resemblance to *O. majalis* in their foliage and purple flowers with three-lobed labellum, as well as in their early flowering, that it seems unwarranted, remembering the variability of *O. majalis* on the Continent, to regard them as new Irish species distinct from *O. majalis*." Yet only a year later, Pugsley (1940) stated "I am reluctant to treat this plant [*O. occidentalis* (Pugsley) Wilmott] as a species separate from the Continental *O. majalis*, but if this view is taken, then it is illogical to let the Wicklow orchid remain as a subspecies under *O. majalis*, and this too should become a full species, *O. Traunsteinerioides* Pugsley. ..."

I am in little doubt that Pugsley remained objectively convinced that he had correctly described the Wicklow orchid as a subspecies of *O. majalis* Reichenb.

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FRANK HORSMAN, 7 Fox Wood Walk, LEEDS, W. Yorkshire LS8 3BP

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CAREX ACUTIFORMIS, C. RIPARIA & C. ACUTA

The three large riverside sedges, *Carex acutiformis* Ehrh., *C. riparia* Curtis and *C. acuta* L., are not easily distinguished without flowering parts. Historically, Floras have had difficulty with the species, but it seems to me that the pattern of diaphragms in the leaves is the best characteristic. I would be interested to hear if this works well throughout Britain (or elsewhere). The BSBI Handbook Sedges of the British Isles, 1982, A.C. Jermy, A.O. Chater & R.W. David has good descriptions of all three species.

The leaf width and ligule characteristics are not always sufficient to separate *C. riparia* and *C. acutiformis*, especially as the *C. acutiformis* ligule can be quite rounded. However *C. acuta* can reliably be identified by its narrow, dark green leaves and small ligule. The following measurements are in mm.

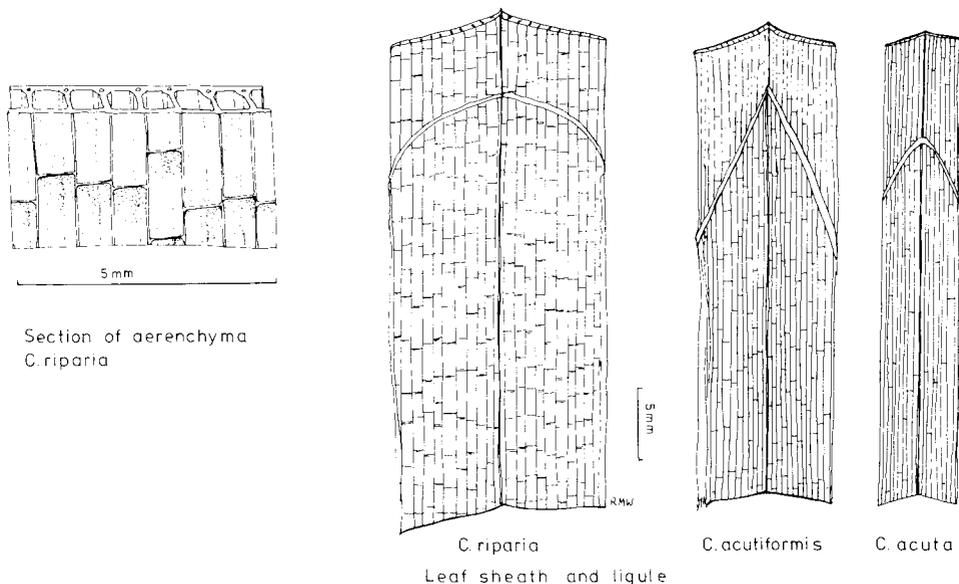
	ligule length	leaf width	ligule shape
<i>C. riparia</i>	5 - 10	5 - 15	round
<i>C. acutiformis</i>	5 - 20	5 - 10	acute
<i>C. acuta</i>	4 - 6	4 - 8	obtuse

The structure of the leaf provides further clues which are more helpful. The leaves have tubes of air spaces (aerenchyma) with cross-walls or diaphragms at intervals dividing them into sections. In *C. riparia* the tubes are 0.4 - 0.7mm wide with diaphragms typically

1.5-2.0mm (rarely >3.0mm) apart. In *C. acutiformis* the sections are 0.3-0.4mm wide and 3.5-5.0mm long, and may be filled with a very sparse pith which is absent from *C. riparia*. The diaphragms in *C. acuta* are infrequent, usually at least 5mm apart.

The pattern of diaphragms is characteristic and may readily be seen through the hyaline inner surface of the sheath just below the ligule. In *C. riparia* the pattern is equally easily seen above the ligule and it is usually visible on the outside of the sheath. By contrast, in *C. acutiformis* and *C. acuta* the pattern becomes obscured above the ligule and is not apparent from the outside of the sheath. These comments refer to fresh material; a little imagination is needed with dried specimens.

with familiarity it is not necessary to make measurements.



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

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RED DATA BOOK PUBS

In response to Clare and Mark Kitchen's suggestion, although not RDP plants, the following may be of some interest. Perhaps the earlier botanists mentioned may themselves have used the Ale Houses recommended!

John Gerard in his Herball (1597) writes...'The small Bistort groweth in great abundance... at Crosby Ravenswaith at the head of a parke belonging to one Mr. Pickering.' The Alpine Bistort, *Polygonum viviparum* L., still occurs around Crosby Ravensworth (Cumbria) as does Perennial Flax, *Linum perenne* L. noted there by William Lawson (c.1677). The 'Butchers Arms' at Crosby Ravensworth serves good ale and bar food and has the additional advantage of being the only pub I know to have an enthusiastic amateur botanist as its landlord. It was he incidentally who, last spring, showed me a nice colony of Yellow Star-of-Bethlehem, *Gagea lutea* (L.) Ker-Gawler, growing nearby.

It was William Lawson who wrote to John Ray describing his discovery in 1677 of the var. *lancastrense* (With.) Druce of *Geranium sanguineum* L. on Walney Island, Barrow in Furness. Ray did not believe that the variety would persist but Lawson assured him 'thousands hereof I found... and have sent roots to Edinburgh, York, London, Oxford where

they keep their distinction." They still keep their distinction as does the Queen's Arms at Biggar on Walney, good real beers and excellent food.

Old John Gerard also noted Spignel, *Meum athamanticum* Jacq., at 'Roundthwaite betwixt Appleby and Kendal' (Cumbria) and it is still at this location although its survival there (in some quantity) is little short of miraculous considering that the site has been bisected by the M6 and the main London to Glasgow railway!! The pub? - the 'Cross Keys' at Tebay - Webster's Bitter and again good food. I am getting thirsty, be glad when spring comes..

JOHN ATKINS, Golbreck, Brough Sowerby, KIRKBY STEPHEN, Cumbria CA17 4EG

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#### BEWARE OF CHASMS

The letter below was found 'tipped-in' to an item of botanic literature. Cecil P. Hurst wrote a paper entitled 'The range of *Diotis candidissima* Desf. in England and in Ireland' in the Manchester Memoirs 46: 1-8 (1901) accompanied by two photographs (by W. Andrews and Son, Wexford and Enniscorthy).

Dixcart Hotel,  
Sark,  
Channel Islands  
25 Nov. 1902.

Dear Sir,

I send you a paper I wrote on the distribution of *Diotis*. I have been laid up here for eleven weeks. I fell, while botanizing on the coast, into a chasm, broke kneecap and splintered femur, and as it was a lonely place had to lie there all night (sixteen hours altogether) till I was found by searchers from the hotel in the morning. Can get about on crutches now and hope to be among the rarities next year.

Yours truly,

Cecil P. Hurst.

C.P. Hurst is probably the same person as he who is listed in Ray Desmond's Dictionary of British and Irish botanists and... (1977), Cecil Prescott Hurst (-1956). C.P. Hurst wrote papers on Irish plants in the Irish Naturalist, vols X & XI.

The accepted name for *Diotis candidissima* Desf. is now *Otanthus maritimus* (L.) Hoffmans & Link. As a point of interest Hurst's paper mentioned above is not listed under - Plant records, Wexford H12 (p. 428) in N.D. Simpson's A bibliographical index of the British flora (1960), but see p. 27.

MAURA SCANNELL, DUBLIN 4, Ireland

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#### A WHITE FLOWERED FORM OF RED DEADNETTLE

I recently came across *Lamium purpureum* L. growing on a roadside hedgebank in Buckley, Flints., v.c. 51 (GR SJ/274625). On closer examination, I noticed that several clumps contained plants with pure white corollas; the flowers of *L. purpureum* are normally pink-purple. In addition, the vegetative parts of these white flowered variants possessed far less anthocyanin pigmentation than usual. As there was no mention of this striking colour variant in 'C.T.W.', I wrote to R.M. Harley (Labiatae referee) at the Royal Botanic Gardens, Kew requesting further information.

Apparently, white flowered individuals of this species occur sporadically in some area of the British Isles and have been accorded varietal status, viz. *L. purpureum* L. var. *albiflorum* Dum. (Fl. Belg., 1827). However, as many species are known to produce white flowered variants; for example, the white mutant of *Hyacinthoides non-scriptus*, it is

doubtful whether such forms are really worthy of taxonomic recognition. Nevertheless, the name is available for use and this rather attractive form is worth looking out for in hedgebanks, roadside verges and wasteland habitats during March to October.

PHILIP HARMES, 37 Farm Road, BUCKLEY, Clwyd CH7 2PU

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WHITE FLOWERS : GERANIUM AND DACTYLORHIZA

I was interested to see that Brian Bonnard lists white flowered forms of Geranium molle from Alderney. I have seen this form near to the sea on Anglesey. R.H. Roberts tells me that these are not uncommon in Anglesey although he cannot say whether they are confined to coastal sites. I have never noticed white flowers amongst inland populations and so this form might be worth recording to see if there is any logical distribution pattern.

We have a white flowered form of Geranium robertianum in Staffordshire on which I have done some preliminary work. This sometimes forms separate colonies and may represent a separate race. Apart from colonies in N. Staffs., there is a colony in the Via Gellia in Derbyshire, and I have seen a single plant in Upper Teesdale, which perhaps suggests a Pennine link. I would be interested to know of the locations of any other colonies.

During the 1990 BSBI meeting at Cors Erddreiniog, we saw an albino plant which I considered to be Dactylorhiza purpurella. Unfortunately, Mr Roberts was not shown this plant, and I did not take a photograph. The record must therefore be regarded as unconfirmed. I would obviously be grateful to know if any member (with more foresight than myself!) took a photograph of this plant.

IAN BROWN, 'Highfield', Cheadle Road, Blythe Bridge, Stoke-On-Trent, Staffs. ST11 9PW

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TWO YORKSHIRE CONNECTIONS

It so happened that the day before the last BSBI News arrived, I was researching into the activities of the Yorkshire Naturalists' Union a century ago. I came across the name Mr William Foggitt of Thirsk, obviously a member of the famous family, but I wondered which ancestor he was of Mr Bill Foggitt. The answer is in the last BSBI News: Grandfather William - "a keen botanist". Now I can tell Mr Foggitt that on Whit Monday 1891, his grandfather was leading the botanists on the YNU Field Meeting at Leckby Carr. The report gives a long list of species recorded, some of which may be hard to find there today.

I was interested in Ron Payne's grass holiday in Western Australia and noted that he did not find Yorkshire Fog there. In 1973 I found this grass in New South Wales. Guess where! At Captain Cook's Landing Place on the Kurnell Peninsula, which is at the southern entrance to Botany Bay. While it is stretching the imagination to suppose that Holcus lanatus came originally with Captain Cook, it is a romantic thought, and anyway a happy coincidence that it should be discovered there by a Yorkshire lass.

JOAN E. DUNCAN, Oronsay, 20 Westville Avenue, ILKLEY, West Yorkshire LS29 9AH

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FOCUS ON SCARCE PLANTS : CAREX HUMILIS

In each issue of BSBI News during the course of the Scarce Species Project, there will be an article detailing its progress. This will include a focus on a couple of topical species. Here we look at the spring flowering Carex humilis Leysser (Dwarf Sedge).

In the Atlas of the British Flora this species was recorded from 23 10km squares (22 post-1930). After R.W. David's investigations (1979), this was expanded to 27 10km squares (26 post-1930). See map on page 16.

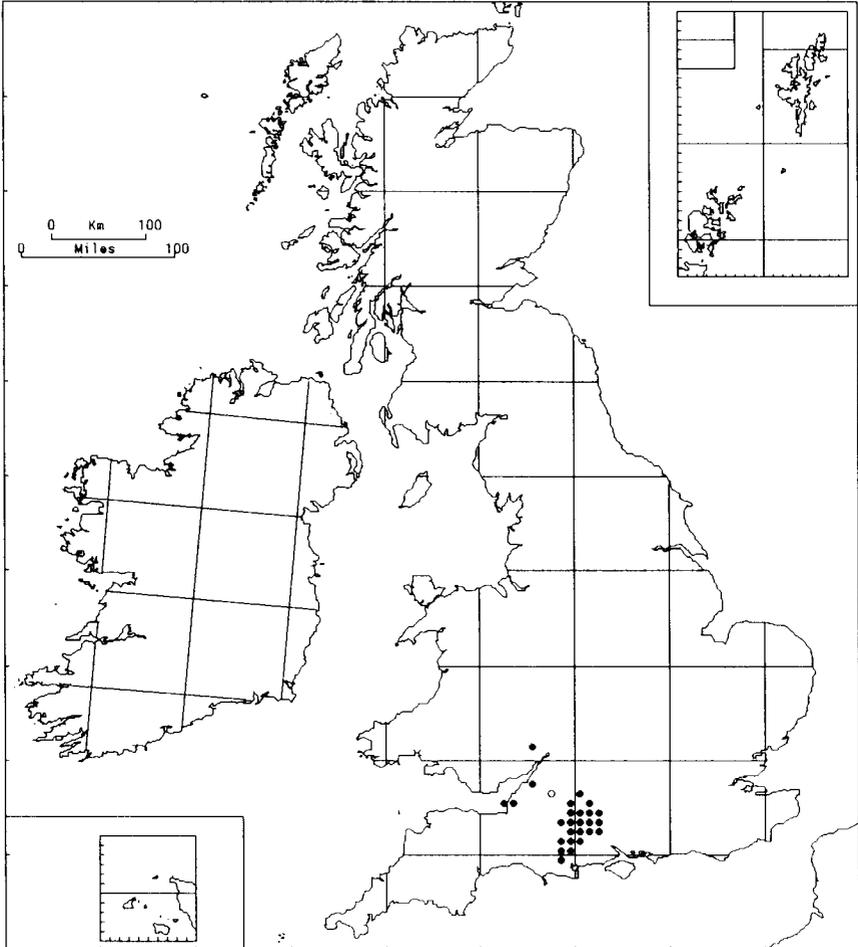
The plant flowers in March/April, yet I find it easiest to find in May when the leaves have slightly elongated and show just above the rest of the grass and herb flora which has barely started growing. Whilst many of the colonies are on virtually unploughable grassland, I find, in Dorset, that the relict colonies on earthworks amidst arable

prairies are at risk from never being grazed. On at least five of the R.W. David sites surveyed in the 1970s this is the case and the plant cannot now be found. With practice, of course, the plant can be found in all seasons, identification being aided by the persistent dead fibrous leaves.

**Reference**

David, R.W. (1979). The distribution of *Carex humilis* Leyss. in Britain. *Watsonia* 12: 257-258.

**Carex humilis**



- post 1970 ( GB-26, Ir-0, Ch.Is-0 )
- pre 1970 ( GB-1, Ir-0, Ch.Is-0 )

DAVID PEARMAN, The Old Rectory, Froine St Quintin, DORCHESTER, Dorset DT2 0HF

## SCARCE PLANTS PROJECT

This project represents Stage 2 of the work leading to a new Atlas of the British Flora. Stages 1 and 3 being the Monitoring Scheme and the general survey. It is a joint project of BSBI, the Nature Conservancy Council (NCC) and the Biological Records Centre (BRC) of the Institute of Terrestrial Ecology. NCC are providing the funding and BRC are accommodating at Monks Wood two full-time staff, Alison Stewart and Charlotte Ward, to coordinate the work and handle the data. BSBI members are being asked to help with the collection of records and by fieldwork, and David Pearman has been nominated by Records Committee to liaise between the staff at Monks Wood and those members who wish to be involved in the project.

As members will recall, it is now 30 years since the Atlas of the British Flora was published. Since then Britain's landscape has undergone many changes, and everyone will have noticed changes in their local flora. Common examples are the loss of grassland species as a result of agricultural improvements, disappearance of cornfield weeds and aquatic plants through the use of herbicides and possible increases in ruderal species following extended urbanisation.

The threat to Britain's rare plants has been assessed in recent years with the publication of the Red Data Book, which includes species occurring in 1-15 10km squares. In addition the NCC has monitored such species through their regional surveys. Many members have been involved in the Monitoring Scheme of 1987-88 which sampled the changes that could be taking place throughout our flora.

The Scarce Plant Project seeks to reassess the distribution of the 'not-so-rare' plants, i.e. those recorded from 16-100 10km squares. Over a two-year period the distribution of these 320 scarce native species, which are listed at the end of this paper, will be considered in detail with the aim of achieving an accurate, up-to-date picture. We hope that the results will be published as distribution maps, with accompanying comments and conservation notes for each, in an 'Atlas of Scarce Species'. Only Great Britain, not Ireland, is covered by the project.

The first job for the project staff is to update and (where necessary) computerise the data already held by BRC and to produce lists and distribution maps from them. Each v.c. Recorder will receive a summary of the data for his or her area for checking and updating. It would have been possible to mount the project as a desk study by the full time staff with cooperation of the v.c. Recorders for validation. However this option would have severe disadvantages, since much of the data held at BRC is only held in summary form, as 10km square records, with no site details and fieldwork would be limited by the available time of individual recorders.

It is preferable to use the wider knowledge and experience of members generally to identify as many sites as possible and follow this up by assessment of the current status of chosen species on each. A preliminary task will therefore be to search original sources for site records. Even where sites are precisely localised, data already processed for species such as *Polygala calcarea* and *Apera spica-venti* show great gaps in the records and it is not clear whether this indicates a real absence or merely an absence of recorders. If the project is to be useful for conservation purposes, up-to-date site information will be essential and this is one area where the local knowledge of members would be particularly valuable.

Individual contributions could take a number of forms ranging from location and assessment of old records to assessment of current status in known sites. One approach which some could find appealing would be to adopt a particular species, either nationally or in a particular region. From a list of 320, some members may already have a favourite on which they hold a lot of information. Offers have already been received for over 20 species but there are many other species of reasonably finite distribution which could be covered over a two season period.

Some members have their own libraries of local floras and journals, others have access to larger botanical libraries. Such members might wish to contribute by adopting a journal or flora. Most floras and some journals e.g. Botanical Exchange Club reports and Annals of Scottish Natural History are comparatively well known and accessible and many of their records will already have been noted at BRC (if only in summary form) but the same cannot be said for all local and regional publications. Identifying and searching such sources for records is another area where the knowledge of members would be valuable.

