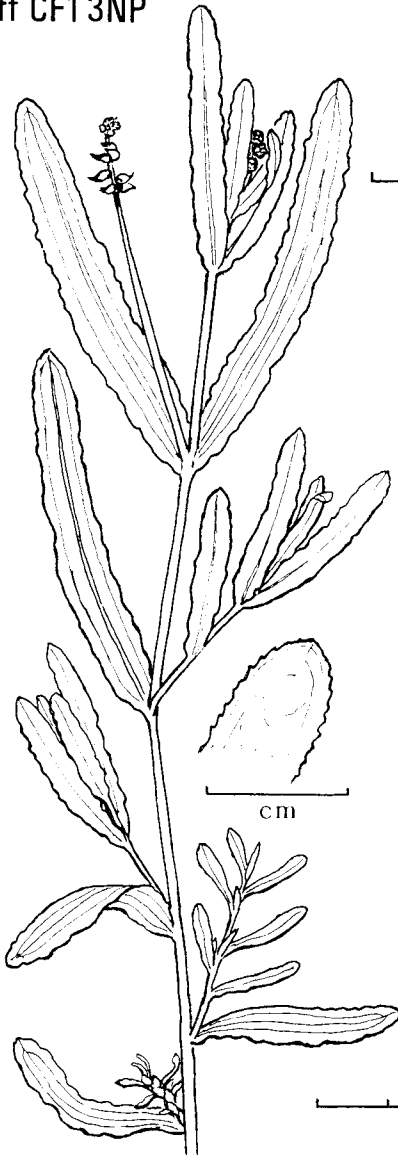


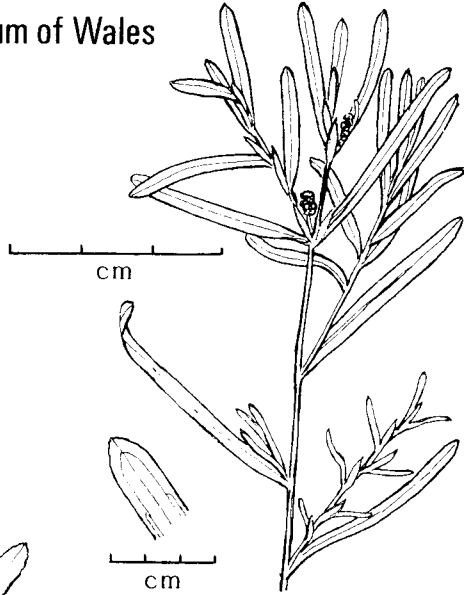
Edited by R. Gwynn Ellis

No. 54

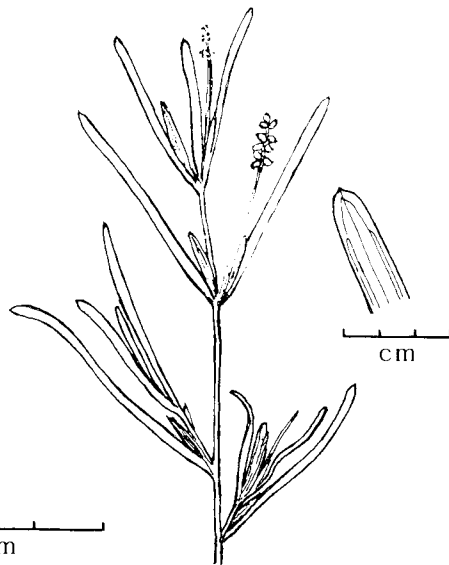
Dept. of Botany, National Museum of Wales
Cardiff CF1 3NP



Potamogeton crispus L.



Potamogeton x lintonii Fryer



Potamogeton friesii Rupr.

Administration

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CONTRIBUTIONS INTENDED FOR

BSBI NEWS 55

should reach the Editor before

28th JULY 1990

DIARY

N.B. These dates are supplementary to those in the 1990 Calendar.

1990

APRIL

- 17-19 : Computers in University Education Conference, Liverpool (see page 41)
- 26 : Royal Society Lecture (see page 41)

JUNE

- 9 : Computer demonstration, Monkswood (see page 29)

JULY

- 28 : Deadline for contributions to BSBI News 55
- 31 : Deadline for registration for Linnean Society meeting (see page 42)

SEPTEMBER

- 25-27 : Linnean Society three-day meeting (see page 42)

EDITOR

EDITORIAL

Do I detect a falling off of critical reading, or are there really no errors in BSBI News that are worth reporting?

Are Lloydia and Gagea native in Wales?

Startling new evidence has come to light that casts a slight shadow of doubt on the nativity of such noted Welsh rarities as Lloydia serotina and Gagea bohemica.

A manuscript letter apparently in the hand of a relative of the noted botanist and antiquarian Edward Llwyd has just been unearthed in, of all places, the Public Record Office in Cardiff, by Ralf Poloi, a research worker there. The letter, by David Llwyd, states that he had obtained bulbs of several alpine plants from the nurseryman William Cox of Kew Green, London, and had tried planting them on cliff ledges in Snowdonia, the Brecon Beacons, and on 'a low but precipitous cliff near Radnor'; an experiment that 'met with some success'.

There is no indication of what the species were but, if they included Lloydia or Gagea, what then?

A paper presenting full details of this discovery and its implications on the nativity of not only Welsh but British alpine plants is in preparation. See also **Stop Press** page 57.

Special thanks this issue to Adrian Grenfell for help with the production of the front cover.

EDITOR

ADVERTISING IN BSBI NEWS

I am very grateful to the thirty or so members who wrote in with their views on advertising books for sale in BSBI News. A series of proposals based on these replies were put to a meeting of the Society's Publications Committee in February, and I am delighted to report that most were accepted by the Committee and are set out below.

1. Advertising of members second-hand natural-history books and maps **WILL NOW BE ALLOWED** in BSBI News.
2. No more than two pages of adverts per issue.
3. No member to be allowed more than one advert every two years.
4. No more than five books per advert; if more are offered for sale then members to be invited to contact the advertiser for the complete list.
5. No charges to be made for the adverts.
6. Commercial booksellers who are also members of the Society should be afforded the same privileges as other members for up to five books, but they be restricted to a once only advert of a list of books.
7. While members may make requests for books for bona fide research purposes in the Requests section of News, this facility should not be used for commercial purposes.
8. No adverts to be allowed for equipment, cars, boats, holiday homes, etc.
9. Advertising of Botanical Tours led by members, field courses, etc., are to be allowed to continue as present.

EDITOR

HON. GENERAL SECRETARY'S NOTES

H.M. Queen Elizabeth the Queen Mother, our Patron, will be celebrating her 90th birthday in August. To mark this anniversary BSBI Council has recommended that the Society should purchase a small Reserve in the British Isles for the protection of a threatened plant. We are requesting approval for the Reserve to be named in honour of her Majesty. Details will be published in BSBI News 55. Meanwhile any members wishing to make a donation for the purchase of this Reserve, please send this to the Hon. Treasurer, address on page 2, clearly marked 'H.M. The Queen Mother's Birthday Reserve Fund'.

Congratulations to Mrs Violet Schwerdt, President of the Wild Flower Society and Honorary Member of The BSBI who will be celebrating her 90th birthday in May.

Stamp Cover for Kew anniversary

On the 150th anniversary of the opening of Kew Gardens to the public, a set of four commemorative stamps will be issued on June 5th. A unique First Day Cover designed by CoverCraft will mark BSBI's links with Kew. The Post Office Stamps will feature trees and buildings in the Gardens, the cover shows a Victorian lithograph of the Palm House, and the stamps will be postmarked on June 5th by a special handstamp incorporating the BSBI bluebell logo.

Some of the covers are available signed by the stamp designer, Paul Leith. Cost unsigned £4.75, or signed £8.95, p.& p. in the UK included. For overseas post please add £1.00 for first cover and 50p per cover thereafter for airmail. The covers will be sent in stiffened envelopes within 28 days after June 5th.

Orders for BSBI First Day Cover, with payment to 'CoverCraft' and your name and address, should be sent to: 'Covercraft' (Kew 150) PO Box 713, LONDON SE19 2HH, before 5th June.

Night Botanizing

When British Rail invited Sussex naturalists from the Booth Museum of Natural History and the Sussex Botanical Recording Society to study a length of railway embankment at Monkscombe north of Brighton, as the electricity was to be switched off, we accepted with alacrity. Our enthusiasm was dampened when we learnt that the exercise was scheduled for midnight - 5am in mid-February!

However, deciding that co-operation could be worthwhile, six of us assembled at the 11.15pm rendezvous, to start with steaming mugs of tea and to don protective hard hats and B.R. orange tabards, while waiting for the switch-off and the all-clear signal. By the light of our torches and some temporary lighting fixed along the cutting, we clambered over the rails and up the banks. The botanical score was 42, with *Veronica persica* the only plant in flower (so photographed at 2.30am by the light of several flashlights, see below). The specimen of cheese plant, presumably cast down from the housing estate above, was not recorded on the card. Ed and Biddy Jarzembowski and Gerald Legg from the Museum were rewarded by finding an assortment of spiders, flies, snails and slugs, a badger's skull, and a small piece of a 60 million year old fossil 'sea-lily' (a relative of starfish and sea-urchins).



Paul Harmes and Tony Spiers botanizing by torchlight! Photo M. Briggs

Other people's problems

W. Van Warmelo, now working for conservation in South Africa, writes that they have to contend with the problem of bark-stripping of trees for trades in traditional healing - herbalists, diviners, healers and witchdoctors etc. This has been an old problem in Natal and Eastern Cape, but rapid urbanisation has now brought it to the remnant forests of the Southern Cape. A workshop has been arranged to look into ways in which these needs can be reconciled with the need to conserve the trees.

Vascula

BSBI has now got four large vascula and limited storage space. Would any member who could make use of one of these please contact me. They are all rather bulky and heavy to post so would be better collected by hand from The Natural History Museum or transferred, by arrangement to another centre for collection. If posted, all costs must be born by the recipient.

MARY BRIGGS, Hon. General Secretary

IMPORTANT NOTICE

BSBI WALES QUADRENNIAL MEETING
AND
28th ANNUAL GENERAL MEETING 1990

NOTICE IS HEREBY GIVEN that a meeting of members of the Society, normally resident in Wales, will be held at University College Gardens, Treborth, Bangor, Gwynedd, on Saturday 21 July 1990 at 3.15pm.

AGENDA

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

Nominations of members for election as Chairman and Representative on Council must be in writing, signed by two members normally resident in Wales, and accompanied by written consent of the candidate to serve if elected. Such nominations, and nominations for members and officers of the Committee for Wales, should be sent to the Hon. Sec. of the Committee for Wales, Mr R.G. Ellis (address on front cover), to arrive not later than May 30th 1990.

MARY BRIGGS, Hon. General Secretary

PUZZLE PICTURE 1



This 'after' picture shows that the mystery photographer was the late Ted Lousley. Only two members guessed correctly; Mrs Chris Dony, who took the photographs at a Worcestershire wool alien field in 1959, and Mrs Dorothy Lousley! This picture was really a test to see how many members had read their Botanists (see between pages 164 and 166), not very many it seems, tut,tut,tut!

BARBARA WELCH



Barbara Welch (right) and Mary McCallum Webster (left) photographed by J. Russell looking at *Scirpus triquetter* in Limerick, Ireland on June 22 1952.

See The Annual Report for 1989-90 pages 10-11 for details of the awards from the Welch Bequest Fund.

'SPECIES-MAPPING AND THE BIOLOGY OF PLANT DISTRIBUTION'
JOINT BSBI/BES CONFERENCE, EXETER, 6-9 APRIL 1989

The Conference was attended by some 117 participants roughly 60% BSBI and 40% BES. Most came from the UK, but a number were from Ireland, two from the Continent, and two from North America. Residential accommodation was in the Duryard Halls of Residence c.1km from the main University campus, where the paper-reading sessions took place in the Hatherly Laboratories (Department of Biological Sciences).

Friday 7 April was taken up mainly with papers on plant distribution patterns and their more immediate interpretation - close to the Watsonian tradition. The morning session was chaired by the Society's president-elect, Professor D.A. Webb, who welcomed participants to the conference. The opening paper on 'The Atlas of the British Flora' was given by Dr S.M. Walters, who outlined the early development of distribution-mapping studies in Europe, leading up to the start of work for the BSBI Atlas. He was followed by Dr G. Halliday, who illustrated a wealth of patterns representing diverse distribution types in 'The flora of Cumbria' and by Dr M.C.F. Proctor who discussed a number of 'Patterns in the flora of Devon'. Dr N.K.B. Robson concluded the morning with a thought-provoking comparative discussion of the distributions and habitats of the British species of *Hypericum*. The afternoon session, chaired by Dr Walters, began with a consideration by Dr C.D. Preston of the distributions of the British species of *Potamogeton*, a genus of which many species have greatly decreased during this century. Mr R.W. David discussed some puzzling questions raised by the British distributions of *Carex montana*, *C. appropinquata*, *C. punctata* and *C. magellanica*. Dr S.B. Chapman presented evidence indicating that in Dorset *Gentiana pneumonanthe* is a relict and declining species, but that *Erica ciliaris* is probably a relatively recent arrival and still spreading. Finally, Dr B. Huntley's paper on 'Pollen maps and pollen-climate response surfaces: biogeographic implications' gave a fascinating dynamic picture of individual plant distributions responding to changing climate since the last glacial period, and the effects of this on changing vegetation.

The second day of the conference was concerned with analysis of the causes of plant distribution limits. The morning session was chaired by Professor J.A. Bryant, head of the Department of Biological Sciences at Exeter. In the opening paper on 'Analysis and experiment in the study of the climatic control of plant distributions', Dr C.D. Pigott considered particularly the effects of temperature on fertilisation and embryo-growth, and

water stress, as factors determining northern and southern limits of some European forest trees. The influence of mineral nutrient factors on distribution was considered by Dr J.R. Etherington, 'The impact of heavy-metal toxicities on plant distribution' by Dr A.J.M. Baker, the influence of drought stress by Dr N. Smirnov, and factors limiting the distribution of coastal cliff plants by Dr A.J.C. Malloch. In the afternoon session, chaired by Dr C.D. Pigott, Dr F.I. Woodward discussed some of the physiological effects of altitude on plant growth. Dr J. Jenik spoke on the role of wind systems in mediating topographical limitation of species in the mountains of Czechoslovakia, and considered the possibility of similar effects in western Europe. Dr J. Grace gave an interesting paper on microclimatic (particularly temperature) differences between neighbouring vegetation types. Dr T.C.E. Wells described some of the results of long-term recording of orchid populations near their northern limits in relation to year-to-year climatic variations. Finally, Dr J.P. Grime provided a wide-ranging and thought-provoking summing up.

The general atmosphere of the conference indicated that people found it an enjoyable and intellectually worthwhile occasion. Certainly many seem to have found the slightly unfamiliar juxtaposition of amateur and professional talent stimulating, and much interesting discussion resulted. Our speakers all did an excellent job of pitching their papers at an appropriate level for a very mixed audience, and they all deserve our warm thanks.

Around half those present at the conference took part in the field excursion on Sunday 9 April. We first visited the valley of the River Teign, near Fingle Bridge at the north edge of Dartmoor, where *Hypericum linarifolium* was seen just starting into growth on the steep south-facing rock outcrops; a quick reading with an infra-red thermometer showed these slopes several degrees warmer than the woods on the opposite slope, even in hazy sunshine. Some members of the party found *Teesdalia nudicaulis* in flower. We then continued to the Devonian limestone of Berry Head near Brixham, where the fine coastal cliffs and rich flora and the seabirds particularly impressed our overseas visitors. *Helianthemum apenninum* was conspicuous in the short limestone turf, and a few plants were already in flower. *Trinia glauca* was more difficult to find, but the distinctive foliage and a few flowers were seen. Farther south along the cliffs, the autumn-flowering *Aster linosyris* was just starting into growth. For many people, the most exciting find of the day was a plant new to Berry Head, *Poa infirma*, also found new to Dawlish Warren (a NCR!) on the day before the meeting. We got back to Exeter almost on time, and proceedings concluded with a Devon cream tea at Duryard before participants set off on their journeys home.

MICHAEL PROCTOR, Dept. of Botany, Hatherly Laboratories, The University, Prince of Wales Road, EXETER EX4 4PS

[Our thanks to Michael Proctor for organizing such an interesting meeting - and for the cream tea! Ed.]



Michael Proctor (plus temperature 'gun') et.al. at Fingle Bridge. Photo Mrs P.P. Abbott

RECORDERS AND RECORDING

A KEY TO THE 20 COTONEASTER SPECIES
MOST LIKELY TO BE FOUND NATURALIZED IN THE BRITISH ISLES

- 1a) Petals erect, pink-red, obovate; filaments pink; flowering of inflorescence extended (Sect. Cotoneaster)
- 2a) Stamens 10-13(-18) (Subsect. Adpressi)
- 3a) Flowers usually solitary, nodding; leaves leathery, semi-evergreen (Series Distichi) *C. nitidus*
[Up to 2(-4)m tall, stiffly erect, distichously branched; leaves 8-13mm, sub-orbicular; fruits 9-11mm, red, obovate to sub-globose; nutlets 3].
- 3b) Flowers 3-4; leaves membranous, deciduous (Series Adpressi)
- 4a) Fruits to 9mm ovoid-ellipsoid, dark rich-red; height 1-2m spreading, branchlets often all in same plane 45-60 deg.; leaves 8-20mm elliptic-ovate; nutlets 2; apomictic *C. divaricatus*
- 4b) Fruits to 12mm sub-globose, fleshy, red; height to 1m, by 2m wide; branches creeping, arching outwards; leaves 12-25mm, orbicular, undulate; petals fringed; nutlets 2; apomictic *C. nanshan*
- 4c) Fruits to 5mm sub-globose, orange-red; height in open to 1m, often several times as wide; branchlets herringbone; leaves 5-15mm sub-orbicular, broad elliptic; nutlets 3; apomictic *C. horizontalis*
- 2b) Stamens 20 (Subsect. Cotoneaster)
- 5a) Leaves to 15cm, bullate; fruits red or black; nutlets 4-5 (Series Bullati)
- 6a) Fruits currant red; leaves 3.5-7cm, petioles 3-6mm; height 2.5-4m, broad open habit; branches black-brown; leaves elliptic to ovate, acuminate; calyx hairy; fruits sub-globose to obovoid *C. bullatus*
- 6b) Fruits blood red; leaves 5-15cm, petiole very short, 1-3mm; height to 4.5m; calyx glabrous except on margins, otherwise similar to *C. bullatus*; apomictic *C. rehderi*
- 6c) Fruits purplish-black; leaves 4-10cm; height to 3m; branches often sprawling to 4m wide; leaves elliptic-ovate to ovate, acuminate; fruits obovoid to sub-globose; apomictic *C. moupinensis*
- 5b) Leaves to 7cm, flat, shining; fruits black; nutlets (2-)3 (Series Lucidi)
- 7a) 1.5-2m tall, upright bushy habit; leaves 2-7cm, ovate-elliptic, acute; fruits 8-10mm sub-globose, black, glossy; apomictic *C. lucidus*
- 7b) 2-4m tall; leaves 8-10cm, ovate to oblong-ovate, acute or acuminate, densely villous beneath; fruits 8-10mm, sub-globose, black, somewhat pubescent *C. villosulus*
- 5c) Leaves felted beneath; flowers 4-15 (Series Franchetioides)
- 8a) Flowers 5-15 on shoots to 4cm; calyx villous, lobes acuminate; height 3m; branches slender, arching; lvs 2-3.5cm elliptic to oval-ovate, pale greyish yellow felting beneath turning silvery with age; frs orange-red, 6-8mm oblong to ovoid; nutlets 2-3; apomictic *C. franchetii*

