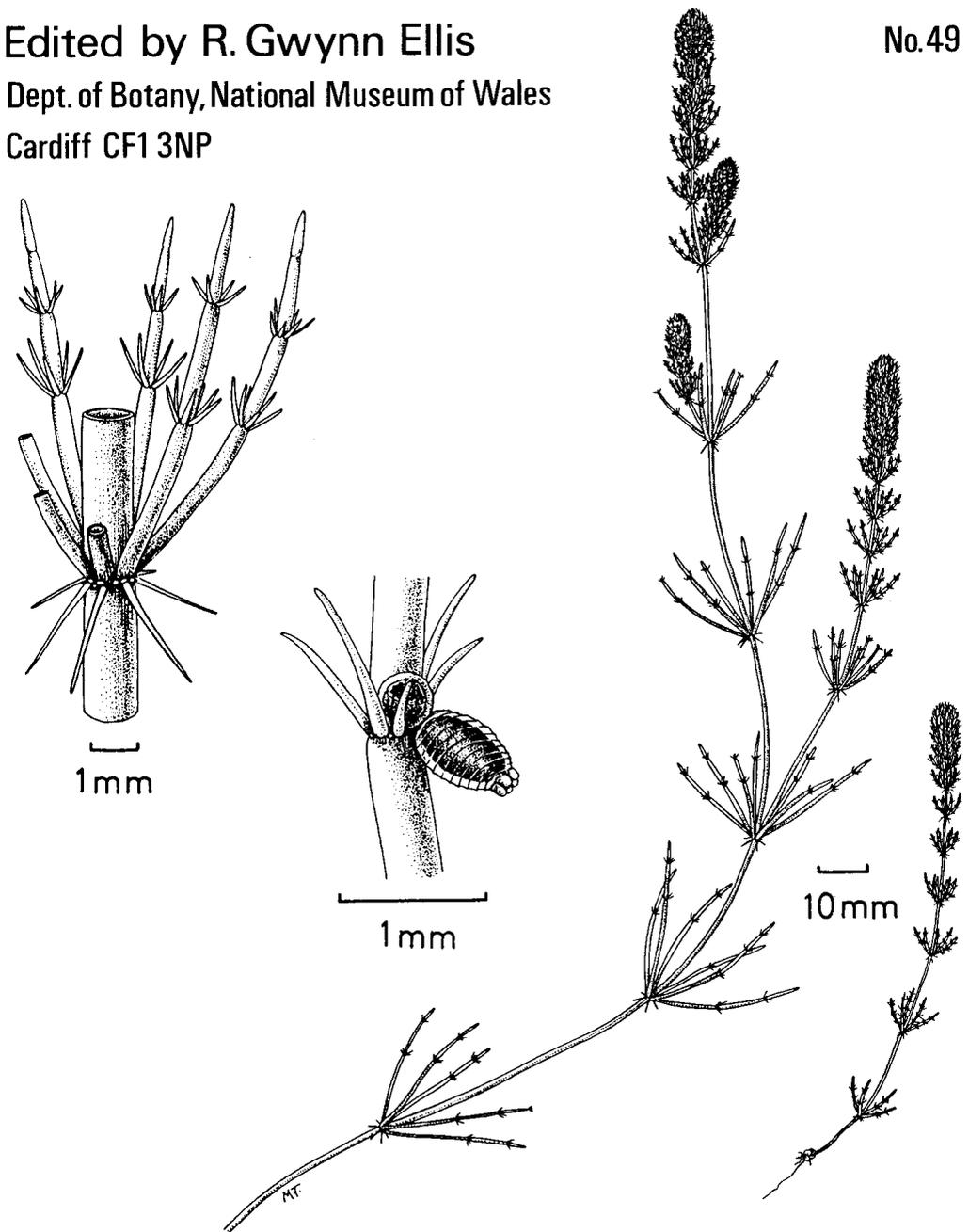


Edited by R. Gwynn Ellis

No.49

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



Lamprothamnium papulosum (Wallr.) J. Groves

del. M. Tebbs © 1986 (see page 48)

Administration

ADMINISTRATION

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White Cottage, Slinfold, HORSHAM, West Sussex RH13 7RG**

HON. TREASURER (Payment of Subscriptions and change of address) **Mr Michael Walpole,
68 Outwoods Road, LOUGHBOROUGH, Leics. LE11 3LY**
(Please quote membership number on correspondence concerning membership or subscriptions
- your membership number is on the address label of your mailings).

HON. FIELD SECRETARY (Enquiries on Field Meetings) **Mr Roy Smith,
8 Salcey Close, SWANWICK, Derbys. DE55 1HD**

SECRETARIES OF PERMANENT WORKING COMMITTEES

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21 Fishers Road, Totton, SOUTHAMPTON, Hampshire SO4 4HW**

PUBLICATIONS: **Mr Arthur O. Chater,
Dept. of Botany, British Museum (Nat. Hist.), Cromwell Road, LONDON SW7 5BD**

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

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13 Cottesmore Gardens, LONDON W8 5PR**

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CONTRIBUTIONS INTENDED FOR

BSBI NEWS 50

should reach the Editor before

5th NOVEMBER 1988

IMPORTANT NOTICE FOR ANNUAL EXHIBITION MEETING 1988

As you will see from the London Exhibition Notice sent out with this mailing, we have a change of meeting room. At short notice we find that owing to major re-roofing, the Department of Botany, British Museum (Natural History), will not be available for this years Exhibition. As an alternative we have been able to arrange to hold this in the Conversazione Room. We hope that this contingency plan will again enable the meeting to provide the opportunity for a large number of members to meet and to exchange botanical news and views in the manner that has become a tradition over many years.

There will however be practical problems:

1. The curtailment of Exhibition space
2. The Conversazione after the Exhibition

For the first, Exhibitors this year must endeavour to make their point(s) in the **smallest** space possible. It could be that some exhibits have to be refused or postponed, and if this is so those exhibits most relevant to the work of the Society will be given priority. However please do not be deterred from offering your exhibit, as we hope to maintain the customary variety and interest of the exhibits.

For the Conversazione, after considering the difficulties of clearing the Exhibition and setting out the buffet in the time available, we have decided instead for the Conversazione to be held at Imperial College, in Southside Conference Suite, off Exhibition Road. This is 10 minutes walk from the Natural History Museum - to sharpen the appetite for the I.C. catering - (and about the same distance from South Kensington Underground Station). A map with directions will be printed on the back of the Conversazione tickets. We have every hope that, although it will be different, the occasion will be as enjoyable as usual - and we shall be pleased to have your comments after the event.

N.B. Please remember to **BRING YOUR ADMISSION TICKET** to the Museum. As you know there is now an entrance charge, but, as last year, a special arrangement has been made for **FREE** entrance for BSBI members on Saturday November 26th **IF YOU HAVE YOUR TICKET WITH YOU** (top of page 3 of Exhibition Notice).

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

Secretary's Note

For every time that my pen writes 'Conversation' it writes 'Conservation' at least 500 times? It has taken the utmost concentration to announce this meeting as in the Conversazione (rather than the Conservazione) Room! [That goes with knobs on for me; thank heavens for spelling checkers!! Ed.]

PRE-PUBLICATION OFFERS

In BSBI News 47: 3, guidelines for local Flora-writers on pre-publication notices were offered; we now publish a complementary note to those members taking up these pre-publication offers:

It is important to keep the address to which you send your order (and money) - in case you wish to make enquiries before the book arrives.

Pre-publication offers are of mutual benefit to the purchaser and to the publisher - to the former, as they obtain the book at a reduced price, and to the latter it is a firm estimate of the numbers of initial orders and assists with the costs of publication in an early stage.

The present state of publication makes it very difficult to predict in advance the final date of publication. Most of our recent offers have been delayed beyond the anticipated date, and in each case the delay has been due to a different cause in the many complications of publication processes today.

In view of all the hazards I would suggest that it is not necessary to worry about a delay of 2-3 months or so from the anticipated publication date - unless you have seen someone else with a copy of that book in their hands!

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

DIARY

NB. These dates are supplementary to those in the 1988 Calendar.

1988

October

20th : Heathers and Heathland Symposium, London. Programme with this mailing, see also Stop Press below for an Important Announcement

November

5th : Deadline for next issue of BSBI News.

26th : Annual Exhibition Meeting, Conversazione Room, BM(NH), see p. 3.

1989

January

31st : Last date for booking for Exeter Conference (see below)

April

7th-9th : Exeter Conference: 'Species Mapping and the Biology of Plant Distribution'. Programme with this mailing.

May, 1989

6th : Annual General Meeting, University of Sheffield

STOP PRESS

HEATHERS AND HEATHLANDS SYMPOSIUM

Thursday 20 October 1988

Linnean Society, London

We are pleased to announce an illustrated lecture that is additional to the programme distributed with this mailing, which should be amended accordingly.

17.15-18.00 The Ericoideae and Southern African Heathers E.G.H. Oliver, (Stellanbosch Botanic Garden, S.A.)

EDITOR

CORRIGENDA CORNER

Ms Deni Bown has written pointing out that in the last issue, in mentioning that a review of her recent book, Aroids - Plants of the Arum Family, would be published in Watsonia, her name was given as Brown not Bown. She writes "As you can appreciate, if [my name] appears as Brown instead of Bown, it makes it very difficult to track down references which appear in alphabetical order of the author's surname. (Indeed, I have sunk without trace in numerous filing systems!)."

My apologies to Deni and also to Gordon Graham for misspelling his Christian name once (but getting it right twice) in just 5 lines on page 17.

EDITOR

EDITORIAL

It is with much sadness that I report the death of a friend and colleague, Mr S.G. Harrison. Once Chairman of the BSBI's Committee for Wales and Welsh Representative on Council, Mr Harrison was perhaps best known to members for his revisions of the classic book on ferns - Welsh Ferns. He was also author of several other books including the Index to Collectors in the Welsh National Herbarium which was published in 1985. He retired as Keeper of Botany at the National Museum of Wales in 1985 and emigrated to Tenerife where he died earlier this year. We send our condolences to his family.

My sincere thanks to all contributors who have helped make this another very full issue and my apologies to any authors whose contributions have had to be omitted through lack of space. I have one request to make of potential contributors; if you think your note would benefit from being accompanied by an illustration, please either let me know well in advance of the deadline, or (better) try and arrange it yourself!

Rear-end - Not quite a record

In Country Quest for November 1987, there is an interesting letter about the Rowan or 'Witchen tree'. Two words in this almost qualify it for a place in the 'Flowers Book of Records' - "...or to give it its correct botanical name **Sorens Aucupariad**, commonly known as Rowan." The four errors (underlined) in two words, five if you add the missing authority for **Sorbus aucuparia** L., does not quite match up to the six given in BSBI News 46: 6 but is still quite impressive.

EDITOR

HON. GENERAL SECRETARY'S NOTES

Congratulations - to David Allen who has been awarded a Ph.D in the History of Science by the University of Cambridge. The degree was conferred for David's publications in this field, one of which was his History of the BSBI, The Botanists. On the same day that the degree was conferred, David heard that his book The Naturalist in Britain is to go into a Japanese edition. (The English edition is out of print!)

Our congratulations also to Goronwy Wynne who has been awarded a Ph.D. by the University of Salford for his 'Ecological Flora of Flintshire'. Goronwy, is a former Chairman of the Committee for Wales and Welsh Representative on Council. It is hoped that his Flora, which took fifteen years to complete and includes environmental and floristic data computer analysed on a tetrad basis, will be published in the next few years.

The Frog-hopper tree

A group from Sussex was recording a West Sussex heath at the request of the County Council, on an August day heavy with cloud. The weather forecast was 'no rain', so, setting off we left all our rainwear in the cars, but as we reached the road at the farthest side of the heath there was a dismayed cry of "rain" - from one of the group. The others looked in surprise at the length of dry road, with one wet patch where our rain reporter was standing, under a well-grown **Salix caprea** from which large clear drops of water were pattering down. A Sussex Rain Tree - or the original weeping willow perhaps? On closer investigation we could see that the drops were dripping from large globules of cuckoo-spit on the **Salix** twigs, and on examination each cuckoo-spit sheltered several Frog-hopper nymphs (unlike the more usual single nymph cuckoo-spit found on grass stems). When next at the B.M. we consulted Bill Dolling, the Frog-hopper King, who told us that it would be one of two gregarious species of Frog-hopper found on **Salix caprea**, but for the specific name we must find an adult hopper.

A few weeks later we made an opportunity to revisit the tree and, armed with an upturned umbrella, we shook a branch. An amazing collection of beetles, caterpillars, moths, lacewings and ladybirds etc. showered down into the umbrella and among them several very active Frog-hoppers. Fortunately one of the group had super speedy reflexes, and a couple of hoppers were secured for identification. These were duly named for us as **Aphrophora costalis**, and the record was welcomed for the **Aphrophora** mapping scheme now in progress.

New Plant Poster

A new poster published by BM(NH) and Glasgow Museum and Art Galleries, in association with Shell U.K. Ltd., will be of interest to teachers. Titled Common families of flowering plants, against a black background 21 wild flowers (from 17 families) are shown in colour. Above, a simple flowering plant key is illustrated by black and white flower diagrams, and a labelled drawing of flower parts.

A good deal of information is graphically presented with clarity in this unusual poster and it could be useful in schools - or for those of us whose knowledge of plant families gained at school is a distant memory and needs refreshing.

Available from the British Museum (Natural History) shop at £2.00 or by post from Mail Order Dept., Natural History Museum Shop, Cromwell Road, LONDON SW7 5BD for £2.40 incl. postage.

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

GRANTS

The Botanical Research Fund

This small private Trust Fund exists to aid individual research workers in botany. Grants, usually not in excess of £150, are awarded for specific items of expenditure connected with their work and are generally made to those who are not in receipt of any official funding to support their research.

Applications should be made in time to be considered at the Governors' Meeting held annually, generally in late April. Applicants should give a concise statement of their research experience, an outline of the research in hand for which assistance is sought, and details of the nature and estimate of the expenditure. The name and address of a referee familiar with the applicant's work should also be included.

Apply in writing to the Secretary: Dr K.L. ALVIN, 2 Little Gaynes Lane, UPMINSTER, Essex RM14 2JP

British Ecological Society: Small Ecological Project Grants

These grants are made to amateur and professional scientists undertaking surveys of habitats which are threatened or of special ecological interest, or which have a history of ecological work.

Application forms are available from the BES, Burlington House, Picadilly, LONDON W1V 0LQ.

[Recent awards included to Dr Peter James Goodman to study the plants and animals of three Welsh upland streams in Dyfed - and to Dr David Slingsby towards comparative vegetation studies of ecologically important rock outcrops in the Grampian region of Scotland and Shetland.]

World Wildlife Fund

The World Wildlife Fund has approved initial funding for Small Grants for Plant Conservation work on Islands.

Further details from HUGH SYNGE, WWF Plants Programme Consultant, 53 The Green, Kew, RICHMOND, Surrey TW9 3AA

Warburg Memorial Fund

The Botanical Society of the British Isles and the British Bryological Society have a joint Fund from which an occasional small grant for travel for field work is made to a botanist under the age of 25. Young botanists wishing to be considered for this award should send:

1. Full Name and address
2. Date of Birth
3. Short details of project involving travel, including an estimate of expenses, information relating to the candidates experience, and other qualifications for carrying out the proposed work
4. Names and addresses of two referees to whom Trustees can refer, if necessary

to: The Secretary, Warburg Memorial Fund, c/o BSBI, Dept of Botany, British Museum (Natural History), Cromwell Road, LONDON SW7 5BD

RECORDERS AND RECORDING

Vice-county Recorders

With this mailing you have the updated 'List of Vice-county Recorders 1988', and we thank Gwynn Ellis for producing this list for publication.

The new list includes the following changes:

- V.c. 22 Berks: Humphrey Bowen resigns (after 23 years as Recorder)
Dr Stephen L. Jury, Department of Botany, Plant Sciences Laboratories, University of Reading, Whiteknights, READING RG6 2AS will be the new Recorder.
(Humphrey Bowen continues as Recorder for v.c. 9 Dorset).
- V.c. 56 Notts: Karen Jefferies resigns as joint Recorder (after 4 years as Recorder) and Graham Walley will remain as the Recorder for the vice-county.

Again we send our most sincere thanks to the resigning Recorders for their good service - some over very many years - and we send a welcome to the new Recorders.

Changes of Address (also published in 1988 List)

- V.c. 23 Oxon: John Killick, Struan Cottage, 17B Park Crescent, ABINGDON, Oxon OX14 1DF.
V.c. 44 Carms: Richard Pryce, Treveithin, School Road, Pwll, LLANELLI, Dyfed SA15 4AL.
V.c. 66 Durham: Gordon Graham, 3 The Willows, Bishop Auckland, Co. Durham DL14 7HH.
V.c. H02 N. Kerry: Peter S. Wyse Jackson, I.U.C.N. Cons. Monitoring Centre, 53 The Green, KEW, Richmond Surrey TW9 3AA.
V.c. H07 Tipperary: Eanna ni Lamhna, 6 Ashdale Gardens, Terrence, DUBLIN 6, Ireland.
V.c. H29 Co. Leitrim: Noel McGough, The Herbarium, Royal Botanic Gardens, KEW, Richmond, Surrey TW9 3AE.

Supplement No. 5 to Panel of Referees and Specialists, September 1986.

POPULUS

With regret we report the death of Mr J. Jobling, our **Populus** Referee. The position is under consideration but meanwhile Victoria Hallett (our Referee for General coniferous trees) has kindly offered, with Alan Mitchell, to help members with any tree identification queries. Their address is 18 Burnt Hill Way, Boundstone, Farnham, Surrey GU10 4RP.

DACTYLORHIZA

We can now announce new Referees for **Dactylorhiza**:
Dr H. Ian Denholm, 53 Lyndhurst Drive, HARPENDEN, Herts AL5 5RH, and Mr Richard M. Bateman have been appointed as joint Referees for this genus. As Mr Bateman is currently on a sabbatical in the U.S.A., members should send **Dactylorhiza** queries to Dr Denholm who has offered to Referee singly until Mr Bateman's return. Please note that specimen requirements are different from those published in Panel of Referees and Specialists 1986; Ian Denholm sends the following note:

- 1) Fresh material only.
 - 2) No whole plants - specimens should be confined to a single floret (fully open) & accompanying bract, contained in a watertight vial or similar, plus the longest sheathing leaf (for details of marking etc.) packed flat.
 - 3) Where possible, provide photos of : (i) whole plant, and (ii) close-up of inflorescence.
 - 4) Include details of locality, habitat, and any definite dactylorchid taxa present (very important if the specimen is thought to be a hybrid).
- 'Pickled' plants are useless, and colour notes are subjective and impossible to interpret. Attempts will be made to identify from photographs only (if in focus!).

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

BIOLOGICAL RECORDS CENTRE - UNDER THREAT?

The Natural Environment Research Council (NERC) is facing severe financial difficulties and, as a result, has formally announced that up to 91 staff will have to be made compulsorily redundant.

One of the 'areas of lowest priority science' to be identified by NERC, where staff cuts should occur, is the national Biological Records Centre (BRC) at Monks Wood. In recent years BRC has lost several permanent posts, and in the latest NERC announcement, one of the four remaining permanent posts in BRC will be made redundant by April 1st 1989. All other staff in BRC are temporary, on short-term contracts or are employed by the Nature Conservancy Council and placed at BRC.

The loss of a further post at BRC will either reduce the efficiency of the remaining staff as they strive to cover the work of the 'redundant' member of staff, or result in the abandonment of an area of work at the Centre. Due to lack of staff, BRC had to withdraw from marine recording in 1986. If BRC is forced to withdraw from another major area of work, for example, botany, invertebrates or vertebrates, the breadth and usefulness of BRC's multi-disciplinary data bank will be further reduced. Such a reduction would leave BRC vulnerable to further emasculation in future years. We do not know how the present reduction will be implemented by NERC.

For nearly 25 years, the collection and collation of data for BRC has been carried out by many thousands of biologists and naturalists throughout the British Isles, all of whom have given their time and expertise voluntarily. The BRC has helped foster the developing expertise in natural history in the British Isles and is seen as a model for biological data centres throughout the world.

Data from volunteers are incorporated in the national data bank at BRC, currently at the rate of at least 250,000 records each year. NERC pays nothing to obtain these data; it merely acts, by operating BRC, as a custodian of the national heritage of data on the occurrence of British wildlife. It is impossible to calculate the full economic cost of this voluntary effort and expertise each year, but it is certain that the value must be many times the annual cost to NERC of operating BRC.

