

ADMINISTRATION

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NOTICE TO MEMBERS

Nominations for vacancies on Council, in writing, signed by two members of the Society and accompanied by the written consent of the candidate to serve, if elected, should be sent to the Hon. General Secretary, at the above address, to arrive BEFORE FEBRUARY 1st 1992. (See *Year Book* 1992 for the list of present Council members May 1991 - May 1992.)

MARY BRIGGS
Hon. General Secretary

**CONTRIBUTIONS INTENDED FOR
BSBI NEWS 60
should reach the Editor before
28th FEBRUARY 1992**

EDITORIAL

Adrian Grenfell

What a shock it was to hear of the untimely death of Adrian Grenfell. Members will remember that Adrian compiled *Alien and Adventive News* in *BSBI News* for many years and was a Referee for alien plants. He will be sorely missed.

BSBI News

My thanks to those who wrote saying they liked the 'new look' *News*, note that the thick black lines have now been replaced.

Another bumper issue this time with 30 pages having to be held over until the next issue. My apologies to those authors whose work has not appeared this time. I have deliberately withheld two groups of papers, one on white-flowered forms of plants, where it would have been invidious to publish some and not others, the other on reports of 1991 field meetings. These and all the others held over will be first in the queue for the April issue.

But please do continue to send in your notes, letters etc., it is a sign of a healthy Society to have too much material to publish in one go.

Diary

Omitted for reasons of space but it will return next time.

Corrigenda Corner

Omitted for reason of nothing to report!! It will return.

Pankhurst's Whereabouts

I am delighted to inform members that Richard Pankhurst has moved to the Royal Botanic Garden, Edinburgh EH3 5LR. He has been appointed to the post of Project Leader, Taxonomic Computing and Software Development.

Euro-oak

My thanks to Keith Hyatt for the following snippet from *Birds*, the magazine of the RSPB, autumn 1991.

'MP Michael Lord fears the coming of the characterless 'Euro-oak'. European Commission forestry rules require trees to be genetically pure, tall, straight and easily harvested. The native English oak, famed for its gnarled, varied shape, its 284 species of insects and the holes in its bark, does not fit European standards. Its seeds cannot be sold. Plans for new forests of oak and other broadleaves face the imposition of tall, straight oaks which, says Mr Lord, would give 'a very stereotyped and un-English look.'

Bumbling Bees

Michael Braithwaite sent an Israeli postcard with a picture of *Ophrys holosericea*; the caption reads: 'A rare and most beautiful perennial plant of the Orchidaceae Family. Its shape and smell resemble those of the female bee and it therefore attracts the male bees who come to seek the female, thereby pulverizing the flowers.'
Brings tears to the eyes doesn't it!

'Secret life of Glasgow's Wild Bunch'

Congratulations to Jim Dickson for the comprehensive review article on his new book *Wild Plants of Glasgow* in *The Independent on Sunday* for November 17 1991.

Where have all the Common Names gone?

Mr M.J. D'Oyly writes:

'I would refer your enquirer (*BSBI News* 58: 9) to *The Englishman's Flora* by Geoffrey Grigson, published by Phoenix House Ltd, London in 1955 (price £4-15-0!). I think he will find all the common names he could possibly wish for within its covers.

HON. GENERAL SECRETARY'S NOTES

BSBI Year Book 1992

The publication and posting of a complete list of members every year would be too costly for the Society. The 1992 *Year Book* lists all new members and changes of address since January 1991 (see *Year Book* pages 36 on) and we hope to publish a complete new list in alternate - or every third - years. Meanwhile **DO NOT DISCARD YOUR 1991 YEAR BOOK** - you will need it for unchanged members!

BSBI Telephone at NHM

Our thanks to the Keeper of Botany, Dr S. Blackmore, who has approved the use of a telephone with 'ansaphone' for BSBI in the British Herbarium at the Natural History Museum. Messages will be read and dealt with by BSBI post volunteers when they are dealing with the mail, once or twice a week, and enquiries for BSBI will be diverted to this phone by the Museum switchboard. It will be a useful contact number for non-members and we are grateful to the Department for this help. (**Members** can still phone the Hon. Gen. Secretaries on the numbers given in *BSBI News* 58: 3 (and again on page 2). The BSBI 'ansaphone' telephone number is **071 938 8701**.

BSBI Logo

Our thanks to Eva Modin who has redrawn and redesigned our Bluebell logo - as now published on the cover of the *Year Book*. Eva has now returned to live in Sweden, but came to London in November, and we were pleased to welcome her at the Exhibition Meeting, and grateful again for her help with setting up the exhibits before the meeting.

Senior Members

At the request of the Annual General Meeting, and following a number of enquiries I have been asked to clarify Senior Membership as published in the 1991 Annual Report (and marked 'P' in List of Members, 1991).

Part of *BSBI Rule 24. Annual Subscription* explains this:

'...Persons over 60 who have been members of the Society for at least 10 years, and who are no longer in full-time employment, may elect to pay an annual reduced subscription at such rate as from time to time shall be decided by Council.'

This clause was passed at a Special General Meeting of the Society on November 24th 1979. Members who qualify and wish to take up this offer should contact the Hon. Treasurer.