If you wish to be involved in fieldwork, do not necessarily aim for the honeypots; Box Hill, Malham and Ben Lawers may just have been covered. Almost any area will produce

records unconfirmed for thirty years or more or totally unknown to BRC. Talk to your vice-county recorder (nicely - he may be overworked and cursing another project that will disturb his life of peace and ease!) or write to one of us for ideas. For those of you who want to get involved immediately, detailed instructions follow after the species list.

Some assistance with travelling expenses may be available for those who get involved in extensive fieldwork. We do however discourage members resident in the south-east from adopting Scottish alpine! Adopting a species distributed about where you live and which you already know fairly well could be more rewarding than a brief trip to distant parts.

Having read all this, many of you are probably itching to get out there and put your knowledge and ideas to use. Hopefully you will find the opportunity to be involved in producing a tool to help the decisions for future conservation action enjoyable and rewarding. In DP's words "Here is something that will delight many of us: a chance to go out and search for rare plants; no battling with Taraxaca or Rubi, no ticking off *Carex flacca* for the umpteenth time, just straight unalloyed pleasure!"

**LIST OF SCARCE PLANTS** - see pages 19-21.

### **INFORMATION REQUIRED**

For those of you wishing to get involved, we indicate here the minimum information required for a species record. Records should normally be sent to the relevant vice-county recorders, so that they can update their records before forwarding to BRC. In special circumstances, e.g. when travelling on holiday, they can be sent direct to BRC who will forward them to recorders. For members who are able to submit many records, we can arrange to supply BRC 'Pink' cards direct to save transportation by v.c. recorders.

**The aim of the project is to identify as many sites as possible and to obtain as recent a record as possible from each site. Preference should be given to checking sites where a species has not been recorded since 1970.**

Don't forget to let us know what you intend to do, whether it is searching a flora/journal, revising old sites or something else. Contact DP if you would like to adopt a species or search a publication for records; contact the vice-county recorder if you intend to work in a particular area. This should allow us to avoid too much duplication of effort.

Details required for each record are:

**Grid reference:** give 6-figure ref. if known. A 1km or 10km square reference is acceptable if the precise locality is unknown.

**Vice-county:** give name and number.

**Localities:** Use names which appear on the Ordnance Survey Landranger maps or are related to such names e.g. 'Old Rectory', 13km NW of Dorchester. This particularly applies to reserves which often have names not shown on the maps.

**Altitude:** for the montane species give this if it will help in precisely locating a site.

**Dates:** give as fully as possible.

**Names of recorders and determiners:** give as initials and full surname.

**Status:** for introduced plants indicate if possible whether it is planted, escaped from cultivation or casual.

**Literature references:** give author, title, volume, page number.

**Population size:** an estimate would be useful. If an exact count is impractical, use the following scale:

A 1-10 plants, B 11-100 plants, C 101-1000 plants, D 1000+ plants

### **SUMMARY OF CONTACTS/ROLES**

Alison Stewart: project coordinator

Charlotte Ward: data handling and assistant to AS

David Pearman: coordinator of BSBI members contributions

- adoption of floras/journals

- adoption of species

assistance to v.c. recorders where requested

ALISON STEWART, BRC, Monks Wood Experimental Station, HUNTINGDON, Cambs. PE17 2LS  
Tel. 04873-381 ext. 23

DAVID PEARMAN, The Old Rectory, Frome St Quentin, DORCHESTER, Dorset DT2 0HF  
Tel. 0935-83702 [after 25 April]

Recorders and Recording

LIST OF SCARCE PLANTS

Species that have been adopted so far, or where we have suitable 'parents' in mind are asterisked.

Aceras anthropophorum	Carex rupestris
Aconitum napellus	Carex saxatilis
Actaea spicata	Carex vaginata
Adiantum capillus-veneris	Carex vulpina
Ajuga chamaepitys	Centaurea cyanus
Ajuga pyramidalis *	Centaurium capitatum
Alchemilla glomerulans	Centaurium littorale
Alchemilla wichurae	Cephalanthera longifolia
Allium oleraceum	Cerastium alpinum *
Allium schoenoprasum	Cerastium arcticum ssp. arcticum
Allium scorodoprasum	Cerastium cerastoides
Alopecurus aequalis	Cerastium pumilum
Alopecurus alpinus	Ceratophyllum submersum
Alopecurus bulbosus	Chenopodium botryodes
Althaea officinalis	Cicendia filiformis
Andromeda polifolia	Cicuta virosa
Apera interrupta	Circaea alpina
Apera spica-venti	Cochlearia scotica
Arctostaphylos alpinus	Corallorhiza trifida
Arum italicum	Corynephorus canescens
Asplenium billotii	Crambe maritima
Asplenium septentrionale	Crassula tillaea
Athyrium distentifolium	Crepis mollis
Atriplex longipes	Cuscuta europaea
Atriplex praecox	Cyperus longus
	Cystopteris montana
Betula nana	
Brassica oleracea ssp. oleracea	Dactylorhiza traunsteineri *
Briza minor	Daphne mezereum
Bromus benekenii	Deschampsia alpina
Bupleurum tenuissimum	Deschampsia setacea
	Dianthus armeria
Calamagrostis stricta	Dianthus deltoides
Calamintha nepeta	Draba muralis
Callitriche hermaphroditica	Draba norvegica
Callitriche truncata	Dryas octopetala *
Campanula patula	Dryopteris villarii
Cardamine bulbifera *	
Cardamine impatiens	Elatine hexandra
Cardaminopsis petraea	Eleocharis acicularis
Carex appropinquata	Epilobium alsinifolium
Carex aquatilis	Epilobium lanceolatum
Carex atrata	Epipactis atrorubens
Carex capillaris	Epipactis leptochila
Carex digitata	Epipactis phyllanthes
Carex divisa	Equisetum pratense
Carex elata	Equisetum variegatum
Carex elongata	Erodium maritimum
Carex ericetorum	Erodium moschatum
Carex humilis	Euphorbia paralias
Carex magellanica	Euphorbia platyphyllos
Carex maritima	Euphorbia portlandica
Carex montana	Euphrasia foulaensis
Carex punctata	Euphrasia frigida

Recorders and Recording

Euphrasia marshallii	Lepidium latifolium
Euphrasia ostenfeldii (curta)	Limonium binervosum
Euphrasia pseudokernerii	Limonium humile
Euphrasia rostkoviana ssp.montana	Limosella aquatica
Euphrasia rostkoviana ssp.rostkoviana	Linnaea borealis *
	Linum perenne ssp. anglicum *
Fallopia dumetorum	Lotus subbiflorus
Festuca altissima	Luronium natans
Festuca juncifolia	Luzula arcuata
Frankenia laevis	Lycopodiella inundata
Fritillaria meleagris *	Lycopodium annotinum
Fumaria bastardii	Lysimachia thyrsoiflora
Fumaria capreolata	
Fumaria densiflora	Marrubium vulgare
Fumaria parviflora	Meconopsis cambrica
Fumaria purpurea	Medicago sativa ssp. falcata
Fumaria vaillantii	Medicago minima
	Medicago polymorpha
Gagea lutea	Melampyrum cristatum
Galeopsis angustifolia	Melampyrum sylvaticum
Galium parisiense	Melittis melissophyllum
Galium pumilum	Mentha pulegium
Galium sternerii	Mertensia maritima *
Gentiana pneumonanthe	Meum athamanticum
Gentianella anglica	Minuartia hybrida
Gentianella germanica *	Minuartia sedoides
Gnaphalium sylvaticum	Minuartia verna
Goodyera repens	Moenchia erecta
Gymnocarpium robertianum	Myosotis stolonifera
	Myosurus minimus
	Myriophyllum verticillatum
Hammarbya paludosa	
Helianthemum canum	Nuphar pumila
Helleborus foetidus	Nymphoides peltata *
Herminium monorchis	
Hippophae rhamnoides	Oenanthe fluviatilis
Hordelymus europaeus	Oenanthe pimpinelloides
Hordeum marinum	Oenanthe silaifolia
Hornungia petraea	Ophioglossum azoricum
Hydrocharis morsus-ranae	Orchis morio
Hyoscyamus niger	Orchis purpurea
Hypericum montanum	Orchis ustulata *
Hypericum undulatum	Ornithogalum pyrenaicum *
Hypochaeris glabra	Orobanche alba *
	Orobanche hederæ
Iberis amara	Orobanche maritima
Illecebrum verticillatum	Orobanche rapum-genistæ *
Impatiens noli-tangere	Orthilia secunda
Inula crithmoides	
Isoetes echinospora	
	Papaver argemone
Juncus acutus	Papaver hybridum
Juncus alpinus	Parapholis incurva
Juncus balticus	Parentucellia viscosa
Juncus biglumis	Peucedanum palustre
Juncus castaneus	Phleum alpinum
	Phyteuma orbiculare
Lathyrus aphaca	Pilularia globulifera
Lathyrus japonicus	Pinus sylvestris
Lathyrus palustris	Poa alpina
Lavatera arborea	Poa bulbosa

Recorders and Recording

<i>Poa glauca</i>	<i>Sibthorpia europaea</i>
<i>Poa palustris</i>	<i>Silene conica</i>
<i>Polygala calcarea</i>	<i>Silene gallica</i>
<i>Polygonatum odoratum</i>	<i>Silene noctiflora</i>
<i>Polygonum boreale</i>	<i>Silene nutans</i>
<i>Polygonum minus</i>	<i>Sium latifolium</i>
<i>Polygonum mite</i>	<i>Sonchus palustris</i>
<i>Polygonum oxyspermum</i>	<i>Sorbus devoniensis</i>
<i>Polygonum rurivagum</i>	<i>Sorbus porrigentiformis</i>
<i>Polypodium cambricum</i>	<i>Sorbus rupicola *</i>
<i>Polypogon monspeliensis</i>	<i>Spartina maritima</i>
<i>Potamogeton coloratus *</i>	<i>Spiranthes romanzoffiana *</i>
<i>Potamogeton compressus</i>	<i>Stratiotes aloides</i>
<i>Potamogeton filiformis</i>	<i>Suaeda vera</i>
<i>Potamogeton friesii</i>	<i>Subularia aquatica</i>
<i>Potamogeton praelongus</i>	
<i>Potamogeton trichoides</i>	<i>Teesdalia nudicaulis</i>
<i>Potentilla argentea</i>	<i>Thesium humifusum</i>
<i>Potentilla crantzii</i>	<i>Thlaspi alpestre *</i>
<i>Potentilla tabernaemontani</i>	<i>Tilia platyphyllos</i>
<i>Primula elatior</i>	<i>Tofieldia pusilla</i>
<i>Primula farinosa</i>	<i>Torilis arvensis</i>
<i>Primula scotica *</i>	<i>Trifolium glomeratum</i>
<i>Puccinellia fasciculata</i>	<i>Trifolium occidentale</i>
<i>Puccinellia rupestris</i>	<i>Trifolium ochroleucon</i>
<i>Pulmonaria longifolia</i>	<i>Trifolium ornithopodioides</i>
<i>Pulsatilla vulgaris *</i>	<i>Trifolium squamosum</i>
<i>Pyrola media</i>	<i>Trifolium suffocatum</i>
<i>Pyrola rotundifolia</i> ssp. <i>rotundifolia</i>	<i>Turritus glabra</i>
<i>Pyrola rotundifolia</i> ssp. <i>maritima</i>	
	<i>Ulex minor</i>
<i>Ranunculus arvensis</i>	<i>Vaccinium microcarpum</i>
<i>Ranunculus baudotii</i>	<i>Valerianella dentata</i>
<i>Ranunculus parviflorus</i>	<i>Verbascum lychnitis</i>
<i>Ranunculus tripartitus</i>	<i>Verbascum pulverulentum *</i>
<i>Rhynchosinapis monensis</i>	<i>Verbascum virgatum</i>
<i>Rhynchospora fusca</i>	<i>Veronica alpina</i>
<i>Ribes alpinum</i>	<i>Veronica spicata</i> ssp. <i>hybrida</i>
<i>Ribes spicatum</i>	<i>Vicia bithynica</i>
<i>Rumex maritimus</i>	<i>Vicia lutea *</i>
<i>Rumex palustris</i>	<i>Vicia orobus</i>
<i>Ruppia cirrhosa</i>	<i>Vicia tenuissima</i>
	<i>Viola lactea</i>
<i>Sagina saginoides</i>	<i>Vulpia ciliata</i>
<i>Salicornia perennis</i>	<i>Vulpia fasciculata</i>
<i>Salicornia pusilla</i>	<i>Vulpia unilateralis</i>
<i>Salix arbuscula</i>	
<i>Salix lapponum</i>	<i>Wolffia arrhiza</i>
<i>Salix myrsinites</i>	
<i>Salix nigricans</i>	
<i>Salix reticulata</i>	<i>Zostera angustifolia</i>
<i>Saxifraga nivalis</i>	<i>Zostera marina</i>
<i>Scandix pecten-veneris</i>	<i>Zostera noltii</i>
<i>Scilla autumnalis</i>	
<i>Scrophularia umbrosa</i>	
<i>Sedum forsteranum</i>	
<i>Sedum villosum</i>	
<i>Senecio integrifolius</i>	
<i>Sesleria albicans</i>	
<i>Sibbaldia procumbens</i>	

## NOTES AND ARTICLES

## THE BLUEBELL - AN INTRODUCTION

The Hon. General Secretary, as a Radio 4 listener, heard Richard Baker talking to the York Waits on one of his 'Comparing Notes' programmes. Intrigued by James Merryweather's reply "studying bluebells" when asked what was his non-musical activity, a Yorkshire member, Margaret Lindop, was asked to track down James Merryweather and ask for more information on his bluebell research.

The following paper on the Bluebell - particularly appropriate as the Society's emblem - was written by this York Wait\* for BSBI News in response.

\*Wait - a small body of instrumentalists maintained by a city or town at the public charge - 1764. O.E.D.

MARY BRIGGS, Hon General Secretary

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THE BLUEBELL - HYACINTHOIDES NON-SCRIPTA  
OR ὕακινθος - SATURION MINOR - THE ENGLISH JACINTH

"Woods stunning both in colour and perfume thanks to the bluebells"  
".....and the wood is no longer the glory of two weeks ago"

These are pretty obviously not quotations from Milton, Keats or Shelley, all of whom wrote eloquent poetry upon the beauties of English bluebell woods. They are but mere jottings in my field note book, written as I stood in a sea of misty blue, enveloped in the heady (if slightly piggy) scent of hyacinths. Bluebells are my work which, for a few brief weeks in May, conspires to combine delight, fascination and sensory over-stimulation as I happily study the inhabitants of what must be one of the loveliest places of employment in the world. Britain has no other monoculture so ravishingly gorgeous. We do indeed have an attractive diversity of natural places from meadows and bogs to magnificent mountains where many delightful plant species may be found, but never in such fabulous profusion.

I say monoculture, but this is not really true. A stand of bluebells may appear to be uniform but, ignoring the occasional fern, wood sorrell or willow herb which may have filled a gap in the sward, there are in fact several plants inhabiting the same niche. There are those which turn up after the bluebells have done their stuff, before the canopy of oak and sycamore closes above their foliage inhibiting photosynthesis. As well as those resident trees, bracken and various grasses (commonly *Holcus mollis*) occupy the same soil as the bluebell bulbs at a depth of around 20cm, but their foliage flushes as the bluebells senesce and their fruits mature. Bluebell leaves become limp and slimy as they are rapidly drained of any useful nutrient (faster by far than daffodil leaves which persist for months) and very soon their withered husks have vanished into the litter leaving the dry fruiting scapes sprinkling the last of the seed until they keel over and slowly decompose. Most bluebell tissue is efficiently recycled.

At York, our particular interest lies in a mosaic of even less evident bluebell co-existences, which are so important that we simply would not have our national pride without them. The key word here is mycorrhiza (Greek for fungus-root), the remarkable symbiosis of plant and fungus which is almost universal. The roots of the bluebell are "plugged into" (infected by) a range of fungal species whose entire lifestyle is specialised into a benignly parasitic co-operation with higher plants. As far as the host is concerned, root manufacture is an expensive business yet, if nutrients such as phosphate, zinc and copper are to be assimilated, it is necessary to go out and get them for they are pretty well immobile in soil. Soluble they may be, like the nitrogen compounds which are so rapidly leached and lost from soils, but these ions are held tightly by soil clay particles to which they are bound by electrical forces. To most plants, especially the bluebell with its short stubby roots, these nutrients would be much less obtainable were it not for their fungal partners. Fungal hyphae are very thin and, therefore, relatively "cheaper" to make. Via interfaces between host and fungus (arbuscules), actually within the cells of the root cortex, the bluebell provides the

building material required by the fungus, which it cannot produce itself: the carbon compounds manufactured in photosynthesis. The fungus ranges about the soil, perhaps as far as 5cm from the root, and seeks out the minutest sources of immobile phosphate etc. which it transports to the host, exchange again occurring through those extraordinary intracellular arbuscules.

The 1989-1990 season's results have assured us that the bluebell indeed indulges in mycorrhizal association in order to amplify the effectiveness of its root system as a means of obtaining nutrients. There is a significant correlation between infection density and phosphate uptake rate which increase and decrease synchronously implying that the mycorrhiza is responsible. This has frequently been demonstrated by other laboratories using "tame" subjects such as the onion with artificially-induced mycorrhizal infections, but not in real living woodland using a plant whose roots are patently inadequate. It is very likely that the bluebell would simply not survive without its fungal partner, or rather partners, for the anatomy of the internal fungal material is very variable, and from 8 to 10 species of mycorrhizal fungal spores are to be found in the vicinity of bluebell root. We may fairly infer that several fungi are involved, some perhaps sharing space in a host plant, or even a single root, at the same time. Mycorrhizal fungi of this type of association, the vesicular-arbuscular mycorrhiza, are not host specific, so that we can propose that the bluebells may also be sharing infections with other species with which they cross roots. Even plant interconnection has been proposed and it has been said that when you look at a field of grass you are truly seeing one vast mycorrhiza!

As our work has proceeded we have, of course, become aware of many fascinating aspects of the bluebell lifestyle. For instance, although they are only seen from February through until July, they are exceptionally active plants, and actually only take a couple of week's holiday a year, in mid August. By early September their roots are growing and, incidentally, becoming infected more or less straight away in order that nutrient uptake can proceed apace. During the autumn the shoots are actively expanding towards the soil surface to await emergence before the spring. I deliberately use the term "expanding" because it was evident from dissections of September bulbs that sheaths, leaves, scapes and flowers had already been manufactured in miniature at the end of the previous season ready to be inflated with water for rapid growth. Indeed I was able to count flower numbers throughout the year, at first with the aid of a microscope. New roots follow the course of old roots: incredibly they seem to be able to find the base of the nearest old, dried root and use the hole that it had made the previous year and within which it still sits in a shrunken, but still useful condition. Intriguingly, there seems to be good reason to suspect that the old root harbours a supply of viable fungal material to be picked up by the new and become infected as rapidly as possible though this wants proof. Some of the earliest-produced roots (those emerging from the upper parts of the bulb) defy the rules of gravitropism and head directly upwards to the leaf litter where we know available phosphate and other nutrients are in rich abundance, another sound plan for a fast getaway. Where there is high nutrient there is a much reduced opportunity for infection, but that is merely a useful economy.