At a time when environmental awareness and the need for information on the occurrence of British wildlife is increasing, NERC has decided that BRC, a major collator and supplier of such information, is an 'area of lowest priority science' and should be subject to a cut in staff. Regrettably, contributors and users should expect an even more limited service from BRC as a result of these decisions. It is still more ironic that such restrictions should be put on BRC at a time when NERC has just provided improved computing facilities which will speed up the retrieval of information. These facilities will also help provide opportunities for the integration of BRC's data with other environmental information, thereby broadening the use of the data, both by NERC and by other users.

The immediate prospect of one redundancy at BRC may be unavoidable, the decision already having been made by NERC. However, it is hoped that NERC can be persuaded that BRC is not an 'area of lowest priority science', but is a unique national asset to be maintained and encouraged.

I am sure that all members of the BSBI will share my horror at the above statement and will wish to do something positive about it. **Please send your comments, as soon as possible to:**

Mr H. Fish, Chairman, Natural Environment Research Council, Polaris House, North Star Avenue, SWINDON SN2 1EU.

The permanent staff at BRC would be grateful for a copy of any letter sent.

EDITOR

RECORDING OTHER THAN PLANTS

Eric Philp (BSBI Recorder, v.c. 15 & 16 E. & W. Kent) sends a communication from J. Conch. 32: 302-303 (1987) on his discovery of Tandonia rustica (Millet), a slug new to the British Isles. In it he records how he found the slug "On 22 June 1986... in an area of old woodland on the limestones of the Hythe Beds... at One Tree Hill..., near Sevenoaks in West Kent..." under a log from a recently felled tree. Eric is surprised that I should want to report this in botanical news as "slugs are usually botanists most hated animal"

(goats are worse - at least for travelling botanists! MB). But he explains that it was through his first natural history interest in insects and other invertebrates, and because he wanted to know something about their food plants and where to find them that he began to take a more scientific interest in the plants themselves - culminating possibly in his publication Atlas of the Kent Flora? But congratulations Eric as the slug is new to the British Isles.

Congratulations too, to G.R. Else, a BSBI member who is an hymenopterist - not a BSBI Recorder, but George helped us with our Network Research Survey on Bumblebees some years ago, and his discovery is a Crabronine Wasp new to Britain, found on a Downland reserve of the Hampshire and Isle of Wight Naturalists' Trust, "A number... were collected near to the entrance to the reserve... either at rest on the wooden gate itself or on nearby flowers of Pastinaca sativa". His paper Ectemnius nigrinus (Herrich-Schaffer)*, a Crabronine Wasp new to Britain, with a key to the British species of Ectemnius Dahlbom, is available on request from Biological Records Centre, Institute of Terrestrial Ecology, Monks Wood Experimental Station, Abbots Ripton, HUNTINGDON PE17 2LS.

* E. nigrinus is now treated as a synonym of E. borealis (Zetterstedt).

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

NOVEL PROCEDURES FOR LISTING AND CITING SYNONYMS

Synonyms are an almost ubiquitous feature of botanical literature. Although the International Code of Botanical Nomenclature contains numerous mandatory regulations concerning the validity and priority of taxonomic epithets, the formats for presenting and citing such epithets are dictated by the authors in the case of books and the editors in the case of journals. Floras usually present only a few of the most commonly-encountered synonyms, but systematic revisions in monographs and journals typically include an exhaustive list for each taxon. The synonyms are generally presented in chronological order without any attempt at categorisation, though basionyms (the earliest known post-1753 use of the epithet in question) are occasionally distinguished. This standard practice fails to discriminate between three largely unrecognised but nonetheless important categories of synonym.

The first type of synonym (most appropriately termed the 'holonym') represents a taxon that encompasses a similar range of variation to that recognised in the taxon represented by the currently accepted name (i.e. the names differ but the taxa that they represent are near-identical). Botanists who have only a passing acquaintance with synonyms often assume that all are holonyms, but holonyms are actually the exception rather than the rule.

The second type of synonym (the 'hypernym') represents a taxon that encompasses a broader range of variation than the taxon represented by the current name, usually as a result of more recent taxonomic subdivision ('splitting'). This is sometimes denoted in the literature by adding the suffix pro parte (or p.p.) to the synonym.

The third type of synonym (the 'hyponym') represents a taxon that encompasses a narrower range of variation than the taxon represented by the current name, but is not considered sufficiently distinct to warrant its own epithet at similar or lesser taxonomic ranks. This situation typically results from amalgamation ('lumping') of taxa or re-delimitation to accommodate a wider range of variation ('ballooning'). There is currently no accepted method of designating hyponyms.

I believe that these three covert categories should be brought out of the closet and clearly distinguished in botanical literature, as this would greatly elucidate the nomenclatural and systematic 'evolution' of the taxon in question. It can be achieved by presenting the three categories separately, with synonyms listed in chronological order within each category. Alternatively, the current practice of presenting a single chronological list can be retained, but with the three types of synonym distinguished using prefix or suffix symbols. Neither method significantly increases the length or complexity of the synonymy; indeed, the amount of discussion required in any supporting text may be considerably reduced.

Such discussions often include an admixture of references to the current name and one or more synonyms, which can confuse the reader's perception of the name currently

advocated for the taxon. Fortunately, such ambiguities are readily alleviated by placing synonymised epithets in apostrophes wherever such epithets are employed within text.

I would encourage contributors to BSBI News and Watsonia to consider adopting these suggestions, as an aid to clarifying the often near-impenetrable plethora of names that so often obscure sound systematics.

R.M. BATEMAN, Paleobiology Department, Smithsonian Institution, WASHINGTON D.C., U.S.A.

EPILOBIUM BRUNNESCENS IN THE ISLE OF MAN

This note may perhaps be classed as history now, but is prompted by the report in BSBI News 47 of the 1987 field meeting on the Isle of Man.

I spent several holidays on the Island in the 1950s and 1960s, most of the time botanizing. The staff of the Library and Herbarium in Douglas were most helpful in checking my material (notes not plants!) and put me in touch with Mr D.E. Allen who, they said, would like to have my records or queries. I duly sent these off and a most interesting correspondence between Mr Allen and myself ensued. Among many others, in early September 1961, I sent a record of Epilobium brunnescens which I found near 'Bungalow Station', Snaefell, this was the first record of this species from Man! In the report of the 1987 field meeting there is no mention of this plant and I wonder whether it has now become so common as to be not worth a mention, or whether it was simply not seen.

All botanists have their exciting moments. Thus in a long life in this pursuit, my hobby, a few minutes on Snaefell in 1961 became my one moment of glory. I am now over 80, so not likely to visit Snaefell again, but just like to savour a special memory.

STANLEY MARVIN, 8 Addenbrooke Road, DROITWICH, Worcs. WR9 8RW

A MULTI-HEADED ALLIUM

I have for some years been monitoring a colony of Allium on the Dorset coast. It does not conform to any species described in the standard floras.

The plants have globose heads of many (c.100) bulbils and few, if any, flowers. The unusual feature is that the plants can have multiple heads which are contiguous in the horizontal plane.

A count last year gave the following result:

Heads	Plants
1	70
2	46
3	13
4	3
5	1

It has been suggested that this is a clone of Allium vineale var. compactum. Can anybody confirm this or suggest an alternative? Is the colony worth a fight for preservation? It is on a bank due for 'improvement'.

For those who believe no distribution is complete without statistical treatment - however inappropriate or ill-understood - the distribution approximates closely to a Poisson series with a mean and variance of 1.639 heads. The difference between observation and series gives a Chi square of about 0.08 and P>0.95. The close agreement is therefore statistically significant - though botanically meaningless!

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

PLANTS TO LOOK FOR IN THE BRITISH ISLES
SOME OF WHICH MIGHT BE EXPECTED TO OCCUR AS NATIVES

Gentianella ciliata, reported long ago in the Chilterns, has recently been refound in old chalk grassland there (see *Watsonia* 17(1) (1988)). It has every appearance of being native, and has clearly been overlooked, perhaps due to its very late flowering season (Sept - Oct). **Teucrium chamaedrys**, long regarded as an established alien of old walls, etc. in England, has a strong population on downland near the cliffs west of Beachy Head in E. Sussex, which again looks native; the plants are much smaller than the usual alien populations of southern England. Both these species are widespread in France, the **Teucrium** indeed reaching the coastline in the Pas-de-Calais. The presence of these two long-overlooked species leads one to wonder if others, known as natives on the Continent of Europe, may yet be found lurking somewhere in Britain as indigenous species.

The list of possible species is a long one, but I shall confine myself here to commenting upon those that seem on geographical and ecological grounds to have the best chance of being found here.

The first group includes those species that occur on the N. French chalk grasslands as near as the Pas-de-Calais and the Somme valley, but are so far unknown in the British Isles.

These comprise among others:

Ajuga genevensis

Bupleurum falcatum (probably only an introduction in Essex, where its habitat, on heavy clay, is quite different)

Digitalis lutea

Genista sagittalis (*Chamaespartium sagittale*) (like **G. tinctoria** with winged stems)

Globularia punctata (resembles a Scabious superficially)

Linum tenuifolium (a small **Linum** with large rosy-pink flowers)

Polygala comosa (with smaller flowers than **P. vulgaris**, in very long racemes)

Prunus mahaleb (a cherry-like shrub with oval to orbicular leaves)

Seseli montanum (a slender white-flowered umbellifer with fine-cut leaves)

Teucrium montanum (a low shrubby **Teucrium** with short racemes of creamy flowers)

Vincetoxicum officinale (**V. hirsutinaria**) (an erect perennial herb to 120cm with oval triangular leaves c.6cm long & cymes of creamy 5-lobed flowers 3-10mm across)

Found even on the actual (Pas-de-Calais and Somme) coastline on chalk also are :

Senecio helenitis (like a larger version of **S. integrifolius**, but with more or less erect, toothed rosette-leaves)

Veronica austriaca subsp. **vahlilii** (a speedwell with paired axillary spikes of large bright-blue flowers)

Other species occurring in N. France just across the channel include:

Gymnadenia odoratissima (on chalk downs in E. Normandy - like a small **G. conopsea** with intense fragrance and spurs shorter than the ovary)

Orchis laxiflora subsp. **palustris** (in fens - like a tall **O. mascula** with long narrow unspotted leaves)

Most remarkable of all in not having been found so far as a British native is **Cirsium oleraceum**, a tall yellow thistle with broad cabbage leaves and yellow-green bracts. This is common everywhere in northern France and Belgium, etc., in such habitats as roadside ditches, meadows etc., but so far is only known in the British Isles as an undoubted alien on an east Scottish riverside.

There are a number of other 'possibles' but I have listed the more credible ones.

Among the sedges, **Carex trinervis**, common in dune slacks along the north French and Belgian coasts, ought to be found again in Britain. It was found in 1869 in a most untypical habitat on Ormesby Common in Norfolk, but, though subsequently cultivated from there for years in Dublin, has not been refound in Britain. It could lurk somewhere on the Norfolk dunes. **Carex parallela**, rather like **C. dioica** but with narrower utricles that have smooth beaks, is widespread in the mountains of Scandinavia - and plants somewhat resembling it certainly do occur on Meall nam Tarmachan west of Ben Lawers. Several other **Carex** species are possibilities. **C. capitata**, reported in S. Uist by the late Prof. J.W. Heslop-Harrison, is another example of a sedge that is quite likely to be in Scotland. **Trichophorum alpinum** seems to be extinct in its east Scottish site, but could occur in

Scottish bogs elsewhere; it is close to *T. cespitosum* but has much larger perianth bristles more like an *Eriophorum*, though these are in a very sparse tuft. It is widespread in Central and Northern Europe.

Carex reichenbachii and *C. ligerica* are other sedges of dry sandy grasslands in N. France; these are closely related to *C. arenaria*.

Eriophorum scheuchzeri, a cotton-grass with single terminal heads of short white bristles, is common in the Arctic, in Scandinavia, and in the Alps; it could be in a north-east Scottish mountain bog somewhere.

Among the rushes, there are two lowland species locally present in N.W. Europe that, one feels, could occur in Britain.

Juncus anceps occurs in dune slacks from N. France to S. Sweden. It is a jointed rush with a rather dense terminal inflorescence, whose capsules are pointed but whose outer perianth segments are blunt; unlike *J. alpinus*, its anthers are longer than their stalks.

Juncus tenageia is an annual rush of open ground on commons, etc. flooded in winter, related to *J. bufonius*, but taller and much more branched above, with globose dark brown capsules and blunt inner perianth segments.

Salix retusa or *S. polaris* just might be found on a remote N. Scottish mountain plateau.

There are many other Arctic-Alpine species in the Scandinavian mountains not considered here that could exist on some of the little-explored North Scottish hills. I will conclude by mentioning only two of these; the species of *Cassiope*, dwarf evergreen mat-forming shrubs of the Ericaceae, with relatively large (4-8mm) bell-like white flowers; *C. hypnoides* and *C. tetragona*. The former has alternate pointed leaves, the latter opposite blunt leaves. *C. hypnoides* is a plant of (mainly) late snow-patches; *C. tetragona* is usually on dryish stony moors and somewhat calcicole. They have never been recorded for Britain, but then nor had *Diapensia* until an ornithologist found it about 20 years ago!

FRANCIS ROSE, Rotherhurst, 36 St Mary's Road, LISS, Hampshire GU33 7AH

A LITTLE CABBAGE PATCH V

FOOD FOR THOUGHT

OR

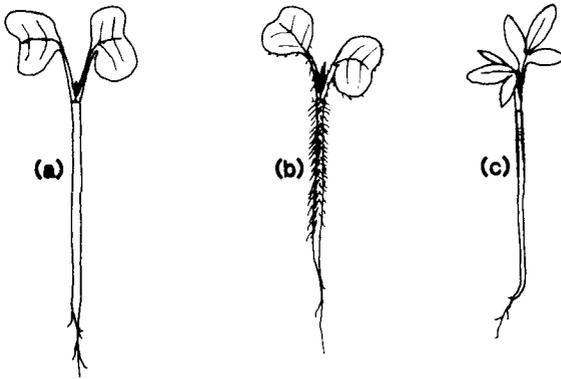
THE RAPE OF MUSTARD AND CRESS

Mustard and cress isn't what it used to be. By the tradition of countless window sills and primary schools, it ought to be *Sinapis alba* and *Lepidium sativum* respectively. But it is now largely being replaced on our plates by that most horrible of yellow crucifers, rape or *Brassica napus*.

Pots of seedlings variously labelled "cress", "mustard and cress", "mustards and cress", or simply "green salad" were purchased from five supermarkets and three market stalls. The contents were examined and some plants grown on in the garden for identification. The market research revealed not only that it pays to shop around, but that usually about 98% of the seedlings in any one pot were *Brassica napus*, with *Lepidium sativum* and/or *Sinapis alba* as only very minor constituents. One pot was even pure *Brassica napus*. "Cress" with food in four restaurants, two fast food shops and two sandwich bars was also *Brassica napus*. I eventually found one seed kit (from a health farm) which contained the real mustard and cress!

Seeds and seedlings of *Brassica napus*, *Lepidium sativum* and *Sinapis alba* can be distinguished as follows (see also fig. on page 13). Other crucifers (eg. *Brassica* spp.) might be used for salads as well.

- 1. Seeds elliptic to oblong, wrinkled; seedlings with 3-fid cotyledons . *Lepidium sativum*
- 1. Seeds + round, smooth; seedlings with + reniform cotyledons 2
- 2. Seeds black, dark brown or reddish brown; seedlings glabrous. *Brassica napus*
- 2. Seeds pale/light brown; seedlings hairy *Sinapis alba*



Seedlings of (a) *Brassica napus*, (b) *Sinapis alba*, (c) *Lepidium sativum*.
Del. H.A.D. Yagoi, 1988

Needless to say they also taste different. Much to my disgust as a purist, three human guinea pigs even preferred rape seedlings!

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

CAUTIONARY TALE ON PLANT RECORDING BY CAR

It was 1976, mid-week and mid-afternoon when the urge to go plant recording gripped me. Secretly I left business early with the intention of searching for *Puccinellia distans* along the M2 motorway in Kent, as several isolated clumps of this grass had been discovered inland nearby along the Sheerness - Maidstone main road. I knew I could carry out my fieldwork and be home in time 'from work' for supper as usual. I raced and joined the motorway only to find myself a few seconds later in a torrential summer downpour. The rain obscured my vision and prevented any hope of plant recording for the next half hour, and to make matters worse I was committed to motorway driving away from home for the next 20 miles! My afternoon was wasted and although I arrived home on time somewhat frustrated, my enthusiasm wasn't dampened and I returned later to record *P. distans* virtually all of the way from London to Dover. (Incidentally I find plant recording a pleasant pastime when stuck in a traffic jam on the M25).

Members may wish to know that the American love of the automobile may now extend to the roadside fauna. Roger Knutson has written an excellent book entitled Flattened Fauna: A Field Guide to Common Animals of Roads, Streets and Highways (Ten Speed Press, P.O. Box 7123, Berkeley, California U.S.A., \$4.95). Inside there is a dichotomous key to help novices find their way through the complexities of identifying animals that have died on the road. Silhouettes are provided throughout the book as an aid to identification, though in the case of snakes these are not of much help. Identification can be difficult and the author notes that 'a rusted hub cap looks enough like a turtle to confuse even a longtime student of road artifacts'.

JOHN BADMIN, Coppice Place, SELLING, Kent

**"THE BLUE TIPS TO THE SEPALS OF RANUNCULUS BAUDOTII
IS A DIAGNOSTIC CHARACTER"**

(NCC England Field Unit Occasional Paper No 1, 1981, 'Guide to the Identification of some difficult Plant Groups' page 10; N.J. Wigginton and G.G. Graham).

A friend and former colleague who is at present trying to find his own way about our local flora recently brought me a gathering of Batrachian *Ranunculus* of which he complained that the key in Wigginton and Graham had thrown him into utter confusion on two counts. The first was that the ratios of petiole and peduncle lengths were quite inconstant, and the second was that the sepals were blue, though not exactly blue tipped.

I was able to explain away his first objection by pointing out that there were as yet no ripe fruiting heads, and that he might have to wait a fortnight before he could use this as a valid character. I was not however able to answer the question about sepal colour so easily.

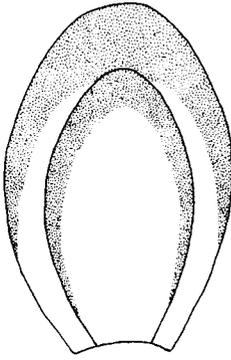
I have now collected and examined specimens from four ponds in the Uppingham District and from one on the Lincolnshire coast, near Boston, and have come to the conclusion that the statement at the head of this note cannot be relied upon. I have spoken both to N.T.H. Holmes and to Dr Sarah Webster, and both agreed that they had already some evidence that it needed qualification if not outright refutation, and that it would be appropriate for me to publish my findings as warning to members coupled with an appeal for further information, and that BSBI News was the right place for this.

The species I have examined are *R. aquatilis*, *R. peltatus* and *R. trichophyllus* from Uppingham, v.c. 55, and *R. baudotii* from Kirton Marsh near Boston v.c. 53. I have failed to find *R. circinatus* in any of the localities from which it was reported 20 - 25 years ago in the Flora of Rutland survey, and I have no easy access to other species of Batrachia.

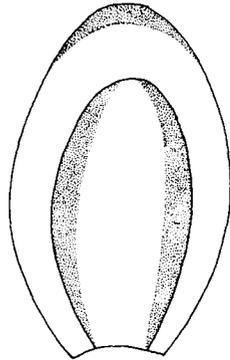
None of the descriptive Floras appear to refer to the scarious margins characteristic of all the British *Ranunculus* sepals I have examined. These include not only the four Batrachia, but also the three common grassland Buttercups, *R. auricomus* and *R. ficaria*. They are not shown with any great clarity in the Ross-Craig drawings either, and I think this may be because, particularly in the Batrachia they shrivel very quickly as the material dries. Hence I think it necessary to describe my procedure exactly, so that other people can follow it and see whether they reach the same conclusions as I do. I am sure that if they do not, they may be led astray.

I collected handfuls of material with freshly opened flowers, and took them home in plastic food bags, from which I decanted them into two-litre ice-cream boxes and covered them with at least 5cm depth of water from the rainwater tank. I left them for an hour or two to sort themselves out, by which time there were sufficient flowers upstanding on vertical peduncles above the water surface for viewing in situ with a binocular microscope under top lighting. The lamp I used was a 250 watt photoflood placed at 50cm above the specimens. With this, and magnifications of x20 and x35, nectaries were clearly visible, and it was these and the shapes of laminate leaves that I used as primary characters in identification of the species, with other characters in support.