Aims of the Society

A number of members have enquired where these are published. Again, the Rules of the Society state, *Rule 2, OBJECTS*.

The objects of the Society shall be:

- (a) To promote the investigation in the field of the Flowering Plants, Vascular Cryptograms, and Charophyta in relation to the British Isles and to encourage their botanical study.
- (b) To facilitate the exchange of information among botanists by organising field meetings, conferences, lectures, and exhibitions, and by other means.
- (c) To promote the conservation of the British flora.
- (d) To issue and support such periodicals and other publications as the interests of the Society require.
- (e) To aid in the maintenance of adequate representative collections of British plants in the national and other public herbaria.'

The aims and activities of the Society are also clearly summarised in the BSBI Prospectus, sent to those enquiring about membership. If you have not seen one recently and would be interested to receive this (and possibly use it also to recruit a friend or colleague?) - please send a s.a.e. to the Hon. Gen. Sec.

Copies of the Rules may similarly be obtained on request, s.a.e. please (approx. 9" x 5").

Change of name

In 1991 the Botanical Society of Edinburgh changed its name to the Botanical Society of Scotland - so now **BSS** (instead of the familiar **BSE**).

Plant links with monasteries

Meetings Committee plans a day conference on Plants and Medicine in October 1992. Information on links between specific medicinal plants and monasteries or old hospitals in Britain or Ireland would be welcome as an associated exhibit (or short paper) at this meeting. If any member has information, similar to the interesting note *Delving into Dittander* by Nick Sturt, *BSBI News* **58**: 23, please send this for *BSBI News* **60**; or a summary of evidence, illustrations etc to the Hon. Gen Sec. at her Pulborough address before the end of May.

Congratulations

Many congratulations to Eva Crackles who on Friday 13th December, 1991 was awarded the degree of Doctor of Science *honoris causa* by the University of Hull.

Trevor Evans' slides

Trevor's slides - mislaid at the November Exhibition Meeting - have been FOUND!

Tail-piece

Botanists sit on a rare orchid

Aukland (Reuter) - Botanists who had spent years searching for an orchid that was thought to be extinct sat on it during a lunch break, the *New Zealand Herald* reported.

After four days in a peat bog in search of the tiny native *Corybas carseii*, the demoralised conservation department botanists paused for a lunch break and found they were sitting on it. Luckily, they found 14 other specimens nearby.

With thanks to Dr Elspeth Beckett who spotted this in *The Independent* on 2nd October, 1991 (also reported by the *Telegraph*) and to Keith Hyatt who heard it on 'The News Quiz' on Radio 4, 12th October, 1991).

MARY BRIGGS, Hon. General Secretary

RECORDERS AND RECORDING

LIST OF VICE-COUNTY RECORDERS AND PANEL OF REFEREES AND SPECIALISTS

Updated current lists are published in *BSBI Year Book* 1992, including the changes earlier in the year already announced in *BSBI News* **57** & **58**.

Since September we have been pleased to welcome the following new v.c. Recorders and Assistant Recorders, as now appointed:

55 Leics. Michael Jeeves

57 Derbys. Roy Smith

86 Stirlings. Jo Babbs and John Evans

H36 Tyrone. Ian McNeill assisting Doreen Lambert.

We send sincere thanks to the retiring Recorders:

41 Glam. (East), Jeff Curtis, 87 W. Perth, Helen Stace and 55 Leics. Rev. A.L. Primavesi.

Tony Primavesi has been Recorder since 1968, and in many of those 23 years was involved in the workload of recording and checking records for the *Flora of Leicestershire* (1988). He continues to act as a *Rosa* Referee for the Society, and is joint author of the forthcoming *BSBI Handbook on Roses*. We send out thanks for the help in all these fields and wish him well in retirement.

Please note also that Mary Martin (v.c. 72. Dumfriess.) has a new address:

Mrs M.E.R. Martin, Robertland, Amisfield, Dumfries DG1 3PB

We also welcome two new appointments to the Panel of Referees:

ROSACEAE

Mrs Jeanette Fryer, a joint Referee for *Cotoneaster*.

GRAMINEAE

Ron Payne for Alien Grasses.

The names and addresses of all Recorders and Referees will be found in the 1992 Year Book, and, after April 1992, amendments will appear in *BSBI News* 60 & 61

MARY BRIGGS, Hon. General Secretary

AN INSECT INVASION - THE KNOPPER GALL *ANDRICUS QUERCUSCALICIS*

Most naturalists will be familiar with plant galls - peculiar outgrowths or swellings on the leaves, fruits, stems or roots of plants. Galls are formed by growth of plant tissue in response to an organism within the gall - fungi, nematode worms, mites and the larvae of some midges are able to induce the formation of galls. Perhaps the best known gall formers are a group of small wasps in the family Cynipidae, commonly called Gall wasps. The galls formed by gall wasps are most abundant on oak trees, where they may occur on many different parts of the tree. Cynipid galls have been known to science for a long time, in part due to the use of a few species in the manufacturing processes including tanning and the preparation of ink.