- 8b) Flowers 5-15 on shoots to 1.5cm; calyx felted, lobes acute; rapidly growing to 3m with stiff open spreading habit; leaves 2.5-6cm, oval, rugose, thick silvery felting beneath; fruits red, 8-10mm, sub-globose; nutlets 3-4; apomictic *C. sternianus*
- 8c) Flowers 3-7 on shoots 2.5cm; calyx pubescent, lobes acuminate with long micro; height to 1.5-3m; branches extremely slender and whip-like; pendulous; leaves 1.5-2.5cm oval-ovate to obovate; fruits blood-red, 6mm, sub-globose; nutlets usually 3-4; apomictic . *C. dielsianus*
- 5d) Leaves tomentose beneath; flowers up to 7 (Series Cotoneaster)
 *C. integerrimus*
 [Height to 1.5m, bushy, arching habit; leaves 0.9-4cm, broadly ovate to oblong-ovate flowers in short, nodding, mostly glabrous panicles; fruits 8-11mm, red, sub-globose; nutlets 2-3(-5)]
- 5e) Leaves strigose beneath; flowers campanulate (Series Mucronati)
 *C. simonsii*
 [Height 2-5m stiffly erect and sparingly branched; leaves 1.5-3cm orbicular-ovate; flowers 1-4 together on very short shoots; fruits obovoid to oblong, scarlet; nutlets 3-4; apomictic]
- 1b) Petals spreading, white, sub-orbicular; filaments white; flowering of inflorescence simultaneous (Sect. Chaenopetalum)
- 9a) Leaves longer than 2cm (Subsect. Chaenopetalum)
- 10a) Leaves membranous, deciduous (Series Chaenopetalum) *C. frigidus*
 [Height to 18m; leaves 6-12cm elliptic to oblong-obovate; corymbs many flowered, 4-6cm across; fruits light red, broad ellipsoid, 5mm nutlets 2; outbreeding, very variable]
- 10b) Leaves leathery, evergreen
- 11a) Upper surface of leaf shining; nutlets 3-5 (Series Salicifolii)
 *C. salicifolius*
 [Height 2-5m; leaves 3-8cm elliptic-lanceolate, rugose, margins and tips revolute, tomentose becoming glabrous beneath; many flowered corymbs 3-4cm across; fruits bright red, sub-globose, 5mm; outbreeding, very variable]
- Hybrids between *C. frigidus* and *C. salicifolius* (*C. x watereri*) are sometimes found naturalized. These are intermediate and variable, showing features from both parents.
- 11b) Upper surface of leaf dull; nutlets 2 (Series Pannosi) . . . *C. lacteus*
 [Height 2-4m about the same in width; branches broadly arched, drooping; leaves 3.5-6cm, wide elliptic, with thick yellowish down beneath, finally becoming greyish then glabrous in 2nd year; many flowered corymbs, 4-6cm wide; petals milky-white; fruits red, ovate, 6mm; apomictic]
- 9b) Leaves shorter than 2cm (Subsect. Microphylli)
- 12a) Fruits shining scarlet, globose, 7-9mm; height 1m; shoots grey strigose; foliage not spirally arranged; leaves 5-9mm, mostly oblanceolate, rarely oblong; petioles 1-1.5mm; calyx sparsely pilose, soon glabrous; fruits with 2 nutlets; outbreeding, extremely variable *C. conspicuus*
- 12b) Fruits carmine, globose, 6-10mm; height to 1m; shoots yellowish-green, strigose; foliage spirally arranged; leaves 4-15mm, mostly obovate-elliptic; petioles 1-4mm; calyx strigose-pilose, soon glabrous; fruits with 2 nutlets; outbreeding *C. integrifolius* (*C. thymifolius*)

- 12c) Fruits carmine, globose, 5-7mm; leaves 5-8mm, obovate, white-grey strigose-pilose below; petioles 1-2mm; otherwise similar to previous species, it does not seem to naturalize so readily as *C. integrifolius*
 *C. microphyllus*

There is much work still to be done on these last three species, they are not fully or clearly described in their original Latin descriptions, causing confusion in correct identification. The name *C. integrifolius* is the correct name for *C. thymifolius* as it is the older validly published name.

This work has been checked with all the relevant original descriptions, plus herbarium type specimens, and living material in arboreta and specialist collections.

The table on pages 12 & 13 lists many important characters; also useful are leaf thickness (and texture) as set out below.

THIN

Cotoneaster horizontalis, *C. divaricatus*, *C. nanshan*, *C. lucidus*, *C. villosulus*, *C. simonsii*, and *C. frigidus* all have relatively thin leaves.

MEDIUM

Cotoneaster integerrimus, *C. franchetii*, *C. bullatus*, *C. rehderi*, and *C. moupinensis* leaves are of medium thickness, with the leaves of the last three species being blistery (blistered between the veins).

THICK

Cotoneaster integrifolius, *C. conspicuus*, and *C. microphyllus* with leaves thick and leathery; *C. sternianus*, *C. dielsianus*, *C. salicifolius*, and *C. lacteus* with leaves thick and rugose.

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Recorders and Recording

T A B U L A R K E Y T O

Cotoneaster species (+ 1 hybrid)	Height in m	Fruit colour	Hairs on Fruit	Fruit shape	Fruit length in mm
horizontalis	0.5-1	Red	Glabrous	Subglobose	4-5
divaricatus	1-2	Dark red	Glabrous	Oblong	7-9
nanshan	0.5-1	Red	Glabrous	Obovoid	10-12
lucidus	1.5-2	Black	Glabrous	Subglobose	8-10
villosulus	2-4	Black	Slightly Pubescent	Obovoid	8-10
integerrimus	0.5-1.5	Red	Glabrous	Subglobose	8-10
simonsii	2-4	Light red	Glabrous	Subglobose - obovoid	6-8
bullatus	2.5-4	Rich red	Glabrous	Subglobose	6-8
rehderi	3-4.5	Rich red	Glabrous	Subglobose	7-11
moupinensis	2-3	Purple black	Glabrous	Subglobose	6-8
franchetii	1.5-3	Orange	Subglabrous	Obovoid	6-8
sternianus	1.5-3	Orange red	Slightly downy - subglabrous	Subglobose	8-10
dielsianus	1.5-3	Red	Downy	Subglobose	4-6
frigidus	5-18	Light red	Sub-glabrous	Subglobose	4-6
x watereri	vari. btwn parents	variable	Glabrous	Subglobose	4-8
salicifolius	2-5	Red	Glabrous	Subglobose	4-5
lacteus	2-4	Light red	Slightly downy	Subglobose - obovoid	4-6
integrifolius	0.5-1	Carmine	Glabrous	Globose	6-10
conspicuus	0.5-1	Light red	Glabrous	Subglobose	7-9
microphyllus	0.5-1	Carmine	Glabrous	Globose	5-7

Recorders and Recording

C O T O N E A S T E R S P E C I E S					
Number nutlets in fruit	Number fruits together	Leaf length in cm	Leaf width in cm	Leaf (mature) hairs	Deciduous or Evergreen
3	1-2	0.5-1.5	0.3-0.4	Glabrous	Deciduous or Semi-ev.
2	1-3(4)	0.8-2	0.5-1.5	Glabrous	Deciduous
2	1-2	1.5-2.5	1-2	Glabrous	Deciduous
(2)3	3-12	2-7	1.5-4.5	Slightly pubescent - subglab.	Deciduous
2-(3)	3-12	4-10	2-5	Subglabrous	Deciduous
(2)3-4	1-3	0.9-4	0.5-3	Tomentose	Deciduous
3-4	1-3	1.5-3	1-3	Strigose	Deciduous or Semi-ev.
(4)5	10-25	3.5-7	1-5	Pubescent	Deciduous
(4)5	10-25	5-15	2-10	Pubescent	Deciduous
(4)5	10-25	4-12	1.5-8	Pubescent	Deciduous
(2)3	3-12	2-3.5	1-2.5	Tomentose	Evergreen to Semi-ev.
3-(4)	1-10	2.5-6	2-5	Tomentose	Semi-evergreen
3-4	1-5	1.5-2.5	1-2	Tomentose	Deciduous
2	10-30	6-12	3-7	Subglabrous	Deciduous
2-4(5)	variable	variable	variable	Subglabrous	Semi-evergreen
3-5	20-80	3-8	1-3	Subglabrous	Evergreen
2	10-30	3.5-9	1.5-4	Tomentose	Evergreen
2	1(2)	0.4-1.5	0.2-0.7	Strigose Villous	Evergreen
2	1	0.5-0.9	0.2-0.4	Villous	Evergreen
2	1-2(4)	0.5-0.8	0.3-0.5	Subglabrous	Evergreen

Amendment No. 5 to Vice-county Recorders, September 1988

Change of address:

H12 Co. Wexford: Lady Ro FitzGerald,
Beggar's Roost, Lilstock, Bridgewater, Somerset TA5 1SU

Supplement No. 7 to Panel of Referees and Specialists, September 1986

CHENOPODIACEAE

Atriplex: Dr Pierre Taschereau has suffered the misfortune of redundancy from his University; at present all his papers, books and specimens are in storage, and members are requested not to send specimens of **Atriplex** to him in Canada. We hope to have better news from Pierre at some future date.

COMPOSITAE

Taraxacum: Sadly we report the death of Chris Haworth in December 1989. John Richards, who says that this leaves an enormous vacuum in the study of British **Taraxacum**, will now again act as Referee. Specimens to be sent to: Dr A.J. Richards, Dept. of Botany, The University, NEWCASTLE-UPON-TYNE NE1 7RU.
Meanwhile Andrew Dudman, Holebeck House, Cleator Moor, Cumbria is building up a large database using the combined records. This will form the basis of the proposed BSBI **Taraxacum** Handbook, and Andrew is a recipient of a Welch Bequest Grant for this project.

CRUCIFERAE

Dr T.C.G. Rich has now moved from the Biological Records Centre at Monks Wood to Lancaster, his new address is: Unit of Vegetation Science, Biological Sciences, University of Lancaster, LANCASTER LA1 4YQ, tel. 0524 65201 ext. 3509.
He regrets he can no longer accept fresh crucifer material (unless by prior arrangement) as he will be doing field work most of the summer.

SAXIFRAGACEAE

Saxifraga: Prof. D.A. Webb has retired as Referee, and this group is temporarily without a referee.

MARY BRIGGS, Hon. General Secretary

WIGTOWNSHIRE RECORDING AND FIELD MEETING

The basic recording unit for Wigtownshire is the 5x5km square, the smallest practical unit for a vice-county virtually devoid of botanists. This inevitably leads, however, to accumulation of records that can no longer be localised with any ease. Consequently, I have modified the scheme to one in which every record is localisable to a 1km square and have designed a new-style recording form. I am always grateful to receive records from visiting botanists and would be pleased to supply them with the new forms.

Following successful trials of the scheme last summer, I shall now be inflicting the new forms on those attending the 3-day BSBI meeting on July 13th-15th. Problems over selecting the base for the meeting meant that little detail was provided in the Field Meeting Programme. The meeting will be based on Glenluce, near Stranraer, and will be including population monitoring of one or two uncommon species and detailed recording of some potentially interesting wet moorland (if we get there before the Sitka Spruce) and a variety of coastal habitats. Anyone who wishes to become blasé about **Mertensia** and sick of the sight of **Carum verticillatum** is welcome to attend. I can supply further details and recommend early booking of accommodation.

ALAN SILVERSIDE, Dept. of Biology, Paisley College of Technology, PAISLEY, Renfrewshire
PA1 2BE

LYME DISEASE : A HAZARD LURKING IN THE COUNTRYSIDE?

Lyme disease is a bacterial infection of humans and other animals, transmitted by ticks (*Ixodes* species). The disease was first described in 1976 in Old Lyme, Connecticut, USA, hence its name. The tick initially appears as a black, pin-head size, spot on the skin but it can swell to the size of a pea by sucking blood, if left. If the tick is infected with the causative spirochaete, *Borrelia burgdorferi*, the first symptom in 75% of cases is a distinctive rash surrounding the tick bite. This is a red area that clears in the centre as it expands to its final diameter of up to 15cms. After a couple of weeks when the rash fades, flu-like and meningitis-like symptoms occur, followed by more serious complaints of the disease affecting the heart and nervous system. Months or years later arthritis can affect the patient and this can last for several years. Many of these long term symptoms are similar to those of syphilis which is also caused by a spirochaete.

Immature ticks are parasites of mice, voles, squirrels, rabbits and birds. It is thought that the disease is spread across the world by migratory birds. Adult ticks are found on large mammals such as sheep or deer. About 85% of New Forest deer are said to carry infected ticks. Mice are thought to be the major reservoir for Lyme disease bacteria which they can harbour for up to three months. During this time any immature ticks living on the mice become infected. Adult ticks reach the host by jumping from leaves to passing mammals which are often deer, but equally can be humans or dogs.

Action: Take precautions to prevent tick bites by tucking trousers into socks and by wearing boots. Following exposure to susceptible habitats examine yourself for ticks, and if you find any remove them immediately. This is best done by wiping liberally with alcohol or spirit to make them release their grip so that they can be brushed out without leaving any bits behind. Include a small bottle of methylated spirits (or whisky!) in your first aid kit.

If you notice a rash around the site of a tick bite, or get enlarged glands, or flu-like symptoms visit your doctor and mention Lyme disease. If caught early enough, antibiotics, particularly tetracycline, are very efficient at limiting the disease. Lyme disease can be detected in pathology laboratories by serological tests (i.e. indirect immunofluorescent antibody assay, and enzyme immunoassay such as those marketed by Sigma Diagnostics, and Diagast Laboratoires, France).

Due to the wide range of hosts, tick control is very difficult and hence it is sensible to take the above precautions. In a London hospital laboratory, 400 cases of Lyme Disease were diagnosed over two years; as more and more people find recreation in the countryside this figure might increase.

Grateful thanks are due to Dr Maurice Moss, Department of Microbiology, University of Surrey, for his helpful comments.

MARTINE ARCHER, Department of Microbiology, University of Surrey, Guildford

THE 1976 OPHRYS BERTOLONII IN DORSET

Pankhurst and Matthews (1977) reported the discovery in April 1976 by R.E. Webster of a single flowering specimen of *Ophrys bertolonii* Moretti (whose nearest native locality is southern France) on calcareous grassland in Dorset. They recorded that it 'disappeared in May... perhaps picked or grazed'.

The area concerned is a stony, short-grassed, steeply south-facing, limestone coastal hillside; it is probably the best site in the U.K. to nurture and, in a warm year, to allow the flowering of wind-borne adventive seed from the Mediterranean. 1976 had an exceptionally warm dry spring (as had 1975, in fact) so the genuine occurrence of a Mediterranean species at that time and in that place is by no means an impossible scenario.

On the other hand, Pankhurst and Matthews (ibid.) noted that 'some years ago seeds of various Mediterranean spp. of orchid were scattered in this area of Dorset', implying that the specimen's provenance was doubtful. I have unfortunately lost contact with Mr Webster since he moved from Essex, but it was his belief in 1977 that the seed concerned was unidentified, came from Mallorca (where *Ophrys bertolonii* does occur, rather uncommonly), and had been broadcast by a local lady in a valley just north-west of Worth Matravers; this is some 6km west of where the plant was found, which makes a connection a little

unlikely. The date of the broadcast (not known to me) would be material.

There is a quite different tale in circulation, that the plant was dug up and the soil at its base was found to be incompatible with the ambient, thus proving that it had been 'planted'. I have been quite unable to discover any basis for this tale; R.J. Pankhurst (pers. comm. 1989) is unaware of any report, published or not, which would lead him to alter his 1977 opinions; H.J.M. Bowen (BSBI Recorder for Dorset) is similarly in the dark, as is J.J. Wood (BSBI Referee for *Ophrys et al.*).

Furthermore, I went with Mr Webster in April 1977 to the site, which he re-identified to within a few inches, and, apart from the disappearance of a few small pebbles, there was no sign of soil disturbance. A small blind rosette of *Ophrys* leaves was there, but of course these could have been of *O. sphegodes* which is locally abundant. By April 1978, these leaves had gone.

If anyone has relevant information, I should be most grateful for it. Any names will be treated in confidence if requested. The point of this enquiry lies in the comment, which I have already heard more than once, that the 1989 record of *Serapias parviflora* 'must be a fraud, like the *Ophrys bertolonii*'. This is not a helpful presumption!

Reference

Pankhurst, R.J. & G.A. Matthews (1977). *Ophrys bertolonii* Moretti in Britain. Watsonia 11 : 430

D.M. TURNER ETLINGER, Royden Cottage, Cliftonville, DORKING, Surrey RH4 2JF

ARTEMISIA BIENNIS IN EAST SUSSEX

This *Artemisia* was found by Dennis Vinall on September 23rd 1989 on the exposed mud at Arlington Reservoir and is a new v.c. record.

After the exceptionally dry summer the reservoir was at less than half capacity, leaving a large expanse of mud ideal for colonization.

Along the south side of the reservoir towards Polhill's Farm he noted many more plants among *Atriplex* spp., *Chenopodium rubrum*, *Polygonum persicaria*, *Gnaphalium uliginosum*, *Plantago major*, *Tripleurospermum maritimum* and *Matricaria recutita*.

The *Artemisia* plants varied in size, graduating from 18 inches (one at least 3 feet) to a very large patch of young, bright green seedlings numbering more than a thousand, many flowering from an inch upwards in height, and from a distance appearing like a young grass sward covering an area 30 x 80 yards. A few more plants were found on the north side of the reservoir but in smaller groups.

It was noticeable that the 'mud' was more gravelly and most plants were near the retaining wall.

Malcolm Johnson, of the Wildfowl Trust and Sussex Ornithological Society wrote: "Both Mallards and Widgeon visited Arlington Reservoir in large numbers during both cold winters of 1985/6 and 1986/7. Widgeon are birds that prefer to graze and in the two winters mentioned could have been present in thousands, coming across from N. Europe very suddenly as colder conditions set in."

In BSBI News 37: 27 (1984) there is an illustration by Hilli Thompson and in News 45: 26 (1987), a note by R.M. Payne with details of *A. biennis* at Chew Valley Reservoir, N. Somerset. A comparison with Arlington Reservoir shows that conditions there are very similar.

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DENNIS L. VINALL, Elmbrook, 10 Old Mill Lane, Wannock, POLEGATE, E. Sussex BN26 5NS

THE HERBACEOUS BORDER I

A corner has been made opposite the Cabbage Patch for garden escapes which are in need of closer examination or correct names. The first planting is climbing honeysuckle.

CURIOUS HONEYSUCKLES

In v.c. 99 and for that matter central west Scotland and south west Scotland the *Loniceras* are not 'typical' *Lonicera periclymenum*, though in acid birch woods there are high-climbing, spiralling, floppy-leaved kinds, with pale soft-petalled flowers, which form 'cables' on the ground quite strong enough to trip the unwary.

But the 'funny' honeysuckles are with few exceptions, non-climbing sun-lovers with robust, leathery, broad flat leaves, those just below the flower-heads being nearly perfoliate. These plants often occur in most un-*Lonicera*-like habitats such as among block scree in blazing sun, on quite basic soils in dry open places, and when near a tree trunk or fence seldom make use of their support, except the odd shoot will bend a little to hook up, but the clump (for that is the shape) is about 4-6ft (1.2m - 1.8m) tall. The flowers are as garden-worthy as those of *L. x americanum* K. Koch, in fact some look the same.

A good colour photo is on page 110 of W.B. Turrill's *British Plant Life* (1953) of the robust form, but the foliage of ours is much broader. The other form is shown in *Collins Pocket Guide to Wild Flowers* by D. McClintock and R.S. Fitter, plate 64, or page 376 of vol. 2 of *Butcher's New Illustrated Flora*, though neither of the last two quite express the floppiness of the grey-green foliage. I have been sending rootable shoots to the keeper of the National Collection of the *periclymenum* honeysuckles and eventually he will be able to compare them with known forms like 'Late' and 'Early' Dutch *L. x americanum* and so on. They travel very badly in flower, sulk in water, and the often brilliant colour or astonishing scent fades rapidly when cut, so each shoot sent has to be grown on until it flowers. Please do not send any to me, fresh or pressed! I only want to draw attention to the fact that *Loniceras* need looking at. They would make an excellent project for a student doing a thesis.

MAIN DISTINCTIONS

Non-climbing forms

Makes dense mounds

Whole plant very robust. Sterile new shoots thick and whippy

New bark, especially on sterile shoots, ruby, scarlet or plum, often with bloom on the surface

New shoots often grow vertical from horizontal older wood, fat, often as thick as a pencil

Foliage coriaceous, often rich green, but may be glaucous, veins often sunk below surface making a net pattern, sparsely hairy or glabrous, very broad

Flowers of a firmer texture, trumpets rarely pale self-colour, but almost always strongly tinted, maroon, deep rose, ruby-purple, sometimes the tips of unopened bells may be orange with a green band or may be very deep ruby

Scent very strong in all but one sampled. 'Honeysuckle'; clove carnation (the most common) with the ruby-rose tint. One smelled horribly of dead mouse.