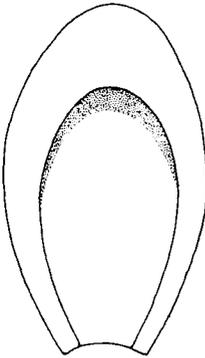
For examination of sepals I cut flowers off with scissors 1mm below the sepals and laid them face down on a white surface (plain white Fablon stuck on flat card). I found that the apparent blue-black colouration is due to a pigment in the vacuoles of epidermal cells and that it only appears blue-black when these are overlying the green mesophyll. In the cells of the scarious margins it varies from deep purple to pale lilac according to concentration. I found pigment in some of the cells of both lower and upper epidermis of the mesophyll region of all four species mainly towards the margins of that tissue, and in some cases spreading a little way into the scarious region. In *R. aquatilis* frequently, and *R. peltatus* occasionally, some of the cells at the outer edges of the scarious margins were also pigmented. The pattern and intensity of pigmentation was very inconstant even in the sepals of the same flower but even with the few specimens I examined I felt that further research would reveal interspecific characteristic differences. The following sketches show the patterns of distribution of the pigmentation which my observations suggest may turn out to be typical of the lower epidermis of rather lightly pigmented sepals of the four species I have seen.



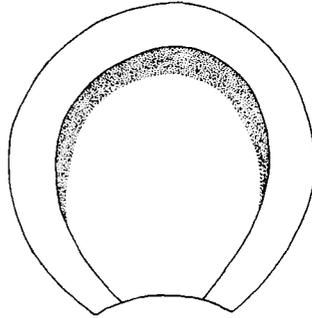
R. aquatilis



R. peltatus



R. trichophyllus



R. baudotii

Distribution of blue pigment in the sepals of four species of *Ranunculus*.
Del. H. Reynolds, 1988

NB. The sepals in the first three species are quite clearly ovate (broadest below the middle) while those of *R. baudotii* are almost orbicular.

Dr Webster mentioned *R. fluitans* as another species in which she has seen pigmented sepals. She would be glad to hear from members who have definite information about this matter, and it would be of value if the information included details of regional variations. I have to emphasise that my information is of a very local character and I have not the resources to extend its range by very much during the brief flowering period of these plants.

GUY MESSENGER, 5 Wheatley Avenue, UPPINGHAM, Rutland LE15 9SN

[P.S. After I had sent these notes to the Editor of *BSBI News*, I was able to find sufficient quantities of three other species, namely *R. fluitans*, *R. penicillatus* subsp. *pseudofluitans* and *R. omiophyllus*, to enable me to reach the tentative conclusion that the pigmentation of sepals is not likely to prove a useful character in distinguishing between Batrachian species. There is however a similarity between its distribution in the sepals of *R. peltatus* and *R. penicillatus* subsp. *pseudofluitans* to add weight to the view that the latter may be a hybrid of the former.]



B.S.B.I. MONITORING SCHEME

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

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

THE FINAL PUSH

September and October are the two most crucial months left for the Monitoring Scheme in which to tie up all the remaining loose ends. If there are any areas you know of which haven't been covered, please contact me or the VC Recorder. The following vice-counties or squares are still in need of help, and please, **please, PLEASE**, if anyone can spare a day, weekend or week to help then do get in touch with me urgently. I will be eternally grateful!

ENGLAND

- V.c. 1. W Cornwall. Keith Spurgin tells me he just needs a little push now and then, and would be delighted for some company whilst recording, but don't give him a push whilst recording on the cliffs near Coverack!
- V.c. 3. S Devon Maureen Turner is unable to continue helping. There remains a fair amount of work in some of the squares so please contact Bill Tucker (V.c. 4 Recorder) or myself if you can help.
- V.c. 27. E Norfolk. The square 63/4.1. is only partially covered.
- V.c. 61. SE Yorks. Further work is required in 44/8.6. despite our BSBI meeting earlier in the year.
- V.c. 62. NE Yorks. and V.c. 65 NW Yorks. Most of the tetrads have been covered, but work is still needed in the squares as a whole.

IRELAND

Valiant efforts have been made to record all the tetrads in the Republic. Offers of help to Roger Goodwillie or myself please. If anyone is feeling particularly mad, Aran Island (14/6.1.) hasn't been visited yet!

SCOTLAND

Inevitably, many of the more remote vice-counties are under-recorded, but coverage is, on the whole, quite good.

- V.c. 77. Lanark. Peter Macpherson would welcome offers of help.
- V.c. 92. N Aberdeen is perhaps the vice-county most in need of help anywhere. The mountain squares particularly need coverage and some are very interesting. Offers of help to Henry Noltie or myself please as a matter of urgency.
- V.c. 110. The Outer Hebrides. Andrew Currie has managed to cover the West Flannan Isles but would welcome more help for some of the Inner Islands.
- V.c. 112. Shetland. Limited coverage has been achieved but there is plenty more to do. A chance to use the new Flora! Please contact Henry Noltie or myself.

WALES

Under the watchful eyes of Gwynn Ellis, Wales has been covered well.

Please send in the cards to the V.c. Recorders when ready during the autumn. The official finishing date for recording is the 31st December. We claimed the first record for the scheme in 1987 (BSBI News 45) - who is going to claim the last?

Sadly, Gigi Crompton is already reporting loss of sites in Cambridgeshire recorded last year. In Somerset, **Helleborus foetidus** has been bulldozed. If you observe such losses, please document them so next time we do a Monitoring Scheme at least we'll know why there are no plants left.

PLANT CRIBS

Plant cribs are available now from Margaret Perring, price £8 (including p&p). Please make cheques payable to 'BSBI Publications'. I will compile a corrigenda slip during the winter, so corrections to me please.

Please also note I'm more than happy to look at any crucifers or *Sorbus lancastriensis* but I'm not an expert on everything in the Crib. And to those of you who have asked, M.D.B. Rich is Matthew, one of my younger brothers (not wife/sister as some have delicately enquired!) and he is an art student not a botanist!

TIM RICH, Monitoring Scheme Organizer

[I am sure that I speak for all members when I congratulate Tim (and Matthew) on the publication of the Plant Crib. I think it is superb and have found it very useful and informative already. So - three cheers for Tim, Hip Hip Hooray.... Ed.]

NOTES AND ARTICLES

SCHIZOCARPIC FRUITS IN SYCAMORE (ACER PSEUDOPLATANUS L.)

Edna Stephenson (1988) has drawn attention to the occurrence of 'multi-seeded' Sycamore (*Acer pseudoplatanus* L.) fruits where the fruit, instead of separating into two 1-seeded winged halves (Clapham et al. 1981), separates into more.

The typical Sycamore flower consists of five sepals, five petals, eight stamens and two stigmas. As the functionally female flower matures the two carpels quickly develop into winged structures which, in *Acer*, are commonly called samaras. Each samara may contain one, one or rarely two seeds. In some flowers there is a tendency for the development of more than two mericarps by splitting, a phenomenon called schizocarpy which leads to the appearance of these (incorrectly termed) 'multi-seeded' fruits.

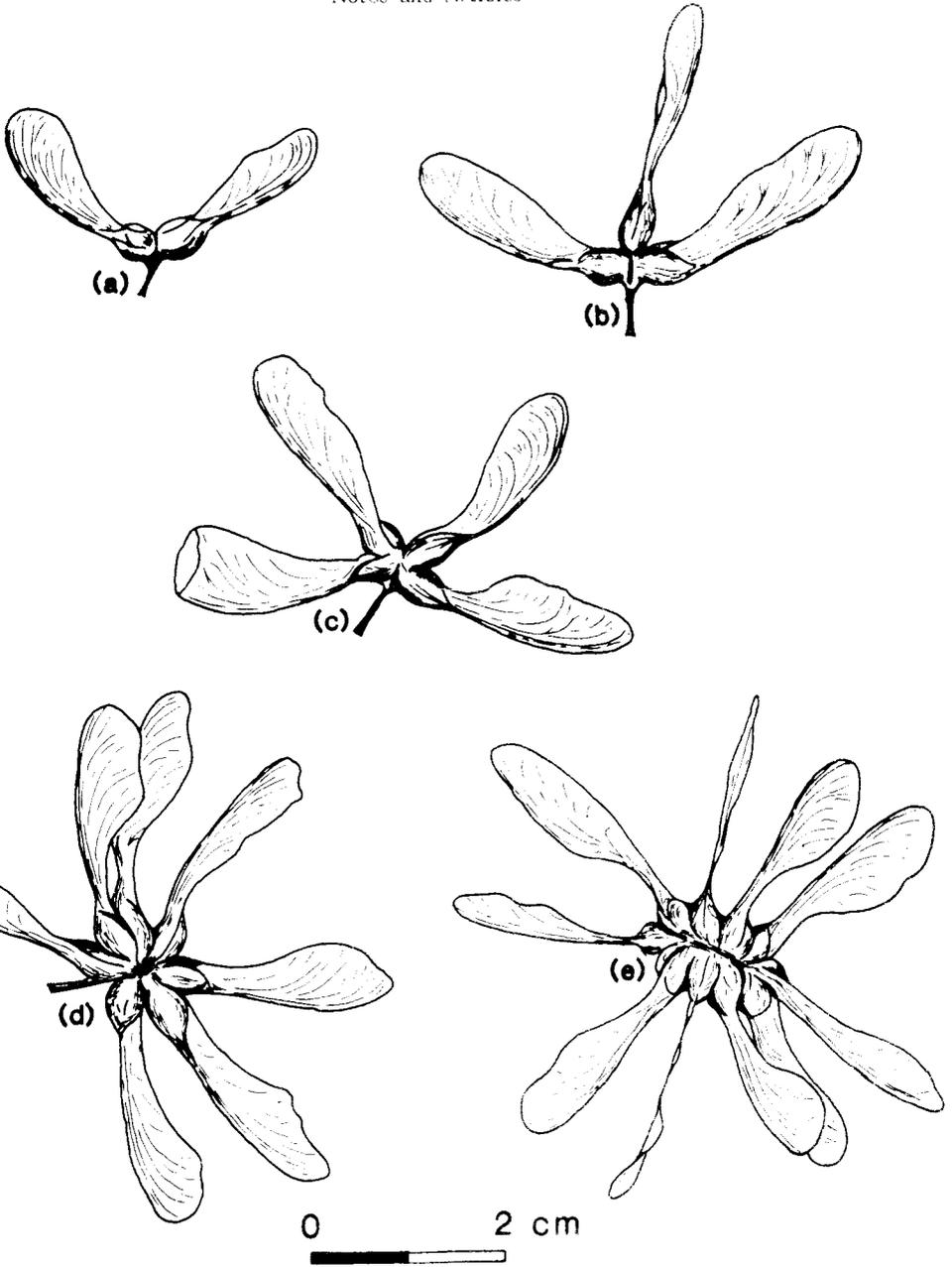
An increase in the number of carpels has often been observed (e.g. Pax 1885; Latter 1931; de Jong 1976) and fruits with up to eleven samaras have been noted (de Jong 1976). Sycamore, in general shows large variation patterns in the number of plant parts, including the number of cotyledons, the number of leaves, buds and twigs on branches, and the number of sepals, petals, stamens and stigmas in the flower.

BSBI members of long standing and with long memories may remember a short note by Karley (1972) in *Watsonia* in which unusual fruits of Sycamore were described from Wollaston, Northants. (v.c. 32) and Beds. (v.c. 30). In Wollaston about half the trees examined had no poly-carpellate fruits whilst some had between 20 and 30% and in these latter cases some fruits had four and some, occasionally, five samaras. Karley went on to record similar fruits in other *Acer* species (*A. campestre*, *A. cappadocicum* and *A. platanoides*).

As part of an on-going research project concerned with the reproductive biology and ecology of invasion of Sycamore, we too have come across schizocarpy within the species and some of these observations have been published (Binggeli & Rushton 1983). The figure on page 18 illustrates the typical Sycamore fruit together with a number of different forms. We examined a minimum of 100 fruits from a minimum of twelve trees at eight sites throughout Ireland. The variety of fruit types in *Acer pseudoplatanus* is not limited just to variation in carpel number and extensive variation occurs in fruit arrangements. Three main types may be recognised -

- a. all the carpels are situated in one whorl which includes fruits with two, three or more samaras,
- b. the fruit has two or three whorls of two or more carpels and
- c. the fruit has a whorl of one or more carpels formed at the apex of the primary whorl.

These are illustrated in our paper. However, these are very broad categories and each shows many individual variation patterns and, in all, throughout Ireland we recognised 57



Fully grown and fertile schizocarpic fruits of *Acer pseudoplatanus* L. (a) normal bi-carpellate fruit, (b) 3-carpellate fruit, (c) 4-carpellate fruit, (d) 7-carpellate fruit, (e) 10-carpellate fruit.

different fruit types. 93.6% of the Irish trees showed schizocarpic development (all of these being 3-carpellate) whilst the 4-carpellate fruit was always the less common within a tree and was recorded in 63% of trees. One remarkable result was the very wide variation from populations that were geographically very close. Unpublished data from a limited area in Scotland indicate that material from here is similarly highly variable and it is possible that the character may exhibit a latitudinal variation pattern with an increase in its expression towards northerly latitudes.

We are extremely interested in the occurrence of schizocarpy and would welcome observations on individual Sycamore trees and (preferably) 'populations'. Whilst observations of fruit type would also be welcomed, 'reading' the fruits to determine which group they belong to is not easy and requires practice and experience. Nevertheless, any observations on unusual fruiting behaviour of Sycamore or other members of the genus would be gratefully received. If necessary, we can supply further details.

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 P. BINGGELI & B.S. RUSHTON, Dept. of Biology, University of Ulster, COLERAINE, Northern Ireland, BT52 1SA

MORE ANIMALS TRAPPED BY PLANTS

The note on this subject in the last issue (BSBI News 48: 19 (1988)) has prompted the two letters printed below. Can it be that the phenomenon of animals being trapped by plants (especially burdock) is more widespread than we think? Ed.

On 15th August 1984, when I was working in N. Glos. a colleague called my attention to a dead bat caught by a burdock in the same way as described in the note in the last issue. Not having a camera with me at the time, I took part of the plant home with the bat attached to take photographs. The bat proved to be a Whiskered **Myotis mystacinus**.

ROGER L. SMITH, 12 Castlewood Avenue, Highweek, NEWTON ABBOT, Devon TQ12 1NX

On October 1st 1948, when I was warden of Skokholm Bird Observatory, Pembrokeshire, I discovered a Storm Petrel caught alive in the upper branches of **Arctium minus**. The hooked tips of the bracts were attached to the feet, wings and sides of the body. I found it about two hours after sunrise so (being nocturnal) it had been caught for at least three hours. During that time it had escaped the attention of gulls. I decided that the natural experiment had continued long enough and released the bird.

ROGER CONDER, 12 Swaynes Lane, COMBERTON, Cambridge CB3 7EF

THE WILD SIDE OF TUNBRIDGE WELLS

Although our Society does not usually note or review musical events, we should like to record one of particular botanical interest that we attended in Tunbridge Wells on 21 November 1987. This was The Wild Side of Town show, on tour with Chris Baines and the Albion Band. Chris Baines will be known to BSBI members for his work on garden and urban

wildlife, and the show (under the auspices of RSNC) was a spin-off from his BBC television series of the same name broadcast last summer. The Albion Band, who play 'electric folk' music, are led by the legendary Ashley Hutchings, who also founded Fairport Convention and Steeleye Span; their work encompasses rock concerts, barn dances and incidental music for the theatre, and their tradition-based contemporary style inspired Chris Baines to commission music for the television series. The show was a live version of the series, within the framework of an evening's entertainment. At a local level the event was convened by the Kent Trust for Nature Conservation.

The band provided musical interludes, mostly on the theme of wildlife in the inner city, with some stirring and haunting songs (notably a remarkable unaccompanied song by Cathy Lesurf about an overgrown bomb-crater) and lively dance tunes, and Chris Baines delivered an inspiring talk illustrated by slides. There were readings of poems and extracts from scientific reports, with Chris joining in with the musicians several times, not only on spoons, but also on vocals! The mixed audience benefitted from this crossover, as there were both folk fans and naturalists present in equal measure, many of whom would probably be, to some extent at least, ignorant of each others interests and activities. The most significant feature of a most enjoyable evening was that the speaker was able to put across a strong conservation message in an informal setting within the context of popular entertainment.

There may be a message here for the BSBI, since many members are concerned that we should publicise both the Society and the threatened flora of these islands. Perhaps we should think of organizing some sort of event (?a barn dance) along these lines; perhaps not, but it is surely worth thinking about?

JOHN AKEROYD & RO FITZGERALD, Botany Department, Reading University, Whiteknights, READING RG6 2AS

PLEASE USE YOUR LOCAL HERBARIUM

Problems of financial stringency are likely to face all publicly funded organisations for the foreseeable future. As a consequence governing bodies must seek priorities when allocating scarce resources and if particular services are little used they are unlikely to survive or receive only minimal finance.

At the present time there are many valuable herbaria contained in local museums and some of the largest and most important are found in Universities. All are under pressure. In the Universities research and teaching in systematics usually has low priority whilst your local museum finds it difficult to justify spending much money on its herbarium when it is neither suitable for public displays nor is it used by the public.

However, the BSBI is concerned that its members use their herbaria fully. Local flora writers cannot write a flora adequately without reference to specimens and the BSBI still recommends that voucher specimens should be deposited in local herbaria. In 1977 Perring published a paper detailing the nominated museums for each vice-county. Do all the vice-county recorders use their nominated herbarium on a regular basis?

Although the flora of the British Isles is probably better known than any other our taxonomic knowledge is constantly being developed, as is clearly shown by the publication of the Plant Crib (Rich & Rich, 1988). Much of this data is of a critical nature and the only certain way to be sure of naming material is to check your specimens against correctly named material. This implies that experts deposit correctly named material in herbaria and that vice-county recorders ensure such material is available in their local collections.

As collections build up the work of individuals becomes of increasing historical interest and it is often necessary to consult these collections either to confirm identity or seek further information on where a plant was found. Tracking down these collections was once difficult, but to-day the work of Kent & Allen (1984) makes this easy. This BSBI publication is invaluable for anyone interested in the flora of the British Isles and sooner or later an herbarium must be used.

If any section of the community is going to take an interest in the botanical heritage deposited in museums it must surely be the membership of the BSBI. Please ensure that this heritage and scientific resource is not lost by using your local collection. Your local herbarium curator will welcome your interest and expertise.

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ERIC GREENWOOD, Assistant Director (Academic), National Museums & Galleries on Merseyside, Liverpool Museum, William Brown Street, LIVERPOOL L3 8EN

HOMES FOR HERBARIA

John Cannon is quite correct in pointing out the demise of the individual general herbarium in BSBI News 48: 22 (1988). These are largely a thing of the past. I am glad too that he draws attention to the role of the local museum as the home for collections of the local flora.

Like the BM(NH), most local museums with natural history interests recognise the need for "rigorous" accession policies. However, simply having a policy is not good enough. It must be widely known and available to interested parties and John's note is a useful first step in establishing the role of one of the national collections. It is also necessary to remind vice-county recorders and referees of critical groups (who handle more specimens than most botanists) of the inescapable fact of their own mortality. Appropriate homes for voucher specimens should be sought as they accumulate not as so often happens at the end of one's career in a rush or when they are tragically 'sorted' into bin or bonfire by an ill-informed executor.

We must all show that our finite resources are being used in the most effective manner and the development of unambiguous policies by all concerned is a necessary part of the process. Why not a BSBI survey of current practice followed by policy statements on the collecting and deposit of vouchers complemented by a list of approved herbaria? These herbaria must meet certain minimum standards which would include the submission of an accession policy noting areas of interest. To start the ball rolling let me state that the policy of Perth Museum and Art Gallery is to accept material from v.cs. 87, 88 and 89 only. This includes recent vouchers of critical groups and old local collections of "real historic importance". Other potential donations are referred to a more appropriate home.

MICHAEL A. TAYLOR, Keeper of Natural Sciences, Perth Museum & Art Gallery, George Street, PERTH

ALLIUM SPHAEROCEPHALON L. AS A GARDEN WEED

In a recent issue of the Wildflower Magazine (no. 409, p. 48, Summer 1987), John Bowra mentioned the vigour of Allium sphaerocephalon which appeared spontaneously in his garden and has since spread and become a 'weed'. I can also testify to its vigour but not to its 'weedy' tendencies.

One day in 1957, walking just below the suspension bridge in the Avon Gorge, I found lying on the pavement a withered plant of A. sphaerocephalon with a bulb attached that somebody had obviously pulled up and abandoned. I took it home and it has now become a permanent and welcome (my wife does not regard it as a weed!) denizen of one small corner of my garden. It never has more than 6-8 plants and has not spread elsewhere, as John Bowra's has done.

RICHARD FITTER, Drifts, Chinnor Hill, OXFORD OX9 4BS

WILDFLOWER PUZZLE

Here are the answers to the clues in the last issue.