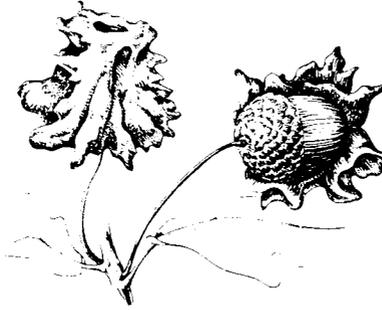
A recently formed group at Imperial College London, funded by the Department of the Environment and the National Environment Research Council, is working on the biology of one gall wasp in particular. The knopper gall wasp (*Andricus quercuscalicis*) (see drawing page 7) has been known in Britain for at least 35 years or so, and probably arrived from the continent some years before this. Knopper galls attack the acorns of English oak, *Quercus robur*, sometimes smothering them completely. The knopper gall wasp is known to reach Alnwick in Northumberland, and has yet to be recorded in Scotland and central Wales. We are trying to establish the distribution of gall species in as much detail as possible, and would like to hear from anyone who has found them.

This invader requires two species of oak tree for survival. One generation of the gall wasp forms galls on English oak (*Quercus robur*) in the summer and autumn, as shown in the drawing. A second generation forms much smaller galls on the catkins of an introduced oak species, the Turkey oak (*Quercus cerris*). Both trees must be present for *Andricus quercuscalicis* to survive. Turkey oak was introduced into Britain as an ornamental plant in 1735, making it possible for the gall wasps to follow, and is now found in many parts of Britain, either as a planted tree or as an 'escape' from parks or gardens. Part of our work consists of finding out as much as possible about the distribution of Turkey oak.

The geographic range of *Andricus quercuscalicis* must originally have been limited to those areas where *Q. cerris* and *Q. robur* overlapped. *Q. cerris* is an eastern European species, and *A. quercuscalicis* was probably once limited to the Balkans, Hungary, eastern Austria and southern Czechoslovakia. Now the known range of *Andricus quercuscalicis* stretches from Dublin in the west to Ulyanovsk on the River Volga in the east through human spread of its host trees. *A. quercuscalicis* can survive even where one or both of its host trees are scarce, and arboreta and gardens stocked with oaks have no doubt helped its spread. We are working on the genetics of the spread of this gall wasp. In particular, we want to find where the British population originated from, and how many times Britain has been invaded.

Gall wasps are attacked in their galls by a wide variety of natural enemies, and the galls are also home for a number of other small wasps (called inquilines) which do not usually harm the resident gall wasp. The interactions between the animals dependent on a particular gall species may be quite complex, and because many gall residents attack the galls of more than one type of gall wasp this complexity increases when one considers the whole community of different gall wasps living in an oak woodland. As the invading gall wasp spreads through Britain, so it encounters resident populations of parasites and inquilines which can attack their galls. British parasites will not have encountered the invading gall wasps in the recent past, and only some of them may be able to latch onto this new food source. The interest this situation has for the Department of the Environment is that the gall wasp can be seen as a model for the way in which any invading novel insect picks up natural enemies as it spreads. The invading insect could be a pest, or a genetically modified species.

Gathering the information on the distribution of the gall wasps and the Turkey oak is an enormous task, and is one which any interested naturalist can contribute significantly. Anyone who comes across these galls or Turkey oak would help us a great deal by writing to me at the address below.



Knopper gall caused by *Andricus quercuscalicis* on acorn of *Quercus ruber*.

GRAHAM STONE, Freepost, Centre for Population Biology, Imperial College at Silwood Park, ASCOT, Berks. SL5 7BS. Tel. 0344 294265.

PHYTOPHOTODERMATITIS

BSBI members are occasionally asked to identify plants which may have caused some form of poisoning and in recent years there appears to have been an increasing number of cases involving phytophotodermatitis (PPD). The following note may be helpful to anyone who may be consulted in such cases in the future.

PPD is a type of contact dermatitis which results in the formation of conspicuous blistering and hyperpigmentation of the skin in adults and children alike of all ethnic origins. In Britain, awareness of this type of dermatitis has resulted from publicity associated with Giant Hogweed (*Heracleum mantegazzianum*) and BSBI members may remember other articles in *BSBI News* (e.g. Briggs, 1979) which drew attention to this matter. Briefly, PPD occurs when skin which has made contact with certain plants, such as Giant Hogweed, is also exposed to ultraviolet A (UV-A) radiation, which is significant in bright sunlight. It is **not** an allergic response and should not be confused with Allergic Contact Dermatitis (ACD) which is caused by plants such as *Primula obconica*.

The active photosensitizing ingredients in Giant Hogweed which cause PPD are furocoumarins. These are compounds with a linear, tricyclic structure which are related to psoralen. Members of the Umbelliferae (Apiaceae) are good sources of a bewildering number of coumarins, especially the tribes Smyrnieae, Amineae and Peucedanae. Linear furocoumarins which are involved in photosensitization reactions include 5-methoxypsoralen, 8-methoxypsoralen (both found in Giant Hogweed sap) and various methyl derivatives of psoralen. Other members of the Umbelliferae also contain one or more of these compounds and, therefore, could be responsible for a PPD incident. Linear tricyclic furocoumarins are also found in the Rutaceae and a few Leguminosae (e.g. *Psoralea* spp., *Coronilla glauca*) but otherwise appear to be rare in higher plants. However, not all linear furocoumarins found in plants are known to evoke PPD (Mitchell & Rook, 1979).