Climbing Forms

Climbs trees or posts, forms long upright shape, not wide at base

Soft new growth, stringy older branches. Sterile shoots not a feature

New bark pale green or buff, seldom tinted, not a feature of the plant

New shoots thin, soft and weak, soon twining, not eye-catching

Foliage soft pale green, thin, easily torn or bruised, veins not a feature, hairy especially when new, narrowly elliptical

Flowers a softer texture, sometimes very few trumpets which are pale with little gradation of colour. Buds may have green or deeper tints, but contrast is weak

Scent not very strong (in comparison)

Standard (upper petal) extremely variable, Variations not noticeable
some split deeply to give the appearance of
double the teeth at the rim; the degree of
curvature of mature standards and falls
(lower petals) is very variable

Enjoys full sun and takes baking con-
ditions, does not require to have the
roots in shade, likes basic or neutral
soils. The sterile shoots and tints on the
flowers fail to show if the plant is not
in the sun

Enjoys some shade, probably needs to have
roots out of full sun. With us, found on
fairly acid, humusy soils, colour difference
only seen in plants in twilight conditions
emerging to better light

Not (yet) found at any great altitude

Able to ascend into the hills

Dr Hugh McAllister at Ness, has discovered that there are three different chromosome
counts in Flora Europaea, but they were not done from British material, which has meant
that so far he has not discovered the locations. Anyone looking for an unexplored field?

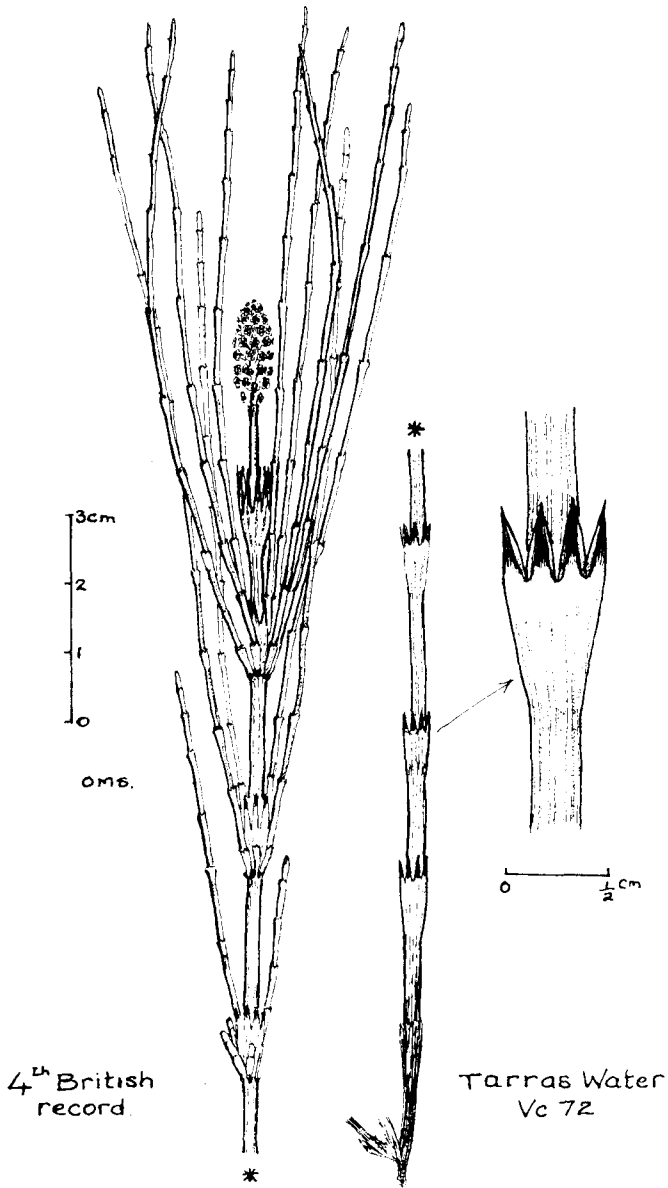
ALISON RUTHERFORD, 19 South King Street, HELENSBURGH, Dunbartonshire G84 7PU



Non-climbing form of **Lonicera periclymenum**. Photo A. Stirling

A NEW RECORD OF EQUISETUM X FONT-QUERI IN DUMFRIESSHIRE

In 1988, while helping Mrs Mary Martin record a tetrad for the BSBI Monitoring Scheme, I found a horsetail that I thought might be a hybrid. It had the overall appearance of a large Equisetum palustre, but with larger cones, brighter green whorled branches, and the main stem internodes were paler and more ivory coloured than those of the normal form. We returned last year on the 16th June to collect better specimens for Dr Chris Page to determine, which he did, as Equisetum x font-queri Rothm., the hybrid between E. palustre and E. telmateia, the 4th record for the British Isles, the 2nd for a natural habitat, and



EQUISETUM x FONT-QUERI Rothm.

the 1st for mainland Scotland. The other Scottish site is by a ditch in Skye, and the two English sites are on a railway embankment and roadside verge. I understand a Welsh record was found later in 1989.

The site of the hybrid horsetail is by the Tarras Water north of Langholm. Its habitat is a marshy slope under open woodland; it grows with *Equisetum telmateia*, and *E. palustre* grows a few yards away on level open ground just below. Also growing near, among the trees are *E. sylvaticum* and a little *E. arvense*.

OLGA M. STEWART, 30/5 Colinton Road, EDINBURGH EH10 5DG

POTAMOGETON X LINTONII - NEW TO SCOTLAND

Carlingwark Loch, a eutrophic lake near Castle Douglas, Kirkcudbrightshire, is a well-known botanical locality. Several of the locally rare species which grow around its edge have predominantly southern distributions in Great Britain, including *Carex elata*, *Cicuta virosa*, *Ranunculus lingua* and *Rumex hydrolapathum*. *Potamogeton friesii*, another southern species, is found in small quantity in the lake itself, where it was first collected by F.R. Coles in 1882. Other pondweeds found here are *P. crispus*, *P. pectinatus*, *P. perfoliatus* and *P. pusillus*.

On 20th June 1989, O.M.S. collected a pondweed at Carlingwark which, in the field, appeared to be *P. obtusifolius*, but on closer examination turned out to be *P. x lintonii*, the hybrid between *P. crispus* and *P. friesii*. We visited the loch on 6th August 1989 to see how common the hybrid was. At least 10 patches extended over 300m of the eastern shore, from 25/765.613 to 764.610 (where we turned back). They grew in water 10-25cm deep over a stony substrate, with *Callitriche hermaphroditica*, *Elodea canadensis*, *Myriophyllum spicatum*, *Potamogeton friesii* and *P. pusillus*. The water was obviously eutrophic, with algal scum on the surface and frequent filamentous algae in the water. Much material of *P. pusillus* was washed up round the edge (probably detached by the 80 mute swans swimming offshore) and the occasional dead fish was visible. The eutrophic state of the loch is not a new phenomenon: early this century visitors who came to Carlingwark to study crannogs were unable to see the bottom of the loch because of algal growth.

Potamogeton x lintonii has not previously been found in Scotland: the nearest localities are in Lancashire and Northumberland, some 130km from Carlingwark. The hybrid is superficially similar to *P. friesii* and *P. obtusifolius*, but its leaves are obscurely toothed towards the apex. It closely resembles the hybrid *P. x bennettii* (*P. crispus x P. trichoides*), which may be more familiar to Scottish botanists as it occurs in the Forth and Clyde Canal near Glasgow. The differences between the two hybrids were sorted out by Dandy & Taylor (1939). *P. x lintonii* has stipules which are tubular (not open) below and flowers which usually have 4 (not 2-3) carpels. The young stipules of the Carlingwark plant were tubular for 0.5-1.2mm above the base. Of 66 flowers examined, 63 had 4 carpels and 3 had 3 (by comparison, Dandy & Taylor examined 21 flowers of *P. x bennettii* and found only 1 with 4 carpels, but 9 with 3 and 11 with 2).

Like most *Potamogeton* hybrids, the Carlingwark *P. x lintonii* is sterile. Some clumps were flowering in August: their anthers appeared to be rather empty, containing only a small quantity of pollen, and the pollen grains were collapsed and misshapen. The patch found in June was flowering then, but by August most of the inflorescences were old or even rotting, and there was no sign of developing fruit. However, turions were well developed in the leaf axils. These are modified branchlets which serve as a means of vegetative propagation. The turions of *P. x lintonii* are very variable and, surprisingly, are often longer than those of its parents: up to 65mm long in the Carlingwark plant. A typical turion is illustrated in the lowest leaf axil of each taxon in the accompanying drawing (see front cover).

In addition to *P. x lintonii*, we found a single small patch of *P. x cooperi* (*P. crispus x P. perfoliatus*) in water 30cm deep on the NE side of the loch, growing in a dense mass of *Myriophyllum spicatum*, *Potamogeton pectinatus* and *P. pusillus*. This hybrid is also new to v.c. 73 and this is the first confirmed record from west Scotland. Beds of *P. perfoliatus* occur along the east shore of the loch. *P. x cooperi* is similar to *P. perfoliatus*, but differs in having a compressed stem (usually with a groove along each of the broader sides) and fewer leaf veins. We did not see *P. crispus* along the east shore, but it grew with *Zannichellia palustris* at the SW corner of the loch.

Reference

Dandy, J.E. & Taylor, G. (1939). Studies of British Potamogetons. IX. x *Potamogeton bennettii* and x *P. lintonii*. *J. Bot., Lond.* 77: 304-311

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CHRIS D. PRESTON, Biological Records Centre, Monkswood Experimental Station, Abbots Ripton, HUNTINGDON, Cambs PE17 2LS

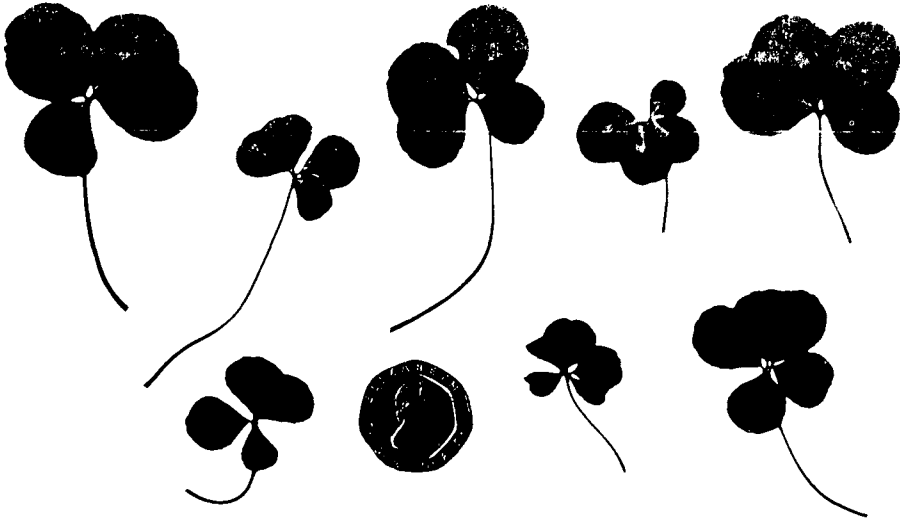
MULTI-LEAVED CLOVERS

I have been collecting and looking at four- and multi-leaved clovers for two years. The species that I have been looking at locally is *Trifolium repens*, White Clover. It grows in sown grassland maintained by the local council.

I had thought that constant cutting was the reason that caused unusual numbers of 4- and 5-leaved specimens to occur. However the occurrence of multi-leaved individuals is confined to edges of the area under grass, i.e. to edges that are sprayed with weedkiller regularly.

The 'mutants' occur in clumps suggesting that they are thrown up by one or two individual plants. These plants, when dug up and placed elsewhere, i.e. away from weedkiller, and allowed to grow normally, revert to a three-leaved form.

I have found as many as 35 four-leaved leaves in a square foot of grass in areas of heavy spraying with weedkiller. Normally in spring and summer when spraying with weedkiller is regular, four-leaved leaves will be seen in the sprayed area. Five- and six-leaved specimens also occur but are less frequent.



Silhouettes of clover leaves collected by D. Murray

DANIEL MURRAY, 46 Balnagask Circle, ABERDEEN AB1 3TT

[This splendid contribution must go into the record books as having been sent in by our youngest author; Daniel is 11 years old!. Ed.]

GAUDINIA FRAGILIS IN N. WILTS.

David Pearman's note in BSBI News 53 prompted me to write this update. Eric Clement reported in BSBI News 20: 'Gaudinia fragilis (L.) Beauv.: Damp, grazed meadow, near Melksham (N. Wilts), August 1978, Mrs J. Swanborough, Det. EJC.'

Since then, I have found the plant in nine adjacent fields and a further eleven sites in nine 1km squares falling in four 10km squares. Of the twenty one fields known, nine are improved leys or recent permanent pasture; eleven are species-rich, semi- or un-improved neutral pasture; the final site is a hill pasture containing eighteen grass species.

The majority of the localities - thirteen in fact - lie on the heavy Jurassic clays. A further six are on the junction of the clay and the greensand. One site is on the oolitic limestone. I agree with Mr Pearman on his list of associated species. I would add, however: Bromus racemosus, Hordeum secalinum, Silaum silaum, Succisa pratensis, Stachys officinalis, and Lychnis flos-cuculi.

Gaudinia seems not to be able to sustain itself against more vigorous grasses such as Arrhenatherum, but it grows well where the soil is thin or poor. After the hay is cut in July, a second flowering of a percentage of the plants has been seen annually at the end of August.

C.E. Hubbard (1968) wrote that Gaudinia fragilis was occasionally introduced. The above records suggest that they might more appropriately be named denizens, i.e. species fully established in natural habitats.

To help me gather further information on distribution, would members please send me details of sites of Gaudinia fragilis known to them.

References

- Grose, D. (1957). Flora of Wiltshire. Devizes.
 Hubbard, C.E. (1968). Grasses, 2nd ed. London.

DAVID GREEN, 297 Bloomfield Road, BATH

THE PROBLEMS WITH SMALL ISLANDS DOTTED AROUND THE COAST

During the compilation of a new set of distribution maps for ferns in Wales with a colleague, Dr G. Hutchinson, the question came into my mind of how best to record islands. If the islands are in a 10km square together with an area of mainland, a single dot does not in these circumstances really do justice to plant distribution. All the islands around the Welsh mainland (taken here as including Anglesey), except Flat Holm, Worm's Head and Grassholm, are in the same square as part of the mainland, and of these, Flat Holm is in the same square as Steep Holm. Off the Pembrokeshire coast, Skokholm, Skomer and Midland islands are all in the same square as part of the mainland. A single dot in SM70 might, therefore, indicate a presence on one or more of four disjunct pieces of land. Island mapping can be further complicated if such a small piece of land overlaps two squares, especially if, as in Burry Holms and Ramsey, the landward side is in the same square as some mainland.

There seems to be a strong case for modifying the mapping system. Islands are special places, in addition to their romantic appeal, so studying, recording and mapping their floras can be a very valuable contribution to our knowledge of plant distribution.

There are already variations away from strict 10km square mapping. The usual practice, as in Perring and Walters (1976), is to take records from coastal squares with very small land areas and include them in one of the adjacent squares. Ellis (1983), however, did not follow this pattern, but instead mapped all squares independently.

Some problems involving islands around Wales can be solved very easily. Grassholm is mainly in SM50, but its extreme easterly edge is in SM60. In practice all records have been included in SM50. Ellis (1983) has also effectively addressed the Ramsey problem by including all island records as falling in the more westerly square (SM62), thereby isolating them from those of the mainland (SM72).

I believe that there is a simple solution to the problem of recording and mapping the other islands around the Welsh coast. Islands, being surrounded by sea, are usually

Recorders and Recording

adjacent to squares that are devoid of any land, so it would not be difficult to allocate records of their plants to such 'empty' squares. I therefore propose the system given below for mapping plants on the small islands off the Welsh mainland.

Island	Actual location & other land in the same square	Proposed location	Notes
Flat Holm	SS26 & Steep Holm & open sea	SS26	In v.c. 41, Wales
Steep Holm	SS26 & Flat Holm & open sea	SS15	In v.c. 6, England
Worm's Head	SS38	SS38	
Burry Holms	SS39 & Open Sea SS49 & Mainland	SS39	
Caldy	SS19 & Mainland	SS29	
Skokholm	SM70 & Skomer & Midland & Mainland	SM61	
Skomer & Midland	SM70 & Skokholm & Mainland	SM60	These are very close together
Grassholm	SM50 & SM60	SM50	Common practice
Ramsey	SM62 & Open Sea SM72 & Mainland	SM62	As in Ellis (1983)
Cardigan	SN15 & Mainland	SN05	
East & West St Tudwal's	SH32 & Mainland	SH42	Very small and close together
Bardsey	SH12 & Mainland	SH11	
Puffin Island	SH68 & Mainland	SH69	

A simple system such as this could be extended around the coast of the British Isles. It might not be so easy to separate the Scottish Islands as it is for those fringing the Welsh coast, but with thought it could be done to make maps much more useful. I have encountered difficulty in looking at the distribution of plants in Orkney. It is often impossible to tell from maps which island the record is for or whether it is for both. For example a record in HY20 could refer to Orkney Mainland or to that part of north Hoy which includes the botanically very important area of Ward Hill. However, I do not suggest that all the Orkney islands should be treated as separate entities as there is a large number of very small ones, but do advocate the development of a system which separates the main islands. The Shetlands and Hebrides could be similarly mapped in a much more meaningful manner.

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TRUTH IS STRANGER THAN FITCHES

"Fitches" is one of the Biblical names for *Nigella sativa*, of which I detected five small specimens spontaneously self-sown opposite the Albert Memorial in Kensington Gardens, London, on June 24th, 1989. The species was not cultivated nearby, and I can currently find no reference that it has yet occurred as an alien elsewhere in S.E. England.

Our most familiar *Nigella* is *N. damascena*, the popular Love-in-a-mist of herbaceous borders. Short-lived casuals of this showy annual turn up on broken soil outside gardens once in a while; recent records are given for Essex (Jermyn, 1974), for the London area (Kent, 1975; Kent & Lousley, 1951-7; Burton, 1983), and for Kent (Philp, 1982), but not for Surrey (Lousley, 1975) or Sussex (Hall, 1980). I have personally noted it several times as a brief garden escape in North London and Hertfordshire (unpublished observations) during the last twenty-five years.

In addition, there are two London area records of *N. arvensis* since 1900 (Kent, 1975); this is a weed of disturbed habitats in Europe (Tutin *et al.*, 1964). There is a rather surprising record of *N. gallica* in Essex (Jermyn, 1974); this is a more restricted endemic of cornfields from southern France to Central Spain. *N. hispanica*, also Spanish, with larger flowers than *N. damascena*, is grown ornamentally in Great Britain (Wright, 1984); I have admired it thriving in three university botanic gardens. Any non-planted 'Love-in-a-mist' specimen deemed worthy of recording in the British literature should therefore not be assumed to be *N. damascena* without closer examination. One might also add that no such wildling would be expected to acquire any long-term ecological significance in our normally temperate climate.

By and large, wild *Nigella* plants occur as thermophilous arable weeds. Twelve species share a sunny South European, Mediterranean or wider distribution (Tutin *et al.*, 1964), and some of these, including *N. damascena* itself, contribute to the eight species known in Palestine (Temple, 1907). *N. sativa* may fairly rank as more heat-demanding than *N. damascena* by virtue of being indigenous to Syria, Egypt and North Africa. Although it is also frequent throughout Southern Europe and the Holy Land, Tutin *et al.* (1964) and Moldenke (1952) respectively question its status in these regions because of widespread cultivation for thousands of years.

The overall commercial importance of *N. sativa* as a crop has actually declined since the beginning of the Common Era (Watchtower, 1988); nevertheless the culinary and herbal qualities of its shiny black seeds continue to enjoy wide repute. Indeed the genus *Nigella* itself was coined with reference to these seeds, as a diminutive of 'niger' which means black (Coombes, 1985). According to an Arab proverb, 'In the black seed is the medicine for every disease' (Temple, 1907). In the main, however, it is prized as a peppery spice or condiment, characteristically crushed into an aromatic seasoning for curries, cakes and loaves, rather as the sprinkling upon crusty bread of Opium Poppy and Caraway seed has become common practice in more northern latitudes. We are further informed that dishes flavoured with the 'blessed seed' of *N. sativa* continue to be much sought after by Egyptian ladies 'to produce stoutness, which is considered an attribute of beauty' in that part of the world (Moldenke, 1952).