The nutrient gradient from the rich litter down to the sandy soil where the adults live is illustrated by a neat parallel in young bluebells. Seed rains onto the litter in July and is buried by rotting leaves in autumn. It is in November that germination occurs and the seedling roots curl around, the best of them diving downwards into this rich food source. A few do become mycorrhizal but, in general, they have enough to live on in their first season, and it is the older generations which really need infection as they pull themselves downwards by bulb extension and contraction of specialised roots. As they move down, season by season, they will find that the phosphate is increasingly hard to get, but the mycorrhizal fungi, nurtured by their parents, become more readily available. There seems to be a neat correlation between the decrease in soil phosphate and increase in fungality as the adolescent bluebells grow and travel down the soil profile.

Seed germination and seedling production appear to be very successful. It is in their first few seasons, as the young plants attempt to join their ancestors, that terrible losses occur. However, the bluebell seedling that gets its first root strongly embedded in the litter, building up a respectable bulb for overwintering and new growth, will succeed if it becomes mycorrhizal early in life. After a few years it will reach the same soil depth as the adults and settle, perhaps if lucky in a bare patch, where it may

divide and produce a clone. Alternatively it may find itself in the heart of, or adjoining, an existing colony where it will have to compete for space. Some poor individuals hurry down, only to embed themselves within the bulb scales of another, where they stand little chance of a flowering future. The familial structure of a bluebell colony has yet to be investigated. Generally each colony has its own standard colour, size, vigour etc. but occasionally one may find one or more say, tall, dark inflorescences within a regular clump of uniformly paler, standard-sized ones. This may imply that bluebell clumps are clonal (i.e. descendants by splitting or budding of a single ancestor) but they may contain any number of additions if the newcomers can first-of-all compete to join when, it seems, they may happily co-exist.

The title of this article contains just a few of the mass of names that the bluebell has attracted to its popular self. In fact the first ὑάκινθος (Huákinthos) is the ancient Greek name for a plant which is difficult to identify precisely. It was a hyacinth cousin of the bluebell which today takes its name, as in previous times in its chequered taxonomic history. *Hyacinthoides non-scripta* is closely related to a species of Mediterranean hyacinth which took the name of the beautiful prince Ἰάκινθος (Huákinthos or Hyacinthus) who, in pre-Hellenic times (before 1100 BC) lived at Amyclae, five miles south of Sparta. The most plausible (ahem) version of his legend is that he was beloved of the God Apollo who accidentally killed him with a carelessly-tossed discus. As our hero lay dying, the remorseful Apollo caused a beautiful plant to arise from his blood, and on the petals (or leaves, the documentors are divided upon this vital fact) he wrote the letters AI expressing with alas his sadness at what he had so rashly done. These letters are not to be found upon our native species, so it is named non-scriptus, the unlettered hyacinth. a mid fifteenth century botanical treatise presumably knew nothing of this for it names it *Saturion minor* but clearly describes, in charming middle English, our plant:

"Saturion minor is an herbe þat me clepup crowlek or harebelle. þis herbe hath leues lich to 3ekes bot hij buth lengour and nou3t fullich so brode and he hath a rote shape after an noyen and he hæþ a blew flour y-shape oþ þei hit were a belle and he growth in wodes and in hegges."

Saturion minor is a herbe that we name crowleek or harebell. This herb hath leaves like unto gekes[1] but both longer and nought fully as broad and it hath a root shaped like an onion and it hath a blue flower, shaped as though it were a bell and it groweth in woods and hedges.

The third sample in the title is from Gerard's herbal which first appeared in print in 1597. This is a fine description of the plant, even if the illustration falls short of true representation. Here we learn of uses for the bluebell. From the bulb may be prepared a starch[2] inferior only to that obtained from the roots of wake-robin, the wild arum. Starch was essential for the stiffening of the extravagant ruffs which adorned the necks of the well-dressed "Jacobethans". The bluebell bulb is, in the words of Gerard: "full of a slimie glewish juice which will serve to set feathers upon arrowes in stead of glew, or to paste books with" and, he continues, "The roots, after the opinion of *Dioscorides* [a second century Turkish botanist], being beaten and applied with white wine, hinder or keepe backe the growth of haire". I believe that this property was utilised by the Greeks for the maintenance of youthful beauty in their young men but, of course, Dioscorides was not referring to the English hyacinth and our native bluebell as a viable depilatory awaits attention from the cosmetics industry.

Today the bluebell is apparently no more than a decorative plant of little practical use, for its previous functions are now out-of-date and it is no less poisonous to the rash eater than it was in ancient times. However, it is beloved of this nation, although our descendants may not have the privilege we take for granted, that grey-blue haze seen as we pass the Maytime woods carpeted with wild hyacinths. It is authoritatively considered that this is one species that will be unable to adapt to global warming. Its habitats are undisturbed, well-established wild places and the bluebell matures and spreads so very very slowly. Even though its habitat is continually being destroyed, it is unlikely to face extinction in the foreseeable future but, if spring arrives earlier, species which usually wait until the bluebells have completed their season will be able to flush at the same time. Bluebells cannot tolerate competition for light.

**Endymnion**, yet another name for the bluebell, was the subject chosen by Keats for his

epic poem about the classical shepherd who chose as his gift from Zeus perpetual sleep so that he might remain youthful for ever. The first line is the familiar: "A thing of beauty is a joy for ever". In the uncomfortably near future the bluebell may sadly prove Keats wrong.

1. **Saturion major**, also known as "Standelwelkes", was an orchid with spotted ("spotty") leaves and red or white flowers, i.e. *Dactylorhiza* spp.
2. The bluebell contains very little true starch, but instead stores fructan, a fructose polymer.

JAMES MERRYWEATHER, Biology Dept., The University, YORK YO1 5DD

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### UNIDENTIFIED MEDICINAL PLANTS - 3

I am grateful to Imogen Yeomans (BSBI News 55: 28) for her many helpful suggestions - and to six others who sent me further ones direct, in response to my appeal last April (BSBI News 54: 32). It is impressive that the BSBI has at least three experts on the Gaelic names of plants!

Unfortunately, only three of the identifications proffered seem to me sufficiently convincing to be accepted without more ado. Two people pointed out that Blue Mallow is a herbal name for *Malva sylvestris* (but why 'blue'?) Semur capaill yielded up easily to the Gaelic specialists as merely *Trifolium pratense*. And as my source for Stony-on-the-Wall described it as 'a plant good for gravel', *Parietaria judaica* must indeed surely be that (and not, pace two correspondents, *Capsella bursa-pastoris*, the folk uses of which seem all to have been for the blood).

No fewer than four people found Gravel Root is in the books as the name of *Eupatorium purpureum*, an introduction from America; but that strikes me as much too sophisticated for country people in Co. Wicklow, who are unlikely to have had recourse to costly imported exotics. At the same time there is no evidence that I know of that the native *Eupatorium cannabinum* stood in for it in that region. For the same reason I have difficulty in visualising *Allium angulosum* in the hands of peasants in Co. Clare: Bog Onions in Cumberland meant *Osmunda regalis*, according to the English Dialect Dictionary, which is certainly a more appealing solution. Black Peppermint, too, is no doubt correctly *Mentha x piperita* forma *rubescens* in the books, but that can hardly be the 'common plant of bogs' which I mentioned was how it was described in my Cotswolds source. I still think that has to be *Mentha aquatica*.

Two people offered *Cirsium vulgare* for Spear Point, but I doubt if that species has ever been used herbally. I now think the name probably a variant of Spearwort, i.e. *Ranunculus flammula*, which has long been widely used in the North and West. The thistle generally in folk use was *Silybum marianum*, which has gone under a whole range of names; and as that is on record for whooping cough in Co. Cavan, I am inclined to think that Crisp Thistle, also used for that malady there, was just one more of its guises - and not, as some correspondents were tempted into suggesting, *Carduus crispus*. It was also for whooping cough that the unlikely-sounding Alexopane is said to have been used in Orkney. I now suspect that that was simply a misreading of someone's handwriting and that Elecampane was the plant intended. 'Alecampane' used to be one of the ways in which that species was spelt.

Might not Red Heath Broom, from the leaves of which 'Besom Tea' was made in Somerset, be *Ononis repens/spinosa*? Turner says Rest-harrow was called 'Whin' in Cambridgeshire. Red Roger, with which they staunched nosebleeds in Co. Down, sounds suspiciously like *Geranium robertianum*, a widely-used styptic. But I am no nearer the identity of Seven Sisters, even after learning further that its juice was a wart cure in Co. Donegal as well as in Co. Cavan. How does one square its description in the former as "a jaggy plant that grows in sandy places" with its repute in the latter as a bog plant with a very thick stem? As it was alternatively known in Co. Donegal as Seven Brothers, there does at least seem an insistent idea that the plant in question was heptaphyllous. The same new source of data for Co. Donegal also refers tantalisingly to a TB cure which must surely be the same as Fermanagh's mysterious Pusey. Known as 'The Tea-Plant', it had a puce flower (hence Pusey?) and grew on roadsides - although in Fermanagh they described the flower as purple

and knew it as a plant of meadows in early summer. For one reason or another *Glechoma hederacea*, *Prunella vulgaris* and *Centaurea nigra* - the likeliest-sounding candidates - all present difficulties as this.

Meanwhile here are a few more problem names for which I would, as before, value suggestions as to which herbs they refer to:

Poke Root - A Norfolk remedy for rheumatism.

Ox-tongue Herb or boglas leaf - used in Co. Donegal for drawing out the poison from a suppurating sore. (A mishearing of Fox-tongue, the usual Irish name for *Asplenium scolopendrium*?)

The Coffee Plant - a tall plant with light green leaves, growing about old wallsteads, reckoned good for the heart in Co. Donegal.

Red Hand or crov-darig - the Irish tied its root to the leg of a dog as treatment for consumption.

Marsh Chickweed or fliodh Moire - used in the Highlands to cure a festering hand or foot and also to ease rheumatism. Closely akin to Watercress, it similarly grows in pools and puddles. (Yes, I have thought of *Montia fontana*, but who ever heard of that being credited with herbal virtues?)

DAVID ALLEN, Lesney Cottage, Middle Road, WINCHESTER, Hants SO22 5EJ

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NEWS FROM THE NATURAL HISTORY MUSEUM

Since the publication of BSBI News 56, Alison Paul of the former Fern Section has been promoted and will assume responsibility for the day to day running of the British Herbarium. An advertisement for two junior staff has been placed in the New Scientist. These will be working mainly on Vascular Plants, and once they have been recruited it is planned to reorganise the British Herbarium according to D.H. Kent's forthcoming list.

BSBI members are still involved in the reorganisation of parts of the British Herbarium. David McCosh and others are making sterling progress reorganising the *Hieracium* collections, while David Allen and his colleagues are doing similar work on *Rubus*. We are grateful to both groups who are making the national collections ever more useful to vice-county recorders and local workers. In addition to the times given in BSBI News 56, the Vascular Plant herbaria are also open on the third Saturday of each month, from 10am until 5pm, but visits on other Saturdays can still be arranged if necessary.

CLIVE JERMY & ROY VICKERY, Department of Botany, The Natural History Museum, Cromwell Road, LONDON SW7 5BD

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"MOMENCLATURE" - A NEW TAXONOMIC CONCEPT

Several members perusing the Crucifer Handbook were amused to discover what appears to be a typo in the very sentence in which the proof-readers are acknowledged. Far from being a mere oversight "momenclature" may be regarded as a newly coined term reflecting the transient (sometimes even momentary) nature of Latin binomials today - a sort of state of the art nomenclature!!

EIMEAR M. Nic LUGHADHA & DUGGIE H. KENT, Herbarium, Royal Botanic Gardens, Kew, RICHMOND, Surrey TW9 3AE

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SMALL AD FOR GIANT HOGWEED

Idly leafing through a copy of The Irish Farmers' Gazette and Journal of Practical Horticulture, in the issue of 22 September 1849 (vol. 8 (no 38): 444), my eye was riveted by the advert reproduced on the next page. Need one say any more?

## For Autumn Sowing.

### HERACLEUM GIGANTEUM,

ONE of the most magnificent Plants in the World, and requires to be sown before Winter to germinate in the Spring, is a Biennial, grows 14 feet high in one summer, with a handsome fluted stem, 6 or 8 inches in diameter, and a compound umbel of white flowers, 12 feet in circumference, with leaves from 5 to 7 feet wide.—See Mrs. Loudon's "Ladies' Companion," page 141. Packet of Seed, with directions for sowing, 1s., or stamps.

### NEMOPHILA INSIGNIS.

This noted annual flower may be sown successionally in pots, beds, or edgings, in autumn, spring, and summer, supplying a display of flowers from March till November. Per lb., 8s.; per oz., 1s.; per  $\frac{1}{2}$  oz., 6d.

Twenty Hardy Annuals, 2s. 6d. All the above post free.

HARDY AND SON, SEED-GROWERS,  
MALDON, ESSEX.

Michael Wyse Jackson has cogently set out the history of the giant hogweed in Ireland (Irish Biogeographical Society Bulletin 12: 94-112, 1989), and if *Heracleum giganteum* is a synonym of *H. mantegazzianum*, all one can say is that Hardy & Son have a lot to answer for. This advert supports a post-script to Michael's article in which he noted a specimen of *H. mantegazzianum* collected before 1866 from Phoenix Park, Dublin.

Incidentally Mrs Jane Loudon (The ladies' companion to the flower-garden (1858, ed. 7), p. 155) describes flowering plants of the Siberian hogweed at Bromley Park in 1839 and at Bayswater in 1840, which are (pace the synonymy) further earlier dates (but see below for 1835) for the introduction of this abominable plant than are quoted in the many sources examined by Michael Wyse Jackson.

Thinking that was all one could say, I was about to send this note to press, but suddenly thought - what did John Claudius Loudon himself say, if anything, in Gardener's Magazine. He had quite a bit to say - see Gardener's Magazine 12: 487 (1836). I would like to quote the whole item, but it is too long.

'*Heracleum asperum*\*, the Siberian Cow Parsnep. The magnificent umbelliferous plant, when grown in good soil, will attain the height of upwards of 12 ft. Even in our crowded garden at Bayswater, it last year (1835) was 12 ft when it came into flower... This year, a plant reached the height of 10ft... Its seeds are now (July 29.) ripe; and we intend to distribute them among our friends [did they remain friends, one wonders?]: not because the plant is useful, for we do not know any use to which it can be applied; but because it is extremely interesting from the rapidity of its growth, and the great size which it attains in five months...

We do not know a more suitable herbaceous plant for the retired corner of a churchyard, or for a glade in a wood; and we have, accordingly, given one friend, who is making a tour in the north of England and Ireland [my emphasis], and another, who is gone to Norway, seeds for depositing in proper places...

[He concludes] The plant is quite common in the neighbourhood of London; but, if any distant reader should wish to have a few seeds, by franking a letter to us... we shall be happy yo send him a supply. [!]

For the benefit of the BSBI's Norwegian friends, may I quote an additional passage. Loudon's friend, one W.C., writing from 'Kaa Fiord, Alten, 70° N. lat. on 25 July 1836, intimated that not only had he sown *Heracleum* seeds 'in an old churchyard at Fugleness, opposite Hammerfest', but had embellished the same spot with California poppies and lupins. 'I will also sow some in different places about here.' (Gardener's Magazine 12: 548)

The thought of an English horticulturist scampering around Ireland and Norway sowing giant hogweed beggars belief, but he was doing no worse than John Templeton, clambering over the Cave Hill at Belfast sowing *Rhododendron ponticum* on 9th March 1809 (Archives of Natural History 17: 328, 1990).

\* glossed as synonym of *Heracleum mantegazzianum* in index.

E. CHARLES NELSON, National Botanic Gardens, Glasnevin, DUBLIN 9, Ireland

## THE NAVASHIN MEDAL FOR CYTOLOGY AND EMBRYOLOGY

At the XI International Symposium on Embryology - which had as its theme Embryology and Seed Reproduction - held in Leningrad in July 1990 some 50 participants were honoured with the award of the Navashin Medal. The medal bears the portrait of S.G. Navashin (1857-1930) with, on the obverse side, the statement - Sexual Plant Reproduction. The medal is a tribute to the work of Sergiey Gavrilovich Navashin founder of the Kiev school of cytology. His name is associated with the discovery of double fertilisation in Angiospermae. Those honoured include, B.M. Johri (India), W.A. Jensen (USA), M. Cresti (Italy), F. Bouman (Netherlands), R. Czapiak (Krakow) and others.

Dr Romana Czapiak of the Jagellonian University, Krakow is part of a distinguished team of botanists working on the flora of Poland at the Department of Cytology and Embryology, Grodzka Street, Krakow. Dr Czapiak's medal carries the citation 'awarded for an outstanding contribution to plant embryology'.

Dr Czapiak has visited England and has contributed to studies on British plants. In 1966 she spent a short period at the Botany School, University of Cambridge, working on *Ornithogalum umbellatum* and on *Potentilla* x *mixta*, *P. reptans*, and *P. anglica* from collections made in Huntingdonshire and Derbyshire. In 1974 she again visited Cambridge for the Symposium held to mark the conclusion of work on *Flora Europaea*. A paper was read entitled 'Apomixis in a sterile hybrid species of *Potentilla*' which was published in *Floristic and Taxonomic Studies* (Walters & King 1975). Dr Czapiak has published widely in *Acta. biol. cracov. ser. bot.* and in other Polish journals.

In 1974 an elodoid plant growing in a lake at Renvyle, West Galway, Ireland - its only western European station - flowered in cultivation at the National Botanic Gardens, Glasnevin, Dublin. The vegetative and floral anatomy was studied in detail. It led to the correction of the name of the taxon from '*Elodea nuttallii* (Planchon) St John' to *Hydrilla verticillata* (L. fil.) Royle, as W.H. Pearsall named it in 1936 (Scannell & Webb 1976). Later, living material ex Renvyle was studied at Krakow by Dr Czapiak. An examination of the character and morphology of the chromosomes in conjunction with studies on Polish *Hydrilla* confirmed the findings at Glasnevin (Czapiak 1978). The study was completed in time for volume V of *Flora Europaea*. (Note, the information is incorrect in *Nature* 265: 572 (1977)).

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MAURA J.P. SCANNELL, Dublin 4 (formerly, Herbarium, National Botanic Gardens, Glasnevin, Dublin)

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WILD FLOWERS OF NORTH EAST ESSEX  
 The production of the book

After being tied to a computer for over a year producing the *Wild Flowers of North East Essex*, the last thing we wanted was to write an article on how we did it! However, after requests from several different directions, we have finally succumbed to the arm twisting.