Although it is well established in certain parts of the country, Giant Hogweed is still uncommon in many areas, e.g. many parts of Wales (Ellis, 1983). However, many PPD incidents result from contact with other species. For example, the PPD incidents that have been brought to my attention in South Wales appear to have resulted from contact with Hogweed (*Heracleum sphondylium*), Wild Parsnip (*Pastinaca sativa*) and Rue (*Ruta graveolens*). A list of other plants that could be responsible for a PPD incident in Britain is given in table 1. Contact with these plants could be occupational or recreational. Strimming grassy areas where *Heracleum sphondylium* or *Pastinaca sativa*

grow (e.g. gardens, verges, parkland) seems to be a very effective way of spraying sap and plant particles about and workers involved in such labour should be suitably protected. This is particularly good advice on hot sunny days when workers perspire and are tempted to expose their skin. After strimming has been carried out, children who play in the aftermath of freshly mashed vegetation are also at risk.

Since many of us travel to Europe, North America and other places as botanists, either leading or participating in field courses or expeditions, it is wise to be aware of the potential for a PPD incident abroad. Visitors to the Mediterranean or the Alps where one is likely to be exposed to high doses of UV-A should take particular care. For example, in the Mediterranean one should beware of Rutaceae species such as *Ruta angustifolia*, *R. chalepensis*, *R. montana* and *Dictamnus albus* and Umbellifers such as *Ammi majus* and probably several others. In the Alps *Heracleum* spp. should always be suspected and possibly species of *Peucedanum* and *Ligusticum* also.

There is an increased public awareness of poisonous plants these days and many PPD incidents have been reported in local and national press. Often, incidents are sensationalised and one in particular last year was highly controversial, involving a child and the local Social Services Department (*Independent on Sunday*, p. 1, Sept. 8th, 1991). The plant allegedly responsible in that particular case was named Cow Parsley, although it is unlikely that the plant responsible was actually *Anthriscus sylvestris*.

Unfortunately, English names such as Cow Parsley and Cow Parsnip are used indiscriminately for various umbellifers and are often confused.

In the future, it is likely that BSBI members will be consulted more and more over such matters that may require the identification of poisonous plants (Hipkin, 1991). Knowledge of the British Flora and the ability to identify its members is a very valuable resource!

I shall be happy to receive comments from anyone who has had any experience of PPD incidents, home or abroad.

References

- Briggs, M. (1979). Giant Hogweed - a poisonous plant. *BSBI News* **21**: 27.
 Ellis, R.G. (1983). *Flowering Plants of Wales*. National Museum of Wales, Cardiff.
 Hipkin, C.R. (1991). Phytophotodermatitis, a botanical view. *Lancet* **338**: 892.
 Mitchell, J. & Rook, A. (1979). *Botanical dermatology: plants and plant products injurious to the skin*. Greengrass.

Table 1 Species that could be responsible for phytophotodermatitis in the British Isles

UMBELLIFERAE*	RUTACEAE (mostly cultivated)
<i>Ammi</i> spp.	<i>Citrus</i> spp.
<i>Angelica archangelica</i>	<i>Dictamnus</i> spp.
<i>A. sylvestris</i>	<i>Ruta</i> spp.
<i>Apium graveolens</i>	<i>Skimmia</i> spp.
<i>Bupleurum</i> spp.	
<i>Heracleum mantegazzianum</i>	
<i>H. sphondylium</i>	MORACEAE
<i>Levisticum officinale</i>	<i>Ficus carica</i>
<i>Ligusticum scoticum</i>	
<i>Pastinaca sativa</i>	
<i>Petroselinum</i> spp.	
<i>Peucedanum</i> spp.	
<i>Pimpinella</i> spp.	
<i>Seseli libanotis</i>	

* Some of these and several other members of the Umbelliferae, such as carrot (*Daucus carota*) and fennel (*Foeniculum vulgare*), have been implicated in allergic contact dermatitis also.

CHARLES HIPKIN, School of Biological Sciences, University of Wales, Swansea, Singleton Park, SWANSEA SA2 8PP

DESCRIPTIO DIABOLICUM

It's bigger than a smaller one yet lesser than the great.
More hirsute than just hairier, more deep-toothed than dentate.
Far stickier than glutinous, grows earlier than late.
Real foetid as opposed to stinks, yet sweeter than its mate.

It's taller. That's not quite so short. Fair stature for a weed.
More fertile next to sterile clones, more fruitful with its seed.
Far wider spread than spreading wide, flowers prettier indeed.
Oh, adjectives comparative - you ARE a pain to read!

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

YELLOW HORNED-POPPY FROM LONG BURIED SEED

In the British Isles *Glaucium flavum* Crantz is a plant of sandy and gravelly sea-shores; even as a casual it is usually somewhere near the coast.