In ancient times, such pungently savory produce was valued particularly highly. Our earliest reference dates back to 725 before the Common Era, in Isaiah 28: 23-28. Here a comparison of the gathering techniques of *Nigella sativa* and *Cuminum cyminum* show us that then, as now, the Fitches' seeds were beaten out of their thick-skinned follicles by means of stout staffs, while the Cummin seeds were readily detachable from their fragile umbelliferous peduncles by wielding relatively light rods. The Bible explains that greater care used to be given to the sowing of more valuable wheat, millet, and barley seed, but that heavier threshing instruments were employed to harvest their ripe grain. Watchtower (1988) suggests from the wider scriptural context that each of these beating and harvesting measures may additionally be interpreted as a warning illustration of the various modes of discipline that God intended exercising over the Israelites of Isaiah's day, in response to the kind of lifestyles they pursued.

Unfortunately, it has to be admitted that different Bible translations and different analytical accounts thereof present a rather bewildering variety of English labels to the plant known in original Hebrew as 'qetsach' (or 'ketzah') and in botanical Latin as *Nigella sativa*. Moldenke (1952) probably offers the most authoritative summary, referring to the loose applications of such names as 'fennel', 'dill', 'gith', 'nutmeg-flower', and 'black cummin' (sic). For the exacting taxonomist familiar with the modern genera to which most of these terms properly belong, despair is easy to succumb to. Even the name

'fitches', though not prone to similar ambiguity, is discredited by Moldenke as being a variant or corruption of 'vetches' (*Vicia* species); his argument might even have been strengthened by the fact that 'fitches', to a furrier, also indicate the pelts of the polecat! Nevertheless it apparently serves as the least confusing of the bunch, it does make the King James Version easier to comprehend, and it features more regularly in the descriptive literature, even if sometimes relegated to a second-choice synonym. Few truths are stranger than the diverse English words bestowed upon a plant whose scientific nomenclature seems to have stayed extraordinarily stable (so far) - but then it hasn't been around for quite the same length of time!

The following key to the five *Nigella* species under consideration, has been constructed in the hope that future British material may be identified with greater confidence.

1. Follicles united from base to tip, forming an inflated capsule, not tuberculate. Flowers sky blue, surrounded by a conspicuous leaf-like involucre . *N. damascena*
1. Follicles separating towards tip (\pm united throughout in *N. sativa*, but then tuberculate on back). Involucre absent (rarely present in *N. arvensis*) 2
2. Follicles three-veined, united for about half their length *N. arvensis*
2. Follicles one-veined, united for about two-thirds their length 3
3. Follicles usually densely glandular. Flowers 4-5cm, bright blue . *N. hispanica*
3. Follicles smooth or scarcely glandular. Flowers 2-3.5cm, shades of pale blue, dull cream or grey-white 4
4. Anthers distinctly mucronate. Leaves with broadly linear segments . *N. gallica*
4. Anthers not mucronate. Leaves with narrowly linear segments *N. sativa*

These characters are mostly drawn from Tutin et al. (1964), and Polunin & Smythies (1973).

For full-page line drawings of *N. sativa*, readers are referred to Walker (1964), and Hepper (1987). Close-up photographs of flowers and fruit are also given in Polunin (1969) as the white-flowered form, and in Watchtower (1988) as the lilac-flowered form; the latter work uses the English name 'Black Cumin'.

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TULIPA GOULIMYI ON CRETE

Three BSBI members, John Akeroyd, Mary Briggs, and Nick Turland, who were leading groups on Crete (for different travel firms) in March 1989, co-ordinated their weekly 'day off' to meet for a Tour Leader's outing, joined by John's Cretan botanist friend, Zacharias. Mary took them to the site of the recently named *Tulipa goulimy* (see M. Briggs, 'The Fifth Tulip in Crete', Alpine Garden Society Bulletin 57(1): 41-47, March 1989), and Nick recorded the occasion on film.

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Pictured with *Tulipa goulimy*, from left to right: Zacharias Kypriotakis, Nick Turland, Mary Briggs, John Akeroyd. Photo N.J. Turland

ON THE PRESERVATION OF COUNTY FLORA DATA

Members will recognise the truth encapsulated in Dr Johnson's famous epigram: 'Depend upon it, Sir, when a man knows that he is to hang in a fortnight, it concentrates his mind wonderfully'. In my case, the imperative is the rather less awesome sentence of retirement from the Natural History Museum, where I have been employed for the past thirty-eight years. Nevertheless, this has concentrated my mind on the safe disposal of various archival ranges currently under my immediate care. In particular, there is the original base of records etc. on which the account of the flowering plants and ferns published in the Island of Mull (actually a County Flora for part of v.c. 103) is founded, which were accumulated during the survey of the island undertaken by the Natural History Museum during the years 1966-70. The data preserved vastly exceeds that actually published in the Flora. Thus, for instance, actual localities are only published for species with up to ten records while, for all the rest, distributions are indicated on the basis of 'modified 10 kilometre grid squares'. In our files, full records, more than 50,000 of them, are preserved for all species, together with details of their original sources e.g. record cards, herbarium specimens, correspondence, literature, etc. Likewise, there is a

distribution map for each species on which all records are plotted in such a way that those substantiated by specimens are easily recognised. The long-term solution that we have adopted is to hand the Mull archives over to the Archives Section of the Museum Library Department, where it will be preserved and be available to future workers on the flora of the Hebrides. Obviously, any future prospective Flora writer should be able to benefit from access to the iceberg-like base from which the visible flora was published. This is likely to be particularly important for relatively uncommon species which yet exceed the ten-record criterion.

Discussion of these matters lead to a realisation that this was a general problem that applies to most, if not all, authors of County Floras. A note for BSBI News, to draw attention to the need for the preservation of the resources behind the published works with which we are all familiar, seemed to be desirable. In the case of Mull, the archival material was already housed in, and the property of, the Museum, but even here some thought for its future accessibility was appropriate. Most authors of County Floras will want to keep their basic data at hand so that they can add new material and answer detailed enquiries. However, there comes a time when changed circumstances or intimations of mortality may suggest the need for its deposition in a secure location for the long-term benefit of others. This will be no less true for the computer databases now being established by the new generation of Flora writers, than it is already for those who have used more traditional means. I therefore suggest that all authors of County Floras should make a conscious effort to secure the ultimate preservation of their data by some permanent organisation such as a local museum or society. Sadly, the history of scholarship is scattered with tragedies resulting from the hasty and unthinking action of next-of-kin and executors. We have reason to be proud that our native flora is the best documented in the world, and, as any aficionado of field botany is aware, this situation is the end product of countless hours of devoted labour by numerous enthusiasts over the years. I make no apology for raising this slightly gloomy topic but, on the contrary, wish my fellow authors many happy years of continued contributions. It is, however, our clear duty to preserve as completely as possible our legacy of the past, for the interest, benefit and enjoyment of those who will study our flora in years to come. In conclusion, it would be appropriate for the Society to establish and update an index, to record the final resting places of original data behind our now numerous County Floras.

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BUTTERBUR FORMS

"How is the Butterbur pollinated?". This apparently simple question led to an interesting investigation of the flowers of **Petasites hybridus**.

'CTW' is the obvious port of call - answer: chiefly bees; but the description of the two types of flower in the 2nd edition (1962) was puzzling. It referred to "'male' heads with 0-3 female and 20-40 sterile 'hermaphrodite' florets, 'female' heads with about 100 female and 1-3 sterile florets".

I decided to investigate further, on a site in Lancashire, 16 miles east of Blackpool on the edge of the Fylde. The plants were in a large colony on sandy ground close to the River Brock which floods frequently, a typical site (in the grounds of the Lancashire College of Agriculture and Horticulture). There were two types of plant, with different flowers, growing in distinct patches.

A single head was collected from, as far as possible, each inflorescence in the colony, and each type of flower was examined. According to 'CTW', the 'male' heads are large (7-12mm) and very short-staked, the 'female' only 3-6mm but longer stalked, and this was what I found. The population contained approximately 19 male and 40 female plants.

Examination of 'male' heads showed no distinct female florets, but between 22 and 44 florets of the type described as "sterile 'hermaphrodite'". These florets were typically tubular, with a 5-toothed corolla, and a bulbous, columnar stigma as long as the floret, surrounded by a ring of anthers. These anthers appeared to be fertile. There was an ovule at the base of the floret, twice the size of that in the 'female' floret.

The 'female' heads were a mass of tiny tubular florets surrounding two or three similar to the 'sterile hermaphrodite' florets described above, with a columnar stigma. The tiny

'female' florets had a bilobed stigma projecting beyond the tube, and this was also surrounded by anthers which appeared fertile. Indeed, under x500 magnification, pollen grains could be seen all over the stigma, and on the anthers.

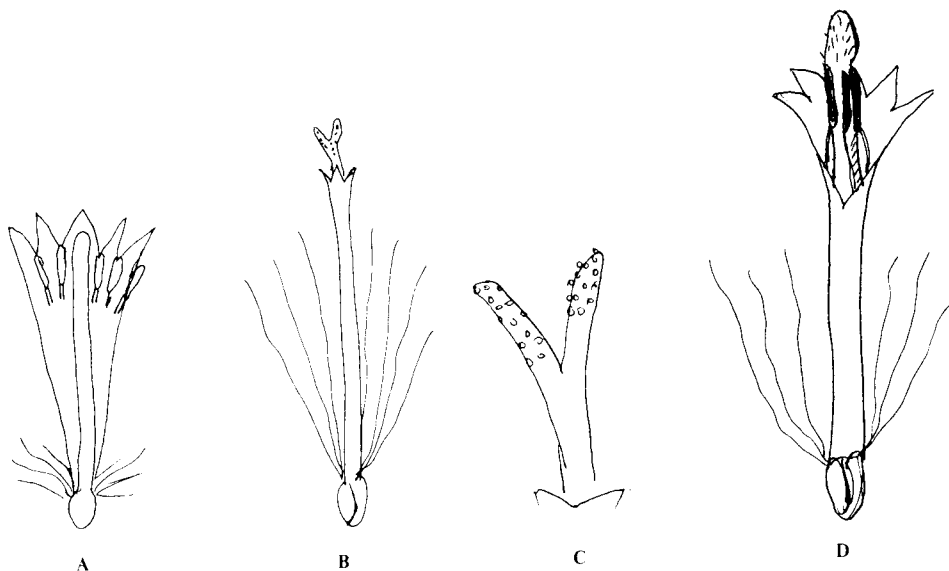
'CTW' further points out that while the male plant is locally common throughout the British Isles, the female is "not uncommon in Lancs, Yorks, Cheshire and Derby". How does it reproduce if female plants have such a restricted distribution? However, it looks as if the 'male' plants may be hermaphrodite, and the female likewise.

The characteristic stigma in Compositae is bilobed, so perhaps the columnar variety is sterile. This was difficult to establish in the time available, but it occurred in both the 'male' flowers and in the few 'sterile' florets in the 'female' heads. Both types of floret had an ovule present.

A search through the available flower books did not suggest much appreciation of the problem, except for Rose in his Wild Flower Key (1981) who was very brief, and Ary & Gregory's The Oxford Book of Wild Flowers (1960) who went into more detail, but still did not mention the columnar style in the 'male' florets. An old 'Bentham & Hooker' (1912) surprisingly got the relative sizes of male and female heads wrong, calling the male smaller. Flora Europaea suggests that where the female plant is absent, the species has been introduced.

It would be interesting to find out if the 'male' heads which occur in parts of the UK without 'female' associates have a few female florets incorporated in them. Maybe my northern 'male' population lacks these because of the presence of female plants close by. If anyone could help with this problem, I would be most interested to hear from them.

MARGARET CURTIS, 3 Vicarage Hill, HELSBY, Warrington WA6 9AD



Petasites hybridus florets (not to scale), del. M. Curtis

- A "Sterile hermaphrodite" centre floret of female flower - columnar style and epiphyllous stamens
- B "Female" floret of female flower
- C Stigma of B with pollen
- D "Sterile hermaphrodite" floret of male flower - columnar style and epiphyllous stamens with anthers closely appressed around style

[This note should have appeared in the last issue but was omitted due to the Editor's forgetfulness! Ed.]



B.S.B.I. MONITORING SCHEME

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Final Report

The final report of the Monitoring Scheme was handed to the Steering Committee on March 12th. Hooray! Means of publishing the report are currently being discussed by the Committee.

Change of address

I have now moved from the Biological Records Centre at Monkwood Experimental Station, Abbots Ripton to Lancaster where I have taken up a post in the Unit of Vegetation Science at the University there. My new job will involve assessing and predicting the impact of climatic warming and air pollution on vegetation.

Please note that my new address is as given below.

Cabbage matters

Because of this change of circumstance, I can no longer accept fresh crucifer material (unless by prior arrangement) as I will be doing field work most of the summer. Pressed material may be sent to my new address at any time.

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NOTES AND ARTICLES

SOME HISTORICAL NOTES ON BRITISH ORCHIDS

In The Phytologist for 1861, pp. 171-175, a correspondent calling himself 'Z' wrote from "Kew" with notes and additions from an interleaved copy of John Blackstone's "Harefield Plants" (1737) about British orchids. This copy formerly belonged to Peter Collinson F.R.S., of Mill Hill and the handwriting is his, in part, and that of his son Michael. Henrey (1975) lists the Royal Botanic Gardens, Kew, as one of seven libraries with copies of Blackstone's book.

Peter Collinson (1694-1768) was an early Quaker. In 1749 he moved to Mill Hill where he established a botanic garden. He was a friend of Sir Hans Sloane and, indeed, 'He was known to most of the scientific men of his time' (Raistrick, 1950).

The notes and additions are simply reproduced in The Phytologist. They deserve comment. The garden at Mill Hill included an 'Orchis bed' in which grew *Spiranthes spiralis*, *Herminium monorchis*, *Coeloglossum viride*, *Gymnadenia conopsea*, *Platanthera chlorantha*, *P. bifolia*, *Ophrys apifera*, *O. insectifera*, *Himantoglossum hircinum*, *Orchis purpurea*, *O. militaris*, *O. ustulata*, *Dactylorhiza incarnata*(?), *Dactylorhiza fuchsii*(?), *Anacamptis pyramidalis*, and almost certainly others. Peter Collinson obviously knew how to grow orchids, although he does admit to a few failures! Given what we now know about mycorrhizal fungi, this is all the more remarkable.

We are told that a Mr Robins of Bath found 'An elegant kind of Bee Orchis, with white wings, and the body of a yellowish shade' at or near Rancomb, in Gloucestershire. 'Mr. Robins gathered ten or twelve in full bloom in 1760'. This orchid is *Ophrys apifera* Hudson var. *chlorantha* (Hegetschw.) Richter. Godfery (1933) suggests that this variety is a kind of "albinism".

In 1787 Michael Collinson (1727-1795) 'had a present of three roots of the Wasp Orchis(?), found at Clifton, near Bristol,... the lip very narrow, yellow, and streaked with dark purple, very analogous to the insect it is named after.' This is *Ophrys apifera*

Hudson var. **trollii** (Hegetschw.) Reichenbach. Summerhayes (1951) notes that the great majority of flowers of **O. apifera** are self-pollinated and that this explains the abnormality named var. **trollii**. Further, it is known to be very persistent in some localities. I believe it is still known from the Bristol area!

In 1840 Hegetschweiler described **Ophrys chlorantha** and **Ophrys Trollii** from Switzerland. Richter and Reichenbach subsequently reduced each of these species to varieties of **Ophrys apifera** (Camus & Camus, 1929).

One wonders whether plants similar to those found at Rancorb in Gloucestershire and Clifton near Bristol had been noticed, at least in the British Isles, before. Summerhayes (1951) points out that abnormal types of **O. apifera**, in which category he includes vars. **chlorantha** and **trollii** 'are more abundant in the more northern parts of the range of the species, where self-pollination is almost invariable'.

Finally, in May 1767, Michael Collinson 'found, in an old chalk-pit near Dartford Heath, several plants of the Tragorchis [**Himantoglossum hircinum**]; also six or seven of the larger Fly Orchis [**Ophrys insectifera**], growing upwards of a foot in height. There had been a destroyer in the same pit a little before me, who had (by the holes in the turf) carried away with him in full flower near seventy roots, most of which would undoubtedly perish, and this species of Orchis rare to be met with here for the future.'

I have just read in 'The Plantlife report' of an incident in July 1987, when someone 'dug up over 100 Early Purple, Green-Winged and Greater Butterfly orchids from a site in Gloucestershire, ...'

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JAPANESE KNOTWEED, A POSTSCRIPT

I was lucky enough to see the TV coverage of the debate on Japanese Knotweed while late night wordprocessing with the one-eyed monster on (see BSBI News 53: 34, 1989). During a sequence of highlights of action from 'Their Lordships' House', Japanese knotweed was mentioned. And lo, there was the noble Earl, Caithness, then at the DoE, rising to his feet with a folder of vital answers. The content was not unrelated to the form of words extracted from me by an official from the Department who had phoned some weeks earlier for details.

The Lords, in their exchanges, as outlined in the original article, had a tenuous grasp of nomenclature, but there is a bit more to the story. As a postscript, the BBC unearthed a video clip of my ITE colleague Gerry Lawson hacking a patch of knotweed during our experimental work on biomass potential. It looked as if the object of his aggression was giant knotweed, **Reynoutria sachalinensis**, so unfortunate viewers (all ten of them!) would be even more confused. The three common names used, Japanese, himalayan and giant, all refer to different species (see Lousley & Kent, British & Irish Herbaria, 1981) but I have never heard of Hancock's curse before.

The advance of **Reynoutria japonica** remarked on in Tim Rich's Monitoring Scheme page (also in the last issue), is largely a process of infill and reluctant inclusion by recorders. What is remarkable is how limited the advance has been in many sites where the species has lurked a very long time. John Bailey's work on the introgression of **Fallopia** adds a fascinating twist to the story; who knows what new combination of genes will arise?

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REFLECTIONS ON THE BIOLOGY OF THE HUMBLE CONKER

I was interested to read the comments on conkers and their possible dispersal by animals and 'scardic torrents' [see below, Ed.] in BSBI News 53: 6 (December 1989). Undoubtedly squirrels and other animals that store or hide food must be one mode of dispersal, and conkers are likely to be eaten by deer and perhaps badgers throughout their wild and naturalized ranges. H.N. Ridley, in his Dispersal of plants throughout the world (1930), noted evidence that rats and rooks also act as agents for transport of conkers. Furthermore, Horse Chestnuts share their native home in the Pindhos Mountains with two large omnivores, Brown Bear and Wild Swine, that we had exterminated before the Horse Chestnut was introduced to these islands. Even more significant feeders on conkers were probably the elephants and hippos that fossil evidence indicates roamed Greece during the Late Tertiary and early Pleistocene periods, from which time Aesculus hippocastanum is apparently a survivor. The tree's relict status is supported by the presence of several other species of Aesculus in the U.S.A. and East Asia, fragments of a once widespread forest belt. Certainly, it would not look out of place in a subtropical forest, with its large compound leaves, massed flowers and robust fruits.

The main problem of dispersal of conkers by animals is the fate of these (stoneless) fruits in the mouth and alimentary canal, although Ridley observed that conkers will germinate even if damaged by rats. Perhaps a large creature like an elephant, with its gargantuan appetite, is less likely than some other species to digest all its food. On this score, I am assured by one of the regulars of The Royal Oak, my local hostelry, who formerly looked after the elephants of Bertram Mills' Circus, that elephants eat more or less continuously and defecate 'every 14 minutes'. This being so, doubtless at least some prehistoric Epirotic conkers would have escaped destruction and passed through the odd elephant into a well-manured seed-bed, of mammoth proportions. Back to The Royal Oak for discussion!

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[The following definition of 'Scardus' was provided by Mary Briggs and inadvertently omitted from the last issue:

'Scardus: Sara Planina, S. Yugoslavia - Scardus mountains on borders of Albania and S. Yugoslavia - adj. scardicus, eg. Crocus scardicus, Dianthus scardicus, Saxifraga scardica.'

Ed.]

ISOLEPIS CERNUA AS A POT PLANT

G.H. Forster draws attention (BSBI News 53: 33) to the use of Isolepis cernua as a pot-plant, and it is something I have become increasingly aware of in the last ten years or so.

But it is by no means a new phenomenon, even if the plastic tube is an innovation. In 1859 Anne Pratt, discussing the plant in her British Grasses and Sedges (p. 18), wrote:

'Of late years it has been commonly exposed for sale in Covent Garden under the name of Isidore. Planted in a pot, and set to stand in a saucer of water, it soon fills the pot with innumerable evergreen bristling stems, which spread in all directions and present a very pleasing appearance.'

The passage has stuck in my head since I first read it as a schoolboy, chiefly on account of the curious name Isidore. Has anyone heard it used recently?