Firstly, a very brief history of the project and the computer database development may be relevant. Terri is the botanist of the family and Trev does the computer work. The Colchester Natural History Society (CNHS) began recording the local flora on a 1km square basis in 1980. A year later we acquired a personal computer with a view to computerising the botanical recording and the programs to do this were written by ourselves on an Apple computer. The system worked well and it was decided by the CNHS about 1984 that the ultimate aim of the project would be to produce a book in 1990.

By 1988 the database and programs had outgrown the Apple computer and we decided to purchase an IBM compatible computer. All the programs and data were converted to this

system which provided us with a springboard to actually produce the book. With the acquisition of an industry standard computer also came the ability to use software packages; for instance, originally the Apple programs used a mapping program we had written but, upon conversion, we used DMAP as a 'bolt on' to our distribution program - we no longer had to 'invent all our own wheels'.

By mid 1989 book production began to form into two parallel lines - the co-authors, Terri Tarpey & Jerry Heath, heading a group of botanists concentrating on the content of the book, and Trev Tarpey and other members of the CNHS concentrating on the actual book production. Invaluable assistance was provided by CNHS member, Basil Harley of Harley Books who, with his knowledge, was able to advise on paper weights, page sizes and margins and who found us a printer who, as well as specialising in printing short-run books, would provide us with considerable help and advice during production. Additional research among people who had already produced floras gave us valuable information as to the number of books we could expect to sell and some of the pitfalls we should watch out for.

To produce the book we used the following computer hardware:

Olivetti M290 computer with a 40 megabyte hard disc  
HP Laserjet Series II printer

with the following software:

our own database (ssp. *tarpeyii*)  
Mapping program - DMAP version July 1990 by Dr Alan Morton  
Wordprocessor - Wordstar version 5.0  
Spreadsheet - Lotus 123 version 2.1  
Desk Top Publishing (DTP) - Timeworks version 1.2  
and borrowed Scanning facilities

Discussions with the printer were extremely detailed. We had decided on a book size of approximately B5; this could be printed from the DTP onto A4 paper but had to be printed on the same relative part of the A4 sheet, whether a left or right hand page - this was because the book printer would trim all pages to their final size in one operation. Our own experiments had shown that a two-column format appeared best for the text (you get more text per page) and margins and column widths had to be finalised - to the millimetre!! Once the printer had approved the layout then we wrote some text about the plants and, with some maps, tested to see how many pages the final book was likely to contain - this affected the price. (By the way it is best to have a book which has total pages as a multiple of 16.) The test was carried out using the Cruciferae family and, for north east Essex, it proved not to be a bad guide for, with the estimates made for additional chapters, e.g. habitats, we estimated in total 288 pages but finished with 302 pages (the index took more space than we anticipated).

The experimentations also resulted in our deciding to generally put text on the left hand page with maps on the facing page - this was due partly to the constraints of the DTP package and to our limitations as graphic designers - it made the task of combining the maps with the text that much simpler. The limitations of the DTP package were mainly due to the size of file created when the maps were imported; pictures can be quite hungry on memory and we found that the DTP would handle six pages of the book in one file quite happily but could be 'difficult' with more.

Although DMAP had proved an excellent program to produce printed maps, it had not been developed to produce computer output suitable for inclusion within a DTP package. A phonecall to Alan Morton explaining our problem resulted in a trial version of DMAP which produced 'Paintbrush' (.PCX) files, being sent almost by return of post. Experiments with this and further discussions with Alan resulted in a version of DMAP which was fully developed (as we saw the need) to work with a DTP package. This was the final version used within the book. We used the DMAP facility of 'NO TEXT' in order to use the same typeface on the maps as that used for the rest of the book.

Experiments had to be carried out to establish the optimum scaling of the maps as they finally appeared in the DTP - exporting from one package and into another can produce 'unsquare' squares.

The ability to move data from one piece of software to another was extremely useful; for instance, our own database already held Latin and English names for all plants within the system. The spelling of these names had been extensively checked over the years it had been in use. These were imported into Lotus 123, where additional names (e.g. historic plants not listed on the database) and authors were inserted, cross references created with Latin names used in the two Flora of Essex (Gibson, 1862, and Jermyn, 1974). Other data could also be combined from the database, such as adding to each name the number of

1km squares recorded for that plant. The names could be sorted into any order we wished, on any field and any part extracted - the English and Latin names were extracted for use in the text, the Latin and authority for the Scientific index and the English for the English index. These extracts were imported into Wordstar as required, e.g. ready for the text to be written under each plant. Wordstar's spell-checking facility was extensively used but note - spell-checkers aren't foolproof - they cannot tell you that you 'neant 'gravelly' when you had put 'a gravelly track'; proof-reading is still vital.

A further task was to get the CNHS and other logos scanned. We found that the illustrations could not be scanned as Timeworks was unable to handle the size of file a full A4 picture produced at a high definition scan. These were photo-reduced and pasted for the final camera ready copy. The table for the number of species per 1km square had to be produced using a special small font cartridge on the laser printer due to the number of characters to be displayed across the page.

There came the time when all the above could be pulled together into the DTP for the final production of camera-ready copy. We had, as part of the earlier tests for the number of pages, extrapolated the figures to cover all the plant families. This was so that as the text and maps were poured into the DTP we could add or drop maps to keep within the guidelines in order that we didn't end up with too many pages for our budget (or too few). It had previously been decided for each plant whether a map was 'essential', 'like to have' or 'unwanted'.

With the mass of data and files in all the different packages it was essential to have a logical and orderly control on all the files. We have a 40 megabyte hard disk and at completion of the book we were just a few hundred kilobytes short of filling it!

A schedule had been set early in the project detailing each element of production, e.g. writing each chapter, extraction of data for the maps, production of final camera ready copy and proof-reading, etc. The Project Coordinator ensured that everyone involved met their respective targets.

A draft cover was produced using a colour photocopier to aid the design in the initial stages at a reasonable price. (The printer did produce a proof cover for our approval before final production as this was the most expensive single item in the production.)

Funding - money was mostly raised by CNHS members carrying out fund-raising activities, e.g. sponsored 'botany-spots'. Also grants and donations were sought and received. These, together with the pre-publication orders from BSBI, Essex Wildlife Trust and CNHS members, gave us sufficient monies to place the final order with the printer.

If we were asked to advise anyone about to produce a similar book, the major points we would make would be: plan the project in detail and set 'milestones' well in advance of the publication date (18 months would not be excessive) - this includes finding out how much will be written, on what and how many pages it will take. Find a suitable printer early in the project and work closely with them. Offer the book at a pre-publication price (this allows an accurate assessment of the number of books to be printed as well as getting a major part of the funding 'up front'). And finally, do frequent checks on the finances - initially to assist in setting the pre-publication price and then to help judge the number of books to print.

TERRI & TREV TARPEY, 33 Bristol Road, COLCHESTER, Essex CO1 2YU

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## ALIENS AND ADVENTIVES

ALIENS AND ADVENTIVES NEWS : THANK YOU ADRIAN, WELCOME LAURA

Last winter, it was agreed that I would shoulder the responsibility of presenting Aliens and Adventives News. Considering the expertise and effort put into this regular feature by previous authors, it feels a daunting prospect, and I beg your tolerance in advance for the many shortcomings which are bound to reveal themselves. But it feels an exciting prospect, too, because it will enable me to keep us all abreast of new discoveries, and it will open correspondence (and permit meetings) with many earnest alienophiles, ecologists and conservationists. For the moment, I decided to submit to this issue of BSBI News several introductory articles, combining seriousness with humour, in the hope that you may

enjoy them. From the next issue onwards will re-appear formal lists of your own plant records 'in the manner to which we have become accustomed'.

Until a short while ago, the compilation of members' A&A records was ably undertaken by Adrian Grenfell, himself native in a part of England renowned for its long history of foreign flora. Due to ill health, however, he reluctantly had to discontinue and these communications sadly entered a dormant phase. But loyalties are never forgotten, and I am sure all members would wish to join me in expressing gratitude to Adrian for his valuable contribution to our knowledge. I am sure we are equally united in wishing him a speedy recovery.

I have particular pleasure in introducing Laura Andrew to our journal (see front cover). Laura is a natural history illustrator whose work shows such sensitivity and dedication that I am honoured by her willingness to participate. With characteristic twinkle in the eye, we schemed to enter BSBI literature rather dramatically by tackling a twelve-foot monster on a freezing morning in mid-January. To all dignified adults, it is known as *Lavatera arborea*. To the dozens of school children who pass my front garden each day, it is more awesomely dubbed 'The Jungle Tree'. So vividly in their tender minds has this spectacle come to symbolise everything fine and precious about the tropical rainforest that I dare confess having never yet broadcast the original tale of... a rubbish tip near Guildford. Confidentially between BSBI members, though, such humble provenance may now be revealed; nor is it recently acquired but the many-times-great-grand-daughter of a single four-inch juvenile collected there on October 1st, 1973. In that context, of course, it must be classed as an alien, notwithstanding the existence of native colonies along parts of the south and west coasts of Britain. Overall, this species produces some of the heftiest non-woody herbs of upright stature that could ever claim native status in these islands. And perhaps their mature silhouettes evoke not so much a tropical rainforest as a Tenerife hillside?

If any member would like to experience the grandeur of our Tree Mallow at close quarters, I would be pleased to share seeds with you in due season. The illustrated example has already survived two mild winters. If it flowers and fruits again this summer, there will be plenty of free seed to distribute by about September. I will report on that in a later issue of *BSBI News*. And thank you, Laura, for a lovely drawing.

The future thus promises a very interesting and busy time for us. But what of the past? How did I get here? Whoever could have brought me... to this?!

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

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## RETURN OF THE ALIENS AND ADVENTIVES

It all began on an ordinary overcast afternoon in November. Outside, traffic and crowds bustled and jostled their cold Saturday greyways through worn city streets. Inside prevailed the soft-murmured decorum of glass cases and glazed eyes. Graciously, on a separate level above, there expanded our Annual Exhibition. Everywhere was familiar and reassuring. Everything was erudite and enthusiastic. Everyone smiled warmly. And then it happened. Suddenly, through the first unguarded moment in living memory - during the most cordial and innocuous of conversations - suddenly, with a thickening sud (well, you know what I mean), I knew that the Aliens and Adventives had finally taken me over. I just knew.

At heart, I had always acknowledged the presence of little green beings in my life. In 29 years of friendship, Eric Clement suspected it too. And he was right. And it's true. And they've won. And I may conceal their power no longer.

How profoundly can they govern us, these lost souls from faraway places! From childhood innocence to adult simplicity, I have faced all weathers intoxicated by the secret glamour of finding new exotics on old soil. The heart still warms to an empathy with unrecognised waifs silently trapped within man-made wilderness. The mind still soars to the challenge of identification, dreams over the mystery of origin and exults at the knowledge that no terrain, however familiar, will ever be immune from the unexpected. And what tickles irresistibly is the pure entertainment element, the sheer surrealist humour of being the only person for miles around likely to eke esoteric ecstasy out of the scruffiest-looking weed.

What it is to be taken over, possessed even... and there's another dimension too. Very

often the objects of our affectionate regard are themselves not alone but occupied by other organisms - effectively seized by invaders from an outer space full of merciless biological competition. In recent years, I have become passionately interested in these. Reflect how often you have looked at a plant, and there's a 'thing' on it. I don't mean a mobile invertebrate which wisely retreats before human gaze but something immovable. It could be a lump or a bump, a curled leaf or a twirled stalk, a blister of skin or a cluster of spores. And there it sits, impassively, as though provoking you to a duel of wits. Where has it come from? How does it work? What is it called? Perhaps it appears nothing like these suggestions but presents itself more as a generalised disease or deformity; perhaps this was caused by aphids, mildews, viruses, bacteria, or even by organisms so obscure as yet to have escaped that correspondingly insidious invasion known as scientific nomenclature. Not a hundred lifetimes would suffice to penetrate the infinite ramifications of wild plant cecidology, parasitology and pathology, nor, it may fairly be argued, should the literature of our particular society get too far side-tracked into such multidisciplinary studies anyway. But then the critical phrase is 'too far' and how we wish to measure the distance. Some personal involvement is unavoidable because every time we go out in the field we see what we see. And some professional involvement is also unavoidable because BSBI alone harbours the pool of taxonomic expertise upon which these other researches always depend. For the host plant itself needs to be identified with specific or even infraspecific precision before any 'thing' found upon it can also be identified and then subjected to meaningful analysis.

Sometimes indeed, almost as though by return of favour, these related sciences can answer questions about plants which the botanist, sensu stricto, may have posed in vain. I offer three pathways of enquiry to corroborate this claim. Firstly, many native species planted or self-sown outside their native habitats (and thus becoming alien) lose many of their original 'things' - their predatory and parasitic organisms - because the survival of those had depended upon certain ecological provisions over and above mere food plant supply. Often it is possible to ascertain what the provisions are by carefully comparing the native and alien habitats. It is therefore reasonable in many instances to postulate some kind of correlation between a plant's vegetative cleanliness and its environmental status. Secondly, one's diagnosis of a spontaneously arisen half-alien hybrid may occasionally be supported by demonstrating evidence of foreign morphology together with galls normally host-specific to the British parent only. For example, *Alnus glutinosa* x *A. incana* self-seeded near Waltham Abbey, Essex, had inherited the mite galls *Eriophyes brevitarsus* and *E. axillare* which *A. incana* never hosts. At Nunhead Cemetery, London Borough of Southwark, introgressed (swarms of?) *Crataegus monogyna* x *C. heterophylla* had similarly inherited *Eriophyes pyri* var. *crataegi* which is unknown on *C. heterophylla*. At the Middlesex Filter Beds, London Borough of Hackney, near native *Populus nigra* forms together with *P. x canadensis* (their autecologies apparently identical with the true native) had crossed with *P. candicans*, one of the Balsam Poppers, imparting a fungus, *Taphrina populina*, to the hybrid but again not to the latter parent. And at Abney Park Cemetery (also L.B. Hackney) a planted tree of *Quercus robur* x *Q. ilex* betrays its British parent by revealing spangle galls (albeit malformed) and its European one by producing evergreen leaves of almost regular outline. Thirdly, and still referring to *Quercus ilex* (see BSBI News 55: 9 & 56: 21) such conundrums as the possible globe-warming significance of a continental aggressor may more delicately be investigated by monitoring not so much the invasion speed of its new British saplings but rather the rapidity with which an even more thermophilous associate, the felt-mite *Eriophyes ilicis*, is now spreading its range on trees already established here. On the English mainland I have personally seen this mite only along the sea-facing slope above Eastbourne's promenade, and that is about as sunny a spot as will ever be found north of the Channel!

*Salix cinerea* x *S. viminalis* presents an interesting variant to the above situation, because its hybrid determination may be confirmed by the presence of two galls; one is *Pontania vesicator*, a sawfly blister gall normally restricted to the former parent, and the other is *Dasyneura marginemtorquens*, a midge roll gall normally restricted to the latter. It is still a moot point whether such a hybrid should be considered native in view of the uncertain status of *S. viminalis*. Rarely do native plants host alien galls; *Andricus quercuscalicis* (the Knopper) and *A. lignicola* (the Cola Nut) are well known on *Quercus robur*, but *Q. cerris*, the alien tree which first carried them in, is still essential for the completion of each wasp's annual cycle.

Totally foreign partnerships thriving on British soil are easier to exemplify. Choosing plants familiar in our alien literature, *Platanus x hybrida* commonly supports its own

distinctive leaf mildew, *Gloeosporium nervisequum* (= *Gnomonia veneta*), which can spread to no other tree. *Laurus nobilis* often supports a gall louse, *Trioxa alacris*, again host-specific. *Juglans regia* gives widespread sanctuary to an erinaceous mite *Eriophyes tristriatus*, similarly confined. Not (yet?) listed in the British alien flora are London's increasingly numerous (but always planted) *Gleditsia triacanthos* var. *inermis* which have brought their own North American gall midge over here with them; this insect, too, known as *Dasyneura gleditsiae*, has not transferred itself to anything else. But at the herbaceous level, another exclusive North American duo is truly and abundantly naturalised, namely the many varieties of *Lupinus polyphyllus* (usually *L. polyphyllus* x *L. arboreus* backcrosses known as Russell Lupins) in conjunction with their nitrifying root nodules caused by a bacterium, *Rhizobium beyerinckii*. It would appear (or would it? Is life ever so straightforward?) that all our British native and European legumes partner themselves only with the smaller nodules of *R. radiculicola*. I have no information which type is supposed to be attached to *Robinia pseudacacia*.

It is not always known where the parasitic fungi now common on our alien angiosperms did actually come from. *Oxalis articulata* is far from new to this country, but only in 1973 was a vivid orange rust, *Puccinia oxalidis*, first recorded on both cultivated and escaped colonies, markedly debilitating their summer foliage. Whatever its origin, this has now spread dramatically throughout the home counties. Another orange *Puccinia* species awaits both name and origin. It could be as Californian as its host, *Bromus carinatus*, or it could be a British one recently adapted to it. The pair of them have now reached virtual plague proportions on Barnes Common, Surrey, and nearby, and must be regarded as an element of major ecological significance in that area.

This century's most infamous and most publicised partnership has to be Dutch Elm Disease. To a lay person, its very title implies complete reversal of the actual nationality of each organism involved. For there is nothing Dutch about a briefly explosive symbiosis between a British beetle, *Scolytus scolytus*, and a British fungus, *Ceratocystis ulmi*, and there is also nothing British about the principal elm victim, *Ulmus minor* (= *U. procera*) which, despite its 'English' name, is only vegetatively dispersed here. Therefore, it is unfortunate that this magnificent ecological drama of the Seventies was so widely promulgated as a grim fairy tale of wicked alien exterminating beloved patriot. Our hedgerows have simply experienced the severe pruning of several million South European trees. They are not dead, except where man, in his infinite (lack of) wisdom, has since grubbed them out altogether. By virtue of renewed basal growth, they assumed different shapes and consequently now support a greater diversity of invertebrates. For that reason, it is eminently desirable that we plant more.

Adventives, unlike true aliens, may be defined as short-lived introductions which fail to establish themselves; they are retrospective descriptions applicable only after the plants concerned have disappeared. Sometimes plants presumed non-self-sustainable in a wild British habitat are called adventives or casuals even before they have gone. The vast majority of shoddy aliens and garden escapes recorded in this country have, for a multitude of reasons, survived only a single season each and so claimed no long-term ecological significance. There is now, however, increasing evidence that many foreign bird-seed annuals which formerly appeared to be adventive have actually established well-nigh permanent seed banks on British soil, all ready to germinate during those erratically-spaced summers which are hot enough to spark them off. Of course in Central and Southern Europe and the Middle East, the summers are always hot enough to stimulate them into growth. From that perspective we presumably sit at the north-western extreme of a climatic cline or continuum which permits no precise boundaries of native or alien status to be accorded to any such plant growing anywhere within this range. Unique in the company of these annuals is a perennial *Sorghum* (*S. halepense*, *S. bicolor*, or any combination) whose extraordinarily tough rhizomes push up metropolitan paving-stones in proportion to days with temperatures over 85°F.