- | | |
|-------------------|----------------------------|
| 1. Spotted Medick | 11. Hop |
| 2. Wild Madder | 12. Greater Hawkbit |
| 3. Toad Rush | 13. Sunflower |
| 4. Red Currant | 14. Man Orchid/Lady Orchid |
| 5. Yorkshire Fog | 15. Herb Robert |
| 6. Marsh Mallow | 16. Ash |
| 7. Blinks | 17. Yellow Loosestrife |
| 8. Spear Mint | 18. Deadly Nightshade |
| 9. Reed | 19. Dog Rose |
| 10. Honesty | 20. Thyme |

How did you get on?

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

THAMES DITTON AND THE BSBI : A FURTHER NOTE

David Allen's Postscript to *The Botanists*, published in *BSBI News* 47: 33 (1987), noted that I was brought up in 'The Elms', Weston Green, near Thames Ditton in Surrey, from which a founder of the Botanical Society of London collected plants in the 1830s. My parents still live in this house, and my father, Dr E.L. Akeroyd, has done some research on its former inhabitants. There is no evidence that John Seeley, the member in question, lived at the house, but it is quite possible in that his elder brother Leonard, a printer born c.1801, lived there 1823-42 (D.E. Allen, pers. comm.). There is a declaration by Leonard Seeley in the archives of the Surrey Quarter Sessions, dated 1822, not to print subversive literature on the premises. A tythe map of 1843 shows offices and a yard adjacent to the house, where the printing business was situated. By this date, however, the house was occupied by Sir John Lambert. It was then quite rural, being surrounded by meadows, with a pond at the front, across the road, that is still there - albeit with a fine stand of *Nymphoides peltata* that was not there in 1843; it arrived during my lifetime.

David Allen tells me that another brother, Robert Seeley, was a radical author and publisher, so it would seem that the hamlet (as it was then) of Weston Green was quite a little hotbed of dissent (H.C. Watson himself being of radical persuasion). Since the garden of The Elms (the two elms at the front were lost through Dutch Elm Disease), has a number of *Robinia* trees, I like to think that fellow radical William Cobbett, to my mind Surrey's greatest son, may have provided the seed of what he regarded as the best of all possible trees to plant!

There is a further 'radical' connection between Thames Ditton and our Society: one of Lady Rosemary FitzGerald's forbears is buried in St Nicholas' Church. Lady Pamela FitzGerald was the wife of Lord Edward FitzGerald, leader of the Irish rebels in their ill-fated revolution of 1798. Edward was fatally injured in Dublin whilst resisting arrest, and died in prison; Pamela went into exile in France, where she died in 1831. Her tomb in Paris was destroyed by a Prussian shell in the siege of 1870, but her remains were later brought to England and buried in Thames Ditton, where a number of her relatives lived.

I should very much like to find out more about the Seeleys, but I am firmly of the belief that historical research is not a healthy activity for a botanist in his or her thirties. It is most seductive, but should await retirement. When that day comes, I hope to investigate two botanical Akeroyds, one of them a Reading solicitor! Meanwhile I resist...

JOHN AKEROYD, Botany Department, Reading University, Whiteknights, READING RG6 2AS

PLANTS TODAY

Plants Today is a new magazine, published by Blackwell Scientific Publications, with articles covering topics which vary from the vegetation of Coto Donana to the way weedkillers work. A whole range of botanical subjects are covered, many of direct interest to the membership of the BSBI and some to stretch the readers' minds into unknown areas of botanical research. It is a stimulating magazine.

Why am I telling you all this? Well, for at least two very good reasons. Firstly, members of the BSBI receive preferential subscription rates and, secondly, our Society is represented on the Management Committee (along with the British Ecological Society and the Society for Experimental Biology). I have just been asked to represent the Society on this committee to present the point of view of the amateur botanist. To help me in this task I am asking those members who already subscribe (and those who will in the future) to let me know what they think of the first three issues. Do you find all or most articles of interest? What subjects would you like covered? You have a real opportunity to have a say in the content of this exciting new publication. Over the next year articles will be published on up-to-the-minute botanical research as well as studies of the vegetation of specific habitats of Britain and around the world. It is intended to be a truly international publication, one to which I urge many more members to subscribe.

Don't forget that through me, or the other two BSBI representatives, Stephen Jury and Richard Gornall, you can influence the content.

CHRIS BOON, 7 Duck End Lane, .Maulden, BEDFORD MK45 2DL

AN UNUSUAL RESULT OF THE OCTOBER HURRICANE

During May and June, in several sites in Ealing, I spotted plants of *Ranunculus sceleratus* L. growing beside suburban roads. By the fourth occurrence, it occurred to me that all the plants were growing with newly planted trees, replacing some of Ealing's many wind losses last October. I then realised that the London Borough of Ealing's tree nursery, at Glade Lane, was beside a canal and provided a much more normal habitat for the *Ranunculus*. If this continued to grow in the drier places, in a few years people might have forgotten October 1987 and wonder about the unusual occurrence.

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

LITTLE, LARGE, ROUND, SQUARE OR OBLONG?

I think it is too much to expect that the writers of standard Floras should word their descriptions to include all possible eventualities. I am reminded of the story I read somewhere of the zoologist who built a special cage with a spy-hole in the back so that he could see what monkeys did when they were alone. He put the monkey in, walked noisily away, and then crept round silently to the back of the cage. All he could see through the peep-hole was the monkey's eye. One of the charms of living things in general, animals or plants, is that they refuse to conform to a set pattern, and it is both foolish and unscientific to try and make them do so.

However clear the descriptions and keys are in a standard Flora it needs experience to interpret them. All of us, if we are honest, will admit to the fumbings and mis-identifications of our early days. It is therefore understandable that both beginners and people who consider themselves fairly competent should sometimes be puzzled by plants which depart considerably from the norm. A dandelion I found on bare garden soil with leaves well over 30cms long and 10cms wide, more than 50 mature capitula and nearly as many still in bud, was obviously a dandelion (actually *Taraxacum ancistrolobum* Dahlst.), but for a complete novice in this difficult genus it was impossible to identify it to species. In a very wet season I collected what I considered to be an odd *Callitriche* from a pond, which turned out to be *Galium palustre* growing under water - the expert I sent it to admitted that he had been puzzled at first. Another source of puzzlement arises from

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IVY: VARIATION IN LEAF SHAPE. SHEET 1 OF 2 SHEETS

5 CM.

COLL. A.L. PRIMAVESI

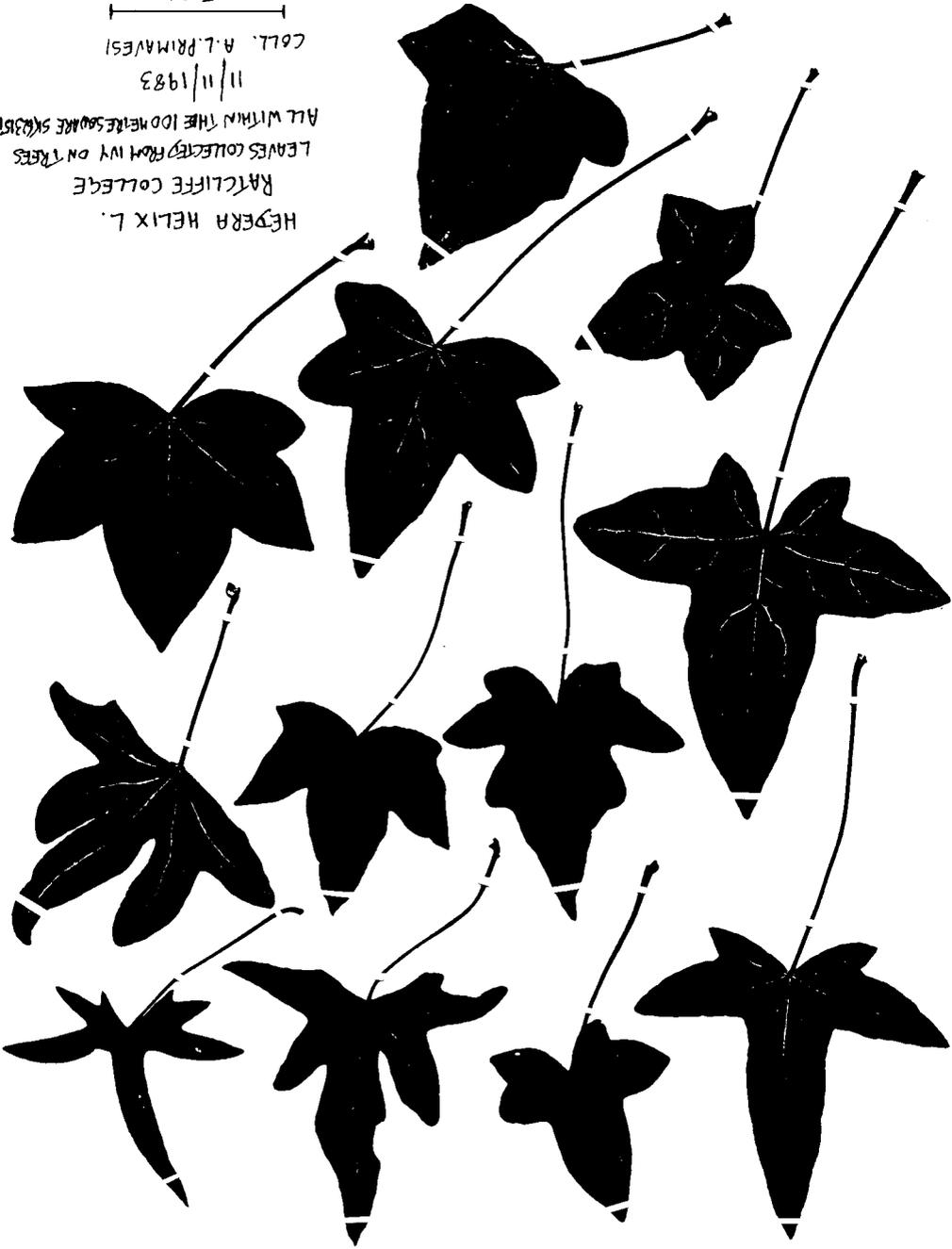
11/11/1983

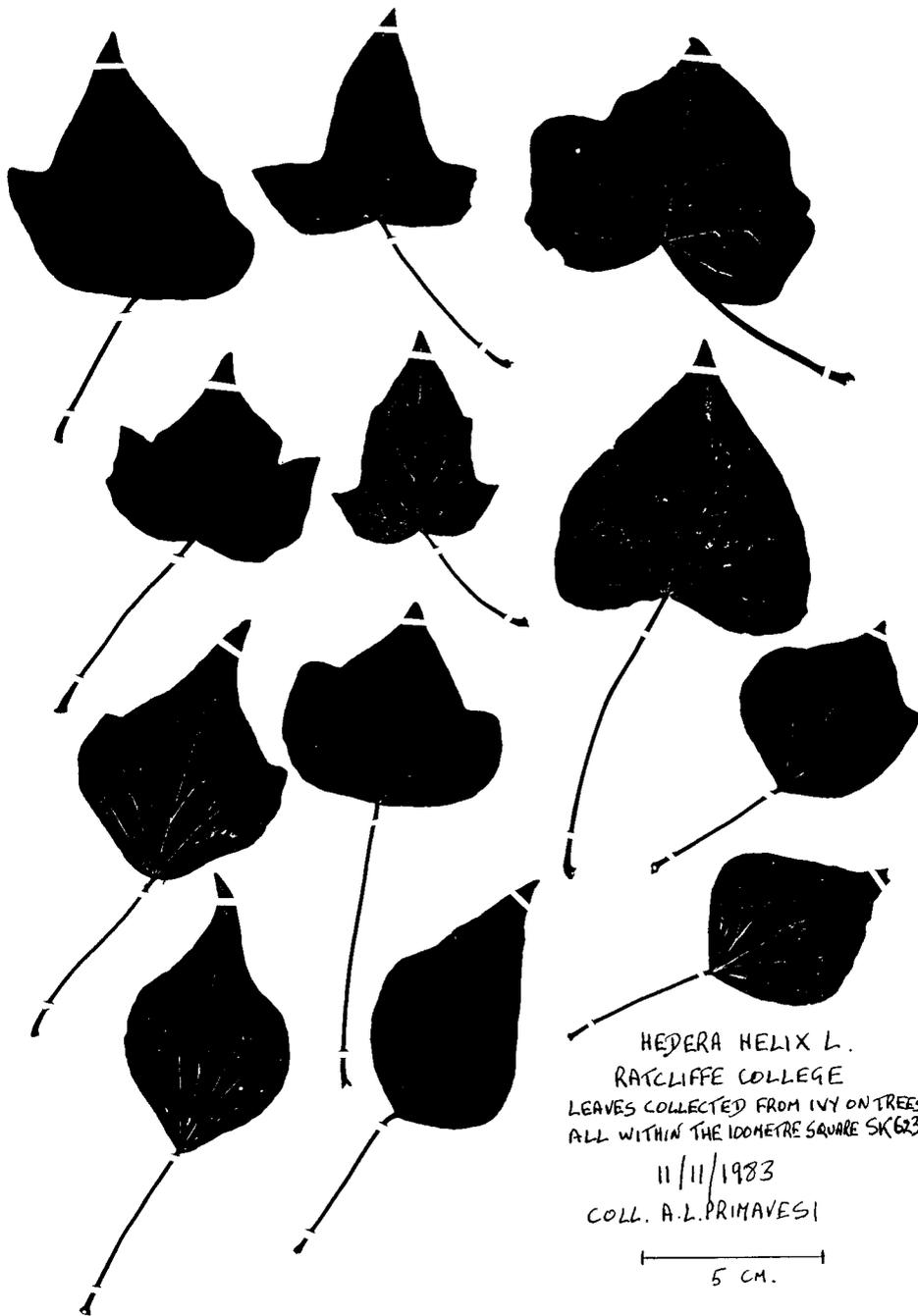
ALL WITHIN THE 100 METRE SQUARE SKETCHES

LEAVES COLLECTED FROM IVY ON TREES

RATCLIFFE COLLEGE

HEPERA HELIX L.





HEDERA HELIX L.
RATCLIFFE COLLEGE
LEAVES COLLECTED FROM IVY ON TREES
ALL WITHIN THE 100METRE SQUARE SK623151
11/11/1983
COLL. A.L.PRIMAVESI

5 CM.

IVY: VARIATION IN LEAF SHAPE. SHEET 2 of 2 SHEETS.

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the occasional fasciated plants one comes across. A couple of years ago I came across such a monstrosity which was actually *Centaurea nigra*, but almost unrecognizable as such. Then, of course, there are the giants and midgets which, like the dandelion just mentioned, have attracted the attention of the members who have contributed to the 'Little and Large' series in BSBI News. What I find interesting about these odd-sized plants is that the giants usually have only the stem and leaves of abnormal size - flowers and fruits are usually normal. The midgets, on the other hand, are often midgets in every respect. I have seen *Papaver argemone* on dismantled railway ballast with plants of all sizes from 30cms tall to 2cms or less. The smaller plants had flowers less than 1cm in diameter with correspondingly small mature fruits. I have also seen tiny umbellifers in the short turf on top of a sea cliff which apart from having fewer rays were almost perfect 2cm miniatures, but rather difficult to determine without some experience of this family.

Finally I present, without the need for much comment, the accompanying reductions of two herbarium sheets (see pages 24-25). It should be noted that these are all taken from 'wild' ivy plants - none of them have been specially planted as ornamental varieties. Of course, these sheets include specimens of the normal ovate leaves found on the flowering branches of ivy. One wonders which one of the rest the author of a Flora would select for his description. It also makes one wonder what is the significance of a common English name such as 'Ivy-leaved Toadflax' or 'Ivy-leaved Speedwell', to say nothing of 'Ivy-leaved Duckweed' which resembles no Ivy leaf I have ever seen.

TONY PRIMAVERSI, Ratcliffe College, SYSTON, Leicester LE7 8SG

TREE PLANTING - HOW TO USE THE GRANTS

A professional forester who, wishes to remain anonymous has sent the following advice for those contemplating a bit of tree planting on the side. He is willing to answer any queries that members may have, and these should be sent to the Editor.

The highest rates of financial support for tree planting are now available to everyone and can work out at £1.60 per tree. One of the objects of management for the Forestry Commission Woodland Grant Scheme must be timber production but it need not be the major one. Take advantage of the system and purchase that little bit of Britain and manage it as you think it should be.

The initial planting of trees will receive grant-aid and there will be further payments after five and ten years. A variety of species can be used and they need not be planted in rows. If you can afford about 1.2 hectares of land (3 acres) then you could plant 3 separate patches of 0.3 ha and keep the rest as an open glade. Planting 330 trees in each 0.3 ha patch would be sufficient, but you could plant more if you wished. For planting broadleaves on richer land the grant income (figures rounded to the nearest £) could be:

years 1,3, and 5 planting 0.3 ha - £330 plus £60 better land	= £ 390
years 6,8 and 10, second payment on 0.3 ha	= £ 94
years 11, 13 and 15, third payment on 0.3 ha	= £ 49
Total grant paid for 0.9 ha	<u>£1597</u>

For those who can only start in a small way, the minimum area to qualify for a Forestry Commission grant is 0.25 ha. Those who can afford to plant a hectare or more will get a lower rate of grant (3 ha is an even lower rate). You could include conifers in your tree planting scheme but as the rate of grant for conifers is lower the amount you receive would be reduced pro-rata. You would have to plant more conifers per hectare than broadleaves to get the full grant. If your land is not eligible for the better land payment then the total grant paid in the example above will be £180 less.

The Forestry Commission may not be happy with large numbers of schemes as indicated above, but one of the main features of the scheme is "to enhance the landscape, to create new wildlife habitats and to provide for recreation and sporting uses in the longer term!"

You may not create a valuable timber resource with your investment but if you have chosen the right trees for the site and have looked after them well in their early years, they should still be standing long after you have fallen.

Free leaflets giving full details of the Woodland Grant Scheme are available from your local Forestry Commission office.

EDITOR

CONSERVATION MATTERS

ENDANGERED SPECIES OF VEGETATION

NEW IRISH POSTAGE STAMPS

Ireland is largely a pastoral landscape derived from a wide variety of solid rock. Raised bogs are found in the centre of the country, blanket bogs on the periphery and there are fine stretches of calcareous grassland. Forest clearance began in neolithic times and today the tree cover is mostly the result of plantation forestry, poor in native species. The rural landscape, a combination of natural and man-made features, is rich in sites of human and scientific interest. Recent economic pressure has led to an intensification of agriculture and accelerated land use with the result that many familiar features are now threatened. Wetlands, bogs and marshes are endangered by drainage, which is proceeding at an alarming rate; other features hitherto thought safe, such as hedgerows, limestone pavement and hazel-scrub woodland, are subject to continual encroachment with serious loss of habitats and species. Ireland is a home to outlying populations of Europe's plants and animals and we have an international obligation to see that none is lost.

Over the years, field workers aware of the decline in the range of certain species and, in particular of the threat to wetlands, voiced their protest and sought protection for vulnerable species through An Taisce, the Dublin Naturalists Field Club, the Irish Wildlife Federation and other concerned bodies. There was a general awakening to the problems arising. The following briefly summarises developments. In 1974, the Council for Europe (CoE), set up a specialist group to investigate such plants as were considered rare on a European scale. The preliminary report, issued in 1977, encouraged member States to compile lists of endangered species for their regions. In Ireland, in 1977, the Wildlife Act 1976 came into operation; its main objectives were to provide laws for the protection and conservation of native flora and fauna and to provide for the conservation of areas having specific wildlife values. Later, the Flora (Protection) Order 1980 listed 52 species protected throughout the State. This order was later revoked and replaced by the Flora (Protection) Order 1987. According to the latter, 'except under licence from the Minister for Finance, it is an offence for a person to cut, pick, uproot or otherwise take, purchase, sell or be in possession of any plant whether whole or part, of a species mentioned in the Order or wilfully to alter, damage, destroy or interfere with the habitat of such species'. The Irish Red Data Book (1988), published by the Wildlife Service, Office of Public Works, provides a guide to these endangered species. The detailed monitoring of the relevant sites was carried out by the Officer responsible, Dr T.G.F. Curtis. The State has now established 46 Statutory Nature Reserves and the land, in the ownership of the Wildlife Service, comprises some 10,000 hectares.

By growing plants threatened in the wild, Botanic Gardens have an important role to play in conservation. The National Botanic Gardens at Glasnevin maintains a range of species under threat in this country, and also a small number of rare endemics in danger elsewhere. Ideally, however, threatened species are best preserved under natural conditions in the region of their origin.