In August 1991, 25 plants appeared at Greenhithe, W. Kent, the first seen for very many years in the London area. They were all exclusively on the sides of a newly dug drainage ditch or on the heaps of earth dug out of it. Although the location is nearly half a mile from the present coast, it is about where the estuary shore-line would have been a long time ago before the salt marshes were drained. Apart from the digging of the ditch, there has been no disturbance or introduced material in the area, and the only source for the plants is from long buried seed.

JOHN R. PALMER, 19 Water Mill Way, SOUTH DARENTH, Dartford, Kent, DA4 9BB

SPERGULARIA MARINA - WITH ALPINE ASPIRATIONS?

Recently coming across *Spergularia marina* at 440m (1440ft) in Cheshire on the A6024 road from Woodhead to Holme Moss, made me wonder what the current altitude record is for this erstwhile saltmarsh species. It is becoming reasonably common by salted roads in Cheshire, but this site raised it to new heights. I would be pleased to hear of any other higher locations of which members are aware.

GRAEME M. KAY, 4 Geneva Road, Bramhall, STOCKPORT, Cheshire SK7 3HT

OROBANCHE MARITIMA REVISITED

I believe David Hambler (1991) is being a little disingenuous in his interpretation of my comments (Rumsey, 1991) on Pugsley's (1940) description of *Orobanche maritima*. I never suggested that Pugsley's diagnosis contains any exclusion clause re. its hosts as this would as he rightly says be a nonsense. Pugsley did however, clearly state that "the Form of *Orobanche* growing on *Eryngium maritimum* at St. Helen's Spit, Isle of Wight, is *O. minor* f. *procerior* (Rchb.) Beck, and that at St. Ouen's Bay, Jersey and at Braye, Alderney on the same host a somewhat similar form of the same species." Of course the fact that Pugsley when describing *O. maritima* chose to explicitly exclude these plants, does not mean that all plants with this host need necessarily be excluded. We must then ask, does the excluded material mentioned by Pugsley differ morphologically from extant populations parasitizing *Eryngium maritimum* (and other shingle beach hosts)? I can find no signifi-

cant differences between plants collected at St. Helen's and seen by Pugsley, and material from Sandwich, Crymlyn Burrows, and some other coastal sites. They all represent a robust taxon with \pm densely packed, large flowers which matches Beck's (Beck-Mannagetta, 1930) description of f. *procerior*. Pugsley (1940), himself concedes that this "may closely resemble our coastal form" (= *O. maritima* Pugs.). A view with which I concur. That the Sandwich plants possess **some** features stressed by Pugsley in his diagnosis of *O. maritima* is undoubtedly true, however identical plants from inland sites exist, and examination of the population reveals a continuously variable spectrum of characters to typical *O. minor* Sm. These plants I believe to be of a single mutable taxon, its morphology influenced by its host. If this population were of hybrid origin, the plants apparent full fertility would again tend to negate recognition of the putative parents at a specific level.

My concept of *O. maritima*, (*O. minor* Sm. var. *maritima* (Pugs.) Rumsey and Jury) as outlined in Rumsey and Jury (1991) is based on examination of the specimens cited in the protologue, which are now housed at the British Museum, unfortunately I have yet to track down the Holotype, but have made a point of concentrating my study of this taxon to the area of the type locality, i.e. the Dorset coast around Seacombe. Extant plants from this area match the other specimens mentioned in the protologue. This, by definition the true *O. maritima*, I find to be a rather invariable plant, although specimens from the somewhat isolated eastern end of the taxon's range on the Kent undercliffe, more closely approach *O. minor sensu stricto* in my opinion.

It is the existence of the other coastal forms, which I concede overlap with *O. maritima sensu* Pugsley, and which David Hambler makes such a stalwart defence of as *O. maritima*, which in my opinion make recognition of *O. maritima* as a discrete species unacceptable.

While we are obviously unlikely to agree on this point, I would whole-heartedly support the search for novel characters and his plea for the encouragement of more people to make studies of their local populations. Such attempts to define the extent of variation, and the effects of host/season/climate on this, can only help produce a more satisfactory, workable yet meaningful taxonomy.

References

- Beck-Mannagetta, G. (1930). *Orobanchaceae* in Das Pflanzenreich IV, 261.
 Hambler, D.J. (1991). *Orobanche maritima*: an overlooked feature? *BSBI News* **58**: 18-19.
 Pugsley, H.W. (1940). Notes on *Orobanche* L. *J. Bot.*, London, **78**: 105-116.
 Rumsey, F.J. (1991). Pedicellate flowers in *Orobanche* and the status of *Orobanche maritima*. *BSBI News* **57**: 57-58.
 Rumsey, F.J. & Jury, S.L. (1991). An account of *Orobanche* L. in Britain and Ireland. *Watsonia* **18**: 257-295.

FRED J. RUMSEY, Department of Cell and Structural Biology, Williamson Building, University of Manchester, Oxford Road, MANCHESTER M13 9PL

OROBANCHE CRENATA

The paper by F.J. Rumsey & S.L. Jury on *Orobanche* in Britain & Ireland (*Watsonia* **18**: 257-295, Feb. 1991) has helped to clear up an old identification problem and I can add a 'new' record for *Orobanche crenata* as a result.