Thus the true adventive is a temporary alien, or rather was. But can such an ephemeral also introduce... 'things'? Yes, in some instances, even a seed can embrace the dormant mycelium of a rust fungus. When the annual *Vicia faba*, for example, is spring-germinated in localities far from normal cultivation, then, nine chances out of ten, many of its mature leaves and stems will still become deformed by the chocolate-brown teleutospores of *Uromyces fabae* before autumn. And these will be simultaneously disposed over the plant in such manner as to rule out chance infection from a wind-blown spore in mid-season. Many questions arise, and we can seldom answer them with certainty. How adaptable is such a parasite to other plants? Could it outlive its alien host, latch on to a native one

## Aliens and Adventives

(perhaps another legume) and integrate itself into the British microflora? How many of the hundreds of past adventives in this country carried associated organisms which either perished with them or perhaps didn't? I think, at this stage of the argument, it is important to stress that these speculations are in no way intended to sound alarmist, and certainly should not, on their own, be used as justification to review plant import regulations. They are matters of fascination, not threat... possibilities which might subtly modify the nature of our flora, not damage it. Indeed it is more sensible to realise that fungi, from the lowest moulds to the highest mushrooms, bear the lightest (and the most numerous) air-borne propagules of any life form. Each year, countless thousands of their species distribute countless billions of their spores worldwide, resulting in a vastly greater proportion of intercontinental distribution patterns than may be observed in any other living group. Thus there can be few fungi on this planet which never rained spores upon British territory at some time or other, and if they have not taken a permanent hold of our habitats by now, it is extremely unlikely that accidental disseminations by mere humans are going to make much difference. What we can do instead is develop a broader, more mature, sensitively discerning attitude towards those habitats, confidently anticipating, even when we cannot explain why, that their interest, richness and complexity will always exceed previous estimates by far. Gradually, joyfully, this is happening, although it has been an uphill task to help promote it. Gone since the early eighties are the old racisms of those by whom anything 'alien' used to be rated an automatic excrescence polluting some kind of floristically unblemished ideal. Gone as well are the old prejudices about foreign trees being, of necessity, ecologically inferior to native ones within city precincts (the opposite is frequently demonstrable). Gone (or almost gone?!) are the old disparagements which colourful horticultural hybrids would suffer because their flamboyant displays implied more commercialism than science. For all these have value, not in greater or lesser degrees, but by different criteria. All add to the diversity and vitality of the environment. And all, not least, may carefully, devotedly blend into eloquent discourse aimed directly at protecting or improving that environment.

Soberingly then, any habitat within any environment is as 'good' or as 'bad' as the scrutiny bestowed upon it. Its native and alien biology may end up well or poorly documented, favourably or disparagingly presented, and manipulated either into conservation or destruction proposals. Thus it can aspire to whatever we want it to, or it can expire whenever we want it to. And all depends upon the vested interests of the people concerned. Nor are such interests necessarily undesirable or dishonest. They exist, that's all. They predominate in us. They are unavoidable. We cannot take a holiday from our personal attributes any more than we can take a holiday from our physical bodies. If we were not human, our relationship with vegetation would never exceed an intuitive awareness of its food and shelter value. As it is, we relate to our plants in far more complex ways. We describe them in incomplete ways, our conclusions to question. We move them in mysterious ways, our blunders to perform. And we tyrannise them in dictatorship ways, our planet to jeopardise.

To conclude, therefore, I've attempted, as fallibly as anyone might, not only to convey a more relaxed, generous view of our native and alien plants than was once conventional but also to suggest what advantages might obtain from a more egalitarian approach both to their origins and to their associated organisms. Even at its most superficial level, such broad-mindedness cannot but heighten the pleasures of botanizing.

So where do we go from here? What can I offer you in future? How should our communications proceed?

BRIAN WURZELL, 47 Rostrevor Avenue, Tottenham, LONDON N15 6LA

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### ALIENS AND ADVENTIVES: OUR VOYAGE INTO THE UNKNOWN

I have been warned, like the captain of the Starship Enterprise, that he who dares 'to boldly go' into A&A authorship risks an astronomical postbag. That's fine, but it also behoves me to beam down certain disciplines in advance, so we maximise the value of our correspondence.

Item 1 concerns straightforward sending of records. Items 2-9 discuss free identification of specimens and all communications surrounding them. Item 10 offers

professional services. The items are as follows:

- 1) Confidently named records submitted for publication must be of unusual plants occurring spontaneously on British soil. A new garden ornamental self-seeding to pest proportions is valid. An old planted tree merely persisting in neglected surroundings is not. A primary native popping up in a secondary habitat far from its original home is as noteworthy as an overseas introduction behaving the same way. Please always write locality names in BLOCK CAPITALS, together with vice-county, habitat note and any features of interest.
- 2) My reference library can theoretically cater for any plants native or grown out of doors in Europe north of the Mediterranean and in the U.S.A. north of Mexico. My books covering other countries are less complete; some are comprehensive floras, some are popular wildflower guides only. I am keen on putative hybrids of any parentage, but I am not yet confident enough to tackle critical agamosperous genera although the standard British literature on these is at hand.
- 3) My library also covers most of the galls, rusts, smuts and other distinctive 'things' which parasitize wild and cultivated plants in Great Britain and Northern Europe. The principal work still lacking here is Buhr, H. (1965), Bestimmungstabellen der Gallen (Zoo-und Phytoecidien) an Pflanzen Mittel-und Nordeuropas, two volumes, published by Gustav Fischer, Jena. Any offers ... any condition ... anyone able to help?
- 4) I now invite, and will endeavour to name, any specimens in the above categories, provided that...
  - i) They are well pressed without discoloration or mould, securely packed for safe mailing, accompanied by full collecting data and not required back.
  - ii) They are adequately represented, preferably generously so, in order to be serviceable for teaching, illustration or herbarium purposes afterwards. Please respect both the principles of conservation and the problems of the identifier. Unnecessary damage to a plant is never approved, but unnecessarily stingy or scrappy fragments from it are still valueless.
- 5) Galled, parasitized or otherwise pathologically deformed specimens are of great interest, but may need to be shared with other workers for more specialist examination. They, in turn, may wish to deposit microscopically-confirmed vouchers in a national herbarium. Therefore, in these cases particularly, the scientific worth of your observation will depend on the plentiful supply of well pressed material.
- 6) On their own, attractive plant photographs are often not identifiable with precision. However, once adequate pressed material is determined, an accompanying colour print of faithful hue and clear definition may enhance the species' taxonomic, ecological and aesthetic personality. When such plants are, or can be, named, any kind donations of spare prints would be gratefully received.
- 7) Please always enclose a clearly written stamped addressed envelope. I apologise if this sounds rather severe, but I may regretfully ignore letters which fail to do so, however compelling their contents. Like the quality of specimens supplied, their manner of submission also measures how much the enquirer respects the service, and one rapidly becomes ultra-aware of those who treat unpaid assistance with undue casualness. Any way you can streamline the question-and-answer process will be appreciated so that our time is spent to best advantage.
- 8) Phone calls are welcome (please try to avoid meal-times!), if you seek either:
  - i) Collecting and/or conservation advice on behalf of unusual plants found in worrying circumstances.
  - or ii) Permission to send living plants (don't otherwise).
  - or iii) References to plant books which deal with particular subjects, regions or countries.However I will not attempt to identify plants from verbal descriptions only. (It is surprising how often lay people assume that one's reputation hinges upon an ability to do just that!).
- 9) Ripe seeds are the best way to represent, and certainly to rescue, any vulnerable alien or adventive whose habitat is presumed doomed. Submissions of viable seeds are therefore encouraged. Most can be grown on and named later, providing worthwhile material for all parties concerned. Please do not deprive a fragile foreigner of all chance of setting seed by pressing its immature top bits too early in the season; otherwise an interesting record may be lost altogether.
- 10) Further services on behalf of the British fauna and flora are available professionally. As freelance ecologist and writer, I regularly survey and interpret

habitats in different parts of the country. Site descriptions are carefully fashioned to promote conservation and education endeavours or may be designed to facilitate impact assessment studies in circumstances where land-use change is sadly unavoidable. Species reports intimately and holistically present plants with their associated invertebrates in order to shed light on those crucial lower links of the food chain. My illustrator, Laura Andrew, works with a similarly serious and sensitive eye, her drawings meticulous and her paintings aglow with exquisite nuances of colour. She also concentrates on detailed portrayals of plants and animals, and at present has an evocative autumnal birchwood landscape displayed with Clifford Davy's fungus exhibition at the Horniman Museum, South London. Our resources thus combine well to create authoritative, cogent material.

Not least, we love our subject. That has to be the bottom line. And it is.

BRIAN WURZELL, 47 Rostrevor Avenue, Tottenham, LONDON N15 6LA

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### CABBAGE PATCH VII

A single cabbage-way: Brassica fruticulosa Cyr.

No sooner had the BSBI Crucifer Handbook manuscript been sent off to the printers, than Brassica fruticulosa was found in Dublin. This note adds another alien to the list of species reported from Irish ports by Reynolds (1990), adds another species to the Crucifer Handbook, and documents the occurrence of another casual cabbage (see BSBI News 47: 25-27) in Britain and Ireland.

Brassica fruticulosa is native in the Mediterranean and is rarely casual elsewhere, including very rarely in the British Isles. The following description is based on the Dublin material and from herbarium specimens at Kew. The description of B. fruticulosa in Clapham, Tutin & Moore (1987) is poor.

Annual to short-lived perennial, 20-70cm, glabrescent or with sparse, simple hairs below. Stem leaves petiolate with a broad terminal lobe and 1-3 pairs of smaller lateral lobes; margins coarsely sinuate. Petals 7-8(-9)mm, yellow, c.1.5-2 times as long as sepals. Fruits (11-)20-32(-44) x 1.5-2.5mm, linear with a narrower beak, loculi usually many-seeded. Stipe 0.3-1(-2(?-3))mm. Valves (9-)17-30(-38)mm, torulose. Beak 2.5(-6.5)mm, sterile (rarely 1-seeded).

There will be no difficulty keying the plant out as a Brassica in the Crucifer Handbook. It will then key out unconvincingly to B. juncea, from which it differs in having smaller petals, fruits and beaks. Plants with a longer stipe may be confused with B. elongata which has a shorter beak and simple leaves. It differs from B. tournefortii in having a usually sterile beak and fewer lateral lobes on the leaves. The Dublin specimen is the widespread B. fruticulosa subsp. fruticulosa with glabrous sepals.

Details of the records seen are as follows:

v.c. 28. Beetley Pit, TF/97.18, A.L. Bull & E.L. Swann (Swann 1975).

v.c. 41. Cardiff, ST/1.7, 10/1923, R.L. Smith & R. Melville (Rep. botl. Exch. Club Br. Isles for 1924 25: 433), and Cardiff Docks, 7/1924, A.E. Wade, det. A. Thellung (Rep. botl. Exch. Club Br. Isles for 1925 26: 1005), NMW.

v.c. H21. Dublin Port, 0/20.34, 8/11/1990, S. Reynolds. One plant on dumped, stony soil. DBN, herb. T.C.G.R.

Thanks to Eric Clement, Gwynn Ellis, Sally Foster, Chris Preston and Eimear Nic Lughadha for help tracing records.

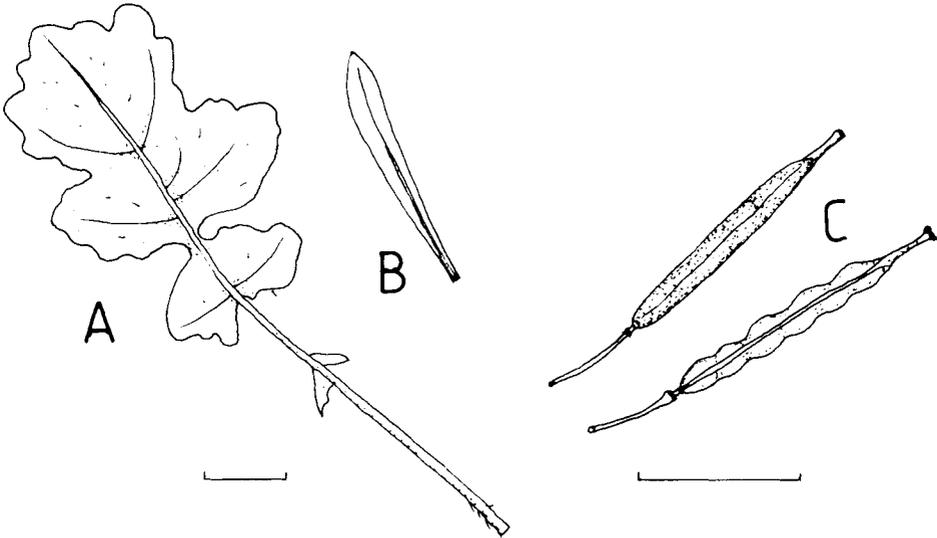
### References

Clapham, A.R., Tutin, T.G. & Moore, D.M. (1987). Flora of the British Isles. 3rd ed. Cambridge.

Reynolds, S.C.P. (1990). Alien plants at Foynes and Dublin Ports in 1988. Irish Naturalists' Journal 23: 262-268.

Swann, E.L. (1975). Supplement to the Flora of Norfolk. Norwich.

TIM RICH & SYLVIA REYNOLDS, Unit of Vegetation Science, University of Lancaster, LANCASTER LA1 4YQ



Detail of leaves and fruits of *Brassica fruticulosa* Cyr. del. H. Yagoin © 1991.  
 (A) Lower stem leaf, (B) Upper stem leaf, (C) Fruits.

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PEUCEDANUM ACHAICUM

The botanist who attempts to find all the members of a largish genus is eventually left with one or more obscure and elusive species outstanding. *Peucedanum achaicum* Halacsy is such a plant, in that it is absent from all the major British collections and is not featured in any readily traceable literature. Apart from *Flora Europaea*, that is, where the relevant paragraph is simply a precis of the original description. Surely someone else has looked for it since Halacsy in 1908, but evidence of their work is not easy to find (see illustration page 40).

The Vouraikos gorge (F.E., II, 362), which carries flowing water throughout the summer, commences just inland from Diakofto on the N. Peloponnesos coast, becoming fragmented some 10km to the south. A spectacular cog railway to Kalavrita clings first to one wall and then the other, and at about half-way an unusually well-kept station serves the magnificent monastery at Megaspileon. This station, also known as Zachlorou, has two good tavernas, where non-botanical companions can be left.

Halacsy reported the *Peucedanum* 'below the station', so in August 1989 Gordon Hanson and I set out in his steps. The first two kilometres of track-and-path are in a relatively spacious setting, the gorge walls being well-separated. One may see *Pimpinella rigidula*, *Bupleurum fruticosum* and *Orlaya daucorlaya*. Eventually, after two steeper stretches of descent, marked by cogs between the rails, high cliffs close in and the line enters a tunnel, shortly to emerge on to a rather hairy bridge high over the torrent. There is a parallel, defunct bridge, distinctly hairier. Either can be crossed on foot, though not without trepidation. Danger from trains is minimal as there are only eight daily on the timetable, but beware Specials, which occur on busy summer days.

Back to the plants; at the first vertical cliff, just before the disused tunnel doors, *Carum multiflorum* occurs in rock-crevices and might be taken for the rarity. Its leaves are grey-green with small rounded lobes. Look for the odd one with larger, brighter-green

lobes and just one or two small stems, and you probably have *Peucedanum achaicum*. It is more numerous on the debris-slope beside the cliff, which also has *Athamanta macedonica*.

So the good news is that a few plants can be seen without braving tunnel and bridge, but a slope beyond the hazard and the cliff which necessitates it has many more. On August 3, 1989 we saw 40-50, most of which had flowered and dispersed seed. The seed which I obtained has proved very viable. The worst thing that happened to us was a finger-wagging from a train-driver, nothing compared with the alarming scene at the station brought on by the arrival of some unwanted passengers.

Elation at the re-discovery of such an ultra-endemic gave way to puzzlement some days later. Surely, I'd seen it before? Yes, some plants on debris below a cliff beside a minor toad at Petsakoi, ten miles away. The tentative name I'd given had stuck and was, oh dear, a product of wishful thinking. They were scarcely separable from *Peucedanum achaicum* and I had a growing specimen at home.

Now, in November 1990 that growing plant has died after two flowerings, confounding my intention to grow the two accessions side-by-side, but leaving many seedlings. However, in advance of final proof, I am sure that:

- 1) *Peucedanum achaicum* is still doing well in the Vouraikos.
- 2) It is not confined to the gorge, but is exceedingly local.
- 3) There is no apparent immediate threat to the species.
- 4) It is a willing subject in horticulture.
- 5) Other interested botanists may well find further sites.

MERVYN SOUTHAM, 72 Fareham Road, GOSPORT, Hants. PO13 0AG

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#### CONSERVATION NEWS

##### NINE BRITISH SPECIES OF VASCULAR PLANTS NOW ON INTERNATIONAL CONVENTION FOR CONSERVATION

We were very pleased to hear that 9 British species have been accepted onto Annex 1 of the Berne Convention. This is following a recent revision of the Annex during which the number of species afforded special protection was increased from 119 to 471. Under the Convention, the government of each Council of Europe member state has an obligation to protect these species and their habitats.

The British species are:

<i>Trichomanes speciosum</i>	<i>Luronium natans</i>
<i>Najas flexilis</i>	<i>Cypripedium calceolus</i>
<i>Liparis loeselii</i>	<i>Rumex rupestris</i>
<i>Saxifraga hirculus</i>	<i>Apium repens</i>
<i>Bromus interruptus</i>	

Until now the only British species on the list have been two apoinctic Sea-lavenders (*Limonium recurvum* and *L. paradoxum*). These have been removed from the list.

In the recent revision 26 bryophytes were also added. This is the first time that mosses and liverworts have been included in an international conservation agreement.

The 26 bryophytes are:

*Cephalozia macounii*, *Frullania parvistipula*, *Jungermannia handelii*, *Mannia triandra*, *Marsupella profunda*, *Petalophyllum ralfsii*, *Riccia breidleri*, *Riella helicophylla*, *Scapania massalongi*, *Nothothylas orbicularis*, *Atractylocarpus alpinus*, *Bruchia vogesiaca*, *Bryoerythrophyllum machadoanum*, *Buxbaumia viridis*, *Cynodontium suecicum*, *Dichelyma capillaceum*, *Dicranum viride*, *Distichophyllum carinatum*, *Drepanocladus vernicosus*, *Echinodium spinosum*, *Meesia longiseta*, *Orthotrichum rogeri*, *Pyramidula tetragona*, *Sphagnum pylaisii*, *Tayloria rudolphiana*, *Thamnobryum fernandesii*.

Listing on the convention should strengthen the position of the species listed by giving higher status to their habitats and sites.