On the 21 June, 1988, An Post issued a 3 stamp set in its series depicting the Fauna and Flora of Ireland. This issue is devoted to endangered species of vegetation and three species are depicted on stamps and one on the special first day cover.

Cottonweed (Otanthus maritimus) - cluasach mhara (24p), a plant of sandy shingle on the Wexford coast. It is herbaceous, with a woody rootstock, pale green leaves covered with dense woolly hairs and deep yellow flowers which are scarcely visible between the floral bracts.

Hart's saxifrage (Saxifraga hartii) - mórán creige (28p), now considered to be a subspecies of S. rosacea, is a tufted herbaceous rock-plant of maritime cliffs off the coast of Donegal. It bears white flowers, each petal veined in green. The species was named to honour H.C. Hart, botanist and explorer.

The purple milk-vetch (Astragalus danicus) - bleachtphiseán (46p), is a herbaceous perennial with blue-purple pea-like flowers found growing on calcareous soil on the Aran Islands.

Depicted on the first day cover is the Irish fleabane (Inula salicina) - lus greiné

gaelach, a perennial herb with golden-yellow ray and disc florets. is known only from the shores about Lough Derg.

Enquiries should be sent to The Controller, Philatelic Bureau, G.P.O., DUBLIN 1, Ireland

Miss M. Scannell, National Botanic Gardens, Glasnevin, DUBLIN 9, Ireland

ÈIRE 24



Olanthus maritimus 1988

ÈIRE 28



Saxifraga hartii 1988

ÈIRE 46



Astragalus danicus 1988

I am grateful to the Irish Philatelic Society for permission to quote from their Brochure and for the prints of the stamps illustrated above. Ed.]

THE MONTGOMERY CANAL:
ITS AQUATIC PLANTS AND THEIR CONSERVATION

The 56km (35 mile) length of waterway known as the Montgomery Canal runs north-south from Frankton in Shropshire (v.c. 40) to Newtown in Montgomeryshire (v.c. 47). It was originally built as three separate but adjoining canals between 1796 and 1821. All were built to carry agricultural lime derived from limestone quarries at Llanymynech Hill. By the 1930s the canal was no longer in use and was closed by Act of Parliament in 1944. It was classified as a 'remainder waterway' in the 1968 Transport Act; essential in local land drainage but unable to be restored to navigation. It has been owned and managed by the British Waterways Board (BWB) since the Board's creation in 1963.

The canal has long been known for its biological interest with records for aquatic plants and molluscs dating back to the late nineteenth century. It supports several rare species of *Potamogeton* (including *P. compressus*, *P. friesii* and *P. praelongus*) as well as other national rarities such as *Luronium natans* and *Callitriche hermaphroditica*. Several plants with regional importance also occur. These include *Hottonia palustris*, *Potamogeton alpinus*, *Hydrocharis morsus-ranae* and *Zannichellia palustris*. The aquatic flora as a whole is unusually diverse. Parts of the canal were notified as sites of Special Scientific Interest (SSSIs) as long ago as the 1950s. Since then much more of the canal has been notified and there are currently four SSSIs covering a total length of about 25km.

In 1987 the Board successfully presented a Parliamentary Bill which would enable full restoration of the canal. This was passed in December and is known as the British

Waterways Act 1987. Partial restoration over the last 15 years appears to have encouraged the development and spread of the flora but the high boating levels expected after full restoration exceed the critical levels known to destroy aquatic plant communities. Following talks between BWB and NCC the Montgomery Canal Ecological Survey was set up in 1985 to ensure the continued survival of the flora. It is a joint British Waterways Board/Community Task Force project funded largely through the Manpower Services Commission. Its brief was to conduct a detailed survey of wildlife along the canal and to experiment with 'offline' nature reserves. The offline reserves would be designed primarily to accommodate the aquatic flora but would also conserve other wildlife interest. As a novel solution to an increasingly common problem (many canals now being restored have a high wildlife interest) the project may become an important precedent. British Waterways Board have recently appointed a Conservation Officer to continue with reserve creation work and promote public interest in the reserves project. The post is grant-aided by the Nature Conservancy Council.

SURVEY RESULTS

Studies over the last 3 years have re-affirmed the importance of the canal for aquatic plants as well as providing valuable data on other groups (terrestrial plants, terrestrial and aquatic invertebrates, birds and fish). Many of the rarer plant species occur in quantity and a particularly valuable invertebrate fauna, including 15 species of Odonata, has been found.

Although the canal has only been disused for 50 years the aquatic flora has probably been developing over a longer period; boating levels would have been very low by the early twentieth century. The floristic interest of the early- to mid-twentieth century is reflected in the large number of records and herbarium specimens dating from that period. Successional overgrowth had reduced this interest by the mid-1960s but it returned after restoration works in the 1970s. Many of the national rarities in the canal have a recorded history of nearly 50 years; *Luronium natans* has been known at or near current sites since at least the early 1930s, *Potamogeton praelongus* has been known near its present sites since 1940, *P. compressus* has been known since 1938 and *P. friesii* since the late 1940s. Many specimens from this period are in the herbarium of the National Museum of Wales, Cardiff.

A distribution table for selected species is given below. This shows all known records for the last 100 years, including those of the current project. E indicates 'extinct' (ie. not found in the last three years), C indicates 'confirmed' (ie. refound in an old site during the last three years) and N indicates 'new' (ie. new record from last three years).

	0	10	20	30	40	50	KM
	NORTH-----SOUTH						
	--ENGLAND (SALOP)--			-----WALES-(MONTS)-----			
<i>Hydrocharis morsus-ranae</i>		EECC CEE		EEEE			
<i>Luronium natans</i>	EE	EEEE	CNCNNN	CCCCCCCC	CCCC	NNN	CNCNN
<i>Potamogeton alpinus</i>	CC	CE	E		EE		
<i>Potamogeton bertholdii</i>	CE		EE E	EECC	CCCC	CEC	NNN E
<i>Potamogeton compressus</i>	EE	CEE	ENCNC	NNCCCC	CCCC	NNN	C EEEECN
<i>Potamogeton friesii</i>		ENCEE		ECE	EEEE	EE	EE
<i>Potamogeton lucens</i>			E E	E E		EEEE	EEEE
<i>Potamogeton obtusifolius</i>	E		NNC	NNCCCC	CCCC	CCCC	CNCNN
<i>Potamogeton pectinatus</i>	CC	CE		CCCC	CCCC	N	NN N
<i>Potamogeton perfoliatus</i>		EE		EE	CCCC	CEE	
<i>Potamogeton praelongus</i>		EEE	NNC	E	EEEE	EEEE	EEEE
<i>Potamogeton x lintonii</i>		N					E

The table shows that while all the taxa concerned have had wider distributions in the past, some are very different today. Examples of these include *Hydrocharis morsus-ranae*, *Luronium natans*, *Potamogeton lucens* and *P. alpinus*. There has been preferential recording in certain lengths in the past and so the absence of records cannot be taken as an absence of any species. The present survey is the first to cover the entire canal.

Computer analyses of present records suggest that management is an important factor in distributions. This may explain some of the discrepancies with previous data. For example the disappearance of *Hydrocharis* from its Welsh sites may be because these are on a section that now has boat traffic (albeit low volume) and few floating plants of any

species occur. Several new species have been found during the survey. These include several interesting Charophyte species and *Elodea nuttallii*.

THE RESERVES PROJECT

Seven reserve areas are currently being developed with a further 10 planned. There is a variety of types ranging from disused arms and basins to detached side ponds. These are scattered along the length of the canal but are concentrated along existing SSSI lengths. It is hoped this variety will enable the present range of vegetation types to be conserved.

Most of the existing sites were overgrown with trees and reed-swamp when the project began. Restoration to open water and a return to a diverse aquatic vegetation has been accelerated by a programme of dredging, scrub and reed clearance, and transplanting from adjacent lengths of the canal. Much of this work has necessarily been of a trial and error nature but on the whole results are good and the outlook encouraging. The reserve site on the canal's Guilsfield Arm, de-notified as an SSSI in the 1970s because of successional overgrowth is thought to be nearing SSSI standard again after only 2 seasons work. Such rapid recovery is indicative of the long-term instability of submerged vegetation in a narrow canal; just as successional overgrowth can be rapid so can recovery after dredging.

The idea of reserves on the Montgomery Canal is not new; the Montgomery Field Society under the late Janet Macnair was promoting the concept as long ago as the 1950s. What is new is the concept of creating the reserves adjacent to lengths of existing interest in advance of these lengths being boated. This is a 'creative conservation' solution that is not fully proved. Results to date are encouraging.

JONATHAN D. BRIGGS, Conservation Officer Montgomery Canal
CAROLINE TANDY, Supervisor, Montgomery Canal Ecological Survey Team
British Waterways Board, Canal Wharf, LLANYMYNECH, Powys SY22 6EA

ALIENS AND ADVENTIVES

Adventive News 39 will appear in the next issue.

A COLONY OF CRAMBE CORDIFOLIA Steph. IN WEST LONDON

In May 1977, while exploring an old Victorian rubbish tip near Boston Manor, I was pleased to see a large flowering plant of *Crambe cordifolia* growing amongst grass and other closed vegetation. A later visit in July confirmed that the plant had fruited well. Two years later the original plant was still doing well and there was another young plant nearby.

Over the next eight years, a colony of 11 large plants has developed within an area of about 100 square metres. The plant is obviously well naturalised and should be considered as such in the British flora.

v.c. 21, Middlesex

Waste ground near canal, Boston Manor, JMM, 1977 - 1988

The only other record I can trace is:

v.c. 40, Salop

Waste ground by the Essington canal, Wolverhampton, Mrs S.R.Price, 1974 (BM).

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

KOELREUTERIA PANICULATA Laxmann IN LONDON

Although *Koelreuteria paniculata* was introduced into Britain in 1763 and recorded as an escape as long ago as 1947 on waste ground opposite the Rectory, Tintern (E.M. Francis see A.E. Wade, *Watsonia* 2: 106 (1952)), it has not been recorded in recent years. In 1984 I noted many young plants of this tree ranging from seedlings to a tree 3 metres high, in the vicinity of obviously planted trees, growing in wooded ground on the edge of the Chiswick Railway works.

In 1986 I found seedlings on waste ground near Mortlake crematorium, then in 1987 a single seedling on a pavement in West Ealing. Finally this year (1988) I found several seedlings on waste ground opposite Morley College in South Lambeth. In both the latter cases there were no obvious parent trees nearby. So in the past 4 years, plants have occurred in a number of habitats and the large specimen at Acton has flowered.

I think that this trend seems likely to continue and one should expect further records as this handsome native of China becomes an established member of our flora.

v.c. 17, Surrey

Waste ground near cemetery, North Sheen, JMM, Sept. 1986

Waste ground near Morley College, JMM, April 1988

v.c. 21, Middlesex

Bollo Lane, Acton, in quantity, JMM, April 1984 - 1988

Elthorne Park Road, West Ealing, JMM, June 1987

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

NOTICES (OTHERS)

EDUCATION AND INTERPRETATION IN BOTANIC GARDENS AND ARBORETA ROUND AND ROUND THE GARDEN

In early April, eighteen people from throughout Britain and Ireland, met at Edinburgh for a course on education and interpretation in botanic gardens and arboreta. This was organised by the Centre for Environmental Interpretation (CEI) and the Royal Botanic Garden Edinburgh. Participants enjoyed a four-day programme of talks, workshops, projects and site visits, which had been designed to meet the particular needs of botanists and horticulturalists who are now involved in interpretation or educational activities.

Experts in areas such as writing guide leaflets and using audio-visual media, were able to offer professional advice based on extensive experience of working in country parks, heritage centres and other visitor attractions. This was very useful but the exchange of ideas between course members doing comparable jobs and facing similar problems at different gardens, was just as valuable. Site visits to Dundee and Dawyck Botanic Gardens provided an opportunity to compare approaches and methods for the interpretation of relatively new and well established sites. Every botanic garden is a potentially valuable educational resource; the challenge is to communicate the botanical and human interest of our plant collections in an exciting and imaginative way.

Although the course was conceived as a one-off event the contacts and friendships established will continue to flourish. A suggestion to form a network for the exchange of educational resources between botanic gardens, met with an enthusiastic response. This would enable good ideas to be adapted for different sites and reduce the duplication which occurs when two or more establishments are researching similar projects. Everyone agreed they would benefit from regular meetings of this kind and the formation of an association of botanic garden education staff, parallel to the Federation of Zoo Educators or the Group for Education in Museums, might be possible with the support of other botanic gardens not represented on this course. It was tentatively suggested that another meeting for people interested in education in botanic gardens might be arranged for Autumn 1989. A suitable topic for discussion at this meeting could be the educational aspects of the botanic garden conservation strategy.

Any body who is interested with linking up with other people involved in education in botanic gardens, is encouraged to write to Ian Edwards, Education Officer, Royal Botanic Garden, Edinburgh EH3 51R. Details of the wide range of courses organised by CEI can be obtained from James Carter or Yvonne Hosker at CEI, Manchester Polytechnic, Bellhouse Building, Lower Ormond Street, Manchester M15 6BX.

IAN EDWARDS, Education Officer, Royal Botanic Garden, EDINBURGH EH3 51R

[Ian informs me that he has compiled a mailing list of those interested or involved in education in botanic gardens and arboreta, and would be grateful for names and addresses of anybody who would like to be included on this list. He would also welcome any other comments or suggestions that members may care to make. Ed.]

B.B.S. BRYOLOGICAL WORKSHOP, 1988
University of Bristol, 18-20 November

BSBI Members are invited to attend this workshop.

The programme will be devoted to the use of computer facilities in bryology. It is hoped that participants will have some prior basic knowledge of the use of micro-computers, but the tyro is not excluded. We will try to cover, with a strong practical bias, such topics as word processing, data bases, statistics, spreadsheets and graphics, and specific bryological applications such as herbarium management, bibliographies, taxonomy, ecology and mapping. The content is likely to be flexible, and will be geared as far as possible to those attending. It will be based on IBM-compatible micro-computers. Participants with their own IBM-compatible micro (preferably with 5.25" disc-drives) are urged to bring it along, as the number we are able to make available may be limited. Well over 100 discs from the IAB Software Library will be available for demonstration and use (and may be freely copied if you supply your own discs), as well as commercially available products.

The workshop will be held in the Department of Botany, Bristol University. A Common Room will be available in the evening. Participants make their own accommodation arrangements but an annotated list of local Guest Houses/Hotels (prices from £10, with an average of £15-20), travel details and a map are available from the Local Secretary at the address below. He would like notice of those planning to attend as soon as possible, especially if bringing your own computer.

Dr D.H. BROWN, Department of Botany, The University, BRISTOL BS8 1UG

RORY McEWEN 1932-1982 : THE BOTANICAL PAINTINGS
A MAJOR RETROSPECTIVE TOURING EXHIBITION

One of the most rare and beautiful exhibitions of recent times will open at Inverleith House in the Royal Botanic Garden, Edinburgh. This is the first major retrospective show of the botanical paintings of the artist Rory McEwen.

Rory McEwen's watercolours are superbly executed and finely detailed; his technique of watercolour on vellum produced exquisite works which are much more than accurate botanical illustrations. He brought a modern artist's eye for composition and an extensive knowledge of contemporary art to his work.

The exhibition is comprised of work from 1952 to 1982, and includes all aspects of his botanical work - flowers, leaves, vegetables, grasses and fruit - mainly painted using his characteristic technique of watercolour on vellum. Of those selected for exhibition, many are on loan from the artist's widow, Romana McEwen, who has been cataloguing his work, or from other members of the McEwen family; the remainder are on loan from private collections (including those belonging to members of the Royal family), or from museums.

The exhibition will be on view at Inverleith House, Royal Botanic Garden, Edinburgh until 2 October 1988, after which it will travel to Aberdeen Art Gallery (8-29 October 1988), and then to the Serpentine Gallery, London (26 November 1988 - 8 January 1989).

IAN EDWARDS, Education Officer, Royal Botanic Garden, EDINBURGH EH3 51R

EXPEDITIONS OVERSEAS

Frank Perring is taking a party to look at the wild flowers and wildlife of California for 17 days from 23rd May 1989. Hosted by the Sierra Club, there will be many visits to private homes and 4 days in Yosemite National Park. All profits to conservation.

For a detailed itinerary etc., write to John Guy, British Wildlife Appeal, 164 Vauxhall Bridge Road, LONDON SW1X 2RB

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

NEW PUBLICATIONS FROM URBAN SPACES

Two new publications that may be of interest to members, especially those involved in education, have recently been made available by Urban Spaces.

SEED BOARD is a way of showing, in diagrammatic form, how a seed grows. It displays, in an eye catching way, the various factors concerned with plant growth and, being visual and self-contained, the relationship between these factors becomes clearer and easier to understand. Suitable for primary schools.

UP FOR GRABS is a project designed to help pupils understand opposing arguments in a land development debate by adopting various roles. The scene is set in Ramney Marsh and a motor sports group, a wildlife group and others set out their aims and objectives to represent their interests in the debate. Suitable for secondary schools.

Both publications are available at £3.00 each incl. p.& p.

MONICA HALE, Manager, Urban Spaces Scheme, The Polytechnic of North London, Holloway Road, LONDON N7 8DB (tel. 01-607 2789 ext. 2118)

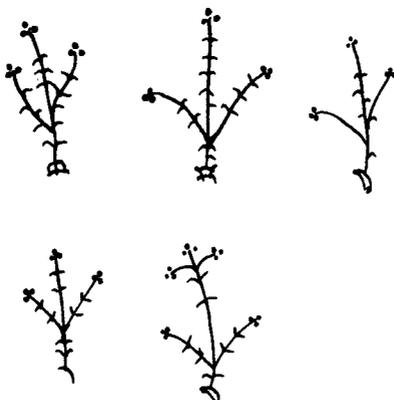
REQUESTS

A MEDIEVAL BOTANICAL MYSTERY

Eight of the lavish misericords on the choirstalls of Ludlow Parish Church bear a carver's mark in the form of an uprooted plant. Peter Klein, a local historian, who has recently made a detailed study of these carvings, which date from c. 1425, would appreciate members' views on the possible identity of the plant, five representatives of which are provided below. The 'flowers' are formed by annular depressions rather than a simple hollow. The 'leaves' are mainly opposite but occasionally alternate; or are they prickles?

Ideas to date include the possibility that it was a plant of economic importance at that time, e.g. flax or perhaps the carver's name was say Campion or Rose and this stylised representation was his trademark. Any suggestions would be gratefully received and should be sent to the address below.

OLIVER GILBERT, Department of Landscape Architecture, The University, SHEFFIELD S10 2TN



Sketches of carver's marks in Ludlow Parish Church. Del. O. Gilbert

REQUEST FOR MATERIAL OF RAPHANUS

I would be very grateful for fresh flowering and/or fruiting material of **Raphanus raphanistrum**, **R. maritimus** and **R. sativus** for the next Cabbage Patch article. I am particularly interested in material from near the coast. Postage refunded.

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

DICTIONARY OF BRITISH AND IRISH BOTANISTS AND HORTICULTURISTS

Staff of the Botany Library, British Museum (Natural History) are collecting information for a supplement to Ray Desmond's Dictionary of British and Irish Botanists and Horticulturists.

The original text has been converted to machine-readable form, to which amendments and new information are being added. Any corrections, additional information for existing entries or new biographical information on botanists, horticulturists (including gardeners, landscape gardeners and nurserymen), plant collectors and botanical artists would be gratefully received.

The Librarian, Botany Library, British Museum (Natural History), Cromwell Road, LONDON SW7 5BD.

OFFERS

HOME(S) WANTED FOR RUNS OF JOURNALS

The following runs of journals are offered FREE OF CHARGE to anyone able to collect them.

- Proceedings of the Linnean Society of London, 1952 - 1968
- Journal of the Linnean Society, Botany (later Botanical Journal of the Linnean Society), 1939 - 1988 (vol. 96).
- Biological Journal of the Linnean Society, 1969 - 1988 (vol. 33).
- Quarterly Journal of the Geological Society of London (later Journal of the Geological Society of London, 1962 - 1983).
- Proceedings of the Geologists' Association, 1967 - 1971
- Proceedings of the Liverpool Geological Society, 1946 (vol. 19(3)) - 1950 (vol. 20(3)).

Anyone interested in any of the above items should write or telephone:

Professor W.S. LACEY, 75 Penrhyn Beach West, Penrhyn Bay, LLANDUDNO, Gwynedd LL30 3NR (tel. 0492 45635)

BOOK NOTES

In the January 1989 issue of Watsonia 17(3), reviews of the following books will be included:

- The Natural History of the Chew Valley**, by K. Allen et al.
- Aroids**, by D. Bown.
- The correspondence of Charles Darwin**, vol. 3, ed. by F. Burkhardt & S. Smith.
- Mordecai Cubitt Cooke**, by Mary P. English.
- Flowers of Cyprus: Plants of Medicine**, 2 vols, by C.C. Georgiades.
- The flora and vegetation of County Durham**, by G.G. Graham.
- The Genus Cyclamen**, by Chris Grey-Wilson.
- The Fauna and Flora of Exmoor National Park**, compiled by Exmoor Natural History Society.