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IT PAYS TO ADVERTISE

The following notice appeared over 120 years ago in the Glasgow Botanical Society's privately circulated Botanical Quarterly 1(1), January 1868:

'... A young gentleman is desirous of opening a correspondence with a young lady

on botanical subjects. Age must not exceed 25. Good looks indispensable. Apply with photograph ...'.

By the late 1860s the exchange of personal photographs ('cartes-de-visite') was already nothing new, but in advertising in a scientific journal with the undoubted intention of getting to meet attractive girls, our enterprising young Scot must be considered something of a pioneer.

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PLANTLIFE, THE BSBI, AND A NATIONAL HEADQUARTERS

I have been most disappointed by the PLANTLIFE outfit and it's setting up. Plantlife conveys very little to the non-academic person in it's title. I feel that it is long overdue that we had a British Wildplant Protection Society for the public to identify with. Allowing for Prince Charles's liking for gardening and 'Green Matters', I would have thought a Royal Patronage would eventually be granted. All of this should be under the aegis of the BSBI.

I also contend that a National headquarters for the BSBI should be a long term aim, with Reference Library and Seed Bank. Maybe a Building Fund could be started with a £1 fee (on either side), for all book sales and botanical equipment transactions [but see page 4. Ed.]. I can remember as a grammar schoolboy that two magnificent colleges were eventually built from a small College Building Fund.

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[I am sure supporters of Plantlife will wish to comment on the first part of this note! Ed.]

MORE FOG CREEPS IN

When members have come to some conclusion about the derivation of Yorkshire Fog as a common name for *Holcus lanatus*, they might like to try their hands on *H. mollis*, known in the British Isles as Creeping Soft-grass but in New Zealand as Creeping Fog (Hilgendorf & Calder, Weeds of New Zealand, 4th Ed., 1948). This book is optimistically subtitled - And how to eradicate them - but gives no specific advice on Yorkshire Fog which might help D. Horne with his lawn. For Creeping Fog it suggests deep ploughing followed by a smothering crop such as oats. This sounds a bit drastic but both *Holcus* species are introductions to New Zealand and less than welcome weeds. Have the New Zealanders coined 'Creeping Fog' or does anyone know of that name being used here?

JOHN TIMSON, 5 Ashley Avenue, FLIXTON, Manchester M31 2TX

'LUCKY WHITE HEATHER?'

I wonder, does anyone else, when confronted by a hawkker selling 'lucky white heather', have to control an almost overpowering urge to say 'this is *Limonium sinuatum*, of the family Plumbaginaceae, and I've half a mind to cop you with the Trades' Description Act'?

JOHN RICHARDS, Department of Botany, The University, NEWCASTLE-UPON-TYNE NE1 7RU

UNIDENTIFIED MEDICINAL PLANTS

None of the names listed below feature in any of the standard works on the subject - or at least are given an identification in them that seems at all convincing. They are all of

plants recorded as in use by country people in some part or other of Britain or Ireland as herbal remedies. Most of them come from folklore collectors with little or no botanical knowledge who more often than not will not even have had sight of a specimen of the particular herb in question. In some cases they may even have misheard the name they noted down.

Unless the plants referred to can be identified, the information collected about their use medicinally (which in some cases could be valuable) might just as well not exist. I should be very grateful, therefore, if identifications can be made, or even suggested, for any of the following:

Alexopane (Orkney), Black Peppermint (Cotswolds; a common plant of bogs. Merely Mentha aquatica?), Blue Mallow (Cavan), Bog Onions (Clare), Calf's Plant (Isle of Lewis), Catweed (Gloucestershire; a plant avoided by cats), Creeping Kate (Cavan), Crisp Thistle (Cavan; Cirsium arvense?), Devil's Hemlock (E. Anglian Fens; 'like a miniature geranium'), Eagle's Claw (Cavan), Eagle Foot (Cavan), Early Spring (Meath), Fermoreum (Wicklow), Forum Leaf (Wicklow), Golden Wheat (Cavan), Gravel Root (Wicklow), Herb Rue (Shropshire), Horse Pepper (Norfolk; young shoots taste like peppery celery), Mary of the River (somewhere in Ireland), Poverty of the Ground (Waterford), Pusey (Fermanagh; a meadow plant with purple flowers in early summer), Red Heath Broom (Somerset), Red Roger (Down), St Fabian's Nettle (unlocalised), Sparrow-weed (Ulster), Spear Point (Cavan), Stony-on-the-Wall (Lincs.; Saxifraga tridactylites?), Three Sisters (Meath), Water Parsley (Cavan), Worm Plant (Meath), Yellow Fern (Inner Hebrides), Caora aitinn (Mayo; a hill plant with small white berries), Doorelonta (Cavan; some kind of fern), Glaistema = 'Pepperwort' (16th-century Ireland), Leothann or Leon (Barra; a leafy plant of bogs), Lus Moire (Eriskay), Lus na liagh (Cavan), Maol-Moire (Eriskay; a flattish green plant), Semur capaill = 'Horse Clover' (16th-century Ireland).

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

STACHYS MACRANTHA (C. Koch) Stearn, SYN. S. GRANDIFLORA (Willd.) Bentham

The correct name for the Stachys admirably figured on the cover of BSBI News 52 (Sept. 1989) is not Stachys grandiflora (Willd.) Bentham (1834) non Host (1831) as used there and on page 30, but S. macrantha (C. Koch) Stearn, the name adopted, for example, in Chittenden, R.H.S. Dictionary of Gardening 4: 2011 (1951) and Davis, Flora of Turkey 7: 260 (1982).

This well-known garden plant, which has several horticultural variants, is native to Turkey, the Caucasus, and northern Iran. It may be useful to reprint here the article regarding its nomenclature which I published in The Gardeners' Chronicle III 130: 168 (November 1951) as follows:

'Among the species referred to Stachys or Betonica, the one which best merits the epithet "grandiflora" or "macrantha", both meaning "large-flowered", grows in the Caucasus and adjacent Asia Minor. It was described in 1801 by Willdenow under the name Betonica grandiflora from Caucasian specimens collected near the river Terek by Stephan, and introduced into British gardens about the same time by Messrs Loddiges; a coloured plate appeared in Curtis's Botanical Magazine (t. 700) in 1803. Unfortunately, the name Betonica grandiflora had been used in 1799 by Thuillier for another species, and so is not available. Bentham transferred Willdenow's species to the genus Stachys in 1834 as S. grandiflora, but this name cannot be used on account of the earlier S. grandiflora of Host (1831). The correct name for the species, if Stachys and Betonica are regarded as one genus, is S. macrantha, based on B. macrantha, described by C. Koch in Linnaea 21: 683 (1848). The type-specimens of this were collected near Henshin, north-east Asia Minor. In 1935 I compared the three sheets of B. macrantha in Koch's herbarium, then at the Botanical Museum, Berlin-Dahlem, with the five sheets of B. grandiflora in Willdenow's herbarium, likewise at Berlin-Dahlem. Koch's specimens, 22 cm., 30 cm. and 32 cm. high, were shorter than Willdenow's and had smaller leaves and slightly smaller flowers, but obviously belonged to the same species. Like other wild specimens, all were unbranched and had one or two pairs of stem-leaves.'

WILLIAM T. STEARN, 17 High Park Road, Kew Gardens, RICHMOND, Surrey TW9 4BL

GERMINATION OF LONG-BURIED SEED

I was interested to read Allan Hall's notes on *Reseda luteola* (BSBI News 53: 23, Dec. 1989). The 'spectacular appearance' of this plant after disturbance and subsequent reduction in abundance is nicely shown in photographs of Wharram Quarry Nature Reserve in Usher (1986). I also observed this phenomenon during preparation for a field trial on colliery spoil at Thorne Colliery, South Yorkshire in 1975. There much of the former spoil heaps had been removed a few years earlier to build the M18 motorway. This left a flat, surface-panned unvegetated area. However, after ripping of this area, *R. luteola* arose in abundance in the area which had been ripped but not elsewhere. Subsequently as at Wharram Quarry Nature Reserve it declined in abundance. With respect to Allan Hall's observations of *R. luteola* on the University of York campus, I and others in the Derelict Land Unit team may have been responsible for its introduction. Vegetation from our field trials on colliery spoil (of which at least one other than that at Thorne supported *R. luteola*) was cut and taken to the Walled Garden at the University where it was dried and stored and occasionally transported across campus to the Biology Department for analysis. This activity took place between 1975 and 1983. In the Walled Garden and in the Biology Department, sweepings off the floor of the working areas were deposited outside and it was in 1976 in the Walled Garden that I first observed *R. luteola* on campus. We were certain then that it was derived from the Thorne field trial samples. The Walled Garden was an interesting place to be at the time because plants like Pale Flax and Buckwheat from the sweepings from the Psychologists' pigeon house, and Tomatoes from an overflowing sewer could also be found!

Reference

Usher, M.B. (ed.) (1986). Wildlife Conservation Evaluation. Chapman and Hall, London.

JOHN PALMER, Richards Moorehead and Laing Ltd, 3 Clwyd Street, RUTHIN, Clwyd LL15 1HF

HENBANE AND DYER'S GREENWEED

I was interested to read the notes on Henbane and Dyer's Greenweed in BSBI News 53 and wonder if the following comments may also be of interest.

Near where I live *Hyoscyamus niger* grew very sparsely, perhaps ten plants annually, by the side of a cart track running around the edge of a ploughed field. A new owner took possession of the field and had it ploughed up right to the hedges; by the following summer the Henbane had quadrupled in number and spread widely. The farmer sprayed weedkiller, but with little effect on the Henbane! Two years later, the Henbane had taken over from the Barley, covering an area of about half an acre. Not until a special spray was used and hand-pulling of surviving plants, was the Henbane eradicated from the field.

An adjoining field was an old unploughed river meadow, but constantly sprayed and with just the odd patch of nettles and thistles. The new owner decided to plough this field as well and to resow to permanent grass. In one place, up a steep bank well above the flood level, Henbane, Docks, and Nettles grew in abundance amongst rubble from what had probably been a cattle shed, not used this century and allowed to collapse. It had eventually been covered by grass but no other plants until the field was ploughed.

Dyer's Greenweed, *Reseda luteola*, suddenly appeared in my garden, just one plant. I had never seen it there before, nor on any of the surrounding land, and I have walked this area for 30 years. I allowed the plant to seed, but the following year no seedlings appeared; does the seed of this plant have to go through the alimentary canal of a bird to become fertile?

PEGGIE PITTKIN, Nafford Lodge, Eckington, PERSHORE, Worcs. WR10 3DJ

HEMLOCK AND HENBANE - LONGEVITY OF BURIED SEED

The work of the Danish botanist Soren Odum is essential reading for anyone interested in this engaging topic. He provides very suggestive circumstantial evidence for the longevity

of many plants including Hemlock and Henbane. For instance, both these species germinated in soil taken from under a demolished house, that had been built about 150 years before, on the small island of Hirsholm off the northeast coast of Jutland. Of course, this is not rigorous scientific proof. Could small rodents have carried the seeds down long after the house was built? Only radio-carbon dating of the seeds at the earliest stage of germination but before photosynthesis had started would show how old the seeds were, as Sir Harry Godwin outlined more than twenty years ago.

Reference

Odum, S. 1978. Dormant Seed in Danish Ruderal Soils.

JIM DICKSON, Botany Department, Glasgow University, GLASGOW G12 8QQ

COMPUTERS

BSBI COMPUTER USERS GROUP

There will be a meeting at the Biological Records Centre, Monkwood on Saturday June 9th, to demonstrate a variety of mapping and recording databases on computers. All members are welcome to attend, not just those in the Computer Users Group.

For further details contact me at the address below.

TIM RICH, Unit of Vegetation Science, Biological Sciences, University of Lancaster.
LANCASTER LA1 4YQ

A COMPUTER-BASED MULTI-ACCESS KEY FOR THE IDENTIFICATION OF NATIVE AND NATURALISED ALIEN FERNS IN THE BRITISH ISLES

by Pat Hill-Cottingham and Alan Morton

This key is designed for use on IBM-compatible personal microcomputers, such as the Amstrad 1640. It is supplied with all necessary instructions, a sheet of diagrams and a glossary which can be accessed during use of the key. Results can be printed out, a useful facility for recorders. The instructions on the screen are free from computer-jargon.

All presently-documented species and sub-species are included with notes and pitfalls to identification described so that the key can be used by amateur and expert alike. Because it is a multi-access key, the choice of the characters used in identification is in the hands of the user and, in most cases, only a few characters are necessary for an identification. There is a main key which will serve the needs of most botanists, but nine sub-keys give further help with sub-species, for example, *Dryopteris affinis* based on C. Fraser-Jenkins' classification.

Anyone who would like further information, please contact me at the address below.

PAT HILL-COTTINGHAM, Mill House, 18 High Lane, SHAPWICK, Bridgwater, Somerset
TA7 9NB. Tel. 0458 210557.

ALIENS AND ADVENTIVES

SOLANUM CHENOPODIOIDES Lamarck, ESTABLISHED IN S.E. LONDON

In October 1989 while plant-hunting in Bermondsey (v.c. 17), I noticed some quantity of an unfamiliar Nightshade which was determined by Dr A.C. Leslie as the above species. Its former (and more familiar) names are *S. sublobatum* and *S. ottonis*.

Returning to the area in early November I found that this perennial Nightshade was an extensive weed on pavements, in alleyways, on pieces of waste ground, in a churchyard, and in two small public parks, in an area of about one-fifth of a square mile. Full determination of its extent was prevented by the onset of heavy rain, but it has obviously

been established there for some time and may also be discovered, bird-sown, across the river in Middlesex, or in other parts of S. London.

There have been a few casual records, but it seems to be established in the British Isles only to a limited extent in Guernsey (since 1958) and with only one plant in Sark, before this discovery.

This S. American plant is attractive with its greyish leaves and white starry flowers, and there is a drawing on page 172 of wild Flowers of Guernsey (McClintock, 1975). Further information relating to Solanum chenopodioides and its distribution in the British Isles will be of great interest. Flora Europaea describes it as naturalised in Switzerland, France, Spain, and possibly Portugal.

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

CONSERVATION NEWS

THE CONSERVATION COMMITTEE

Following recent discussions it was felt that the BSBI's Conservation Committee could function more efficiently if a two-tier structure was created:

- i) a core group (to include representatives from NCC, RSNC, CABS/Plantlife, BRC, and NCCPG) dealing with national issues
- ii) the core group plus representatives from Ireland, Scotland, and Wales, and, from England, a network of regional representatives (possibly based on the NCC regions), any one of whom could be contacted by the membership when a conservation problem arises in their region. A list of all these regions and their representatives will appear in a subsequent issue of BSBI News.

Long term projects that Conservation Committee are involved with are:

- i) the compilation of a draft list of recommended species to be included in (or removed from) the Schedule; to be contributed to the NCC. If anyone has such recommendations, with justifications, please send them to Tony Whitten (address on page 39) or to this Committee at the address below.
- ii) to encourage the membership to participate in the monitoring and study of species selected in the recovery programme (see page 38).
- iii) to be instrumental in the production and publication of an updated Red Data Book and of a proposed 'Pink Data Book'.
- iv) to maintain strong links with the Introductions Panel and its work.

Ongoing work involves responding to National Issues, e.g. the proposed threat to Lurcher's Gully, and to the M.A.F.F. regulations on the importation of bulbs and corns.

ELSA WOOD, (Acting Secretary), The Nurtons, TINTERN, Gwent NP6 7NX

RIO MAZAN PROJECT UPDATE : CLOUDFOREST CONSERVATION

My original venture to the Andes, back in 1982, was as an archaeological photographer on an Inca excavation near Machu Picchu in Peru. Over a period of four months in the field, I spent all available spare time hunting out the local flora and fungi. A further four months of identification work at the Royal Botanic Gardens, Kew, resulted in a short botanical checklist for the region and the discovery of a new stemmed puff-ball, Tulostoma denisii.

At that time, 1400km to the north, in southern Ecuador, a supplier of timber to the American furniture trade was beginning to fell one of the last remaining cloudforests in the Cuenca basin. Alerted by Tierra Viva, the local equivalent of Friends of the Earth, the imagination of the Cuencanoes led to a moratorium on the logging and the eventual purchase of the forest by the municipality. Its destruction would have seriously affected local water purity, as well as increasing the threat of flooding.

Since the area had never been studied or even looked at by naturalists, it was Tierra

Viva who invited two visiting biologists from the Oxford University Expeditionary Society in 1984 to return with a team able to produce a management plan for the newly protected forest. Some months later, at a meeting back in the UK, the Rio Mazar Project was created.

By the end of 1986, after the UK's largest independent scientific expedition this century had been mounted, a management plan was prepared. A supplementary expedition the following year resulted in a total of 50,000 man hours being spent in fieldwork. Since then there has been occasional but continuing fieldwork, probably making it the most intensively studied cloudforest anywhere on the planet.

Running the botanical survey in an area the size of Richmond Park, I discovered there were as many (and probably more) orchid species in this forest than the whole of the UK! Fungi, understandably, receive low priority in under-developed countries and the records established for Mazar, in most cases, proved to be new records for Ecuador. Several new fungi came to light, including a parasite of local phasnids *Cordyceps* sp., and a scarlet slime mould *Diderma* sp.

In 1989 it came to the attention of RMP that an hacienda of 3500 hectares, with a virgin tract of cloudforest, was being offered for sale. Known as 'Flor del Bosque' (Flower of the Forest), it is situated 60km NE of Mazar and occupies the head of a valley cut by the Rio Mazar, at a similar altitude of 3,000m but on the eastern Andean slope, down to the Amazon basin. Consisting of an area of arable and grazing land beside the river, a regime of paramo grassland above the tree line, and a cloudforest between the two of about twice the area of Mazar. Containing Grey-breasted mountain Toucan, 20 or more species of hummingbird, mountain tapir, puma and the endangered Spectacled bear. As yet, no botanist has assessed the flora, but from some photographs and descriptions it certainly contains examples of *Bomarea*, *Calceolaria*, *Fuchsia*, *Peperomia*, *Salvia*, *Solanum*, *Tillandsia*, and Tree Ferns, as well as a vast number of orchids.

The RMP has never considered direct purchase to promote conservation before, since this hints at 'Imperialism' and is otherwise fraught with many unimaginable problems, but having spoken to government bodies and local pressure groups about this special situation we were encouraged to make every effort in this case. The asking price for the hacienda is \$100,000 (USA) or £60,000 but the vendor has agreed to wait a reasonable time for the money to be raised. To this end we are currently initiating a fund-raising programme and all 'Flor del Bosque' forest occupants will be grateful for any support that BSBI members can offer.

I look forward to being able to present news of our progress at the BSBI's Annual Exhibition Meeting in November. In the meantime please send a SAE for further information to the address below.

VAUGHAN FLEMING, (Director), Rio Mazar Project, P.O. Box 14, Q.M.H., St Bartholomews Hospital, LONDON EC1A 7BE

THE BRITISH HERPETOFAUNA CONSERVATION APPEAL

The British Herpetological Society's Conservation Committee (BHSCC) is mid-way through an appeal to raise money to safeguard once and for all some of the key sites for rare amphibians and reptiles. They intend to do this by site purchase or lease and long term management and, with the assistance of the WorldWide Fund for Nature (WWF) and the Nature Conservancy Council (NCC), have already purchased two sites and have secured long term leases on a number of others. These sites are predominantly heathland or dune habitat, the former being the only habitat used by both the Sand lizard and Smooth snake and the latter being vital to the survival of the Natterjack toad in Britain. The dune systems of the Lancashire coast also support the extremely endangered Northern race of the Sand lizard. Both habitat types are also important for other plants and animals and the BHSCC management regimes, developed from over 20 years practical experience, benefit a wide variety of wildlife including other rarities, both plant and animal. Both habitat types are internationally recognised as endangered and Britain contains some of the best remaining examples. Other conservation organisations, particularly the RSBP, are mobilising their resources to protect what is left, but more still needs to be done.

If you would like to help safeguard these important habitats please contact the BHSCC at the address below.

HOWARD INNS, BHSCC, PO Box 126, FARNHAM, Surrey GU10 3QL

SPECIES RECOVERY PROGRAMME FOR GREAT BRITAIN

Under the provisions of the Wildlife and Countryside Act 1981, 97 species of wild animals and 93 species of plants have been afforded strict protection by virtue of their being listed on Schedules 5 and 8 respectively of the Act. Schedule 8 comprises 86 higher plants, six ferns and fern-allies, and one alga. The Act makes it an offence to uproot any wild plant unless authorised, and to pick, uproot, sell or destroy any of the scheduled species. Any or all of these prohibitions may be lifted subject to a licence issued by the NCC.