Orobanche minor has long been recorded on clover (*Trifolium* sp.) plots at one of the National Institute of Agricultural Botany's trial sites in Cambridgeshire (NGR TL39.63). In 1985 plants of *Orobanche* were also found growing on a plot of field beans (*Vicia faba*) on the same site and were also identified as *O. minor*. The seed used to sow the particular plot had been imported from Italy and some of the sample remained unsown. This seed was subsequently examined in the Official Seed Testing Station's laboratories and found to be contaminated with seeds of an *Orobanche* species. As the plants in the bean plot had been identified as *O. minor* and as this species already occurred on the site it was surprisingly felt that the plants may well have developed from soil-borne rather than seed-borne contaminant seeds.

Unfortunately I did not have the opportunity to study the plants at the time, and preserved material was subsequently destroyed as a result of over-zealous spring cleaning. However two colour slides were taken at the time and an examination of these shows the flowers to have creamy-white corolla with strongly divergent lips, matching Rumsey & Jury's description of *Orobanche crenata*. This would also agree with the plants occurring on field beans grown from seed of southern European origin. The species has not been found on the site in subsequent years.

ROBERT FLOOD, NIAB Official Seed Testing Station, Huntingdon Road, CAMBRIDGE
CB3 0LE

INDEX TO THE FLORA OF THE OUTER HEBRIDES

The *Flora of the Outer Hebrides* by R.J. Pankhurst & J.M. Mullin was published without an index. An index is now available from RJP. Please send an envelope of at least 7"x10" with a 2nd class stamp to me at the address below .

RICHARD J. PANKHURST, Royal Botanic Garden, EDINBURGH EH3 5LR.

ATRIPLEX LITTORALIS BY THE WAY

During searches for roadside *Cochlearia danica* we have come up with a number of records for another coastal species, *Atriplex littoralis*. The accompanying map (page 12, produced using DMAP, the final version being printed from a PostScript file by Alan Morton) shows the distribution of these records together with others that have come to our attention in the literature, or else reported to us by fellow 'road-verge enthusiasts'.

From these sightings it appears that *A. littoralis* has undergone a considerable spread along inland roadsides since it was reported in the early 1980s from a few sites in north-eastern England and one in South Yorkshire (Scott, 1985). As was the case with *Puccinellia distans*, the spread of *A. littoralis* has been particularly noticeable along the A1 in eastern England.

We are collating records of inland *A. littoralis* and would be pleased to hear from members who may have seen it in their travels. When *A. littoralis* occurs *en masse* it is easily spotted and it is certainly one of the more straightforward species to identify in this sometimes difficult genus (Taschereau, 1985). However, as Scott (1985) pointed out, roadside *A. littoralis* populations can frequently suffer from heavy insect gall infestations and they can then be dismissed as something else such as *Polygonum aviculare* or small *Atriplex patula* - especially when glimpsed from the side window of a fast-moving car!

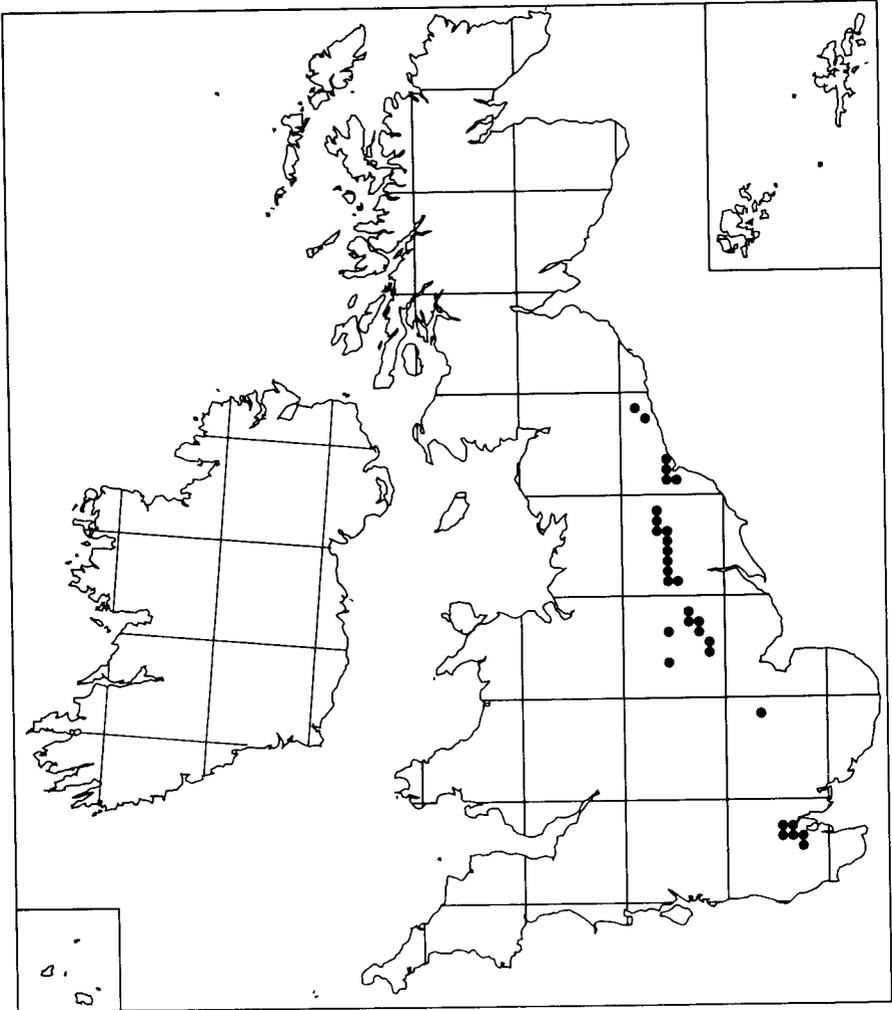
Please send any reports to Stephen Bungard at the address below giving 10km square, road number and year(s) seen. Details of any cases where the spread of *A. littoralis* has been monitored over several years would be especially welcome. Postage will, of course, be refunded.