- Atlas Florae Europaeae** vol. 7, ed. J. Jalas & J. Suominen.
Plant Crib, compiled by Tim & M.B.D. Rich.
The Flora of Lough Neagh, by John Harron & Brian Rushton.
River plants of western Europe, by S.M. Haslam.
Supplement to the Wild Flowers of Guernsey, by David McClintock.
Wildlife conservation in churchyards, Norfolk Naturalists Trust & Diocese of Norwich.
Collins Photoguide to Wild Flowers of Britain and Northern Europe, by Oleg Polunin, ed. by J Akeroyd.
The Flowering Plants and Ferns of the Shetland Islands, by W. Scott & R. Palmer.
An introduction to the Flowering Plants of Lochbroom & Assynt, by Colin Scouller, with an appendix by Peter Clough.
Key works to the Fauna and Flora of the British Isles and north-western Europe, ed. D.W. Sims, P. Freeman & D.J.L. Hawksworth. Ed. 5.
Fytokartograficke synteszy CSR, compiled by B. Slavik.
Natural Science Collections in Scotland (Botany, Geology, Zoology), by H.E. Stace et al.
The heritage of Clonmacnoise, ed. by M. Tubridy.

The following have been received recently. Those which will NOT be reviewed in Watsonia are marked with an asterisk.

- ***The Late Oligocene Creede Flora, Colorado**, by Daniel I. Axelrod.
[palaeobotanical study of megafossils of 19 conifer and 54 angiosperm species from forest and scrub-woodland bordering Creede Lake.]
***Flora Neotropica Monograph 46: Violaceae part 1 - Rinorea & Rinoreocarpus**, by W.H.A. Hecking.
[Detailed study of 49 S. & C. American members of the Violaceae.]
***Biologically Active Natural Products**, ed. K. Hostettmann & P.J. Lea.
[18 chapters on antibacterial, antifungal, antimalarial, amoebicidal, antineoplastic and immunostimulant substances extracted mainly from plants. 38 contributors.]
A **Checklist of the Flowering Plants and Ferns of Midlothian**, ed. D. McKean, and A **Checklist of the Ferns and Flowering Plants of East Lothian**, ed. by A.J. Silverside & E.H. Jackson.
Plants of Dhofar, by Anthony G. Miller & Miranda Morris; ill. by Susanna Stuart-Smith.
Endangered wildlife in Lincolnshire & South Humberside, ed. by A.E. Smith.
A **Bicentenary History of The Linnean Society of London**, by A.T. Gage & W.T. Stearn.

Would authors and publishers sending books to BSBI for review in Watsonia please note that I have taken over the editing of book reviews from Norman Robson. He has served the society with distinction as reviews editor, as well as co-editor of Watsonia, for a period of more than 20 years, and has only recently retired from the British Museum (Natural History). Although Norman's name appears as editor in vol.7(1), published in 1969 (the first to have a green cover), The earliest mention of his responsibility for book reviews occurs in vol. 6(5); this was published in 1967 when the current editor had barely left school!

Review copies can now be sent directly to me at the address below. If they are sent c/o the BM(NH) they will be forwarded, but this involves extra work

Please supply details of the price, and the address from which copies can be obtained, for privately published works. We try to include ISBN (International Standard Book Numbers), but in local publications this is often lacking. If you are planning to produce a publication, but are unsure how to apply for an ISBN, please ask me for details.

JOHN EDMONDSON, Botany Dept., Liverpool Museum, William Brown St, LIVERPOOL
L3 8EN. (Tel 051-207 0001 ext. 209.)

WILD FLOWERS OF SPAIN - A CRITIQUE

If any botanical publication failed to live up to its expectations it must be this series (Innes. C, 1987, **Wild Flowers of Spain**, Vol 1, 2 and 3. Cockatrice Publishing Ltd.,

Whitchurch, Hants. ISBN 1 870353 00 5, 1 870353 01 3, 1 870353 02 1. £3.75/vol.).

Although these booklets are well illustrated with colour plates against each species described, an unacceptable number of botanical 'faux pas' render them unreliable as identification aids. For example, the plate for *Anacamptis pyramidalis* is of a species of *Dactylorhiza*; possibly *D. majalis*; the plate for *Orobanche crenata* appears to be either *Orchis tridentata* or *O. lactea*; *Orobanche minor* has a plate showing *Neottia nidus-avis*; whilst that for *Prunella hyssopifolia* is of *Fedia cornucopiae*. However, it is not so much these and other conspicuous mistakes which are of most concern but those which go unnoticed, particularly where plants unknown to the user are involved. The introduction to volume 1 indicates that these booklets are designed primarily for the benefit of the plant enthusiast. Why then was it necessary to include *Tussilago farfara*, *Primula veris* and *Plantago coronopus*, familiar species to any enthusiast worth his salt? I cannot commend this series of booklets to anyone intending to visit Spain, a pity, as it could have easily been a useful little series.

P. JEPSON, 3 Avondale Rd, DARWEN, Lancs. BB3 1NS

REPORTS OF FIELD MEETINGS

Reports of Field Meetings are edited by, and should be sent to, Dr B.S. Rushton, Biology Department, The University of Ulster, COLERAINE, Co. Londonderry, N. Ireland BT52 1SA.

1986

IRELAND

KILLARNEY, CO. KERRY. 26th-27th JULY

This meeting was well-attended, though not by BSBI members. On a bright sunny Saturday morning, the party consisted of: two wildlife wardens of the Killarney National Park, two press-ganged students from Trinity College Dublin, a member of An Taisce (The National Trust for Ireland) from Tralee, the ever-faithful Maura Scannell (of the National Herbarium) and myself. Our primary aim was to record the degree to which introduced species were becoming naturalized within the 'wild' parts of the Killarney National Park. Some of these may have spread from gardens, especially the extensive gardens of Muckcross House; others may have been originally planted within the 'wild' area.

We worked westwards from Muckcross House along the limestone shores of Muckcross Lake. We were soon confronted by an unknown *Cotoneaster*, regenerating on an open limestone rock-face by Dundag Bay. This has since been identified as *C. franchetii* Bois by Professor Clive Stace. A native of China, this species is already known to be naturalized in the south of England but it has not previously been recorded as growing wild in Ireland. *Cotoneaster horizontalis* was locally frequent at the same locality. *C. microphyllus*, from the Himalayas, was all too abundant around Kilbeg Bay, spreading by layering as well as by seeding.

A number of 'laurel-leaved' evergreen shrubs and small trees are naturalized around Killarney, mimicking the native holly and *Arbutus unedo*. The notorious one is of course *Rhododendron ponticum*; vast amounts of money and manpower are being put into clearing the woods of this most pernicious weed, yet it continues to advance in some woods and resprout in others. Other laurel-type species observed near Muckcross Lake were *Viburnum tinus* (Laurustinus) (seeding and spreading), *Laurus nobilis* (Bay Laurel) (seedlings close to planted trees), *Prunus lusitanica* (Portugal Laurel) and *P. laurocerasus* (Cherry-laurel). Of the introduced trees in the semi-natural area, self-sown saplings were seen of *Fagus sylvatica*, *Quercus cerris*, *Picea sitchensis*, *Picea abies* and *Acer pseudoplatanus*. Through its ability to regenerate even under a closed canopy of other tree species, beech is invasive in the Killarney woods, and is a potential threat to the unique native yew-wood. The case of *Pinus sylvestris* is a special one: a major component of the primeval woodland of Killarney, it apparently became extinct in prehistoric times. Reintroduced in the 18th

century from Scottish stock, it is now regenerating freely around the shores of Muckross Lake.

Of the smaller aliens, *Centranthus ruber* was seen only on an open cliff near to Muckross House. *Hypericum calycinum* and *Vinca minor* are spreading vegetatively under forest canopy. *Clematis vitalba* is an introduced species which seems to have reached an equilibrium, rather sparsely scattered through the limestone area, mainly at woodland margins. Smith (1756. *The ancient and present state of the County of Kerry*, Dublin) recorded the planting of 'vines' by the shores of Muckross Lake; this was considered by Scully (1916. *The Flora of Kerry*, Dublin) to be a first reference to *Clematis vitalba*. An unambiguous reference to an early introduction is that for *Ruscus aculeatus* (Butcher's Broom): "It grows wild near Muckruss" (Smith, *op. cit.*). It still does (Kelly 1985. Plant records from about Ireland, 1965-1983. *Ir. Nat. J.*, 21:416-419).

In the afternoon we took a boat trip on Lough Leane, the lake water glittering in the sunlight. Our first stop, Rough Island, was well wooded, mostly *Quercus petraea* with some *Taxus baccata* and *Fagus sylvatica*. Some splendid specimens of *Arbutus unedo* were measured and admired. A species list was made: the only aliens noted were *Fagus* (regenerating freely), *Acer pseudoplatanus*, *Laurus nobilis* and an *Aster* sp. A short stop on Innisfallen provided more of an antiquarian interest rather than a botanical one.

Having discovered that the trip for the Sunday morning had been advertised in 'The Kerryman', I approached Ross Castle car-park with some trepidation. The turnout was a satisfactory 20 people, mostly from Killarney, but even including a couple of American tourists. Ross Island - actually a peninsula - has an exceptionally rich flora, and we examined both common and rare species. Most memorable were the great sycamore on the roof of the old lodge, with roots hanging down, like a strangling fig on the ruins of Angkor Wat; the thriving colony of *Carex pseudocyperus* - an isolated station of an uncommon plant; the lush patch of *Vicia sylvatica*, which provided an occasion for an exercise in 'keying out'. A rest by the old copper-mines allowed us to inspect the curious, depauperate flora of the vicinity, with its incongruous element of seaside species. Ripe fruits of *Ribes rubrum* provided sustenance on the return route through swampy woodland.

In the afternoon a smaller party took cars up to the Galways River-Ullauns River area, and walked along a roadway embellished with Chamomile (*Chamaemelum nobile*) - a native species frequent in the south-west of Ireland but rare elsewhere. In the woods we admired the lush growth of *Hymenophyllum tunbrigense* and *H. wilsonii*, flourishing on rocks and tree trunks along with a profusion of bryophytes, in this higher-rainfall area around the Upper Lake. This higher rainfall soon making itself in evidence to an uncomfortable degree, we retreated to our cars, well pleased nonetheless with the diversity of our two days.

D.L. KELLY

1987

ENGLAND

SOUTH-WEST WILTSHIRE. 18th-19th JULY

On both days a variety of habitats were investigated, including chalk grassland, damp meadows and riversides, and, unusually for Wiltshire, very wide, moist roadside 'verges' near Semley.

On the Saturday, eleven BSBI members together with twelve from the Wiltshire Flora Mapping Project concentrated on three and a half tetrads in ST82 (Shaftesbury, 1:25000 map) and two tetrads in ST83 (Mere). Plants were recorded in three categories: A, common; B, intermediate; C, uncommon. 28 C species were found in ST82, a fine tally compared with five in ST83 and twelve in ST93. Tetrad W, which included Semley Hill on its west, and had wooded common land as well as streams was the richest with 336 species of which twelve were C category. On Semley Hill itself were *Vaccinium myrtillus* and *Carex pilulifera*, with *Betula pubescens* and *Quercus cerris*. The tetrad also included *Luzula sylvatica*, *Borago officinalis* in a roadside waste area, *Viola tricolor* and *Veronica scutellata*.

In comparison, a nearby tetrad (S) provided only one species of special interest, *Oenanthe pimpinelloides*, which is very rare in the county but abundant in a small area of damp meadows. This is the first record for a long time.

Potentilla anglica and *Senecio viscosus* (in two tetrads) became of secondary interest

ANNUAL EXHIBITION MEETING, 1987

The Annual Exhibition Meeting was held in the Department of Botany, British Museum (Natural History), London, on Saturday 28th November 1987, from 12.00 to 17.30 hours. The following exhibits were shown.

REVISION OF FLORA EUROPAEA VOL. 1

Flora Europaea Vol. 1 (published in 1964) is being revised at Reading University. The revision will correct errors in the existing text and incorporate the large body of new information on the continent's flora that has accumulated over the past 25 years, much of it the result of research stimulated by the publication of Flora Europaea. The revised volume will satisfy the continuing demand for a complete Flora of Europe that is up-to-date (in so far as that is possible). Examples of new material as compared with original text were displayed from **Berberis** (Berberidaceae) and **Petrorhagia** (Caryophyllaceae). The revision will be completed in 1988 and published probably in 1990.

J.R. AKEROYD

PLANTAGO MAJOR subsp. INTERMEDIA IN IRELAND

Plantago major subsp. **intermedia** (DC.) Arcangeli has been noted recently at a number of localities in Co Dublin by J.R.A. and D. Doogue. Although overlooked in recent Irish Floras, this plant was known to 19th century Irish botanists and there are several collections from Ireland at BEL, DBN and TCD. The two subspecies can be separated on the basis of the following key.

Leaves subcordate to cordate at the base, more or less glabrous, 5- to 9-veined; capsule containing up to 12 seeds (mainly trampled grassland) subsp. **major**
Leaves cuneate at the base, puberulent, 3- to 5-veined; capsule containing 13-25(-36) seeds (mainly lake-shores and coastal communities) subsp. **intermedia**

J.R. AKEROYD

PLANT IDENTIFICATION AT READING

The Herbarium of the School of Plant Sciences, University of Reading identifies many plant specimens. Examples were shown, including one of **Apium nodiflorum** (L.) Lag. from Greece, of how these often provide publishable records.

Photographs of Moroccan plants illustrated how these too can provide valuable scientific data. Retention of material by RNG is requested, in order to build up our data resources and increase the accuracy and ability of this service.

J.R. AKEROYD & S.L. JURY

SOME RUBUS DISCOVERIES OF 1987

(a) Two brambles new to Ireland

The **Rubus** flora of Ireland is still so very underworked that it is not difficult to add to the list of species known from there. But **R. purbeckensis** Barton & Riddelsdell and **R. ordovicum** A. Newton, among the fruits of a cursory survey of v.c. H21, are two novelties of exceptional interest geographically. The former was believed till now to be an English endemic, more or less confined to the coastal strip of Wessex on either side of Bournemouth. This summer it was discovered in abundance on the Hill of Howth, the heath-covered headland which shields Dublin Bay from the north. Although the Howth **Rubi** were well sampled by Colgan, Waddell and Praeger around the turn of the century, this one surprisingly seems to have been missed. **R. ordovicum**, seen in several places in and around Dublin, is a more likely find, inasmuch as it is a species of north-western Wales.

Nevertheless, it too has been supposed until now to be a narrow endemic. Its discovery also provides the first instance of a *Rubus* species which bestrides the Irish Sea at its middle, paralleling the similar transmarine distributions of *R. inaequaldens* and *R. longus* (Wexford + South Wales) to the south and *R. scoticus* (Down + Central Scotland) to the north.

(b) Two brambles new to Hampshire (v.c. 11)

The discovery of *R. imbricatus* Hort and *R. altiarcuatus* Barton & Riddelsdell brings the Hampshire *Rubus* list up to a total of 126 named species. There is a doubtful old record for the former from Bournemouth, unsupported by any specimen. The new station between Southampton and Fareham, is in a part of the county in which the species was not expected and constitutes a midway stepping-stone between the long-known locality clusters on the Dorset and Surrey heaths. *R. altiarcuatus* occurs quite widely in the Isle of Wight, v.c. 10, and its absence from the mainland opposite has long looked anomalous. That three miles of it should now have been found in an area so supposedly well-explored as the New Forest is an indication of how much work still remains to be done on the group even in southern England.

D.E. ALLEN

FESTUCA IN BRITAIN

This large perennial genus is taxonomically difficult and likely to remain so. Important distinctive characters include the furrow on the caryopsis, the presence or absence of leaf or sheath auricles, the type of branching and leaf-folds. Other characters such as hairiness of the lemmas and glaucosity are given minor significance in classification. Current taxonomic problems in naming British plants are the extent to which the *ovina* and *rubra* groups should be lumped or split. Pending further experimental work or cultivation and hybridization, such as that of Watson (1958) and Auquier (1974), I would like to suggest a simple classification of the British material. This is compared with the schemes of Bentham and Hooker (1943), Howarth (1948) and Markgraf-Dannenberg (1980) below.

	Bentham & Hooker (1943)	Howarth (1948)	Markgraf-Dannenberg (1980)	HJMB (1987)
	<i>sylvatica</i>	<i>sylvatica</i>	<i>altissima</i>	<i>altissima</i>
	<i>elatior</i>	<i>pratensis</i> <i>arundinacea</i>	<i>pratensis</i> <i>arundinacea</i>	<i>pratensis</i> <i>arundinacea</i>
	<i>B. giganteus</i>	<i>gigantea</i>	<i>gigantea</i>	<i>gigantea</i>
		<i>heterophylla</i>	<i>heterophylla</i>	<i>heterophylla</i>
		<i>rubra</i> ssp. <i>fallax</i>	<i>nigrescens</i>	} <i>rubra</i> (2n=14,28,42)
		<i>rubra</i> ssp. <i>duriuscula</i> v. <i>vulgaris</i>	<i>rubra</i> ssp. <i>rubra</i>	
		<i>rubra</i> ssp. <i>duriuscula</i> p.p.	<i>rubra</i> ssp. <i>litoralis</i>	
		<i>rubra</i> v. <i>glaucescens</i> & <i>pruinosa</i>	<i>rubra</i> ssp. <i>pruinosa</i>	
			<i>rubra</i> ssp. <i>juncea</i>	
		<i>rubra</i> v. <i>arenaria</i> & <i>oraria</i>	<i>rubra</i> ssp. <i>arenaria</i>	} <i>rubra</i> (2n=56)
		<i>juncifolia</i>	<i>juncifolia</i>	
		<i>glauca</i> v. <i>caesia</i>	<i>longifolia</i>	<i>longifolia</i>
<i>ovina</i>		<i>tenuifolia</i>	<i>tenuifolia</i>	<i>tenuifolia</i>
		<i>ovina</i>	<i>ovina</i>	} <i>ovina</i> (2n=28,42)
		<i>ovina</i> v. <i>firmula</i>	<i>guestfalica</i>	
		<i>rubra</i> ssp. <i>duriuscula</i> p.p.	<i>lemanii</i>	
		<i>longifolia</i>	<i>trachyphylla</i>	
			<i>armoricana</i> (S only)	
			<i>indigesta</i> (H9?)	} <i>vivipara</i> agg.
		<i>ovina/tenuifolia</i> (proliferous)	<i>vivipara</i>	

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- P. Auquier (1974), Thesis, Univ. Liège.
G. Bentham & J.D. Hooker (1943), Handbook of the British Flora, (7th ed.).
W.O. Howarth (1948), Rep. Botl Exch. Club Br. Isles, 13: 338-346.
I. Markgraf-Dannenber (1980), Flora Europaea, 5: 125-153.
P.J. Watson (1958), New Phytol., 57: 11-18.

H.J.M. BOWEN

THE REINTRODUCTION OF A SELECTION OF ENDANGERED NATIVE SPECIES
TO THEIR NATURAL HABITATS

Since 1985 the University Botanic Garden, Cambridge, has maintained a collection of rare native plants. Such collections can only provide a short-term refuge. For the longer-term conservation of critically endangered species, a carefully conceived and monitored reintroduction programme may be necessary. Such a programme is being conducted by the N.C.C. based at the University Botanic Garden. Nine species are proposed as candidates for reintroduction: *Damasonium alisma*, *Carex depauperata*, *Bupleurum falcatum*, *Teucrium botrys*, *Artemisia campestris*, *Pulmonaria officinalis* subsp. *obscura*, *Veronica spicata* subsp. *spicata*, *Leersia oryzoides* and *Scleranthus perennis* subsp. *prostratus*. This initial selection is based on four criteria: the species is critically endangered; suitable stock is available; the British sites are within reasonable distance of Cambridge; and experts on their ecology are available.