The species selected for protection under the Wildlife and Countryside Act are deemed, in the words of the Act, to be "in danger of extinction in Great Britain or likely to become so endangered unless conservation measures are taken". The scheduled plants fall into three groups. The first comprises those restricted to certain climatic or edaphic conditions, and are naturally rare (defined here as occurrence in 15 or less 10km grid squares). Examples are Blue Heath *Phylodoce caerulea*, Lundy Cabbage *Coincya wrightii* (formerly *Rhynchosinapis*), and Rock Cinquefoil *Potentilla rupestris*. The second group comprises those species whose natural habitats (such as fen, bog, pond and submontane woodland) have been converted or modified by man to such an extent that they are uncommon or unsuitable for those species. Some of this group now depend on regimes of disturbance, mowing, or other human management, that once would have been provided by tree falls, pigs breaking up the soil surface, grazing animals or other natural elements. This group includes most of the protected grassland plants and arable weeds such as Military Orchid *Orchis militaris*, Field Cow-wheat *Melampyrum arvense*, Rough Marsh-mallow *Althaea hirsuta*, and Oxtongue Broomrape *Orobancha loricata*. A third group comprises those species that have been directly and relentlessly sought by man, such as some of the ferns and orchids, for example Lady's-slipper *Cypripedium calceolus*. In addition, there are species such as two British endemic species of sea lavender *Limonium* which are not threatened in Great Britain but which require protection under Britain's international obligations in the Bern Convention. Certain species, or groups of species, are not included in the schedules if the protection it confers is felt to be impracticable. Included in this category are plants whose identification is difficult, e.g. *Hieracium*, *Taraxacum*, *Sorbus*, and *Euphrasia*.

Abundance of a species outside Britain is not considered as relevant; for example the Jersey Cudweed *Gnaphalium luteoalbum* is now only known from a single British site but is found throughout warm temperate regions of the world. Indeed, only a handful of species such as Killarney Fern *Trichomanes speciosum*, Slender Cottongrass *Eriophorum gracile*, and Creeping Marshwort *Apium repens* are threatened globally. It is held that the protected species are integral members of our flora and fauna, and their possible loss is judged to be detrimental to the national natural heritage. In addition, many of the species reach their northern or northwestern limit in Great Britain and are phenotypically and genotypically distinct from their mainland relatives.

Species may be removed from the Schedules if they are felt to be "no longer endangered or likely to become so endangered" unless there are international obligations to the contrary. Recommendations for the addition or deletion of certain species from the schedules are made to the Secretary of State by the NCC after the quinquennial review. These are based on the knowledge and opinions of its own staff as influenced by a wide range of counsel sought from scientific institutions, learned societies, and voluntary conservation organisations.

Legal protection has drawn attention to the plight of the scheduled species and has stimulated enhanced efforts by the NCC and voluntary conservation bodies that have led to intensification of research and survey, as well as site safeguard and management. Protection has also had an effect on the actions of public authorities, both through their administrative decisions (e.g. the granting of planning consents) and their direct actions, for many have taken their responsibilities seriously to avoid the unnecessary destruction of protected animals and plants. Public enquiries over local authority plans for developments that would threaten a protected plant species have not allowed these developments to proceed.

While the protection does guard against certain threats, it does not in itself ensure the survival of a species or an improvement in its status even if fully implemented and enforced. The major threats often lie elsewhere, e.g. habitat loss and change through inappropriate site management, disturbance, incidental destruction, or because populations have been reduced to a critical level from which they cannot climb without human

intervention. Thus, the act of protecting a species has had a reason (because it is threatened), but has lacked a goal. Indeed, nowhere is the official aim of protecting species actually spelt out. No governmental agency has ever been given or assumed the duty of actively protecting rare animals and plants; nevertheless it is the policy of the Nature Conservancy Council (NCC), the government body that promotes nature conservation in Britain, to ensure the continued survival of native species in Great Britain and the maintenance of their range and abundance.

NCC, encouraged by Wildlife Link (the umbrella organisation for Britain's non-governmental conservation bodies), decided to develop a programme for the recovery of scheduled species. As a result, they established an 18-month post for the preparation of a proposed programme with recommendations for its implementation. While this may be a new initiative in Britain, a recovery programme was begun in the U.S.A. in 1983 under its Endangered Species Act, and in the Spanish Autonomous Community of the Canary Isles in 1987.

The proposed British recovery programme aims to provide the means by which each of the scheduled species will improve its status, and could eventually become a secure, self-sustaining component of its ecosystem, and thus be considered for removal from the schedules. This is obviously more likely for some species than for others.

Preliminary sheets comprising basic information on the species, a recovery goal and prescriptions, necessary management actions, potential for recovery and a rough budget have been prepared using information in NCC files and the knowledge of specialists in the NCC Chief Scientist Directorate. The sheets have been sent to others with special interests in, and knowledge of, the particular species in order to solicit comments, corrections and criticism. With the 93 plant species, for example, 192 contacts were made some of whom were asked to comment on the sheets of a number of species.

The final document will comprise the species sheets with an introductory section explaining the rationale behind certain proposals (particularly concerning translocation, contingency, and wardening requirements). In addition there will be draft budgets and general recommendations for dissemination to the implementing and funding agencies in order to promote the recovery of the species within their ecosystems. The information may be used to support bids to Government and other bodies for the necessary resources, to identify priorities for management-orientated research, to give the public information on the needs and successes of species conservation; and to assist the formation of appropriate policies. Publication is expected in June 1990.

Further information may be obtained from the address below.

TONY WHITTEN, Protected Species Officer, NCC, Northminster House, Peterborough PE1 1UA

[This note has been adapted, by the author, from an article which first appeared in Threatened Plants Newsletter 21. Ed.]

SECOND QUINQUENNIAL REVIEW OF SCHEDULES 8 & 9

The NCC is commissioning a contract report regarding the second Quinquennial Review of the Wildlife and Countryside Act 1981. We invite members to contact the Acting Chairman of the BSBI's Conservation Committee, Dr Franklyn Perring, if they have any suggestions for additions or deletions to Schedule 8 of protected plants, or the Schedule 9 list of plants whose introduction is prohibited.

Members are reminded that the species selected for protection under the Wildlife and Countryside Act are deemed to be "in danger of extinction in Great Britain or likely to become so endangered unless conservation measures are taken". In practice, the species generally fall into one of the following categories.

- species which are rare or which have a very restricted distribution in Great Britain, and which are also at risk. Such species may or may not be threatened internationally
- endemic species (those not found outside Great Britain)
- species which have shown serious population declines in recent years

- species which are confined to particularly threatened habitats
- species known from a single British site
- species which require protection under Britain's international obligations

Certain species, or groups of species, have not previously been included in Schedule 8 where the protection this confers is felt to be impracticable. Included in this category are species whose identification is difficult, e.g., *Hieracium*, *Taraxacum*, *Sorbus*, and *Euphrasia*. The BSBI intends to collate members views and present them to the NCC.

TONY WHITTEN, Protected Species Officer, NCC, Northminster House, Peterborough PE1 1UA

NOTICES BSBI

ADVANCE NOTICE

BSBI FIELD MEETING - THE DOLOMITES, 1991

A meeting based on Selva, Val Gardena, Dolomites, South Tyrol, Italy, is being arranged for July 15th-28th 1991. Leader, Mary Briggs; details will be published in BSBI News 55 (September 1990). Meanwhile, for further details or advance booking send s.a.e. to:

Mrs Elinor Wiltshire, 52 Carroll House, Craven Terrace, LONDON W2 3PR.

MARY BRIGGS, Hon. General Secretary

NOTICES (OTHERS)

FORTHCOMING MEETINGS OF THE BRITISH BRYOLOGICAL SOCIETY

- 1 - 15 August. Summer Field Meeting, Ulster: Antrim, Derry and Donegal. Full details from the local secretary: Dr Keith Lewis, Biomedical Library, Queen's University, Belfast City Hospital, Lisburn Road, BELFAST BT9 7AB
- 21 - 23 September. Annual General Meeting and Paper Reading Meeting, Cambridge. A special meeting in honour of Professor Paul Richards and Dr Eustace Jones. Full details from the local secretary: Dr Philip Stanley, 48 Glisson Road, Cambridge CB1 2HF
- 9 - 11 November. Weekend Workshop on Bryophyte Photography, Manchester. Full details from the local secretary: Dr Sean Edwards, Manchester Museum, The University, Manchester M13 9PL

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

PHILIP LIGHTFOWLERS, 38A Lockhurst Street, LONDON E5 0AP

HIGHLAND FIELD STUDIES

Places still exist on some of these courses in Scotland which were listed in the last issue of BSBI News. Enquiries please to the address below (sae appreciated).

BRIAN BROOKES, Borelick, Trochry, DUNKELD, Perthshire PH8 0BX. Tel. 03503-222.

FLOWER PAINTING COURSES

The artist Zowie Keating will be taking the following courses on wild flower painting in 1990.

Botanical Illustration for beginners	13 - 20 April	Flatford Mill Field Centre
Botanical Illustration	3 - 10 August	Slapton Ley Field Centre
Starting to Paint Plants & Flowers	22 - 29 August	Nettlecombe Court Field Centre
Painting Wild Flowers of Cornwall	19 - 26 May	Headland Hotel, Newquay

For further details please contact me at the address below.

ZOWIE KEATING, The Studio, 19 Rosparc, Probus, TRURO, Cornwall TR2 4TJ.
Tel. 0726 883138

ROYAL SOCIETY LECTURE - APRIL 26
How many species on earth to-day? And tomorrow?

This lecture will be given by Professor Robert M. May, F.R.S., of the Department of Zoology, University of Oxford and Imperial College, London, at The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG, on Thursday 26 April 1990 at 5.30pm.

There are around 1.5-1.8 million species of plants and animals that have been named and classified. However, this number is uncertain, because there is, as yet, no central catalogue of named species. The total number of species on Earth today is even more uncertain, with current estimates ranging from as low as 3-5 million to around 100 million or more.

The task of cataloguing the biological diversity of our planet - grossly incomplete though it is - is only one step toward answering the more fundamental question of why there are that many species, and not significantly more or fewer. Professor May will survey current research bearing on this question, including patterns in the structure of food webs, in the relative abundances of species, in the number of species and of individuals in different categories of body size, and in the geographical ranges of individual species, along with other determinants of the commonness and rarity of organisms.

He will give a review of extinction rates over the sweep of geological time, and will contrast them with recent and likely future rates of extinction of species, especially in the tropics.

All are welcome to attend this public lecture - but seats cannot be guaranteed; parties of six or more are asked to inform the Society beforehand.

Further information from 01-839-5561 ext. 219.

MARY BRIGGS, Hon General Secretary.

CUE90 - COMPUTERS IN UNIVERSITY EDUCATION
University of Liverpool, April 17-19

An international conference and workshop on the role of computers in education in the biological and chemical sciences, organised jointly by the Computers in Teaching Initiative National Centres for Biology and Chemistry, will be held at the University of Liverpool from Tuesday 17th - Thursday 19th April 1990. The programme will be divided between discipline-specific presentations and keynote sessions of general interest, and there will also be Poster and software demonstrations and a Trade Fair.

For further information contact: CTI Centres for Biology and Chemistry, Donnan Laboratories, University of Liverpool, PO Box 147, Liverpool L69 3BX or telephone 051-794 3586.

EDITOR

LINNEAN SOCIETY OF LONDON THREE-DAY MEETING, SEPTEMBER 1990

The Linnean Society of London is organising a three day meeting on September 25-27 at the University of Reading, with the aim of encouraging younger research workers to present papers, with an opportunity of publication. The themes of the meeting will be:

'The present state of the biosphere' - monitoring, conservation, management.
'Evolution' - co-evolution, evolutionary biology, phylogenetic reconstruction.

All whose work covers these topics are invited to submit papers for consideration. Approximately thirty presentations of twenty minutes each will be needed, and a prize will be awarded for the best presentation. A 'keynote' speaker will introduce each topic.

For further information and provisional programme, send an s.a.e. to: The Linnean Society of London, Burlington House, Piccadilly, LONDON W1V 0LQ. The deadline for registration is 31 July 1990.

MARY BRIGGS, Hon. General Secretary.

REQUESTS

DISTRIBUTION OF *ARRHENATHERUM ELATIUS*

As part of a NERC funded project on the comparative ecology of growth forms of *Arrhenatherum elatius* we are trying to gather as much information as possible on the distribution of the two subspecies of *A. elatius* (subsp. *elatius* and subsp. *bulbosum*). We would be grateful if anyone who has observed subspecies *bulbosum* (as illustrated in Hubbard's Grasses) could contact us with information about it's location and habitat type.

JOHN CUSSANS & ALAN MORTON, Imperial College at Silwood Park, ASCOT, Berks.
SL5 7PY. Tel. 0990 23911 ext. 337

SMYRNIUM OLUSATRUM AND PUCCINIA SMYRNI

I am undertaking a study of *Smyrniolum olusatrum*, Alexanders, in an Ecology and Landscape course run by Cambridge University.

I would be grateful if readers with ANY habitat data relating to *Smyrniolum olusatrum*, or with records of *Puccinia smyrnii* on *Smyrniolum olusatrum*, particularly from inland sites, would contact me at the address below.

K.R.F. MARSDEN, Hedge-end, St Michaels Road, THORPE-LE-SOKEN, Essex CO16 0EJ.
Tel. 0255 860936 after 6pm.

SILENE DIOICA SEED

In a small scale study of the effect on seed weight of pollination date and period for capsule maturation in *Silene dioica* involving 220 capsules and some 27,000 seeds, the mean weight of air dried seed was found to be 0.86g per thousand, with only three capsules having seed weights less than 0.70g per 1000. Baker (1947) quotes a figure of 0.5g per 1000 for fresh seed of the typical form of *S. dioica* subsp. *dioica*, and 1.4g per 1000 seeds for subsp. *zetlandica*. Hybrids of *S. dioica* with *S. alba* have greater seed weight, Baker, loc. cit., but the latter species does not occur near the study area. Nor did the study populations show any evidence of hybridization.

The localities discussed in detail in Baker (1948) are in south-east England and East Anglia, although he visited the Gower peninsula and two other stations in Wales. In view

of the degree of hybridization noted by him in East Anglia, it is probable that his figure for seed weight was based upon samples originating in south-east England. If this interpretation is correct then populations distant from this area may show local variation in seed weight and the possibility of a south to north cline for increasing seed weight must be considered.

I would like to obtain seed samples from different parts of the country to try and clarify this point. Several ripe, i.e. just opening, capsules from any one plant may be packed together, but capsules from different plants should be packed separately. Inclusion of the capsules is necessary to check for hybridization. Please include a grid reference if possible or at least the nearest town or village. It would also be useful to know if *S. alba* grows in the same area. Your assistance would be greatly appreciated.

References

- Baker, H.G. (1947). *Melandrium* (Roehling em.) Fries., in Biological Flora of the British Isles. *J. Ecol.* **35**: 271-192
- Baker, H.G. (1948). Stages in invasion and replacement demonstrated by species of *Melandrium*. *J. Ecol.* **36**: 96-119

LES MAY, 20 Crescent Road, ROCHDALE, Lancs. OL11 3LF

BOOK NOTES

Reviews of the following books will be included in the August issue of *Watsonia* vol. 18(2):

- Flore de la Suisse et des regions limitrophes*, by D. Aeschmann & H.M. Burdet.
- Vegetation of the Soviet polar deserts*, by V.D. Aleksandrova and *The living tundra*, by Y.I. Chernov.
- Comparative plant ecology: a functional approach to common British species*, by J.P. Grime, J.G. Hodgson & R. Hunt.
- Somerset Ferns: a field guide*, by P. Hill-Cottingham.
- A flora of Wensleydale: a centennial review of the plants of the Dale*, by D. Millward.
[The author has asked me to point out that this title is now sold out and there are no immediate plans to reprint it.]
- Developmental biology of fern gametophytes*, by V. Raghavan.
- Colour identification guide to the grasses, sedges, rushes and ferns of the British Isles and north-western Europe*, by F. Rose.
- Norway's wild flowers - from bees and flowers to seeds and fruit* (tr.), by L. Ryvarde, R. Berg & K. Faegri.
- Ted Ellis: the people's naturalist*, by E. Stone.
- The European Garden Flora*, vol. 3 (Dicotyledons part 1), ed. by S.M. Walters, J.C.M. Alexander et al.
- Morphology of flowers and inflorescences*, by F. Weberling, tr. by R.J. Pankhurst.

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

- **A student's guide to the seashore*, by J.D. Fish & S. Fish. Unwin Hyman, 1989 (ISBN 0-04-754043-7 hbk., 0-04-754044-5 pbk.). [A very practical field guide of particular value to undergraduates and extra-mural students, with a good bibliography. A small section on Angiospermae mentions *Salicornia*, *Zostera*, and *Spartina*.]
- The herbarium handbook*, ed. by L. Forman & D. Bridson. R.B.G. Kew, 1989 (ISBN 0-947643-20-6). Price £12. [An up-to-date account of herbarium techniques, including notes on collecting and preserving specimens, management of loans and exchanges, and pest control methods. Fills an important gap in the available literature.]
- **The French Reconnaissance. Baudin in Australia 1801-1803*, by F. Horner. Melbourne U.P., 1987 (ISBN 0-522-84339-5). [An account of a little-known French naturalist and sea-captain who died while exploring Australia on the ship *Le Naturaliste*.]

- *Basic growth analysis, by R. Hunt. Unwin Hyman, 1989 (ISBN 0-04-445372-8 hbk., 0-04-445373-6 pbk.). [Subtitled "plant growth analysis for beginners", this concise handbook outlines methods of recording inter alia absolute and relative growth rates, leaf area ratios and root-shoot coefficients. Highly statistical, this book will help to enlighten those who are engaged in the study of autecology, and its techniques might usefully be employed in monitoring the performance of rare and endangered species.]
- *The wild and naturalized plants of the island of Brecqhou, by D. McClintock. La Societé Guernesiaise, Report & Transactions for 1988, pp. 434-452; now available as an offprint from the Secretary, S.G., Candie Gardens, St Peter Port, Guernsey, C.I. price £1.50. [The flora of one of the least-visited inhabited islets of the Guernsey group now totals 302 vascular plants and 67 others.]
- *Woods, trees and hedges; a review of changes in the British countryside, by G.F. Peterken & H. Allison. Focus on nature conservation no. 22. N.C.C., 1989 (ISBN 0-86139-586-7). [Covers woodlands, plantations and hedgerows, and summarises the most pertinent changes of the present century. Stresses the ecological isolation of Britain's now fragmentary lowland woodland.]
- Modern methods in orchid conservation, ed. by H.W. Pritchard. C.U.P., 1989 (ISBN 0-521-37294-1). [Presents 15 papers which were delivered at a symposium at Kew in 1986, including an informative account of British orchids in their European context by J.J. Wood, a summary of the N.C.C.'s work on orchid conservation by L. Farrell & R. FitzGerald, and a note on import & export law by S.G. Knees.]
- *Inventories of ancient, long-established and semi-natural woodland for Scotland, by G.J. Walker & K.J. Kirby. N.C.C. 'Research & Survey in nature conservation' Report no. 22, 1989 (ISBN 0-86139-564-7). [Describes desk-based methods used by the N.C.C. to identify sites of various categories of woodland in Scotland and gives examples of results from Angus, Caithness, Clackmannan, Cumnock & Doon Valley, Dundee, Falkirk, Nairn, Skye & Lochalsh, Stirling and Sutherland.]

The editors of Watsonia are not destined to receive a review copy of Ferdinand Bauer's Illustrationes florae Novae Hollandiae (Illustrations of the flora of New Holland), alas, but the announcement of a limited edition of Bauer's 15 stipple engravings of Australian plants is a noteworthy event for lovers of botanical art. The press release from Allecto Historical Editions states that the decision to restrict the edition to 35 sets was dictated by the amount of time the printers and colourists could spare for the project. A snip at £15,000.

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

NEWS FROM OUNDLE BOOKS

ATLAS OF THE BRITISH FLORA

The Society is producing a paperback, reduced size, reprint of the most recent, 3rd edition of the Atlas (1982). The Atlas has been out of print since 1985 and many younger members will now have a chance to purchase a copy. In this reprint, maps of about 320 rare plants included in the 2nd edition of British Red Data Books 1: Vascular Plants were updated. It will also include a bibliography, compiled by C.D. Preston, of updated distribution maps of British plants published elsewhere. I hope to have copies for sale at the Egham A.G.M., and thereafter by post, at £23.50.