BSBI Conservation Committee



*Peucedanum achaicum* Halacsy del. C. Hogg © 1990

NOTICES BSBI

ANNUAL GENERAL MEETING  
Liverpool, May 4-5

Booking forms for lunches and coach tickets were distributed with the New Year mailing. This is to remind visitors that buffet lunches are available ONLY when booked in advance. In order for us to know the precise numbers, please ensure that your forms are returned in order to reach Liverpool Museum by **APRIL 29th at the latest.**

There will be a Natural History Book Fair in the Merseyside Maritime Museum, the venue for the AGM, from 10.30am on May 4th. Specialist booksellers will display for sale Antiquarian and Secondhand books and prints on Botany, Horticulture and general works in the fields of Natural History and the Environment. The event will be open to the general public as well as to visitors to the AGM, but (unlike BSBI members) they will have to pay the normal admission charge for entrance to the Museum. There is no extra charge for entrance to the Book Fair.

At the time of writing, tickets are still available for the excursion to Bodnant Garden and the Great Orme on Sunday May 5th. It would be helpful if bookings for the coach were also sent by April 29th, so that we know what size of coach to hire.

JOHN EDMONDSON, Botany Dept. Liverpool Museum, William Brown St, LIVERPOOL  
L3 8EN

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IRISH BOTANICAL NEWS

The Committee for Ireland has just published its first newsletter, Irish Botanical News which it is hoped will appear annually. I have a few spare copies of the first issue for distribution on the 'mainland' if any member would like one. Strictly first-come, first-served.

BRIAN S. RUSHTON, Dept. of Biological & Biomedical Sciences, University of Ulster,  
COLERAINE, Northern Ireland BT52 1SA

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WATSONIA ILLUSTRATIONS

The editors of Watsonia have instituted a new procedure for commissioning illustrations to accompany articles in the journal.

When they submit a manuscript, authors may make proposals for illustrations to be prepared by a botanical artist, who will be paid a fee. Prospective illustrators wishing to add their names to the panel of artists should write to John Edmondson, Liverpool Museum, William Brown Street, LIVERPOOL L3 8EN, who will send details of the selection procedure.

WATSONIA EDITORS

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NOTICES (OTHERS)

XV INTERNATIONAL BOTANICAL CONGRESS TOKYO  
August 28 - September 3, 1993

The XV International Botanical Congress will be held in Tokyo, Japan during the last week of August and the first week of September 1993. The first circular for this Congress is now available and contains brief information on the venue, programme, field trips etc, and an application form for the second circular which will contain more details.

If you would like to receive a copy please write to:  
Dr Kunio Iwatsuki, Secretary General, XV International Botanical Congress Tokyo,  
Department of Botany, Faculty of Science, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku,  
Tokyo 113, JAPAN.

EDITOR

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TAXON BACK ISSUES : SPECIAL SALE

**NEW MEMBERS OF IAPT** joining in 1991, will benefit by a substantial discount on back volumes of Taxon. For a limited period, until the end of 1991, the International Association for Plant Taxonomy is offering new members the opportunity to acquire any or all issues of volumes 28-39, except vol. 30(1) and vol. 33(3), at a special rate of 5US\$ per issue, or 20US\$ per yearly volume (4 issues and an annual index). The prices include surface postage and handling. Orders, together with an informal membership application, should be sent, **no later than 30 November 1991**, to the IAPT Secretariat, Botanischer Garten und Botanisches Museum Berlin-Dahlem, Königin-Luise-Str. 6-8, W-1000 Berlin 33, Germany. Please add a bank cheque in US dollars, payable to IAPT, to cover both your order and the 1991 membership fee (40US\$ for individuals, 120US\$ for institutions, including subscription to Taxon volume 40, 1991).

WERNER GREUTER, IAPT, Botanischer Garten und Botanisches Museum Berlin-Dahlem,  
Königin-Luise-Str. 6-8, W-1000 Berlin 33, Germany.

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FORTHCOMING MEETINGS OF THE BRITISH BRYOLOGICAL SOCIETY

- 12-18 July. IAB/BBS International Symposium on the Biology of **Sphagnum**, Exeter. This meeting will begin with a five day field excursion (12-16 July) starting in Glasgow and terminating in Exeter, where the symposium meeting will be held (17-18 July). Full details from Dr R.E. Daniels, Institute of Terrestrial Ecology, Furzebrook Research Station, Wareham, Dorset BH20 5AS. Tel. 0929 551518.
- 19-24 July. IAB Biennial Meeting - Experimental Bryology, organised jointly with the BBS, Exeter. Full details from Dr R.E. Longton, Department of Botany, Plant Science Laboratories, University of Reading, Whiteknights, Reading RG6 2AS.
- Mid August. Summer Field Meeting, Massif Central, France, to be based in Besse-en-Chandesse near Clermont-Ferrand. Full details from the local secretary: Mr Roy Perry, Department of Botany, National Museum of Wales, Cardiff CF1 3NP. Tel 0222 397951 Ext 267.
- 14-15 September. Annual General Meeting and Symposium Meeting, Sheffield. Full details from the local secretary: Mr Tom Blockeel, 9 Ashfurlong Close, Dore, Sheffield S17 3NN. Tel. 0742 366861.
- 11-13 October. Bryophyte Workshop, Rogate, West Sussex. Full details from the local secretary: Dr June Chatfield, 44 Ashdell Road, Alton, Hampshire GU34 2TA. Tel. 0420 82214.

As always, BSBI members will be most welcome at these meetings.

PHILIP LIGHTOWLERS, 8 Alinack Road, LONDON E5 0RL (tel. 081 533 0052)

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IN CELEBRATION OF THE YEAR OF THE MAZE

The first maze to be planted in celebration of the 1991 'Year of the Maze' will be finished this April at Chenies Manor, near Amersham in Buckinghamshire.

Conservation Practice, the contacting arm of the British Trust for Conservation Volunteers, will be planting 450 yew trees to bring to life a design produced by Sunday Times 'Design a Maze' competition winner, Jeremy Prosser.

Delightfully unique, it is unlikely that any other maze in the world will resemble the new creation at Chenies. The maze will consist of series of Y shaped hedges that interlink to form forty inner chambers. Each chamber will contain three outlets and anyone passing through the maze will have to choose the correct one to progress.

The maze will eventually reach a height of six feet and cover an area 20x22 yards in size. Its central feature will be a miniature 'carpet' maze designed by Caroline Ray, a pupil from Chalfont High School.

The Sunday Times competition comes at a time of celebration for the maze, since 1991 is the centenary of the replanting of the maze at Hampton Court. Chenies however, can go one better, for the design of their original turf maze in the former 'great garden' dates back to 1580.

Chenies Manor is open to the public every Wednesday and Thursday afternoon from April to October and can be found just off exit 18 on the M25.

GILL COLEMAN, Conservation Practice, Blackfriars Settlement, 44-47 Nelson Square, LONDON SE1 0QA. Tel. 071 261 9994

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## REQUESTS

### WILD FIGS IN BRITAIN

Jim Dickson, at the University of Glasgow is writing an article on the past and present occurrences of the Fig growing as a wild tree in Britain. Prof. Dickson has information from J.E. Lousley's studies on the bombed sites in London during and after the 1939-45 war, and also Dr Oliver Gilbert's paper given at the 1989 BSBI AGM in Sheffield - Watsonia 18: 84-85, 'Wild Figs by the River Don, Sheffield'.

Prof. J.H. Dickson, Botany Department, The University, Glasgow GH12 8QQ, will be pleased to hear of any other wild figs in Britain known to members, and also any record of a fertile seed in a fig grown in Britain?

MARY BRIGGS, Hon. General Secretary

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### FLORA OF DORSET

It is proposed to commence a new Flora of Dorset this spring, to include Flowering Plants, Ferns, Bryophytes, Lichens and Fungi.

For details and recording cards please contact either of the authors.

HUMPHRY BOWEN, West Down, Winterbourne Kingston, BLANDFORD, Dorset DT11 9AT  
DAVID PEARMAN, The Old Rectory, Frome St Quintin, DORCHESTER, Dorset DT2 0HF

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### THE SCENT OF ORCHIS MORIO

Most writers state that the flowers of *Orchis morio* L. are scented. For example, Summerhayes (1951) states that they have 'a powerful odour especially noticeable in white-flowered individuals'. In R. & A. Fitter (1985) they are described as 'fragrant', and in David Lang (1980) they are described as having 'a powerful sweet scent'.

I have been unable to detect any scent from the flowers and the absence of this quality, in my experience, is just as noticeable in white-flowered individuals. Some writers share my view regarding the lack of scent. For example Francis Rose (1981) describes the flowers as 'unscented', and Roger Grier (Orchid Review, March 1984) writes that he has never detected any scent.

Can any member offer a solution to this difference of opinion? Could it be that scent is a quality that is absent in some colonies?

PETER HORN, 22 Jowitt Avenue, KEMPSTON, Bedford MK42 8NW

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IS LISTERA CORDATA DECLINING?

One of us (CS) is compiling data on indicator species of heaths and moorlands. A request for information on Listera cordata (L.) R. Br. in BSBI News 56, produced a large, helpful response. Analysis of the results of survey for the BSBI Monitoring Scheme has revealed that L. cordata had not been refound in 28 of the 46 squares in which it was recorded for the Atlas but was found in 30 additional squares suggesting no change overall (see map below). In order to help assess whether these apparent changes are real or are due to under-recording (or both), we wish to see whether the plant can be refound in some of the 10km squares in which it has not been seen recently. We will therefore offer petrol money to anyone prepared to search for L. cordata in selected squares (although you must write to CS before doing any recording). Be warned, it can be very difficult to spot!

CHRIS SYDES & TIM RICH, c/o NCCS, 12 Hope Terrace, EDINBURGH EH9 2AS

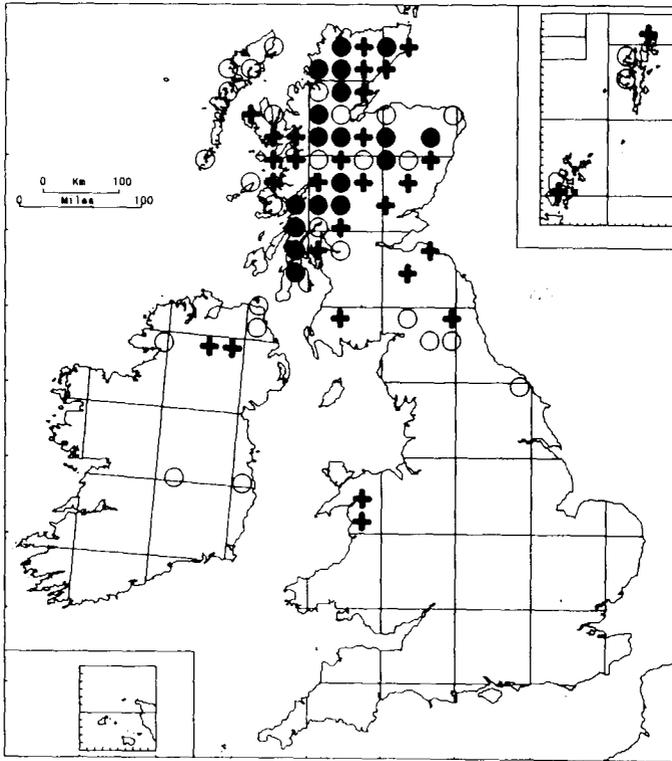


Fig. 1. Monitoring Scheme map of Listera cordata

- O - recorded for the Atlas only
- + - recorded for the Monitoring Scheme only
- - recorded for both Atlas and Monitoring Scheme

LATHRAEA CLANDESTINA - REQUEST FOR INFORMATION

I am surveying the British distribution of Lathraea clandestina. If you know of any sites of this plant, I would much appreciate any information you could give about its precise location, number of plants and extent of the population. I am even interested in garden populations, as they sometimes give rise to naturalised colonies, and anything you might know about the planting dates of colonies would be useful.

MARK D. ATKINSON, 46 Earlham Green Lane, NORWICH NR5 8HE

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TENDRILS - WHICH WAY DO THEY COIL?

I have noticed in a number of plants with tendrils, that when the tendrils coil there is often a change in direction of the spiral. This usually occurs about midway along the length of the tendril (see diagram below). The change in direction is usually accompanied by a short length of uncoiled tendril.

Please, can anyone explain if and what is the mechanical advantage of these features?



JENNIFER IDE, 42 Crown Woods Way, ELTHAM, London SE9 2NN

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BOOK NOTES

In addition to the titles listed in the previous Book Notes, a review of the following book was included in the February 1991 issue of Watsonia 18(3):

Plants of Dhofar, by A.G. Miller and M. Morris; illustrated by S. Stuart-Smith. Published by the Government of Oman, Muscat.

It was held over from Watsonia 18(2) due to pressure of space.

Reviews of the following books will be included in the August 1991 issue of Watsonia vol. 18(4):

The botanist in Berwickshire, by M.E. Braithwaite and D.G. Long. The Berwickshire Naturalists Club.

The Davis & Hedge Festschrift, edited by Kit Tan, assisted by Robert Mill & T.S. Elias. Edinburgh University Press.

Plants for people, by Anna Lewington. Natural History Museum Publications, London.

A guide to some difficult plants, edited by E. Norman. Wild Flower Society, Loughborough.

Atlas of the British Flora, edited by Frank Perring and Max Walters. 1990 reprint of 3rd edition, with new bibliography by Chris Preston. BSBI, London.

Guide des fougères et plantes alliées, by R. Prelli. 2nd edition. Editions Lechevalier, Paris.

Wild flower habitats in Hertfordshire, by Brian Sawford. Castlemead Publications, Ware.  
Wild Flowers of North East Essex, by T. Tarpey and J. Heath. Colchester Natural History Society, Colchester.

The following books have been received recently. Those that will not be reviewed in Watsonia are marked with an asterisk; unsigned notes are by J.E.

John Lightfoot: his work and travels. J.K. Bowden. The Bentham-Moxon Trust, Kew and the Hunt Institute for Botanical Documentation, Pittsburgh, 1989. Pp. vi + 255. Price £16 (ISBN 913196-51-7). [The first biographical treatment of the Rev. John Lightfoot (1735-88) in depth. Much previously unpublished archival material is drawn on. He is best known as the author of Flora Scotica (1777), written in English and, therefore, widely used. He discovered Coralorrhiza trifida new to the British Isles in Scotland: "I met with but one poor Specimen out of Flower." A catalogue of his herbarium at Kew is included: some fascinating detail. F. Horsman.]

Sussex Plant Atlas: Selected Supplement. M. Briggs. Booth Museum of Natural History, 1990. Pp. 32; 87 distribution maps. Price £3.50; available for £3.95 post free from the Booth Museum, 194 Dyke Road, Brighton BN1 5AA. (ISBN 0-948723-14-9).

\*Coastal Sand Dunes. Edited by C.H. Gimmingham, W. Ritchie, B.B. Willetts and A.J. Willis. Royal Society of Edinburgh, 1990. (Reissue of Proceedings vol. 96, 1989). Paper covers. ISSN 0308-2113. Price £40, including p. & p. [Papers presented at a Symposium in May 1989 include articles on plant communities of the British sand dunes by Andrew Malloch, macrofungi of sand dunes by Roy Watling & M. Rotheroe and management for nature conservation by J.P. Doody. It is an up-to-date summary of the botanical and geomorphological aspects of sand dune development.]

\*Seed to civilization: the story of food. C.B. Heiser. 3rd edition. Harvard University Press, 1990. Pp. x + 228; numerous illustrations. Price £23.95 h/b (ISBN 0-674-79681-0); £10.50 p/b (ISBN 0-674-79682-9). [An introduction to the plants (and animals) which provide humans with different elements of their diet. There are chapters on some of the major classes of food plants such as grasses, sugar, legumes and coconuts as well as an intriguing introductory chapter entitled "Seeds, Sex and Sacrifice" which deals with the origins of agriculture. Botanists will find this book thought-provoking as well as useful for reference.]

The Families and Genera of Vascular Plants. Edited by K. Kubitzki. Vol. 1: Pteridophytes and Gymnosperms. Edited by K.U. Kramer & P.S. Green. Springer, 1990. Pp. 430; 216 figures. Price DM298 (ISBN 3-540-51794-4).

\*Carnivorous Plants: care and cultivation. M. Lecoufle. Blandford, 1990. Pp. 144; 170 colour photographs and 40 line drawings. Price £16.95 (ISBN 0-7137-2185-5). [An account of the biology of carnivorous plants followed by an encyclopedic treatment of the principal species in cultivation, with stunning colour photographs. Translated from the French edition first published in 1989.]

Flora of eastern Saudi Arabia. J.P. Mandaville. Pp. x + 482; 268 colour plates. Kegan Paul International, 1990. Price £95 (ISBN 0-7103-0371-8.)

The Cornish Flora: Supplement 1981-1990. L.J. Margetts & K.L. Spurgin. Pp. vi + 119; map on rear end papers. The Trendine Press, 1991. Price £14 (ISBN 0-9512562-2-X).

British Plant Communities. Vol. 1. Woodlands and scrub. J.S. Rodwell (ed.), C.D. Pigott, D.A. Ratcliffe, A.J.C. Malloch, H.J.B. Birks, M.C.F. Proctor, D.W. Shimwell, J.P. Huntley, E. Radford, M.J. Wigginton & P. Wilkins. Pp. x + 395; 25 figs, numerous maps & tables. Cambridge University Press, 1991. Price £70 h/b (ISBN 0-521-23558-8). [The first of five volumes which will describe all the major vegetation types of Great Britain and the Isle of Man. Using phytosociological methods developed by the National Vegetation Classification project at Lancaster University, it presents an account of 25 woodland and scrub communities and numerous sub-communities together with distribution maps, a twelve-page key and tables. A major new classification of plant communities, it should (in the words of the blurb) "set the standard for vegetation description in Britain well into the next century".]

\*Flower Artists of Kew. W.T. Stearn. Pp. 160; 56 full-page colour plates. The Herbert Press, in association with R.B.G. Kew. 1990. Price £18.95 (ISBN 1-871569-16-8). [A book for the connoisseur. The introduction, "botanical illustration ancient and modern" is a brief but scholarly summary of the history of this subject through to

the post-war period, including the vicissitudes affecting the Botanical Magazine. The figure captions are brief but informative; an appendix gives brief biographical sketches of the 19 contemporary botanical artists who have all worked in, or for, R.B.G. Kew.]