C.R. BIRKINSHAW

LYTHRUM HYSSOPIFOLIA L. IN SUSSEX

Lythrum hyssopifolia L., Grass Poly, was found on Thorney Island (v.c. 13), West Sussex in 1987, by David J.P. Miller, acting R.S.P.B. warden for Pilsey Island at the time. The last reported sighting in W. Sussex had been in 1853, reported in C.C. Babington's Journal (published posthumously in 1897 by A.M. Babington) where he describes walking with Dr and Mrs Tyacke between East and West Wittering and "at about half way finding, in a damp field behind a hedge of Tamarisk, *Lythrum hyssopifolia* ..." The plants in 1987 were growing with (and under) a dense stand of *Matricaria perforata* (*Tripleurospermum inodorum*), Scentless Mayweed, at the corner of an arable field - about 250 plants in association with *Polygonum aviculare* and *Viola arvensis*, in a depression in the field-corner, liable to flooding in winter as at the Cambridgeshire sites. Both the tenant farmer and the landowner (Ministry of Defence) are co-operating with plans for the conservation of the site.

Since the publication of Preston, C.D. & Whitehouse, H.L.K. 'The Habitat of *Lythrum hyssopifolia* in Cambridgeshire' in Biol. Conserv., 35: 41-62 (1986), the plant has been reported (1987) not only in W. Sussex, but also in Gloucestershire, and in Oxfordshire, where an old site was refound.

M. BRIGGS

GOING COMMERCIAL

This exhibit explained my reasons for seeking to change what had previously been a life-long amateur pursuit into a money-making activity, and illustrated some of the services that it is proposed to offer. These services have been described in a leaflet distributed to BSBI members.

R.M. BURTON

HYBRIDIZATION AND SPECIATION IN NORTH TEMPERATE ISOETES

Hybridization between the two aquatic species of *Isoetes* found in the British Isles, *I. echinospora* (2n=22) and *I. lacustris* (2n=110), has not been considered very likely as the two species rarely grow in the same lake. Recognition of this and other hybrids in

eastern North America by WCT has led to a joint investigation into the *Isoetes* flora of Europe by WCT and ACJ. Fieldwork in the summer of 1987 in the lakes around Pic Carlit, Pyrénées Orientales revealed mixed populations of these species with *I. brochonii*, hitherto considered endemic to the area. Preliminary studies on the morphology and cytology of these plants show *I. brochonii* to be duodecaploid, most probably originating by chromosome doubling of the hexaploid hybrid between *I. echinospora* and *I. lacustris*. The hybrid has been found in the wild in the U.S.A. by WCT and suspected throughout the range of the parents.

In view of the above, a renewed investigation was begun into the possible occurrence of both the hybrid and *I. brochonii* in the the British Isles. Records of *I. echinospora* and *I. lacustris* entered on the BRC computer were searched by CDP for those lakes reported to contain, or to have contained at some time, both species. Some 40 lakes throughout the area were listed and a map of the putative distribution was shown.

Examples were exhibited of the species and the hybrid, including herbarium specimens from Scotland and northern England which showed megaspore sculpturing and a general habitat that compared strongly with *I. brochonii*. A study of the cytology of plants from these populations will be made in 1988.

J.M. CAMUS, A.C. JERMY, A.M. PAUL, C.D. PRESTON & W.C. TAYLOR

W. LLEYN 1987: DRYOPTERIS AFFINIS agg., AND AN ALIEN POLYGONUM

All three subspecies of *Dryopteris affinis* (Golden Male-fern) are now recorded from W. Lleyn but mapping is incomplete, as recognition is still imperfect.

Subsp. *affinis*: the most readily recognized, is abundant and widespread.

Subsp. *borreri*: not always distinguishable from *D. filix-mas*, is less frequent.

Subsp. *cambrensis*: probably more restricted, but still under-recorded.

The alien *Polygonum amplexicaule* D. Don (Red Bistort) was discovered in 1987 in W. Lleyn and adds a fifth locality (and a new v.c. record) to Wales. A map showing the chronological sequence of records in the British Isles since its earliest reported escape in 1880 in Co. Armagh, gave a picture of a scatter of sites ranging from the Channel Islands and Cornwall to Edinburgh and Fife, but with a marked preponderance in western Ireland and around London and the Home Counties, in contrast to a paucity in central England. Genuine naturalization (other than a casual, garden-outcast status) seems favoured in western Ireland.

A.P. CONOLLY

CHANNEL ISLANDS 1986-7

(a) Taraxaca of the Bailiwick of Guernsey - New records, 1986.

Alderney - *Taraxacum fulviforme*, *T. boekmanii*, *T. bracteatum*, *T. lamprophyllum*, *T. pseudohamatum*, *T. ancistrolobum*, *T. cordatum*, *T. ekmanii*, *T. expallidiforme*, **T. insigne*, *T. polyodon*.

Sark - *T. britannicum*, **T. gelertii*, **T. lucidum*, *T. raunkiaeri*, *T. oblongatum*, *T. polyodon*, **T. undulatum*.

Guernsey - *T. britannicum*, *T. atactum*, **T. hamiferum*.

* - indicates a new Channel Island record.

(b) Guernsey and Sark 1987: Some Records.

Guernsey - *Berberis vulgaris*, *Saxifraga granulata* var. *plena*, *Anthriscus cerefolium*.

Sark - *Chelidonium majus*, *Chenopodium ficifolium*, *Sieglingia decumbens*, *Glyceria declinata*, *Festuca huonii*, *F. longifolia*, *Avena fatua*.

R. COOK

PROPOGATION OF POLYGONUM MARITIMUM L.

"Often stated to be extinct on the mainland of Britain, this very rare plant still holds on in at least one Cornish station" (L.J. Margetts & R.W. David, A Review of the Cornish Flora, 1980 (1981)). Polygonum maritimum was found at Lantic Bay in v.c. 2 by P. Ward in 1972; 28 plants were seen by L.J.M. and R.W.D. in 1978, only 2 in 1979, but around 30 during the BSBI Lostwithiel Field Meeting on 11 September 1982. In June 1980, before it became a Scheduled Species, three shoot-tip cuttings about 10mm long were taken and mist-propagated at the Cambridge University Botanic Garden. Shoot-tip cuttings root freely at 23°C in 8-15 days. Plants grow to 0.4m radius in one season out of doors, and flower and fruit copiously. Kept in the mist, a plant has grown to nearly 1m, and in a frost-free glass-house seedlings occur spontaneously.

D.E. COOMBE

PROPOSED FIELD MEETING, POLAND, 1989

Details of a provisional itinerary and costings were displayed, together with illustrative material of some of the places it is hoped to visit. Additionally, herbarium specimens were shown of non-British representatives of Festuca and Calamagrostis from Polish montane habitats. Two sedges, Carex bohemica and Eleocharis ovata, the latter as a living plant, from mires in eastern Poland were also displayed.

A. COPPING

THE ALIEN AQUATIC CRASSULA HELMSII
CONTINUES TO EXPAND ITS DISTRIBUTION IN BRITAIN

Further occurrences of C. helmsii (T. Kirk) Cockayne continue to be recorded and the total number has now reached c. 140 sites (late 1987) with 14 nature reserves affected to a lesser (0-10 metres square) or greater extent (12 site occurrences up to 400 metres square). The spread of the plant within sites appears to be greatly variable and has caused widely differing degrees of concern. The previous suggestion that extreme measures of control should be considered, i.e. the use of herbicides in nature reserves, continues to be discussed and selective trials have begun; formal recommendations for the best control technique may soon be available following the probability that trials will be financially supported by NCC. Meanwhile the mechanisms of its spread and the effects on the suppression of native flora and fauna, particularly amphibians, continue to be recorded.

F.W. DAWSON

BIOSYSTEMATIC STUDIES IN TWO BRITISH LIMONIUM SPECIES

Limonium vulgare Miller is self-incompatible and exhibits dimorphism in pollen and stigma, whereas L. humile Miller is self-compatible and monomorphic. Both are distributed in salt-marshes around the coasts of Britain, often found in the same site, together with intermediate forms: it is not certain whether these are hybrids or variants of either species. Measurements of 17 characters in two separate populations of both species show that L. vulgare is more variable - a discriminant analysis mis-allocates 31% of the L. vulgare plants to the L. humile group. This may indicate hybridization and introgression towards L. humile. Studies in phenology show that L. vulgare produces 5 times as many flowers which remain open longer than those of L. humile. This indicates that there is considerable selective pressure on L. vulgare to maintain outcrossing at a reasonable level. Cytological studies and artificial crosses were also illustrated and heterostyly discussed. It can be seen that these two closely related species, which grow in very similar ecological situations, differ quite markedly in their reproductive strategies.

H.J. DAWSON

TEMPTING TETRADS

During 1987 several weeks were spent working in northern and western Scotland. Between NCC commitments some tempting BSBI squares were visited and recorded for the Monitoring Scheme. Tim Rich had said apparently that "he might as well write off Dutchman's Cap", one of the Treshnish Isles between Tiree and Mull. The challenge was accepted, and with the boatmanship of Peter Wormell, a party of 4 landed for 2 hours. The most spectacular new record was *Orobanche alba* Steph.

Other squares recorded included 17/26 Sorisdale, Coll; 17/89 Luinne Bheinn, v.c. 97; and NZ26 Fair Isle. A sample of "Rich's Reapings" was also displayed. Captions for the rather flat and arabilized landscape in 52/18 Sawtry, v.c. 31, were welcomed.

L. FARRELL

"LOST AND FOUND" - ALOPECURUS BULBOSUS Gouan IN S.E. ENGLAND

Since 1930 there have been few records of *Alopecurus bulbosus* in S.E. England, although historical sources suggested that this grass was once widespread in the region. Therefore a survey was carried out of its distribution in S.E. England in 1986-87. The grass was found in many localities from which it had been recorded in the past, and has obviously been overlooked.

The typical habitat is the damper areas of unimproved grazing marshes, where the grassland is brackish, but not actually saltmarsh. *A. bulbosus* often borders shallow channels and hollows which hold water in the winter, or is found on tussocky 'islands' in wet areas where cattle trample. The wettest parts of such areas are usually colonized by *A. geniculatus*.

A. bulbosus has a good 'jizz' in the field, and is most conspicuous at the end of May and beginning of June. The bulbs and the pointed glumes are diagnostic, but the general neat, delicate appearance, small dark narrow heads and upright habit are quite different from *A. geniculatus*, which of course 'kneels' more obviously, is often much more substantial, and appears altogether coarser and more floppy.

A. bulbosus is recorded from most coastal vice-counties from S. Wales to E. Norfolk. Investigations in S.E. England in 1987 indicated that it is well worth looking for the plant in places which have old records, if the habitat has not been drained, ploughed or otherwise 'improved'. Estuarine habitats and grazing marshes can be quite bleak so early in the season, but finding this unusual and attractive grass in a site where it may not have been seen for 50 or even 80 years is extremely rewarding, and accurate records now may help conservation of this plant and its interesting habitat.

R. FITZGERALD

FLORET PHENOLOGY OF CHAMAENERION ANGUSTIFOLIUM L.
ON MITCHAM COMMON, S.W. LONDON

The course of floret development, the weather, and pollinator activity were followed for two tagged spikes at one site, and one at another; sites selected to span the ecological range of the species on Mitcham Common. Observations were recorded daily, at about 4.00pm., from 31 July to 18 September 1987. 'Phenolograms' showed acropetal expression to reflect temporal development except where floret aspect or axis condensation were of influence. Floret duration inversely related to mean daily maximum temperature leaving floret synchrony unaffected. A floret life-span scale (0-100) revealed remarkable protandry, requiring an observed pattern of insect visits for effect. Square-root transformation lineated staminal decay, with refinement demonstrating two-wave dehiscence regulating pollen supply to foragers. An 'Isomatrical' treatment further described this. Weather events disturbed the plant-insect interface to encourage either self-pollination, or/and hybridization between relatively isolated clones.

R.W. GROVES

PALYNOLOGY IN THE URBAN ENVIRONMENT

There are many different functional and educational applications of palynology. The study of pollen and the role of bees has been under-utilized as an educational resource. Studies in the Urban environment in North London have demonstrated the value of introducing this topic at school level. The display described pollination and pollen loads on bees, with reference to three contrasting common urban plants: coltsfoot, an early flowering species; rosebay willowherb, a mid-summer flowering species; and creeping thistle, a late flowering species. The importance of the pollinators has been assessed with reference to the named species and their value to agricultural crops. Posters of these plants and general information on pollination and mounted specimens were shown.

The work of the Urban Spaces Scheme in North London was described briefly and several different types of study that palynology may lead on to were suggested. These ranged from anatomy and animal behaviour to conservation studies.

M. HALE and R. LIVINGSTONE (Urban Spaces Scheme)

HYBRIDIZATION IN THE GENUS POTENTILLA, GROUP TORMENTILLAE

The British Tormentillae comprise two tetraploid species, *P. erecta* and *P. reptans* ($2n=28$) and their allo-octoploid derivative, *P. anglica* ($2n=56$). The latter is intermediate in morphology, with 3-, 4- or 5-nate cauline leaves and 4 or 5 petals. Hybrids between *P. anglica* and the tetraploids are quite common in the British Isles and are designated *P. x suberecta* (= *P. anglica* x *P. erecta*) and *P. x mixta* (= *P. anglica* x *P. reptans*). Herbarium specimens demonstrated some of the phenotypic variation within the five taxa and the absence of conspicuous distinguishing features between *P. anglica* and the hybrids which makes field identification very difficult. Photographs of pollen showed that fertility and pollen grain size are very useful diagnostic characters.

The third hybrid combination, *P. reptans* x *P. erecta*, is very rare but one natural specimen was exhibited with a photograph showing the tetraploid chromosome number. An experimentally produced hybrid was also shown, together with a putative natural hybrid whose chromosome number has not been determined.

B. HAROLD

THE COUNTY OF DORSET: PLANT HABITAT CHANGE SINCE THE 1930s

A comprehensive botanical survey of Dorset was undertaken in the 1930s by Professor Ronald Good. This was the basis of his Geographical Handbook of the Dorset Flora (1948). An attempt has now been made to find out the extent of plant habitat change after 50 years by re-visiting 7227 of Professor Good's stands or sites.

The exhibit was a summary of observations made 1979-1986 and showed that 57% of the sites were the same habitats as in the 1930s; 13% were changed to some extent and 30% were totally different. The main reasons for change were attributed to methods of agriculture and forestry, and the degree of change in different habitats showed that some were less affected than others.

Thus sites recorded as unchanged were: maritime 94%; hedgebank 82%; aquatic 81%; woodland 65%; marsh 52%; walls, arable fields & other sites 48%; heath 45%; thickets 28%; grassland 23%.

The results do not include changes known to have occurred since the present survey, nor an additional 290 of Good's stands in arable land which were less easily identifiable and therefore omitted.

R. HORSFALL

AFFORESTATION AND PLANT DISTRIBUTION - CAUSE FOR CONCERN?

The impacts of afforestation on plant distribution are not fully understood. When trees are planted on open ground (moorland, grassland, mire) there are radical changes in community composition, and although many species survive along roads and rides, some are

lost and others introduced. With the rate of afforestation planned at 20-25,000 hectares per annum, there is cause for concern that species may become locally or regionally extinct. N.C.C. is seeking information on the influences of afforestation on plant distribution, in order to improve its capacity to advise government and the forest industry on nature conservation in commercial forests, and to ensure the retention of adequate areas of unplanted, semi-natural vegetation.

A. HOUSE

BRITISH COAL-SWAMP FLORA

Recent geological collecting from a colliery tip near Radstock (Avon) has produced a good sample of the swamp/floodplain flora that flourished in S.W. England 300,000,000 years ago during the Upper Carboniferous Period. At that time, England lay in the continent of Laurasia just N. of the equator and the tropical climate, together with the large areas of lowland swamps and deltas, provided ideal conditions for the growth of luxuriant forest. The exhibit showed the three main plant groups that flourished in Coal Measure forests - clubmosses, horsetails and ferns.

Clubmosses are represented by *Lepidodendron* and *Sigillaria* which were large trees dominating the swamp communities and which became extinct at the end of the Carboniferous when the swamps dried out. Also represented is *Lycopodites*, a herbaceous clubmoss similar to modern *Lycopodium*.

Horsetails are represented by *Calamites*, a medium-size tree which colonized the margins of deltas and lakes, and *Sphenophyllum*, a herb.

Ferns appear to have dominated the Carboniferous floodplain communities, preferring the drier but nonetheless humid conditions of slightly higher ground. There were two major kinds - seed-ferns, which superficially resemble modern ferns, but reproduced by means of seeds, and true ferns which, like living species, reproduced by releasing spores. The ferns were mainly low herbaceous plants, although some reached the size of small trees. Seed-ferns, now extinct, were much more abundant in the coal forest than true ferns.

The exhibit also included examples of coal forest animals; these were mainly arthropods, the commonest being cockroaches.

E.A. JARZEMBOWSKI & P.A. AUSTEN

A NEW SPECIES OF THE GENUS *TORILIS* Adanson (APIACEAE)

The name *Torilis nodosa* (L.) Gaertner has been used to include two very distinct variants. Linnaeus described the frequently-found variant with both spiny and tuberculate mericarps in the same umbel. This variant produces a basal rosette of 2- to 3-pinnate leaves before sending out several flowering stems with umbels on peduncles 2-5(-30)mm long; it has a chromosome number of $2n=24$, and is widespread in western central and southern Europe, south-west Asia and eastwards to Central Asia, North Africa, and is widely introduced elsewhere. The other variant has all mericarps spiny, does not produce a basal rosette of leaves, runs straight up into flower when very young; has leaves which are 1- to 2-pinnate; peduncles 3-10(-30)mm; a chromosome number of $2n=22$, and occurs in southern Portugal, southern Spain, the Balearic Islands, Sicily, Cyprus, Turkey, Israel, Iraq, Iran, North Africa and the Canary Islands. This second variant has now been described as *Torilis webbii* Jury, after BSBI member Professor D.A. Webb of Trinity College, Dublin, in the Botanical Journal of the Linnean Society, 95: 293-299 (1987).

S.L. JURY

A PLANT-COLLECTING EXPEDITION TO MOROCCO

In the summer of 1987 the University of Reading organized a joint plant-collecting expedition to Morocco with the Institut Agronomique et Vétérinaire, Hassan II, Rabat from 17 June - 22 July. Over 1100 gatherings were made consisting of c.700 higher plants, c.300 lichens and c.100 bryophytes.

Special attention was paid to field studies on the genus *Sideritis* (Lamiaceae), the subject of a taxonomic Ph.D. thesis by one of us (M.R.). This genus contains several threatened species, including *S. briquetiana* Font Quer & Pau and *S. ochroleuca* Willk.

which are likely to become extinct unless grazing pressure by goats is reduced. The only plants found were growing amongst other very spiny shrubs which protected them from being eaten.

S.L. JURY, MOH. REJDALI & M.F. WATSON

AFRICAN MISTLETOES

An investigation is being carried out on African Loranthaceae to study the relationships between morphological, anatomical and chemical adaptations to pollination and the delimitation of genera within the tropical African representatives of the family.

D. KIRKUP

'HELP'

This is an annual exhibit intended to give informal assistance with the identification of plants. It is intended especially for those specimens which are difficult because of the lack of important parts and for those which are felt not to be important enough to submit for specialist attention. Members are invited to submit specimens or to offer suggestions anonymously. The hope is that the suggestions offered will guide the submitter towards an identification, and it is not expected that 'absolute' identifications will be made. Nevertheless, with a large number of experienced botanists in attendance, very good proposals are made for most specimens.

S.L.M. KARLEY

SLOE GIN OR PLUM JAM?

The exhibit drew attention to the variation in shape, size and ornamentation of the fruit stones of *Prunus spinosa* (Sloe), *P. domestica* (Bullace, Damson, Greengage and Plum) and hybrids between them (*P. x fruticosans*).

Stone shape is uniformly globose in *P. spinosa*, but is much more variable in *P. domestica*: Plums and Damsons having elongated, somewhat flattened stones, Gages and Bullaces tending to be less compressed and less tapered. The stone is consistently small in *P. spinosa* (7.0-8.5mm long) but there is great variation in *P. domestica* (13.0-28.0mm). These differences are roughly correlated with fruit shape and size.

Hybrids (which include plants previously described as *P. spinosa* var. *macrocarpa*) also show considerable variation in stone shape, but generally fall between the parental ranges in size (10.0-12.0mm long). They also show intermediate or mixed characters with regard to habit, thorniness, twig colour, leaf shape, leaf size, leaf indumentum and in the palatability of the fruit.

A.C. LESLIE

A GIANT IVY

While gathering material of *Hedera* from the west of Scotland for the BSBI Irish Ivy Survey, Hugh and Cathy McAllister collected an ivy in 1979 at South Glendale, on the southern tip of the Atlantic side of S. Uist (v.c. 110). It grew mixed with honeysuckle on the lip of a miniature cliff near HWM. Though gathered too hastily to see its extent, the larger than usual leaves were noticeable.