If you have not yet bought a copy of the most recent conference report, Heathers and Heathlands, I still have some in stock at £4.85.

I also have a stock of page 531 of the 3rd edition of The Flora of the British Isles (1989) which includes Zannichelliaceae which was omitted from the first printing (1987). Send an A5 s.a.e for a copy and/or my most recent supplementary list.

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

ANNUAL EXHIBITION MEETING, 1989

The Annual Exhibition Meeting was held in the Conversazione Room, The Natural History Museum, London, on Saturday 25th November 1989, from 12.00 to 17.00 hours. The following exhibits were shown.

ANNA ATKINS, PHOTOGRAPHY PIONEER

Mrs Anna Atkins (1799-1871) was one of the most enduring supporters of the Society's forerunner, the Botanical Society of London, contributing specimens to its annual exchanges from 1840 till at least 1853. Her herbarium of some 1500 sheets was eventually donated by her to The Natural History Museum, of which her father, J.G. Children, had been briefly Keeper of the Zoological Collections.

Recent research by an American historian of photography, Larry J. Schaaf, has brought to light that in those same years she was also pioneering the use of the cyanotype process. A close family friend of its inventor, Sir John Herschel, she conceived the first book to be illustrated with photographs (strictly speaking, 'photograms'), British Algae, which she published in parts, anonymously, over a period of 16 years, starting in 1843, a mere four years after Fox Talbot and Daguerre made their respective inventions of photography public.

A copy of the third volume of this work (which she is on record as having donated to the Botanical Society of London in 1845) was exhibited. Accompanying it was a copy of Schaaf's Sun Gardens : Victorian Photograms by Anna Atkins (Aperture, New York, 1985) and the catalogue of an exhibition of her work shown last year in St Andrews, Glasgow and Edinburgh, open at a pencil portrait of her, drawn when she was about 21.

D.E. ALLEN

HAMPSHIRE RUBUS DISCOVERIES OF 1989

1989 saw two further named species added to the Hampshire Rubus list, bringing the total to 130 (106 each in v.cc. 11 and 12). They were:

Rubus tamarensis Newton. A bramble known since 1974 in quantity on part of Chilworth Common, on the outskirts of Southampton, v.c. 11, and collected in 1987 in Harewood Forest, near Andover, v.c. 12, had been suspected for some years to be this mainly Devon species hitherto believed endemic to the South-west Peninsula.

R. raduloides (Rogers) Sudre. Widespread in the British Isles, common in the Cotswolds and known from several places in neighbouring Wiltshire, this has long seemed a very likely Hampshire species. A patch of it was found in 1989 just inside v.c. 12, at its north-western tip.

A further highlight of the year was the rediscovery of **Rubus incurvatus** Bab., the only previous Hampshire record of which is a specimen in BRIST collected at Brockenhurst in 1917. A more thorough combing of much-visited Hengistbury Head, near Christchurch, was rewarded with a sizeable patch of this western species, with its main home in North Wales.

Another North Wales speciality, hitherto thought to be endemic there, is **Rubus effrenatus** Newton. This was established in 1989 as the identity of a bramble known since 1982 in abundance in two localities in the south-east of the the Isle of Wight, v.c. 10.

Sheets of these four species were exhibited, together with Devon material of **R. tamarensis** and Welsh material of **R. effrenatus** for comparison. The approximate locations of each of the records mentioned were indicated on distribution maps.

D.E. ALLEN

ILLUSTRATED FLORA OF MALLORCA

Eleven complete or nearly complete plates from this project were shown, with a sample from the text and some explanatory matter. The completed work will have 96 coloured plates, of which about half are finished, the majority of the others needing only one or two more species.

BSBI members were appealed to once again to help find the remaining elusive plants, and thanked for their magnificent help so far.

E. BECKETT

BEVAN'S BITTERCRESS

An investigation of morphology, pollen and chromosomes, combined with hybridization experiments, suggests that a striking, white-flowered *Cardamine* from Bentley Priory, Middlesex is a hybrid between *C. flexuosa* and *C. pratensis*. Full details will be published later.

D. BEVAN & T.C.G. RICH

FLUCTUATING WATER LEVELS AND THE PRECARIOUS LIFE-CYCLE OF *DAMASONIUM ALISMA* (STARFRUIT)

The life-cycle of this small, annual semi-aquatic is adapted to, and dependent on, seasonal fluctuations in the water level of the shallow water bodies in which it lives. Its seeds germinate in the early winter when the water level is high. Germination will only occur below water and cannot be elicited on damp mud. The seedling over-winters in the equable environment of the pond bottom. In the spring it produces long-petioled, floating leaves. With the onset of summer, competition from other aquatic plants becomes intense. It is now critical that the water level falls to expose the Starfruit plants above water. Once exposed the floating leaves die and are replaced by stout, short-petioled alternatives. It now behaves as a mud annual and rapidly flowers and fruits before the mud dries out. The six carpels of the fruit are firmly fused together and only dissociate to release the seeds when submerged by rising water levels in the autumn.

One possible cause for the decline of this species in Britain is the artificial maintenance of constant water levels in its pond habitats.

C.R. BIRKINSHAW

THE HARRIS GARDEN: A BOTANICAL AND HORTICULTURAL AMENITY GARDEN FOR THE UNIVERSITY OF READING

With the formation of a School of Plant Sciences by the University of Reading, an area of six hectares is being developed as a Botanic Garden to serve the Departments of Botany and Agricultural Botany, and as an amenity garden for the Department of Horticulture. This new garden has been named after the late Thomas Maxwell ('Tom') Harris, Professor of Botany at Reading 1935-1968. Plans and notes outlining the features to be developed were shown and notes about the new 'Garden Friends' scheme presented.

R.J. BISGROVE, S.L. JURY & R.W. RUTHERFORD

SOME RECENT FINDS IN DORSET

The best native plant record is probably *Lythrum hyssopifolia*; earlier reports may have been for alien species. It has been seen regularly over the past four years at the edge of a damp arable field by B. Edwards. The second record for the grass *Gaudinia fragilis*, found by Anne Horsfall, is welcome as the other site is threatened by building. *Bupleurum tenuissimum* has been refound on Portland, where it was last seen in 1878; it has not been reported in Dorset since 1950. Other records include:

Silene nutans, third record, local on chalk cliffs; *Euphorbia platyphyllos*, now a scarce and usually transient weed; *Myrrhis odorata*, a NCR, possibly introduced, in a hedgebank; *Vulpia ciliata* subsp. *ambigua*, second inland site, on heathland; *Briza minor*, three new records from arable/waste land on acid soil; *Festuca arundinacea* subsp. *atlantigena*, a dwarf coastal ecotype of this grass, needing confirmation; if correct, it may be new to Britain; *Epipactis purpurata*, now known in three sites, see note in *Watsonia* 17: 441 (1989) by M.N. Jenkinson and A.G. Hobson.

Among cryptogams, *Pilularia globulifera*, found by R. Smith, is the first sighting since 1938; *Equisetum variegatum* has been found in a second locality by J. White; *Thelypteris palustris* has been seen in several sites; and the alien fern *Polystichum falcatum* (NCR) is established on a wall near the sea.

Several interesting and critical hybrids have been noted. *Carex demissa* x *C. hostiana*, found by J.G. Keylock, and *Rumex crispus* x *R. sanguineus*, found by A.J. Byfield, are both

NCRs. *Alopecurus bulbosus* x *A. geniculatus* may turn out to be not uncommon, as there were two gatherings determined as this by P.J.O. Trist this year, confirming a 1932 record.

H.J.M. BOWEN & D. PEARMAN

HAIRY ALIEN POLYGONUMS AND THE POLYGONUM LICHIANGENSE MYTH

Lack of readily available, and adequate, descriptions of the naturalized Himalayan *Polygonum polystachyum* var. *pubescens* has led to the incorrect identification of this taxon, with its hairy stipules and velvety leaves, either as *P. molle* (known naturalized from only a single Scottish site) or as *P. lichiangense*, a Chinese species introduced by Forrest in 1910, never recorded naturalized, and scarce even as a cultivated garden plant. A further cause for confusion has been the assignment by Steward (The Polygonaceae of Eastern Asia, 1930) of *P. lichiangense* to a mere variety of *P. campanulatum*, despite its closer resemblance to *P. polystachyum*.

These four large hairy alien species of *Polygonum*, along with a fifth, *P. weyrichii* (known as an escape from but a single Cumbrian site), can be distinguished by four main features: the form of the flower and the size and shape of perianth segments; the shape, size and hairs of the ochreae (stipular sheaths); the size and shape of the nuts, and any 'fruiting' perianth changes; and, most important, the nature of the indumentum on the lower surface of the leaf-blades.

These characters were illustrated by herbarium specimens and by S.E.M. photographs of the leaf indumenta.

All these species have recently been placed in the genus *Persicaria*.

A.P. CONOLLY

LYTHRUM HYSSOPIFOLIA L.: TWO POSTSCRIPTS

After an exceptionally wet year from July 1987 to July 1988, *L. hyssopifolia* was very abundant in many of its hollows in TL44 in Cambridgeshire, v.c. 29. Photographs of one of these sites in 1975 (also a good year) and in 1988 were shown on 26 November 1988 (BSBI News 51: 46, 1989), as well as cuttings which had been rooted after as few as four days in a mist-propagation unit. Some of the rooted plants shown then were placed on 28 November in 16-hour illumination at 20 C; others were left in natural (8-9 hour) daylight. By 22 January 1989 the long-day plants were flowering freely, the short-day ones not at all. The long-day plants fruited well, seeds ripening in the early spring - six months out of phase with wild plants.

Since July 1988 the rainfall has been exceptionally low, and most of the v.c. 29 sites were far too dry in 1989 for *L. hyssopifolia* to develop, as shown in photographs.

D.E. COOMBE

FERULA COMMUNIS L.: MYTHOLOGY AND BIOLOGY

One flowering *Ferula communis* L. was found by Mrs G. Crompton with Prof. Hank Art beside the A11 in W. Suffolk on 24 May 1988 (A.L. Grenfell in BSBI News 50: 30-32, 1988, and 51: 31-33, 1989). It was described in the 8th century B.C. by Hesiod in Theogony and Works & Days as the narthex in the smouldering pith of which Prometheus stole fire from heaven, with several dire consequences. It is widespread in the Mediterranean region.

The Suffolk plant is perennial and produced new leaves in both winters after flowering. 1988 seed gave copious germination the same autumn without chilling; four seedlings were found on the roadside in early 1989 and despite later drastic excavations and road repairs, at least two seedlings survive as does the parent plant.

Roots from 1988 seed, grown in the Cambridge University Botanic Garden, dormant from midsummer to early autumn 1989, were shown, as well as vigorous leafy plants 13 months old, and seedlings which gave 50% germination after a year. *Ferula* as a fire-stick was also shown.

D.E. COOMBE & G. CROMPTON

DENDROBIUM (ORCHIDACEAE) IN PAPUA NEW GUINEA

The orchid genus **Dendrobium** contains over 900 species distributed throughout Indo-Malaysia and Australasia. I am undertaking a review of section **Pedilonum** which has its centre of diversity in New Guinea. Dr Rudolf Schlechter described 1,549 species of orchids from German New Guinea; the result of fieldwork in 1901-1902 and 1907-1909.

His main collection was at Berlin, but bombing in 1945 has apparently resulted in the 'loss of nine type specimens' of his twelve species in section **Pedilonum**. Proposed field work in Papua New Guinea will enable studies to be made on living orchids.

L. DAUNCEY

THE IRIS UNGUICULARIS GROUP

A revision of the taxonomically isolated series **Unguiculares** has been carried out at Reading University, recognising two species: **Iris lazica** Albov and **I. unguicularis** Poir. **Iris unguicularis** can be conveniently divided into three subspecies, of which subsp. **unguicularis** is restricted to Algeria. Data supporting this classification was presented from morphological, cytological, palynological and phytochemical studies.

A.P. DAVIES

FLORA OF THE NORTH-EAST OF IRELAND

The first edition of the **Flora** was published in 1888, and a second edition in 1938. A **Supplement** to the second edition appeared in 1972 and work towards a revised third edition commenced in 1976 scheduled for completion in mid-1990.

The **Flora** covers three counties: Down, Antrim and Londonderry, a total area of almost 3000 square miles and including the whole of the coast of Northern Ireland.

Since 1938 a number of additional native species have been found in the area. Most notable are **Groenlandia densa**, **Ceratophyllum submersum** and **Hierochloa odorata**. The rare **Spiranthes romanzoffiana** appears to be spreading with three new sites reported since 1976 in areas well away from its normal Lough Neagh shoreline stations. There has been a decline in many arable and meadow weeds including the already very local **Sanguisorba officinalis**.

P. HACKNEY

NORTH EAST ESSEX FLORA PROJECT

The project is now in the final stages, almost 100% coverage of the 1322 1km squares in the survey area yielding 180,000 records. Maps giving the starting and final number of species per square were shown along with distribution maps for selected species of interest; that for **Cochlearia danica** revealing it follows the route of the A12 dual carriageway compared to **Beta vulgaris** subsp. **maritima** which has still retained its essentially coastal distribution.

The distribution of chalky boulder clay was shown clearly by the map for **Clematis vitalba** and the marked reduction in the distribution of many species since the last **Flora** was illustrated by **Petroselinum segetum**.

The project, now in the writing up phase, is scheduled for publication in Sept./Oct. 1990, and any additional records from the area were requested.

J.J. HEATH

EQUISETUM HYBRIDS IN THE BRITISH ISLES

The exhibit showed the British species of **Equisetum**, i.e. all but one of the European species, and the eight hybrids between them that have been found in Britain and Ireland:

E. x bowmanii C.N. Page	(E. sylvaticum L. x E. telmateia Ehrh.)
E. x dycei C.N. Page	(E. fluviatile x E. palustre L.)
E. x font-queri Rothm.	(E. palustre L. x E. telmateia Ehrh.)
E. x litorale Kuhlew ex Rupr.	(E. arvense L. x E. fluviatile L.)

E. x <i>mildeanum</i> Rothm.	(E. <i>pratense</i> Ehrh. x E. <i>sylvaticum</i> L.)
E. x <i>moorei</i> Newman	(E. <i>hyemale</i> L. x E. <i>ramosissimum</i> Desf.)
E. x <i>rothmaleri</i> C.N. Page	(E. <i>arvense</i> L. x E. <i>palustre</i> L.)
E. x <i>trachyodon</i> A. Braun	(E. <i>hyemale</i> L. x E. <i>variegatum</i> Schleich.)

Three others are known from continental Europe and may well occur here:

E. x <i>dubium</i> Dostal <u>nom. nud.</u>	(E. <i>arvense</i> L. x E. <i>telmateia</i> Ehrh.)
E. x <i>meridionale</i> (Milde) Chiov.	(E. <i>ramosissimum</i> Desf. x E. <i>variegatum</i> Schleich.)
E. x <i>montellii</i> Hiitonen <u>nom. nud.</u>	(E. <i>arvense</i> L. x E. <i>pratense</i> Ehrh.)

Note that no hybrids between the two subgenera, **Equisetum** and **Hippochaete**, have yet been recorded.

Hybrids are typically intermediate between the parents in characters such as sheath teeth, stem morphology and branching patterns. They have abortive spores, and even the cones may be deformed. All species of **Equisetum** have the single chromosome number of $n=108$, hybrids cannot therefore be detected by chromosome number alone, but they do show the typical lack of pairing of chromosomes at meiosis that results in abortive spores.

Like Bracken, Horsetails spread by a subterranean rhizome. **Equisetum** hybrids may, therefore, form extensive stands. Many of the reported hybrids are very localized but could be found throughout the range of the parents.

A.C. JERMY, J. CAMUS, A. PAUL & C.N. PAGE

DRABA AIZOIDES IN BRITAIN - GLACIAL RELICT OR GARDEN ESCAPE?

In Britain, **Draba aizoides** is confined to the Gower Peninsula in South Wales, where it is locally abundant on south-facing limestone cliffs near the sea, associated with several Late-glacial relict species including **Helianthemum canum**, **Potentilla tabernaemontani** and **Veronica spicata**. Although its habitat and associates suggest that it is native in Britain, the Gower sites for **D. aizoides** are separated by a wide disjunction from its mainly Pyrenean-Alpine distribution in Europe and it has often been regarded as at best a doubtful native in Britain.

We have studied allozyme variation at 11 polymorphic loci in leaf samples of **D. aizoides** from 16 populations in continental Europe and 49 populations or sub-populations in Gower. A phylogenetic tree based on the allozyme data, drawn using Felsenstein's PHYLIP-CONTML procedure, showed that the European populations were genetically diverse, with no clear geographical pattern of variation. The Gower populations were genetically rather distant from any single European population. Within Gower, genetic diversification was as great as within the continental European sample, although only 20 of the overall total of 48 alleles occurred in Gower. These results show that it is most improbable that **D. aizoides** is a recent introduction in Gower. It seems most likely that the Gower populations of **D. aizoides** are a Late-glacial remnant which passed through a bottleneck of small population size before subsequent diversification within the isolated relict area.

R. JOHN & Q.O.N. KAY

UMBELLIFERAE IN EUROPE: A PROPOSED NEW EDITION OF VOLUME TWO OF FLORA EUROPAEA

With the completion of the revision of Flora Europaea Volume 1, the Editorial Committee has turned its attention to Volume 2. Dr S.L. Jury has been appointed editor of the Umbelliferae, replacing the late Professor T.G. Tutin.

Since the publication of Volume 2 in 1968 research has indicated that considerable revision is necessary. Examples include: a new genus from Crete, related to **Scaligeria** to be published by Greuter *et al.* and **Torilis webbii** Jury, recently described from the Mediterranean; **Torilis arvensis** (Hudson) Link subsp. *elongata* (Hoffmanns. & Link) Cannon to be recognised at the specific level; **Lereschia thomasii** (Ten.) Boiss. transferred to **Cryptotaenia**; and the distributions of **Peucedanum obtusifolium** Sibth. & Sm. enlarged to include Bulgaria and **Exchinophova tennifolia** L. subsp. *sibthorpiana* (Guss.) Tutin to include Jugoslavia.

S.L. JURY

MOUNT OLYMPUS IN SEPTEMBER

Botanical highlights of the OPTIMA excursion to Mount Olympus, Greece, 17-21 September, 1989, were illustrated. Many of the taxa endemic to the mountain were seen in full flower, as well as numerous other plants of botanical interest. Those species found **flowering** included:

Achillea holosericea Sibth. & Sm., **Alyssoides utriculata** (L.) Medicus subsp. **bulgarica** (Sagorski) Hartvig, **Anthyllis aurea** Welden in Host, **Aquilegia ottonis** Boiss. subsp. **amaliae** (Boiss.) Strid, **Armeria canescens** (Host) Boiss. in DC., **Asyneuma limonifolium** (L.) Janchen, **Aubrieta scardica** (Wettst.) Gustavsson, **A. thessala** Boissieu, **Aurinia corymbosa** Griseb., **Beta nana** Boiss. & Heldr., **Botrychium lunaria** (L.) Swartz, **Campanula glomerata** L., **C. oreadam** Boiss. & Heldr., **Cardamine carnosa** Waldst. & Kit., **Carlina acaulis** L., **Centaurea pindicola** Griseb., **Cerastium theotrasti** Merxm. & Strid, **Colchicum bivonae** Guss., **Cyclamen hederifolium** Aiton, **Doronicum columnae** Ten., **Gentianella crispata** (Vis.) J. Holub., **Gentiana verna** L., **Geranium macrorrhizum** L. var. **olympicum** Stoj. & Jordanov, **Jovibarba heuffelii** (Schott) A. & D. Love, **Ligusticum olympicum** Novak, **Paronychia rechingeri** Chaudhri, **Pinguicula crystallina** subsp. **hirta**, **Salvia ringens** Sibth. & Sm., **Scilla autumnalis** L., **Senecio squalidus** L., **Silene ciliata** Pourret, **Staezelina uniflosculosa** Sibth. & Sm., **Teucrium chamaedrys** L., **Viola delphinantha** Boiss., **V. striis-notata** (J. Wagner) Merxm. & Lippert.

S.L. JURY

UMBELLIFERAE IN CULTIVATION: THE EUROPEAN GARDEN FLORA

Three volumes of The European Garden Flora have been published, Volume 4 is almost ready for press, and accounts are being actively sought for the remaining volumes. The Umbelliferae will appear in Volume 5 under the editorship of Dr S.L. Jury. The criteria for inclusion in the Flora were explained and some very garden-worthy species, possibly not yet in cultivation, were illustrated. Examples shown were **Eryngium glaciale** Boiss., **Thapsia villosa** L. and **Portenschlagiella ramosissima** (Portenschl.) Tutin.