JOHN EDMONDSON, Botany Dept., Liverpool Museum, William Brown St, LIVERPOOL L3 8EN

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ANNUAL EXHIBITION MEETING, 1990

FESTUCA RUBRA AGG. IN THE BRITISH ISLES

Work involving morphological, anatomical, ecological, distributional, cytological and hybridization studies carried out at Leicester have led to the following main conclusions:

1. ***Festuca nigrescens***, ***F. heteromalla*** (***F. diffusa***) and ***F. richardsonii*** cannot be satisfactorily separated from ***F. rubra*** at species level, and are therefore treated as subsp. ***commutata***, ***megastachys*** and ***arctica*** respectively, along with the type subspecies and three others (subsp. ***litoralis***, ***scotica*** and ***juncea***).
2. ***Festuca juncifolia*** and ***F. rubra*** subsp. ***arenaria*** cannot be satisfactorily separated from each other even as subspecies, yet they are distinct from ***F. rubra*** at species level and are treated by us as ***F. arenaria***.
3. ***Festuca rubra*** subsp. ***megastachys*** and ***multiflora*** (together treated as ***F. diffusa*** in Flora Europaea 5) cannot be maintained as separate entities and are treated by us under the former (earlier) subspecies name.
4. ***Festuca rubra*** subsp. ***juncea*** and ***pruinosa*** are similarly not able to be maintained and are treated by us together under the former name.
5. ***Festuca rubra*** subsp. ***scotica*** is a new subspecies (Watsonia 18: 315-316, 1991) that coincides with Hubbard's "subsp. (ex Cairngorms)".
6. ***Festuca rubra*** subsp. ***rubra*** remains a very variable taxon that is effectively the residue left after ***F. arenaria*** and six subspecies of ***F. rubra*** have been removed from it. However, the six subspecies are reasonably well defined both morphologically and ecologically and do seem worth recognizing as named taxa.

Specimens of ***Festuca arenaria*** and the seven subspecies of ***F. rubra*** were exhibited, as well as descriptions of, and a key to, all the taxa.

A.K. AL-BERMANI & C.A. STACE

RUBUS HYPOMALACUS IN BRITAIN?

In 1936 N.D. Simpson and W.C.R. Watson together collected a bramble at West Lavington in W. Sussex, v.c. 13, which Watson subsequently determined as the Continental species ***Rubus hypomalacus*** Focke. The specimens each took of it for their herbaria (now in **BM** and **SLBI** respectively) were exhibited.

In later years Watson interpreted this taxon very broadly, including under it (among other things) ***R. mucronatoides*** A. Ley, which is now accepted as a quite distinct British endemic, confined to the Welsh borders and Lincolnshire. This confusion has led the Sussex record to be disregarded.

In 1979, however, A.O. Chater and myself came across a bramble growing in some quantity in a wood north of Basingstoke in N. Hampshire, v.c. 12, which is strongly suggestive of the Lavington plant. A sheet of this was exhibited.

A representative specimen of ***R. hypomalacus*** from its strong Belgian populations, recently received from H. Vannerom, which was also exhibited, gives reason to think that Watson's original determination may perhaps not have been ill-founded after all.

D.E. ALLEN

THE SALVAGE TEAM :  
The Thirsk Natural History Society c.1858

In 1856 the Botanical Society of London, the BSBI's step-parent, ran into financial difficulties and had to be dissolved, leaving its still-flourishing exchange activities without any corporate framework. The North Yorkshire member, J.G. Baker, who had recently founded a small Natural History Society in his home town of Thirsk, then had the idea of offering this as a temporary refuge for the orphaned exchangers. On 2 November 1857 a motion to that effect was passed, and the 'Thirsk Botanical Exchange Club' entered upon an eight-year exile under these incongruously local auspices.

The photograph exhibited recently came to light at Leeds University and has kindly been donated to the BSBI Archives by Dr W.A. Sledge. It depicts the (leading?) members of the adoptive Thirsk Society around 1858 (which would fit with the fact that Robert Baker, the boy on the left of the front row, was 15 in that year).

Research has revealed that the three Bakers were brothers and that their eldest sister married J.J. Packer, the Society's Hon. Librarian, around the time of the photograph. If R.D. Carter was also a cousin of theirs, as seems likely, five out of the eleven prove to have been drawn from just the one family.

Apart from J.G. Baker, who went on to be First Assistant in the Kew Herbarium, only W. Fogitt and J.H. Davies seem to have had any standing as botanists. The last-named, already a competent bryologist, soon after emigrated to Ireland, where he became manager of a bleach works and made sufficient further contributions to qualify for inclusion in R. Lloyd Praeger's Some Irish Naturalists (1949).

D.E. ALLEN

DISTRIBUTION MAPPING AND BOTANICAL RECORD HANDLING

Two computer programs were presented: (1) DMAP (written by AM), a distribution mapping program capable of producing output on a wide range of output devices, including files which can be incorporated into documents, and (2) BRASSICA, a menu driven botanical recording database. This is particularly useful for tetrad recording projects, since the list of species on a recording card can be used for rapid input. This program can also plot distribution maps using the DMAP system. Both programs run on IBM compatible computers and are available from the authors at low cost.

M.D. ATKINSON & A. MORTON

VICE-COMITAL CENSUS CATALOGUE OF BRITAIN,  
ISLE OF MAN AND CHANNEL ISLES (V.CC. 1-113)

The present vice-county system was devised by H.C. Watson last century, and the distribution of species in each of these vice-counties was listed in his Topographical Botany (1873-74, 2nd ed. 1883). Supplements were produced in 1905 (covering records up to 1903) and 1929-30 (records up to 1925). The second edition plus its two supplements can be considered the basis of modern vice-comital plant recording.

An up-to-date vice-comital census catalogue, such as exists for Ireland, for mosses and liverworts throughout the British Isles, and for various other groups of plants and animals, has been much needed for a long while. A working party, consisting of the under-signed, is now well on the way to producing such a catalogue, with a finishing date projected for the end of 1993. We are totally convinced of the need for and importance of vice-county recording; we believe it fulfils a different purpose from 10-km square records, and that both systems need to continue in parallel. Vice-counties are the basis of all 'new' records published by the BSBI, and the production of a census catalogue would be a tangible manifestation of much of the Society's activities.

The members of the committee are compiling records for all the species, subspecies and hybrids recorded from the vice-counties that they have been allocated, as follows: Kent (v.c. 1-24), Bevan (v.c. 25-32 & 61-71), Stace (53-60 & 113), Ellis (33-52), McCosh & Silverside (72-112). Preston acts as our link with the records in BRC, Monk's Wood. Nomenclature and taxonomy are according to the List of Vascular Plants of the British

Isles, by D.H. Kent, to be published in 1991. For each taxon will be recorded the status (native, naturalized alien, casual) and whether it has been recorded since 1970 or only before 1970.

All records will have a source reference, allowing them to be subsequently checked. In many cases these will be the appropriate county Flora or the BSBI Monitoring Scheme data, but many others will be in other books or journals (such as Watsonia Plant Records) or herbarium specimens. These data are being compiled on data-sheets, and from here they will be fed into the BSBI Data-base soon to be set up. Since the first data to be entered into the Data-base will be Kent's new List, the vice-comital data will fit into this system very easily. Once the data have been fed in, print-outs for various vice-counties will be produced and sent to v.c. recorders for comment, and print-outs for certain taxonomic groupings will be sent out similarly to various experts.

Finally, a publication will result. This will consist of the taxa on the new List each followed by a list of vice-county numbers, each number being suitably printed to indicate status and pre/post 1970. The sources of the records will not be published, but will be available on request from the BSBI Data-base.

C.A. STACE (Convenor), J. BEVAN, R.G. ELLIS, D.H. KENT, D.J. McCOSH, C.D. PRESTON, & A.J. SILVERSIDE

#### CAREX x GAUDINIANA - A RARITY?

A specimen was exhibited confirming the record for Carex dioica x C. echinata (C. x gaudiniana Guthnick) from Denbighshire (one of only two for Britain and Ireland); and the question was asked 'can this hybrid really be so rare?'. Further details have been submitted to Watsonia as a Short Note.

R.W. DAVID

#### CRASSULA HELMSII: comparisons of the habitat in Australia with those in Britain

The aggressive amphibious plant, Crassula helmsii (T. Kirk) Cockayne, continues to invade and to dominate many ponds and associated aquatic sites in not only c.270 sites in Britain, but also in other European countries, eg. Belgium and Ireland. Examples of habitats studied in Australia indicate that it is likely that Britain lies well within its ranges of environmental requirements. Parameters observed included water depth, dryness, altitude and tolerance to frost and salinity.

F.H. DAWSON

#### THE WORK OF THE BSBI CONSULTATIVE PANEL ON RARE VASCULAR PLANT TRANSLOCATIONS

This Panel, active since 1987, aims to review the field of rare plant translocations - in particular, by gathering information on past translocations, and reviewing policies on translocation adopted by other naturalists; to provide a forum for consultation and advice for those proposing schemes of rare plant translocation; to issue codes of conduct for such schemes [the current code was available at the exhibit]; and to facilitate a rapid exchange of information about such proposals between the BSBI, NCC and RSNC. [See also BSBI News, 48, April 1988.]

This exhibit sought to publicize the work of the Panel, and in particular to collect information from BSBI members on previous transplant attempts and on the whereabouts of rare native plant stocks, of known wild origin, in their gardens. Copies of the new (6th) edition of the List of Rare Vascular Plants Cultivated in Gardens in the British Isles - drawn up from a database currently maintained at the Chelsea Physic Garden - were available from the stand: while such a list has other benefits, from the Panel's point of view it helps to identify extinct or endangered stocks in cultivation that could

potentially be used for re-establishment, where this is considered either feasible or desirable.

D. DONALD

STACHYS GERMANICA : DESTRUCTION BY MICE AND OTHER PREDATORS

During a six-year study period, slight to serious damage and destruction have been observed at all stages of growth in *Stachys germanica* L. Not all these disasters took place at the same site.

Almost total destruction of a colony of plants occurred in the summer of 1990 when over 100 stems were completely stripped by small mammals. Tens of thousands of seeds were plundered and eaten. Live-trapping in the immediate vicinity indicated a high population of wood mice and bank voles.

During the mild winter of 1988/89 roughly a third of overwintering rosettes, some very small, were partially or completely eaten by snails and slugs.

In 1989, 34 flowering stems were severed at or a few inches above ground level, probably by rabbits (whose numbers are increasing), hares or deer. In May 1990 rabbits were responsible for nipping off the tops of five young plants.

Each year caterpillars of the Tortrix moth *Cnephasia interjectana* damage the shoots of a few young plants, which later develop severely stunted spikes.

A.J. DUNN

FLORA OF V.C. 35 (MONS.) MAPPING SCHEME 1985-90

Information was displayed to show that the county is made up of 410 tetrads spread over 25 whole or part ten-kilometre squares. In the period, 99,260 records have been processed of 1270 species, micro-species and hybrids. 214 tetrads have in excess of 250 species, 121 have 200-249 species and 42 have 150-199 species. One tetrad in the Wye Valley has in excess of 500 species, ten more top 400, 19 lie between 350 & 399 and 62 have between 300 & 349. 188 species are common and widespread but only 40 of these are in nearly all tetrads. 71 species are rare, i.e. they occur in 1-3 tetrads or occur in very few numbers in one or two more.

Separate lists were displayed of *common, uncommon* and *rare* vice-county plants. Lists of 59 dandelion micro-species, 18 species of *Hieracium* and 7 of *Euphrasia* species and hybrids, and various roses.

16 county maps were selected to show species on the increase, agricultural weeds and interesting distribution patterns.

Exhibited were specimens of v.c. roses, *Stellaria nemorum* L. subsp. *nemorum*, subsp. *glochidisperma* Murb. and the intermediate form; new vice-county records and photographs of prime sites and their plants.

T.G. EVANS

RIO MAZAN PROJECT :

Investing in the Protection of Genetic Resources in Ecuador

In November 1989 a new initiative was launched by the cloudforest conservation group, the Rio Mazan Project. Its aim was to supplement RMP's main activity, which now supports between three and four full time educationalists in southern Ecuador, by raising the funds necessary to save a forested area of exceptional genetic value through direct purchase.

Flor del Bosque was the name given to an Hacienda which included a vast region of intact cloudforest in the Mazar (not Mazan) Valley which became the original focus of our attention. This was offered for sale to RMP for (USA)\$100,000 but with a limited time period for a deposit to be found. Unfortunately that period expired with less than £20,000 being raised.

That could have been a sad end to an energetic campaign, but we are optimistic for the following reasons. Government departments in southern Ecuador have a vision

of conservation rarely seen elsewhere but are hampered by a severe shortage of funds. Early in 1990, during the height of our publicity, RMP scientists were commissioned by UMACPA, the government body engaged with the task of reforesting the surrounding area, to carry out various key fauna surveys of the forest. That work was completed by the summer of 1990 and UMACPA are now using that data to try and save the forest themselves. Increased powers have also been employed to prohibit the division of land in this region. The future of this forest is thankfully not now quite so bleak but we will follow its course with keen interest.

We are now in a position of being able to utilize the current funds by purchasing two areas of threatened forest as additions to existing and established reserves. These are the Maquipucuna Cloudforest Reserve, near Quito, on the Pacific seaboard and Jatun Sacha Biological Station, a transitional forest on the lower eastern slopes of the Andes.

The advantage of both of these sites is that they already have an established management plan and a wardening system in operation, freeing all of our funds to go directly into forest purchase. We hope that this development will be supported by those BSBI members who have so generously given to our original campaign. Upon its conclusion, an announcement will appear in BSBI News and through BBC Wildlife Magazine. For further information see BSBI News 54: 36-37; BBC Wildlife 8(4): 263, 271; Geographical Magazine, April 1990: 20-25.

V. FLEMING

DACTYLORHIZA INCARNATA subsp. OCHROLEUCA

In the British Isles, *Dactylorhiza incarnata* subsp. *ochroleuca* (Boll) P.F. Hunt & Summerhayes occurs (usually only in small numbers), at a very few localities in eastern England, but has been recorded more frequently from central Europe and the Baltic region of Scandinavia. It is a plant of rich calcareous fens, and appears to be decreasing quite rapidly, presumably from loss of habitat caused by drainage.

As a pale-yellow flowered marsh orchid, it has often been confused with albino (anthocyanin-lacking) variants of other subspecies of *Dactylorhiza incarnata*, but certain character differences appear to exist, particularly in labellum shape, leaf and bract size, and general robustness of the plant.

Work is in hand to establish its precise geographical range and to make a morphometric assessment of populations of subsp. *ochroleuca* from various localities throughout Europe, in order to verify the diagnostic characters which separate it from other subspecies of *Dactylorhiza incarnata*. So far plants from three populations (from Sweden, Estonia and Germany) have been examined in detail and have been found to show close agreement one to another. Other populations throughout its range will be similarly examined.

**Information is sought on any localities for subsp. *ochroleuca* and especially on those where the plant still survives.**

The exhibit included two photographs and a provisional European distribution map.

M.J.Y. FOLEY

CYTOLOGICAL CATALOGUE OF THE BRITISH & IRISH FLORA

Progress in compiling a cytological catalogue of the British & Irish flora was reviewed. The project started at the beginning of 1990, and is based on a card index, put together at the instigation of the late Prof. D.H. Valentine, which summarises the available data up to 1975. So far over 1/3 of the card-index has been computerised, using Advanced Revelation database software. This year 72 populations (representing 65 species) have been examined cytologically at the three participating centres (Leicester, Dundee and Dublin). A start has been made on gleaning chromosome counts made since 1975 from the published and unpublished literature. About 38% of the British & Irish native flora have documented chromosome counts so far.

R.J. GORNALL, J.P. BAILEY & J.E. WENTWORTH

SOME ASPLENIUM, DRYOPTERIS AND POLYPODIUM DISTRIBUTION MAPS FOR WALES

10km square distribution maps for mostly critical taxa were exhibited based on accepted records received and abstracted up to November 1990 for Welsh Plant Records at the National Museum of Wales, Cardiff. The dates used were 1970-90, 1950-69 and pre-1950.

Maps displayed were for Asplenium trichomanes L. nothosubsp. lusaticum (D.E. Meyer) Lawalree, subsp. pachyrachis (Christ) Lovis & Reichst., subsp. quadri-valens D.E. Meyer emend Lovis, nothosubsp. staufferi Lovis & Reichst., subsp. trichomanes; Dryopteris affinis (Lowe) Fraser-Jenkins subsp. affinis, subsp. borreri (Newman) Fraser-Jenkins, subsp. cambrensis Fraser-Jenkins, D. x complexa Fraser-Jenkins, D. filix-mas (L.) Schott, D. x mantoniae Fraser-Jenkins & Corley, D. oreades Fomin; the three British species of Polypodium and the three corresponding hybrids.

An air of caution was necessary when interpreting records of 'Polypodium vulgare' as some referred to Polypodium agg.

G. HUTCHINSON

CATALONIA 1990

This exhibit displayed a check-list of taxa recorded during the 1990 BSBI Field Excursion to the Spanish part of Catalonia. The 17 participants recorded 832 taxa of vascular plants from the coast to about 8,000ft (2,200m). A number of other specimens are still being worked up.

The list was prepared in a computer database, enabling it to be printed out in two orders for display at the exhibition meeting:

- (1) Alphabetical by genus and species
- (2) Flora Europaea order of families, alphabetical by genus and species within the families

This also facilitates addition of further taxa as they are identified.

A copy of L'Alta Muntanya Catalunya: Flora y Vegetacio by Josep Vigo y Bonada, was also displayed. This is a fine example of a local flora which combines scientific accuracy, usefulness and beauty with cultural conservation of the native language, Catalan.

S.L.M. KARLEY

BRITISH PLANT GALL SOCIETY

This exhibit gave basic information about the British Plant Gall Society, and displayed a copy of the Keys to the Identification of British Plant Galls. The attention of members was drawn to the disastrous decline in the numbers of Common Spangle Galls (caused by a cynipid wasp Neuroterus quercusbaccarum, in its agamic generation) on the leaves of Quercus robur etc. in England this year, although the Currant Gall, which is caused by the sexual generation of the same insect, was seen at a normal frequency during the spring and early summer. Reports of observations by members from England and other areas would be welcomed by the secretary of the BPGS, Dr C.K. Leach, Attenborough Laboratory, Leicester Polytechnic.

S.L.M. KARLEY

HELP!

This is an annual exhibit in which members are invited to display specimens or slides of their own unidentified material, and to offer suggestions for identification of others' material. This can be confidential in both directions, if desired. The main use for this service is for incomplete material which the standard books may not be able to identify, but may be readily recognised informally by those more familiar with the plant.

Plants exhibited in 1990 that were provisionally identified included:

Coronilla emerus, Euphorbia serrata, Crataegus azarella, Hibiscus trionium, Hedera hibernica, Kochia scoparia, and Polygonum capitatum

S.L.M. KARLEY

RUBUS IN CORNWALL

A series of drawings are being made of brambles that are representative of Cornwall's *Rubus* flora, with emphasis on species that are endemic to the county.

Z. KEATING

CERASTIUM TOMENTOSUM GROUP IN BRITAIN

All material we have seen from Britain in the *Cerastium tomentosum* group belongs to *C. tomentosum sensu stricto*. Records of other species such as *C. biebersteinii*, *C. decalvans* and *C. candidissimum* are attributable to the fact that *C. tomentosum* (from Italy and Sicily) is extremely variable and in superficial characters certain of its variants mimic some of these other species. In addition *C. tomentosum* easily hybridizes with the native *C. arvense* to produce plants that show considerable resemblance to *C. decalvans*, and *C. arvense* itself is very variable and not always easy to distinguish from *C. tomentosum*.