The milder conditions at Liverpool University Botanic Gardens, Ness have allowed it to show its capabilities; the foliage reached to about 10cm long by 11cm wide and the internodes 7cm. In about 18 months it raced 3.05m up a tree. Superficially like the tetraploid 'Irish' ivy (*H. hibernica* (Kirchner) Bean 'Hibernica', it is however the diploid *H. helix* L. NCC personnel will report on the site.

H.A. MCALLISTER & A. RUTHERFORD

TREE REGISTER OF THE BRITISH ISLES

The major, post-1900, part was displayed, comprising about 2,500 cards, with 17 lines each side, listing 78,000 specimens of 1500 species and 1100 cultivars. Each specimen has one line with location, planting-date where known, first post-1900 dimensions and subsequent dimensions, hand-written in Indian ink. A second line overflow is indicated by an arrow after the last entry, and shown by an arrow in the left-hand margin of the second line.

All but a few very rare species have a card or cards of their own; *Sequoiadendron* with 3,100 specimens has 92; *Pseudotsuga menziesii* with 1500 has 44. Where only 1-5 specimens have been found and few more are expected, there are 2-6 species or cultivars per card. The cards are arranged alphabetically by genus and species, with conifers and broadleaves separated.

Begun in 1954 by A.F.M. during his work in tree-breeding, the Register has been since 1982, a joint work with Victoria Hallett.

A.F. MITCHELL & V.E. HALLETT

LAMPROTHAMNIUM - A PIONEER IN THE CONSERVATION OF THE AQUATIC ENVIRONMENT

Lamprothamnium papulosum (see cover illustration) is a rare charophyte restricted in Britain and Ireland to a few brackish, coastal lagoons. It is the only lower plant to be proposed by the Nature Conservancy Council for protection, and recently included in schedule 8 of the Wildlife and Countryside Act (1981) under the criterion of "a rare species confined to particularly threatened habitats." *Lamprothamnium* tolerates a wide salinity range although the optimum for growth is about 26‰. It is likely that, as with other charophytes, its growth is inhibited by the high phosphate levels which result from contamination by human sewage or agricultural waste. Most charophytes, including *Lamprothamnium*, cannot tolerate prolonged disturbance of the sediments such as when motor boat traffic causes detrital matter to remain in suspension for longer periods than would occur naturally.

It is clear, therefore, that the survival of *Lamprothamnium* depends on particular standards of water chemistry and water quality. The plant is now protected by the Quinquennial Review of the Act (1987) and these standards have to be understood and maintained by the landowners responsible for its habitat.

Furthermore, anyone 'up-rhizoiding' *L. papulosum*, by mistake or otherwise, will be committing an offence. To help those with an interest in the aquatic environment to familiarize themselves with this plant, specimens and photographs were displayed.

J.A. MOORE

POA COMPRESSA - A CASE OF MISTAKEN IDENTITY

Poa compressa L. in Britain is a species both over-recorded in one habitat and overlooked in another. In its classic habitat, growing on top of walls, there is a form of *Poa subcaerulea* Sm. which occupies the same niche and in doing so takes on some of the characters of *P. compressa*, especially the flattened culm and stems. As this character is heavily weighted in almost all the available keys, misidentifications occur; a short note on this problem and some suggestions on overcoming it will appear in *Watsonia* in the near future.

P. compressa L. is much overlooked when it grows terrestrially, often close to, or on paths and tracks. In this situation it rarely flowers and in its vegetative state it is usually passed over as indeterminate *P. pratensis* L. agg. The most obvious spot characters for correct identification are the flattened culm and the large number of nodes (6-9) versus *P. pratensis* (3-4).

Herbarium sheets of *P. compressa* and *P. subcaerulea* from walltops were exhibited and growing plants of vegetative *P. compressa* and *Poa* sp. shown.

J.M. MULLIN

COMPUTER IDENTIFICATION OF BRITISH ORCHIDS WITH COLOUR GRAPHICS

An interactive computer program for expert identification was demonstrated with data for British orchids. An IBM-PC compatible microcomputer was used with a standard form of colour graphics (EGA). The data file was in the standard DELTA format and included 53 species and 64 characters. The program is part of the PANKEY package of identification programs with an extension to allow for colour images of plant characters to be used in place of the standard text menus. Any characters can be used in any order. The user may choose any character at will, or seek advice from the computer to find characters which are generally useful or diagnostic for a species. The colour images are much welcomed by users and easily convey much more information than can be expressed with only text on screen.

R.J. PANKHURST

SCIRPUS TRIQUETER REFOUND IN KENT

Although recorded from the River Medway by Hanbury and Marshall in 1899, *Scirpus triqueter* has not been recorded since, although specially looked for on several occasions, i.e. by J.E. Lousley in 1930.

On 30th August 1987 Lady Rosemary FitzGerald, Jim Bevan and Eric Philp, with the help of Bob Tuthill and the crew of 'Jacalanta', set out from Cuxton on a rising tide and made their way up-river toward Allington. Each clump of *Scirpus* along the banks was examined and all, except three proved to be *Scirpus tabernaemontani*. The location of each clump was shown on a map.

Of the three other clumps, two proved to be the true *Scirpus triqueter* and one the hybrid *Scirpus x scheuchzeri*.

Once identified, the *Scirpus triqueter* was quite distinct from *S. tabernaemontani* being much shorter (only up to 1m tall), in much looser, less tufted clumps which tended to sprawl, and occurred furthest out on the tidal mud so that the whole plant would be completely immersed on the high spring tides. Because of scrub and tidal marsh it is just about impossible to reach these clumps of *Scirpus triqueter* from the landward side, so it is understandable why they have remained undiscovered for so long.

Specimens of all three taxa were exhibited.

E.G. PHILP

CHANGES IN THE TAXONOMY OF THE RUMEX ACETOSELLA COMPLEX: ITS IDENTIFICATION AND DISTRIBUTION IN BRITAIN

A summary was given of the recent work by H. den Nijs (1974-1985) which suggests that previous treatments of the *Rumex acetosella* complex (*R. acetosella* L., *R. angiocarpus* Murb., *R. tenuifolius* (Wallr.) A. Love) in Europe are unsatisfactory. He showed that the complex contains several polyploid series and can better be divided into four subspecies using the characters angiocarpy versus gymnocarpy and multifidy of the basal lobes of the leaves. The new subspecies are subsp. *acetosella*, subsp. *angiocarpus* (Murb.) Murb. emend den Nijs, subsp. *multifidus* (L.) Arcangeli and subsp. *acetoselloides* (Bal.) den Nijs.

Problems concerning 'tenuifoliate' plants within the complex were outlined, with gymnocarpous plants referred to subsp. *acetosella* var. *tenuifolius* Wallr. Angiocarpous plants represent a taxon the status and correct name of which are not yet clear but which was called subsp. *angiocarpus* 'tenuifoliate' variant.

Following this treatment, the *R. acetosella* complex in Britain comprises four taxa: subsp. *acetosella* var. *acetosella*, subsp. *acetosella* var. *tenuifolius* Wallr., subsp. *angiocarpus* typical variant and subsp. *angiocarpus* 'tenuifoliate' variant.

Herbarium specimens of all taxa were displayed and the exhibit concluded with a key and distribution map for the revised taxa in Britain.

J.R. PRESS

A HYPERICUM HYBRID NEW TO THE BRITISH ISLES

The common British form of the hybrid *Hypericum perforatum* L. x *maculatum* Crantz is the tetraploid (2n=32) H. x *desetangsi* Lamotte nothosubsp. *desetangsi*, in which the H. *maculatum* parent is subsp. *obtusiusculum* (Tourlet) Hayek (2n=32), the common subspecies in north-western Europe. The diploid subspecies (subsp. *maculatum*, 2n=16) is much rarer in this area, being confined in the British Isles (as a native) to west and central Scotland. It forms triploid (2n=24) and pentaploid (2n=40) hybrids with H. *perforatum* (2n=32), of which only the triploid is usually morphologically distinguishable. Plants matching Continental specimens of this hybrid (H. x *desetangsi* nothosubsp. *carinthiacum* (A. Frohlich) N. Robson) have recently been found near Bothwell Castle (v.c. 77) by Prof. J.H. Dickson and his colleagues working on a Botanical Survey of the Glasgow area. A chromosome count has yet to be made in order to confirm that this population is indeed triploid.

N.K.B. ROBSON

FINE-LEAVED OENANTHE SPECIES

There are four British species of *Oenanthe* which have pinnate leaves with narrow segments - *Oenanthe fistulosa* L., *O. pimpinelloides* L., *O. silaifolia* Bieb. and *O. lachenalii* C.C. Gmelin. From time to time they are confused by the unwary and this may in part be due to inadequacies in current Floras. Three of the species are widespread in southern England, but *O. silaifolia* is rare and there may only be about 20 sites remaining.

The exhibit presented a table of useful characters for distinguishing the species. These included drawings of the fruits, leaflets of the lowest leaves and the arrangement of the umbels, with descriptions of the stems and habitats. Use of the characteristic roots of *O. pimpinelloides*, mentioned in some Floras, was discouraged on conservation grounds.

F. ROSE & R.M. WALLS

ARABLE WEED RESERVES - THE WAY FORWARD

The BSBI Arable Weed Survey has raised the level of awareness regarding traditional cornfield flowers. Their conservation on sensitive sites (namely field margins) requires detailed knowledge of their management requirements. The Butser Ancient Farm Trust are conducting small-scale trials on manuring, sowing times and cultivation practices. The results will be tested on a larger scale at the College Lake Weed Research Centre, launched for EYE, by Castle Cement at Pitstone, Bucks. There a rotation will be used to maintain soil fertility and reduce the incidence of noxious weeds in a low-input/low-output system based on a traditional farming pattern. Both sites are open to the public during the field season.

Finally, a plea was made for carefully thought-out decisions concerning land set aside from agriculture; the obvious use may not be best for our landscape in the long term.

A. SMITH

A NEW KIND OF BRITISH FLORA

Sample pages and text were exhibited of a new Flora that is scheduled for publication in 1990. Its main features are:

1. New and realistic criteria for the inclusion of species. About 3000 species and 700 hybrids are being treated.
2. Classification and nomenclature are being updated to coincide with a new B.S.B.I. Plant List being compiled by D.H. Kent and scheduled to appear at about the same time. Synonymy since 1957 is included.
3. Species entries of about 6 lines, including a statement of diagnostic characters drawn up anew from actual plants, with a summary of habitat and distribution.

4. Newly constructed keys of both dichotomous and multi-access form, according to what is considered most efficient.
5. Original illustrations, including line-drawings by Hilli Thompson and photographs of leaves, seeds and other diagnostic organs.
6. Preparation in the form of camera-ready copy by Margaret Stace, cutting printing costs by about one-half.

The book will consist of 1200-1300 pages, including 150 pages of illustrations.

C.A. STACE

COMPUTERISING CORNISH PLANT RECORDS

Word-processing seems purpose-made for plant records, which can now be kept in the form of a single typescript instead of numerous publications and manuscripts.

The exhibit showed one method, which combines an infinitely flexible index with a typescript based on the established method of presenting data for publication. The system used is a 'Wordstar' word-processing program in an Amstrad PC1512 computer.

Advantages include the ability to store numerous data on rare and critical species (e.g. *Fumaria martinii* and *F. boraei* subsp. *neglecta* near Pulla Cross, v.c. 1), while disadvantages include the need to 'un-write' the typescript for publication. This method also intensifies the need to establish the reliability of individual records, since there will be a tendency to rely on the system as an up-to-date source.

As the project is new, advice and consultation are needed, particularly on making it sufficiently responsive to changes in technology.

K.L. SPURGIN

THE PAST AND PRESENT DISTRIBUTION OF *MERTENSIA MARITIMA* (L.) S.F. Gray IN THE BRITISH ISLES

Historical records show that *Mertensia maritima* is a mobile plant which does not persist indefinitely at any one site, but needs continually to colonize new sites to maintain itself. In some areas there are a few more persistent colonies which have generated most of the other colonies. In others, all the sites are temporary and the plant jumps around from site to site.

The present British and Irish population of around 7,000 plants is spread between about 60 sites, of which only 18 hold more than 100 plants. The sites group together into seven semi-isolated populations, of which one, on the Scottish east coast, has become extinct.

N.F. STEWART & R.F. RANDALL

CALAMAGROSTIS PURPUREA (Trin.) Trin. FROM SCOTLAND AND OTHER SCOTTISH RECORDS

The exhibit showed a *Calamagrostis* collected by Mary Martin (v.c. 72 recorder) from near Lochmaben. Also shown were specimens of *Calamagrostis purpurea* from three sites: Stormonth Loch, Bloody Inches, Perthshire and Rescobie Loch, Angus for comparison, and diagrams comparing measurements of *Calamagrostis* parts. The Lochmaben specimens have glume length and width, lemma length and callus hairs and node numbers within the *C. purpurea* range, but the awn is attached fairly close to the top of the lemma, and is more robust and longer than in normal *C. canescens*. This could be the subspecies mentioned in *Flora Europaea*, *C. canescens* subsp. *vilnensis* which has "Awn robust, longer, arising distinctly below the apex of lemma. Rachilla-prolongation present."

Also shown were other Scottish records: *Rhynchosinapis monensis* from Manuel (near Linlithgow), v.c. 86, on a railway siding first seen in 1976 and still plentiful; *Anthemis tinctoria*, *Rosa multiflora* and *Callitriche platycarpa* new to v.c. 73.

O.M. STEWART

A WILD AND GARDEN SAGINA

The Pearlworts (Sagina) do not spring to mind when we are thinking of garden plants as opposed to garden weeds. Yet in recent years one of their number has become very popular as a subject for small patio gardens in particular. This is a yellow-green, mat-forming plant producing small white flowers in summer, but decorative through most of the year.

In the course of writing an account of garden plants in the family Caryophyllaceae for the forthcoming third volume of the European Garden Flora, I became aware of this plant for the first time, and asked myself what it was. To my astonishment I found that it was being propagated and sold under no fewer than nine different binomials in four different genera, and that the commonest name (to judge from a selection of current nurseryman's catalogues) was 'Minuartia verna 'Aurea''. Since the plant was clearly a Sagina and not a Minuartia, I felt that some botanical study was called for.

The upshot of the study is that the plant is best called Sagina subulata L. cv. Aurea (S. subulata 'Aurea'). Its most obvious difference from typical S. subulata (at least as seen in Britain), apart from its yellow-green colour, is that the plant lacks the very characteristic glandular pubescence normally obvious, for example, on the pedicels. However, glabrous variants of S. subulata undoubtedly occur in the wild, although they seem to be rare.

Very few horticultural reference works give this correct identification. To my knowledge so far, in the English literature, only Beckett, K. (1983), The Concise encyclopaedia of garden plants p. 362, which accompanies a good concise description with a colour photograph, explains the plant correctly. We are, however, still left with problems, which I commend to keen plantmen:

1. Is the yellow-green variant uniformly mat-forming rather than tussock-forming?
(Compare the habit of a green plant brought recently as 'Sagina' from a nurseryman.)
2. Do glandular-hairy variants occur in cultivation at all?
3. Does the real Minuartia verna 'Aurea' exist?

S.M. WALTERS

THE WEED BIOLOGY OF OXALIS PES-CAPRAE L.

Oxalis pes-caprae L. (Bermuda Buttercup) is a native of the Cape province of South Africa, but now it has a widespread distribution and is considered a noxious weed. Like many Oxalis species this plant has quite large, attractive flowers and thus it has been introduced into other countries for horticultural purposes (notably Australia). Unfortunately it readily escapes and rapidly spreads through areas of cultivation. In its native lands the plant exhibits a fully functional tristyllic self-incompatibility system together with the capability of vegetative reproduction by bulbils.

In Europe the first records of O. pes-caprae are from Malta in 1806. It subsequently escaped and spread throughout the Mediterranean coastal regions. This migration was generally associated with the movement of Citrus, and the plant is typically found as a weed of Orange and Lemon groves. It is particularly interesting to note that only the short stylar morph has been recorded in Europe and no seed set has been observed. Instead this plant has enhanced its capacity for vegetative reproduction by increasing bulbil production. These bulbils are very easily detached from the parental plant and very effectively distributed when the ground is tilled. Control methods have as yet been unsuccessful as the bulbils are very resistant to attack from all but the strongest chemicals, and traditional methods of weed control only serve to boost the infestation.

O. pes-caprae does occur in the British Isles, but only in the milder climate on the Isles of Scilly, where it is an abundant weed of bulbfields, and has been recorded in Southwest England.

M.F. WATSON

RANUNCULUS AQUATILIS subsp. PELTATUS var. PSEUDOFUITANS Syme:
AN OLD NAME FOR A NEW SUBSPECIES

The original descriptions and type material of Ranunculus aquatilis subsp. peltatus var. pseudofuitans Syme and R. calcareus Butcher were exhibited. Syme's pseudofuitans has previously been assumed to refer to a plant with laminar leaves, but the type material

lacks laminar leaves and is clearly the same taxon as Butcher's *R. calcareus*. The implications for the nomenclature of the *R. penicillatus* group were discussed in the light of taxonomic changes presented in *Watsonia*, 17: 1-14 (1988). *R. penicillatus* (Dumort.) Bab. now comprises two subspecies, subsp. *penicillatus* and subsp. *pseudofluitans* (Syme) S. Webster. Within subsp. *pseudofluitans*, two varieties are recognised: var. *pseudofluitans* and var. *vertumnus*.

Summary of name changes

<u>Old name</u>	<u>New name</u>
<i>R. penicillatus</i> var. <i>penicillatus</i>	<i>R. penicillatus</i> subsp. <i>penicillatus</i>
<i>R. penicillatus</i> var. <i>calcareus</i>	<i>R. penicillatus</i> subsp. <i>pseudofluitans</i> var. <i>pseudofluitans</i>
<i>R. penicillatus</i> var. <i>vertumnus</i>	<i>R. penicillatus</i> subsp. <i>pseudofluitans</i> var. <i>vertumnus</i>

S.D. WEBSTER

WURZELL'S WEEDS

(a) Wurzell's wormwood

Artemisia vulgaris x *A. verlotiorum*, a hybrid new to science, was discovered by Tottenham Marshes, Middx, on August 9th, 1987. The colony consists of several large rhizomatous stands which were visited regularly until flowering in early November. A smaller colony found on wasteland near Walthamstow Marshes, Essex, on August 29th, was likewise monitored. Diagnostic characters, chromosome confirmation, and circumstances of detection were fully described, and also illustrated with posters and specimens. The taxon is currently being described at Leicester University, and will be published in due course.

(b) A horsetail new to England

Several examples of *Equisetum arvense* x *E. palustre* (*E.* x *rothmaleri*) were found amidst co-dominating parents at a gravel pit near Stanstead Abbots, Herts, on September 25th, 1987. Specimens were shown, and circumstances and diagnostic characters described. This taxon was previously known only from the Isle of Skye.

(c) Urban weeds at a glance

On behalf of the Urban Spaces Scheme (see report by M. Hale & R. Livingstone, p. 45), well-annotated herbarium specimens of a wide range of common and uncommon London plants were displayed, in order to illustrate a) that local floral peculiarities are hard to ascertain from national guidebooks, b) that material not in flower or fruit should be given more serious recognition in the field, and c) that young people should not be discouraged from enjoying wild plants because of unnecessarily harsh anti-collecting rules.

B. WURZELL

The following also exhibited:

J.P. BAILEY. *Reynoutria japonica* Houtt. x *Fallopia baldschuanica* (Regel) J. Holub comes of age.

BOTANY LIBRARY, BM(NH). (a) Printmaking in the service of Botany.

(b) New Books.

B.A. GALE. Know your bent? The identification of *Agrostis*.

Mrs A.N. GIBBY. Botanical postage stamps.

Miss M. GROVES & B.A. GALE. Seeds as aids to plant identification.

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

Miss S. JONES. Four water-colour paintings.

Dr Q.O.N. KAY. *Trifolium occidentale* D.E. Coombe discovered in Wales.

Miss Y.L. MOSCATI. Britain's postal flora.
Dr M.C.F. PROCTOR & Dr M.E. PROCTOR. More SEM's of *Carex* leaves.
Dr T.C.G. RICH. (a) BSBI Monitoring Scheme: progress in 1987.
(b) Troublesome taxa: BSBI cribs?

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

Dr T.C.G. RICH. Progress of the BSBI Monitoring Scheme.
K. SPURGIN. Cornish Red Data species.
R.M. BURTON. More flowers of Nisiros.
M.C.F. PROCTOR. Some plants and habitats of Czechoslovakia.
Mrs J. POPE. Flora of northern Portugal.

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

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Enquiries concerning the Society's activities and membership should be addressed to:-
The Hon. Gen. Sec., c/o Dept. of Botany, British Museum (Nat. Hist.), Cromwell Road,
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