S.L. JURY & S.G. KNEES

UMBELLIFERAE IN GREAT BRITAIN AND IRELAND:
A PROPOSED NEW EDITION OF THE BSBI HANDBOOK

A second edition of Umbellifers of the British Isles is proposed, and corrections and emendations are being collected. It is proposed to illustrate eight additional taxa and add three species as 'observations' under existing descriptions. It is suggested **Bupleurum falcatum** and **Apium repens** be reduced to 'observations'. It is anticipated that distribution maps will be added for about 45 species.

S.L. JURY, S.G. KNEES & M.J. SOUTHAM

RUBUS

A series of drawings are being made of Brambles that are representative of Cornwall's Bramble flora with emphasis on species that are endemic to the county.

Z. KEATING

BAILIWICK OF GUERNSEY - 1989

Another crop of good finds during 1989; those for Alderney are not yet available:
GUERNSEY

Ranunculus baudotii, last record 1970; very rare in C.I.
Fumaria purpurea, only previous record 1970/71.
Crassula helmsii, new island record.
Solanum rostratum, new C.I. record.

SARK

Rumex x pratensis (*R. crispus* x *R. obtusifolius*), first Bailiwick record.
Erodium cicutarium subsp. **bipinnatum**, first confirmed island record.
Plantago major subsp. **intermedia**, new island record.

HERM

Verbascum thapsus, new island record.
Agrostis gigantea, new island record.

JETHOU

Scrophularia auriculata, new island record.
Veronica hederifolia subsp. **hederifolia**, new island record.
Lamium hybridum, new island record.

J. Le HUQUET (olim PAGE)

MIST-FOREST ENDEMICS OF THE SEYCHELLES

A conservation study was undertaken 3 September - 2 October 1989, on the endemic Seychelles pitcher plant, **Nepenthes pervillei** Blume. The study was funded by the University of Reading and sympathetic business sponsors in the Seychelles. **Nepenthes pervillei** Blume is normally found above 400m in the high altitude mist vegetation communities on bare granite rock or in the moss forests, on the islands of Mahe and Silhouette. These are some of the few areas where indigenous species still dominate the vegetation. Species studied and illustrated included: **Northia seychellana** Hook. fil., **Nepenthes pervillei** Blume, **Memecyclon eleagni** Blume, **Dillenia ferraginea** (Barillon) Gilg., **Cyathea sechellarum** Mett., **Pandanus sechellarum** Balf. fil., and **Medusagyne oppositifolia** Baker.

S.T. MALCOMBER

ERICA BOCQUETII Pesmen

Few have heard of this distinctive heather; even fewer had ever seen it - probably only nine, all men and all Turks, since it was first found, and named, in 1968, none of them in the past 15 years. Its apparently single locality was at 1750m in the E. Taurus mountains of Lycia in SW Turkey.

On 27 July last, three further Turks, one of them a woman, one Italian, and myself saw it in about three places a kilometre or two apart in the general area indicated. Cuttings have rooted; it remains to be seen if seed taken germinates.

It is a gay, floriferous plant which grows rooted in, and flat against, rather shady calcareous rock faces, getting little or no snow cover. It should make a decorative, probably hardy, addition to our gardens.

D. McCLINTOCK

DISTRIBUTION OF ULMUS IN BRITAIN SINCE 1986

Five **Ulmus** taxa have been recorded on Hectad (10x10km square) grid maps of Great Britain. On each map the Hectads in which the taxon was known to have occurred before 1985 have been lightly filled in in colour, and symbols in black ink have been added to show the presence of (a) trees which have survived since before the onset of Dutch Elm Disease, and (b) surviving juveniles, suckers and sucker hedges generated by former trees of the same taxon which have succumbed to the disease. It is believed that the second group can be identified with the first with about an 80% degree of certainty by an experienced observer, but because of this uncertainty a series of Group Names is proposed, and it is intended that the application of these should be one of the points for discussion at the BSBI Elm Workshop meeting in 1990.

The five mapped taxa are **U. glabra**, **U. glabra** hybrids, **U. procera**, **U. plotii**, and **U. minor** (excluding **U. procera** and **U. plotii**) agg.

K.G. MESSENGER

DOES GRAZING AFFECT THE ALPINE GENTIAN?

Protection of *Gentiana nivalis* from grazing by sheep and red deer at Ben Lawers NNR resulted in taller plants, better survival and increased seed output. However, there was no difference in plant density between grazed and ungrazed plots after 3 years. Withdrawal of grazing also caused big increases in the height and cover of competing perennials, especially grasses and thyme, and a substantial decrease in the amount of bare ground. It seems possible that the annual/biennial alpine gentian may become scarce in ungrazed grassland plots and that moderate grazing may be essential to their conservation.

G.R. MILLER, C. GEDDES & D.K. MARDON

COOKING CHENOPODIUM

In October this year Prof. G.A. Swan, from Newcastle, sent me a very strange *Chenopodium*. On the same day Eric Chicken telephoned me and described a *Chenopodium* he had found growing near York, apparently as a crop. While talking to him I had a serendipitous thought and suggested that it might be a crop species from South America called *Chenopodium quinoa* Willd. and when he sent some to me I realised that both records were of this species.

I therefore decided to produce a short exhibit on the various ways of eating *Chenopodium*. These include:

Boiling the leaves and eating after the fashion of Spinach, which can be done with many species, e.g. *C. album*, *C. bonus-henricus*, *C. hybridum* and *C. quinoa*.

Boiling the firm, young shoots and eating in the fashion of Asparagus, chiefly *C. bonus-henricus*.

Cooking the grain as a staple; *C. quinoa* the South American species was cooked and offered for tasting. In the past other species like *C. album* were also used in this fashion.

C. quinoa is starting to be grown in this country and might be expected to become more widespread.

J.M. MULLIN

THREE SUBSPECIES OF BRACKEN (PTERIDIUM AQUILINUM) IN BRITAIN

The three native subspecies of Bracken, *Pteridium aquilinum*, which are known in Britain were illustrated. These are:

P. aquilinum subsp. *latiusculum*, known previously to have its nearest station in Scandinavia, is a subspecies which has been found recently by the author in the vicinity of the Scottish native pinewoods.

P. aquilinum subsp. *aquilinum* is the common and widespread bracken present over the whole of the British Isles.

P. aquilinum subsp. *atlanticum* is a new taxon described recently from limestone areas in the west of Scotland.

The display compared the three subspecies in habit, morphology and ecology, and presents photographic evidence in support of the view previously proposed (Watsonia 17: 429-434, 1989), that the common subsp. *aquilinum* is the genetically stabilized hybrid between subsp. *latiusculum* and subsp. *atlanticum*, its vigour and variability resulting from heterosis, presumed polytopic origins and possible widespread superimposed introgression.

C.N. PAGE

EXOTIC SEEDS, EXOTIC WEEDS

Two recent BSBI reports describe weeds growing in cultures of two unfamiliar herbs, Fenugreek (*Trigonella foenum-graecum*) and Coriander (*Coriandrum sativum*).

Following the discovery of *Scorpiurus muricatus* in 1987 in a Fenugreek crop cultivated by a Punjabi allotment holder in Leamington Spa, I have visited 5 allotment sites in 1988 and 1989 in Warwickshire (v.c. 38), where there were 24 separate allotments cultivated by families originating from either the Punjab (20), Bengal (2) or the West Indies (2).

Fenugreek (Methi) and Coriander (Dhania) seed is bought from local Indian shops as culinary seed originating from Morocco or India, but some gardeners preserve seed each year from mature plants. At least 5 allotments grow these two crops commercially, and bundles are sold to local supermarkets and greengrocers. The culinary seed can be seen to be mixed with other seeds in the packets, which explains the source of the 'exotic' weeds.

Four of these 'exotic' weeds and crops have been found beyond their sites of sowing, yet close enough to suggest further dispersal had occurred 'naturally', rather than by human agency (*Eruca sativa*, *Chenopodium hybridum*, *Coriandrum sativum*, and *Brassica juncea*). Some have persisted the next year.

These unusual crops and introduced weeds may represent potentially permanent additions to the UK list of aliens and adventives.

J.W. PARTRIDGE

A NEW FLORA OF MADEIRA

Like most of the Macaronesian islands, Madeira has a rich and varied flora containing a high proportion of endemics. Only three Floras of Madeira have ever been produced, all incomplete in some way. The most complete, C.A. Menezes' *Flora do Archipelago da Madeira* (1914), contains 951 vascular plant species. Since publication of this work a further 173 species (an 18% increase) have been added to the checklist for the area. These additions, and the many nomenclatural changes and additional records post-dating Menezes' work encouraged The Natural History Museum to undertake production of a new Flora of the area. The display described the project which began in 1983 and indicated the style and scope of the Flora. The final manuscript will be submitted for publication in April 1990.

J.R. PRESS

SORBUS IN THE BRISTOL CHANNEL AREA, WITH PARTICULAR REFERENCE TO S. PORRIGENTIFORMIS

Peroxidase isoenzyme patterns confirm the accepted delimitation of most of the *Sorbus* microspecies occurring in South Wales and adjoining areas. *S. emimens* from the Bristol-Mendip area is genetically different from plants collected near Symonds Yat; trees in shade can look very different from those on open limestone in both areas. Plants which have been named *S. porrigentiformis* in South Wales include (a) a widespread plant, usually forming a twiggy shrub, with obovate leaves and broad crimson fruits (the generally accepted concept of *S. porrigentiformis*), (b) a much more local plant centred in the Mynydd Llangattock - Cwm Clydach area, of different peroxidase phenotype, commonly growing into a tree, with more oblong biserrate leaves and subglobose scarlet fruits, (c) a variant on Taren-yr-Esgob very like the last but with more sharply toothed and more narrowly cuneate leaves and somewhat broader fruits. Plants from the Symonds Yat area differ from all of these and need further study.

M.C.F. PROCTOR & A.C. GROENHOF

CRUCIFERS OF GREAT BRITAIN AND IRELAND BSBI HANDBOOK No. 6

Draft accounts, keys and maps for the BSBI Cruciferae Handbook were exhibited. It is hoped it will be published by Easter 1990.

T.C.G. RICH

BSBI MONITORING SCHEME

Some provisional maps of species - the results of the Monitoring Scheme - were exhibited to show selected points of interest.

T.C.G. RICH

ASHTON WOLD WILD FLOWER SEED PROJECT

Creating new habitats for amenity and wildlife has produced a challenge for the horticultural industry. Now as never before there is a demand for wild flower seed mixtures which have genetic diversity, germination quality and, above all, originate from the right provenance, if we are to prevent a universal mixing of genotypes throughout the north temperate zone.

This exhibit showed a flowering hayfield grown at Ashton Wold (near Peterborough) from seed collected from a species-rich meadow (115 species of grasses and broad-leaved plants were identified) in the vicinity. About 90 acres have been established successfully by the method described in the exhibit.

At Ashton Wold, the cost of seeding into rye-grass sward was £80 per acre for top class meadow mixture with an additional £11 per acre for the hire of a rotary strip seeder, plus labour to work the drill, and slug pellets to scatter behind the drill. Such a field can be cut for hay for the first and second years after drilling, and grazed from harvest until Christmas.

Seed is harvested by combining the cut hay (£11 per acre) and then passing it through a boby dresser. Samples are sent for analysis to NIAB and the seed can be sold as a natural mixture for between £14 - £40 per kilo according to the number of species present.

M. ROTHSCHILD

ELECTROPHORETIC STUDIES OF BRACKEN

Horizontal starch gel electrophoresis has been used to investigate two *Pteridium* taxa new to the British flora and the following conclusions reached:

Subsp. *latiusculum* (Desf.) C.N. Page has not yet been found in the British Isles, but its hybrid with subsp. *aquilinum* has. European material referred to this taxon may all be of similar hybrid origin.

The elevation of var. *latiusculum* (Desf.) Underw. to subspecific rank is only tenable if *Pteridium* is split into several species. Page's subspecies are not as distinct as those recognised by Tryon (1941).

Because isozyme patterns are additive, var. *aquilinum* cannot have been derived from var. *latiusculum* by hybridization.

Subsp. *atlanticum* C.N. Page is electrophoretically indistinguishable from subsp. *aquilinum*, and on these grounds may be best considered synonymous. Cultivation and further experimentation may support taxonomic recognition at a lower rank.

F.J. RUMSEY & E. SHEFFIELD

ATLANTIC BRACKEN IN WEST SCOTLAND

The newly-described subspecies of common bracken, *Pteridium aquilinum* (L.) Kuhn subsp. *atlanticum* C.N. Page has proved to be quite common in central west Scotland on basic soils, especially near the coast.

Distribution maps showing the extent in v.c.c. 77, 99, and part of 100 were shown and descriptions of the habitats and appearance of the new subspecies were given.

A. RUTHERFORD

A SCOTTISH MISCELLANY

(a) An exhibit compared the hybrid *Calamagrostis stricta* x ?, from Ale Moor Loch (v.c. 80) with one collected 4km away near Clearburn Loch (v.c. 79). They are not the same, and it is possible that the Clearburn *Calamagrostis* is the other parent of the Ale Moor Loch hybrid.

(b) New records for *Crocospia pottsii* in v.c. 74 and Arran. The various sites in v.c. 73 are long established, and I am asking for help to find how they were introduced.

(c) New records for v.c. 73: *Campanula trachelium*, *Potamogeton x lintonii* (new to Scotland) and *P. x cooperi*. A separate note will appear in BSBI News (see page 20).

- (d) *Equisetum x font-queri* from Tarras Water (v.c. 72) - 5th British record. Again a note and drawing will appear in BSBI News (see page 18).
- (e) Aliens in Edinburgh docks.
- (f) Flower paintings from a trip to Ireland.

O. STEWART

NATURE CONSERVANCY COUNCIL RARE PLANT SURVEYS

Too many species are still lost in this country through excessive secrecy and inaccurate recording, which contribute to inappropriate and inadequate protection. With the current high rate of loss through mismanagement of the land this additional burden must be reduced.

In 1974 the NCC instigated a pilot scheme in East Anglia in which the surveyor, Mrs Gigi Crompton (alongside NCC's rare plant officer, Lynne Farrell), developed the methodology in use in the current surveys. The work is concerned, primarily, with Red Data Book species (Perring & Farrell 1983) and it is intended that the whole of Britain will eventually be covered.

In each region the surveyor examines the history and extent of all relevant RDB species. Current records are carefully examined and, hopefully, local knowledge is provided by individuals and organisations such as County Trusts and BSBI recorders.

Visits can then be made to extant sites, which are recorded with maps and photographs in such a way as to make refinding the site an easy task. Many old records are rather vague, but those generated by the rare plant surveys have precise locational data including grid references, landmark details and information relating to vegetation, ownership and landuse.

Population size estimates, quadrat data and NVC community structure are recorded to provide a base-line for future monitoring. Threats from mismanagement are identified and more appropriate management prescriptions formulated which can then be brought to the attention of local NCC officers. Although the surveys deal mainly with RDB species, the surveyor has the opportunity to identify local rarities and details of these can also be included in reports to the regional office.

I. TAYLOR & LADY R. FITZGERALD

YELLOW-FLOWERED SPECIES OF ACHILLEA IN THE BALKANS

Species delimitation within the yellow-flowered milfoils of the Balkan Peninsula remains unclear. The degree of variation within subsection *Filipendulinae* DC. was frequently attributed to hybridization, both within and outside the group by early workers. However no experimental data exists to support the reported status of the many 'hybrid' species described.

The particular case of *A. traccica* was highlighted; a plant of the central plains of Bulgaria, which has not been recorded since 1934. Modern techniques of analysis may classify the position of this, and other taxa within the group, as well as the origin of popular garden cultivars.

S.P. THORNTON-WOOD

MADAME MARCELLE CONRAD

Now aged 92, Madame Conrad has for nearly 70 years made an intensive study of the Corsican flora. She has drawn and painted, with meticulous accuracy, the endemic plants of the island. These paintings have been published in a series of portfolios, containing 94 plates, as the Flora Corsicana - Iconographia.

The exhibit displayed a small selection of these plates, including *Trisetum conradiae* Gamisans, one of the species named after her. This exceptional woman is the supreme authority on Corsican plant life and has known and worked with many famous botanists. She has contributed extensively to scientific journals, and has written books of her own and in collaboration with others.

M. TODD

ALCHEMILLA MOLLIS AND RELATED SPECIES : RESULTS OF THE 1988-89 SURVEY

Members of the Royal Horticultural and Botanical Societies and readers of The Times have responded well to my request for specimens of any garden Alchemilla suspected of being 'like A. mollis, but not identical'. The results can be summarised as follows:

<u>A. mollis</u>	9	<u>A. 'cf. mollis'</u>	2
<u>A. 'venosa'</u>	8	<u>A. glabra</u>	2
<u>A. indivisa</u>	2	<u>A. xanthochlora</u>	1
<u>A. speciosa</u>	1	<u>A. indet.</u>	2

The four species in the left hand column are all elatae, with a general resemblance. They are easily distinguished on a single summer leaf; for further information see BSBI News 51: 23-24 (1989).

S.M. WALTERS

COLLECTION OF CONVULVULACEAE IN COSTA RICA

An outline was presented of a visit to Costa Rica to collect living material and herbarium specimens of Convolvulaceae for a Ph.D. research programme. This will be on the infrageneric classification of Ipomoea and a revision of section Pharbitis (Choisy) Griseb. Acknowledgement was made of a Warburg Memorial Fund grant.

P. WILKIN

SUMMER IN GREENLAND
MY FIRST VISIT TO THE ARCTIC

In July 1989 six naturalists from England and Wales spent a fortnight in West Greenland, back-packing in wilderness country. Greenland is the world's largest island, some 1,800 miles long, but the total population is only 52,000. The ice-cap covers most of the country, with an ice-free zone of tundra up to 100 miles wide along parts of the coast.

The exhibit illustrated with photographs and herbarium specimens many of the plants recorded during our walk over dwarf-shrub heath, dry, stony 'fell-field' and valley bog. The three dominant plants on the dry hillsides are Salix glauca, Betula nana and Rhododendron lapponicum. Eight of the 16 species of Saxifrage growing in Greenland were recorded, including the attractive Saxifraga cernua (a rarity on some Scottish mountains). Other British rarities found in some quantity included Woodsia ilvensis, Diapensia lapponica and Carex saxatilis. Of the 70 or so vascular plants noted, only two, Arnica angustifolia and Cassiope tetragona belonged to genera not represented in the British flora.

G. WYNNE

The following also exhibited:

BOTANY LIBRARY (NHM) - Recent botanical books.

R.W. DAVID - The distribution of Carex appropinquata Schumacher in the British Isles.

F.H. DAWSON - Crassula helmsii (T. Kirk) Cockayne : comparative observations of the native habitat in Australia and Britain.

B.A. GALE & A.P. DALY - 'Wort's its name?' Can you name these aquatic/wetland plants?.

A.D.R. HARE & H. SYNGE - Plantlife : the new organisation for plant conservation..

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

S.L.M. KARLEY - a) Help!

- b) British Plant Gall Society.

S.J. LEACH & T.C.G. RICH - Scurvy-grass Roadshow.

M.C.F. PROCTOR - SEM of Carex leaf surfaces.

Also on display were: exhibits of colour transparencies of plants and scenes from BSBI Field Meetings to Bulgaria 1988 and Poland 1989, by members on those meetings and of the field excursion to Rose End Meadows, Derbyshire following the BSBI AGM 1989, by A.L. Storer; an album of prints taken on BSBI Field Meetings in 1989 by Lady R. FitzGerald and P.P. Abbott; recent publications by BSBI Members; Perring Books; and Hon. General Secretary's miscellany which included a photograph of our Honorary Member Mrs Irene M. Vaughan taken on her 100th birthday.

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

- D. BEVAN - Bevan's Bittercress.
- J. PARTRIDGE - Exotic Seeds : Exotic Weeds.
- T.C.G. RICH - BSBI Monitoring Scheme.
- M. TODD - Corsica : Paradise for botanists.

STOP PRESS

LLOYDIA & GAGEA REVISITED!

For those bemused members who have read the note on these two species in the Editorial on page 3, NOTE THE DATE - Lirpa Loof (backwards!).

OFFICERS AT THE 1989 AGM



Our President, David Webb, Hon. General Secretary, Mary Briggs, and Hon. Field Meetings Secretary, Roy Smith, enjoying the sun at the BSBI AGM excursion to Rosend, Derbyshire on May 7 1989. Photo L. Storer.

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