References

- Scott, N.E. (1985). The updated distribution of maritime species on British roadsides. *Watsonia* **15**: 381-386.
Taschereau, P.M. (1985). Taxonomy of *Atriplex* species indigenous to the British Isles. *Watsonia* **15**: 183-209.

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Map showing distribution of *Atriplex littoralis* along inland roadsides, produced by DMAP

GERMINATION OF LONG-BURIED SEEDS IN WESTERN IRELAND

Foynes Island, with an area of approximately 120 hectares and a highest point of 60m, lies off the Co. Limerick shore in the Shannon Estuary. There has been no tillage for at least 35 years when potatoes etc. used to be grown in large fields near two now ruined cottages. Oats were last grown in a third area about 65 years ago (M.V.O Brien, pers comm.). Until 1991 much of the island was covered by non-calcareous rough grassland with thickets and bracken. There are two extensive areas of deciduous woodland and small patches of saltmarsh around its coast. Over 350 species of flowering plants and pteridophytes have been recorded on the island (1983-1990), about 93% of which are native. Apart from deliberate introductions, the few non-native species are mostly limited to the vicinity of the two still inhabited houses.

In the spring of 1991, 60 hectares of rough pasture were ploughed to prepare the ground for the planting of thousands of conifers and broadleaf trees, thus exposing soil, some of which had not been turned up for at least 35 years and much of which had probably never been cultivated.

On a visit to the island in August 1991, the abundance of thriving weeds among the newly planted trees was immediately obvious. There were numerous luxuriant plants of *Polygonum lapathifolium**, *Fallopia convolvulus**, *Chenopodium album**, *Atriplex patula** and *Euphorbia helioscopia**, the asterisk denoting that none of these had been recorded on the island over the past eight years. There were also many plants of *Polygonum aviculare* s.s., *P. persicaria* and *Fumaria bastardi*, which had previously only been found in small areas of disturbed ground. When we realised that these weed species could only have come from dormant seeds in the newly exposed soil, we examined the ground systematically and in more detail, finding patches or scattered plants of *Coronopus didymus*, *Veronica arvensis*, *V. persica*, *Lamium purpureum*, *Sonchus asper*, *S. oleraceus*, *Sisymbrium officinale*, *Atriplex prostrata*, *Anagallis arvensis*, *Capsella bursa-pastoris* and *Brassica rapa**. Several other species were only found in ones or twos: *Viola arvensis**, *Raphanus raphanistrum* subsp. *raphanistrum**, *Chrysanthemum segetum**, *Coronopus squamatus**, *Aethusa cynapium**, *Euphorbia peplus* and *Veronica agrestis*.

After thoroughly criss-crossing the planted areas it was clear that weed species were significantly fewer where the soil was heavier and more clayey. Furrows had been colonised in places by plants such as *Gnaphalium uliginosum* and *Scrophularia nodosa*, with occasional plants of *Polygonum persicaria*, *Atriplex patula* and *A. prostrata* among the young trees. The best weed growth and greatest variety of species was in the lighter stony soil which had formerly been cultivated over 30 years ago near the ruined houses. In the area where the oats had been grown 30 years earlier still, there were noticeably fewer weed species both in abundance and variety. *Fallopia convolvulus* was still widespread, but *Polygonum lapathifolium* was rare. Three species were however found here which had not been seen elsewhere: one plant of *Trifolium hybridum**, a patch of hundreds of *Galeopsis tetrahit** and several luxuriant plants of *Spergula arvensis** near the field gateway on the track leading to the site of the barn where the oats used to be threshed.

Foynes Island is an example of what happens to remote, marginal land on mineral soil when the inhabitants leave. For over a generation there has not been any tillage, and for the past few years, no animals have been pastured on its fields. Despite this, over 30 weed species appeared in 1991, often in abundance, following strip-ploughing of the land, and 14 of these (denoted * above) were new records for the island, although all are frequent or occasional on the adjacent mainland. The conditions of 1991 were probably unique, and it is now likely that rough pasture vegetation will rapidly grow back between the planted trees until the tree canopy closes over and changes the vegetation totally.

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1991 THE YEAR OF SURPRISES?