Exhibited were:

1. Five sheets of *C. tomentosum* from Italy and Sicily to show the range of variation.
2. Seven pots to show the appearance in winter of *C. tomentosum* variants.
3. Seven sheets to show examples of the other species in the *C. tomentosum* group (*C. biebersteinii*, *C. gibraltarium*, *C. decalvans*, *C. candidissimum*, *C. lineare*, *C. nodosum*, *C. moesiacum*). The similarity of *C. biebersteinii* to one of the variants of *C. tomentosum* was pointed out.
4. Six pots to show the appearance in winter of other species of *C. tomentosum* group (*C. lineare* was not represented).
5. One pot of *C. arvense* and one of the hybrid *C. arvense* x *C. tomentosum* to show the latter's similarity to *C. decalvans*.

M.K. KHALAF & C.A. STACE

EPILOBIUM HYBRIDS AND THE GREAT STORM OF 1987

Willowherbs are among the plants colonizing disturbed ground left by hurricane damage and subsequent tree clearance. These conditions are also conducive to hybridization. Tetrad records for 1989-90 were exhibited of *Epilobium* hybrids arising in these circumstances along the greensand and North Downs ridges near Sevenoaks in Kent.

The most widespread hybrid was *Epilobium ciliatum* x *E. montanum*, followed by *E. ciliatum* x *E. parviflorum* and then *E. ciliatum* x *E. tetragonum*. Despite being recorded only on the chalk Downs, the *E. parviflorum* cross was the most numerous, boosted by a single large population. The exhibit pointed to the under-recording of such taxa.

G.D. KITCHENER

THE GUERNSEY BAILIWICK 1990

Year after year after year after year, important finds continue to be made on the islands of the Guernsey Bailiwick. Among those collected or confirmed this year are:

*Lepidium densiflorum*. Guernsey. New to Channel Islands (CI).

*Silene armeria*. Sark. Last CI record 1864.

*Arenaria montana*. Guernsey. New to CI.

*Geranium* x *oxoniense*. Guernsey. New to CI.

*Epilobium ciliatum*. New to Sark.

*Ecballium elaterium*. Sark. New to the Bailiwick.

*Rumex* x *pratensis*. Sark. New to the Bailiwick.

*Campanula fragilis*. Guernsey. First noted high on the wall of Old Government House Hotel in 1976; now freely seeding high and low and across the street. Unrecorded elsewhere in CI.

*Ornithogalum arabicum*. Guernsey. New to CI - and possibly to Great Britain.

*Glyceria declinata*. Guernsey. First confirmed record for 99 years.

*Poa angustifolia*. overlooked in Alderney until this year.

*Avena barbata*. Now right up the west coast of Guernsey since first recognised in 1970; unrecorded elsewhere in CI, where claims for *A. strigosa* should be checked to see if they are not of this species.

*Corydalis lutea* (*Pseudofumaria lutea*), remarkably scarce in Guernsey and unknown elsewhere in the Bailiwick, was found in Alderney.

J. Le HUQUET & P. RYAN

#### SOME HAWKWEEDS FROM V.C. 85, FIFE AND KINROSS

Hitherto v.c. 85 has been virtually unknown territory for Hieracia. The handful of specimens in the public herbaria and the equally few published records, some of them under ambiguous names, indicated a serious need for fieldwork. Visits by the **Hieracium** Study Group and later by the author to the Lomond and Cleish Hills near Kinross in June/July 1990 were successful in finding a number of interesting species and some records were also made elsewhere in Fife. The exhibit showed the more interesting plants collected: new Vice-county Records for **Hieracium flocculosum** and **H. piligerum**, interesting variants of **H. saxorum** and **H. jovicmontis** and an apparently undescribed member of the **H. 'britannicum'** group.

D.J. McCOSH

#### POLYGONUM MARITIMUM L. IN CORNWALL

Attention was drawn to the re-appearance of this rare plant at two sites in Cornwall in 1990, following the severe winter storms of 1989/1990. Photographs and distribution maps were on display.

R.J. MURPHY

#### RUBUS IN LLEYN: A SECOND INNINGS

A second visit to West Lleyn in August 1990 covered new ground, and resulted in many further records. Most important was the addition of four (perhaps five) species to those found on the previous (1988) visit; all but one of these are not only new to Caerns. v.c. 49, but also to north or to west Wales. For two - **Rubus altiarcuratus** and **R. villicauliformis**, both species of SW Britain, these Lleyn finds are the most northerly in Britain. For **R. rubritinctus**, also new to North Wales, Lleyn provides a link to its northern outpost in Lancs., and **R. echinatus**, in Wales mainly on the eastern fringe, had been seen only once before in Caerns. (in c.1900). The total from W. Lleyn is now 28 species (and 2 hybrids). New sites for all but three of the 1988 list were found, giving a number of new 10km square records. **R. ordovicum**, all but endemic to Gwynedd, was confirmed as widespread and there were more sightings of the Gwynedd **R. riparius**. The as yet un-named Caernarfonshire **Rubus** long recognised on the west flank of Snowdonia south to Portmadoc was frequent. Mapping on a 1km-square basis was attempted; a reasonable spread across the area has been achieved despite entries for only 35% of the 1km-square units.

A. NEWTON & A.P. CONOLLY

#### FLOWERING BIOLOGY OF ALLIUM VINEALE COLOUR VARIANT IN CO. KERRY, V.C. H2

A six year study of the flowering biology of **Allium vineale** L. plants was conducted by me locally, 1984-89.

The study related to two colonies; one of a colour variant (lilac-lavender) consisting of, on average, 70 plants and situated near Milltown, and the other of the typical pink form, on average 200 plants, 2 miles away at Killorglin. The results showed the variant

population having a higher ratio of flowering individuals - 30% as against 2% for the pink. A high incidence of dense flowerheads (20-50 florets) for the former was also recorded for most years.

While acknowledging that there can be a wide variation from one colony to the next, in the species, with regard to the number of flowering individuals, nevertheless, on the basis of this study at any rate, one must feel inclined to identify the colour variant as being rather prolific in this habit. There is further evidence of this from a small colony located in West Sussex.

M. O'SULLIVAN

#### AN ALIEN POLYGONUM HYBRID, NEW TO THE BRITISH ISLES

Several taxa in Polygonum section Aconogonon Meissner are naturalized in the United Kingdom. They include P. polystachyum and P. weyrichii, which are native to Eastern Asia. Plants have been found which are very similar to, but do not fit into these taxa. These suspected hybrids are from Botanic Gardens in Kent and Cambridge and from the wild in Lofoten (Norway) and Yorkshire. Some work has already been done on the group by Mr Rieresen in Norway, who concluded that P. weyrichii and P. alpinum were the parents. At Leicester an in-depth study is being done using cytology, floral structure, pollen morphology and fertility, and trichome structure. Work so far on chromosome number, trichome type and pollen morphology suggests that P. polystachyum is an unlikely parent for the Lofoten and Yorkshire plants. However the Cambridge and Kent hybrids appear somewhat different and the origin of the group may well be polytopic.

H. PORTER & J. BAILEY

#### TWO PROBLEMS IN SORBUS

1. Sorbus eminens was described by Warburg from Offa's Dyke, Tidenham, W. Glos. (v.c. 34) and indicated as occurring in woods on Carboniferous Limestone in the Wye Valley and the Avon Gorge. Plants from the two areas differ in peroxidase phenotype and in the shape and tooting of their leaves, and may not be closely related. The Avon Gorge trees share the same peroxidase pattern with populations in Mendip, a population (named as S. porrigentiformis in the Critical Supplement) on the Menai Straits, and with S. hibernica. All of these have similarities in ecology, growth-habit, and leaf and fruit characters. Their relationships need further study.

2. Sorbus leptophylla is known from two sites in Breconshire; Warburg indicated that it probably occurred also in Montgomery (on Craig Breidden). A tree on the west crags of Breidden (which has probably in the past been regarded as a form of S. porrigentiformis) gave a peroxidase phenotype matching S. leptophylla from South Wales. Its leaves are smaller but similar in shape to those of Breconshire S. leptophylla, and it resembles S. leptophylla in fruit characters. In Breconshire, S. leptophylla varies in habit and leaf size depending on exposure; the Breidden trees, in a rather open and probably drought-stressed habitat, fit reasonably into the pattern. If the Breidden plant is accepted as S. leptophylla, this raises two questions. (i) How widely does it occur on Breidden? (ii) Is S. porrigentiformis or any other S. aria-group whitebeam (apart from S. rupicola) present on Breidden?

M.C.F. PROCTOR

#### SCANNING ELECTRON MICROGRAPHS OF LEAF SURFACE CHARACTERS IN THE CAREX NIGRA GROUP

Carex bigelowii and C. elata have all their stomata on the lower surface. In C. elata each cell of the lower epidermis bears a prominent sharp papilla; the lower epidermis of C. bigelowii is gently mammillose. Both have a smooth upper epidermis, with shorter cells in C. bigelowii. Material of C. recta from the Beaulieu Estuary has a smooth upper surface,

with stomata only on the strongly papillose underside (unlike Scandinavian material which is described as having papillae and stomata on both surfaces). *C. nigra* has numerous stomata in the papillose upper epidermis, and few or none on the smoother underside. *C. aquatilis* has numerous stomata on the sharply papillose upper surface, and rather fewer in the smoother lower epidermis. In *C. acuta* stomata are numerous both on the rather smooth upper surface and on the more strongly papillose underside. The hybrid *C. aquatilis* x *C. bigelowii* is intermediate between the parents, with both leaf surfaces relatively smooth and with numerous stomata. Lower epidermis characters of high altitude *C. aquatilis* (Glas Maol) suggest possible introgression from *C. bigelowii*. I am indebted to A.C. Jermy for the Scottish material.

M.C.F. PROCTOR

#### UMBELLIFERS - A SUMMER'S WORK

This year's presentation concentrated on three of the larger European genera, *Laserpitium*, *Peucedanum* and *Seseli*.

The four *Laserpitium* species featured were the product of a September trip to Lake Garda and Molveno, and the very local *L. nitidum* Zanted was among them.

The *Peucedanum* exhibit demonstrated the disparity between species within the genus, even those said to be 'like one another', and unexpected contrasts between distant populations of *P. austriacum* (Jacq.) Koch.

In *Seseli* five obscure taxa were shown, notably *S. vandasii* Hayek from Southern Yugoslavia, *S. intricatum* Boiss. and *S. farrenyi* Motero & Pujadas from Spain.

Additional items shown were all young living material of little-known species, from which much interesting information may be obtained in 1991. These were *Hohenackeria exscapa* (Steven) Kos-Pol., *Bupleurum capillare* Boiss & Heldr., *Geocaryum* sp. and *Pimpinella* cf. *hirtella*.

M. SOUTHAM

#### A SCOTTISH MISCELLANY

A specimen of *Calamagrostis purpurea* subsp. *phragmitoides* from a new site by Loch Trumlee, near Oban, Argyll was shown. This was collected by N.F. Stewart on 30/6/1990. Its measurements were compared with those from other British sites, and were very similar especially to the measurements of the specimens from Braemar, v.c. 90, and Esthwaite Water, Cumbria.

New records from Kirkcudbrightshire were shown, including *Equisetum* x *dycel*, this unusual hybrid was found in marshy ground near Southerness. Other plants new to the county were *Elodea nuttallii*, *Petasites japonicus*, *Armoracia rusticana*, *Empetrum hermaphroditicum* seen by Dr R.W.M. Corner, who also saw *Arctostaphylos uva-ursi*, the second record and only extant one, the first record having been lost to forestry.

Flower paintings included *Mimulus maculosus*; this is only the 3rd site, and it was cascading down a small ravine in E. Lothian.

O. STEWART

#### CIBACHROME PRINTS OF BRITISH AND MEDITERRANEAN ORCHIDACEAE

These showed the characteristics of Cibachrome, which is well suited to botanical illustration since colour saturation is high and it is probably the only purely photographic colour-printing process with any claim to archival permanence. One of the mounts showed *Dactylorhiza majalis* subsp. *purpurella* var. *atrata* A.J. Richards and *D. fuchsii* var. *rhodochila* D.M.T. Ettlinger, two var. nov. published in *Watsonia* 18: 307-309 (1991).

D.M. TURNER ETLINGER

A DICTIONARY OF BRITISH AND IRISH PLANT-LORE

See BSBI News 56: 30 (1990) for details.

A.R. VICKERY

PLANTS OF NORTH CYPRUS

The 16 working sheets and 8 preliminary composed plates displayed were a selection from some 750 line drawings done in situ by Deryck Viney for a projected guide to the native and established flora of North (Turkish) Cyprus. Intended for native students as well as visitors, it will break new ground by including Turkish names and etymologies and will be cross-referenced to the new North Cyprus Herbarium at Alevkaya (Halevga), set up by Dr Viney for the Turkish-Cypriot Forestry Department because of the inaccessibility, since the island was divided de facto in 1974, of the old British-originated collection. Most of the drawings were first exhibited in N. Nicosia and at Famagusta University in 1989. The project has involved two years of fieldwork so far and is planned to take another two, with some 350 species yet to be collected and drawn.

D.E. VINEY

**The following also exhibited:**

BOTANY LIBRARY, NHM - Recent botanical books.

M.E. BRAITHWAITE - Working on the flora of Berwick-on-Tweed.

D.E. COOMBE - *Ophioglossum lusitanicum* L. : 30 years in cultivation.

J.M. CROFT & C.D. PRESTON - Atlas and database of aquatic plants.

B.A. GALE & A.P. DALY - A handful of hydrophytes: test your knowledge of these confusing aquatics.

M. GIBBY & A.M. PAUL - Ferns of Madeira.

V.A. JOHNSTONE - Photographs of wild flowers from southern England.

Q.O.N. KAY - Dioecy, sex ratios and pollination in *Rhamnus catharticus* L.

A.J.C. MALLOCH, T.C.G. RICH & J. RODWELL - Plant species response in a community context.

F.J. RUMSEY & E. SHEFFIELD - The Killarney Fern in the British Isles.

J. SMART - Plantlife: the progress so far.

A. STEWART, C.E. WARD & C.D. PRESTON - Survey of scarce plant species.

Also on display were: recent publications by BSBI Members; Perring Books; and Hon. General Secretary's miscellany.

**In the lecture-hall, the following members gave short talks illustrated by colour slides:**

M. BRIGGS - Canadian highlights.

F. LE SUEUR - Flowers of Lhasa, Tibet.

J. PARTRIDGE - Amaranths in cultivation in Britain.

F.H. PERRING - The Queen Mother's 90th birthday Reserve.

J. POPE - Plants from North Portugal.

M.C.F. PROCTOR - British mountain plants at home and abroad.

\*\*\*\*\*

ADVERTISEMENTS

BOOKS WANTED

Any books (garden catalogues or pamphlets) covering gardening in Central West Scotland 1890s-1930s. I already have:

Botanical guide to the wild flowers in the west of Scotland, by John Fleming (1880), which has almost as much on horticulture as native plants.

Advertisements

Contributions to Local History, by Rev. David Landsborough (1879).

Villa and Cottage Gardening, by Alex Sweet (1889). There were further eds.

I am trying to discover when some of the well-established garden plants were cultivated in v.cc. 75, 99 & 100.

ALISON RUTHERFORD, 19 South King Street, HELENSBURGH, Dunbartonshire G84 7PU

\*\*\*\*\*

BOOKS FOR SALE

Watsonia, vol. 1 to date, complete.

Proceedings of BSBI, vol 1-7, complete.

Report of Botanical Exchange Club, Annual Reports: 1913-1916, 1918, 1921-1947 complete.

Offers please to:

Vincent S. Pedley, 9 Loretto Road, URMSTON, Manchester M31 1WA.

\*\*\*\*\*

BSBI MEMBERS LEADING HOLIDAYS OVERSEAS

The following overseas tours have been arranged for 1991 (see also BSBI News 56). All the leaders are members of the BSBI. Any member interested in joining one of these excursions is asked to contact the tour operator.

\*\*\*\*\*

Ellinika Tours, 19 West Court, Goldington Green, Bedford MK41 0AJ (tel. 0234 219762)

LEADER	COUNTRY	DATE
Vaughan Fleming	Crete	18 October-1 November

Botanical tour with photographic tuition.

\*\*\*\*\*

EcoSafaris, 146 Gloucester Road, London SW7 4SI (tel. 071-370-5032)

LEADER	COUNTRY	DATE
Peter Wormell	Zambia	31 October-16 November

A Central African Tour of Zambia concentrating for the first time on flora and vegetation.

\*\*\*\*\*

CAMBRIDGE UNIVERSITY BOARD OF EXTRA-MURAL STUDIES  
PUBLIC COURSES IN ECOLOGY AND RELATED TOPICS

These include:

**Day-schools**

Saturday, 11 May, Snape (near Aldeburgh, Suffolk), Churchyard Wildlife, Christopher Hitch, Peter Lawson, Marya Parker.

Saturday, 25 May, Houghton (near Huntingdon), British Grasses, Derek Wells

Saturday, 1 June, Letchworth, Natural History and Conservation of Norton Common, Brian Sawford.

**Residential Courses at Madingley Hall**

12-14 July, Plants and animals of the Shoreline, Dr Roland Randall.

**Foreign Study Tours**

9-16 May, Geology and Wild Flowers in Lanzarote, Dr John Stanley and Dr Peter Thomas (Univ. of Keele) and Dr Roland Randall (Univ. of Cambridge).

Brochures for all 1991 courses available from:

COURSES REGISTRAR, Madingley Hall, Madingley, CAMBRIDGE CB3 4AQ (tel. 0954 210636)

SUNFLOWER COUNTRYSIDE GUIDES

Sunflower Books publish the fairly well known Landscape series which are described as countryside guides and which are devoted to popular holiday destinations in the Mediterranean region. Car tours and picnics are described in the books but countryside walks are the main feature.

As botanists, flowers are high on our list of priorities and we mention as many as possible encountered along the routes of the walks described. Our titles already published in the series include Landscapes of Samos, Landscapes of Turkey; around Antalya, Landscapes of Portugal; Algarve with Landscapes of Portugal; Costa Verde & Estoril and Landscapes of Turkey; Bodrum & Marmaris due for publication in May 1991.

If you would like to find Fritillaria bithynica in Samos, Corydalis rutifolia subsp. erdelii in Turkey or Narcissus gaditanus in Portugal, for example, then follow in our footsteps with the help of an easily pocketed Landscapes guide.

BRIAN & EILEEN ANDERSON, 9 Bramley Road, Bamford, ROCHDALE, Lancs. OL11 5QN

\*\*\*\*\*

April Fool - the 'joke' this year is that there isn't one!

\*\*\*\*\*

The Editor, Gwynn Ellis can be contacted by phone at 0222-397951 ext. 218 (NMW) or 0222-496042 (home).

ARTICLES CAN NOW BE FAX'D TO THE EDITOR ON 0222-373219 (GROUPS 2 & 3).

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