Have the hot dry summers of 1989 & '90 enabled some species to produce an abundance of flowers? I recorded over a hundred plants of Small-flowered Buttercup, *Ranunculus parviflorus*, on a bank in R.A.F. Caerwent in early June. Remarkable as it had not been seen in v.c. 35 (Mons.) for over 60 years. The whole plant turns a pale yellow in fruit when it is much easier to pick out and count against the green background. The grassy area between the sea 'wall' and the River Wye within

sight of the Wye Bridge carrying the M4, and another similar site near Caldicot Pill must have supported over a million flowering plants of Bulbous Foxtail, *Alopecurus bulbosus*, in early July. A similar upper saltmarsh at Rumney Great Wharf had thousands of flowering Sea Barley plants, *Hordeum marinum*, growing at the base of the 'wall' with hundreds of Slender Thistles, *Carduus tenuiflorus*, above them on the slope. Both plants are usually uncommon and of very local distribution. The imminent upgrading of the sea wall is a threat when it is raised and widened. While checking up on *Orobancha minor* var. *flava* in Newport Docks in early July, I stumbled on large numbers of Bee Orchids, *Ophrys apifera*. As I had only seen a handful here before, I counted them as I walked over the rough disturbed grassy areas and arrived at a total of 690. Further visits to R.A.F. Caerwent in August & September led to the discovery of hundreds of Large Thyme, *Thymus pulegioides*, Fragrant Agrimony, *Agrimonia odorata*, and Sea Stork's-bill, *Erodium maritimum*, scattered over the base. Earlier there were thousands of Adder's-tongue, *Ophioglossum vulgatum*, in two meadows there, to which we added a second county tetrad for Wild Liquorice, *Astragalus glycyphyllos*, with several plants growing near a bunker.

There was no mystery to the return of Brookweed, *Samolus valerandi*, for the first time in the current seven year survey. Cattle had created a shallow margin to the edge of a sea wall reed at Goldcliff in two tetrads. The normal steep sided reens do not provide the required habitat. In all c.20 plants flowered in the shallow muddy margin. Where did Bristly Hawk's-beard, *Crepis setosa*, come from? A single plant was found by Bob Fraser near the edge of the River Usk and Llanfoist Golf Course. There were only three previous Welsh records, all from Glamorgan. It was my only new British plant for the year. Are these experiences widespread?

As the bulk of the records are now entered on v.c. maps I have turned my attention to two rather neglected genera, viz. *Rosa* and *Salix*. Not only did I not know the species sufficiently well but numerous hybrids complicated the issue. However, with the help of Rev. G.G. Graham, the county picture is becoming clearer. Numbered among the less common species are *Rosa mollis*, *R. micrantha*, *R. rubiginosa* and *R. sherardii* but so far no *R. stylosa* or *R. obtusifolia*, though hybrids involving the last two have been identified.

Many of the old willow havens have disappeared or been impoverished. Of the less common willows *Salix triandra* has been recorded in four places along the River Usk and two along the Wye. No other interesting willow has been seen on the formerly rich source of the banks of the Wye. Three bushes only of *S. purpurea* have been found on the banks of the Usk and two of these do not have their leaves paired, one was glaucous on the underside of its leaves and went blackish in the press and the other was pale green and did not blacken on drying.

Comments would be welcome, as would visiting expert aid in both the above genera.

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GOING TO CYPRUS?

Members planning to visit Cyprus and who feel that the cost of Meikle's excellent two-volume *Flora of Cyprus* is not justified for a short visit may like to know of two recent and useful publications. The first is the *Wild Flowers of Cyprus* by Sfikas (Efstathiades group) with good pictures of many species and useful lists of other species within each genus, which enable many identifications or part identifications to be carried out by a process of elimination. The second is the *Nature of Cyprus* by Georgiades with much useful information on, amongst other things, plants, birds, butterflies and reptiles. There are species lists and good photographs and the section on the flora takes nearly a third of this 100 page book and includes a very useful list of the 123 endemic species and sub-species. All the books mentioned above are available from F. and M. Perring.

Finally, those staying in the Troodos area may be interested to know that the proprietor of the Hotel Minerva, Mr. Yiannis Christofides is a botanist (and also an excellent gardener) with a copy of *Flora of Cyprus* which he is willing to allow guests to use in the evening. The hotel is in the middle price range, well situated for the botanist at Platres on the south side of the Troodos range, and excellent value. The address given above is sufficient should any member wish to book or write for further details.

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THE YEAR OF THE YELLOW CORYDALIS

From observations made this year in many parts of West London it appears the *Pseudofumaria lutea* (L.) Borkh. (*Corydalis lutea* (L.) DC.) is undergoing some kind of mini population explosion. Never a very common cultivated species in this area, plants are now appearing on walls, in pavement crevices, by roadsides, on waste ground and even in gardens in places usually far from planted populations. It would be interesting to hear if this phenomenon has been observed elsewhere?

Last year *Cymbalaria muralis* behaved in a similar manner and produced some luxuriant populations. A feature which is not apparent this year.

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PHRAGMITES AUSTRALIS ALONG MOTORWAYS

Most members will have noticed occasional patches of *Phragmites*, *Typha latifolia* and *Juncus* spp. on the banks of motorway cuttings where patches of waterlogged soil associated with seepage occur. Recently, while travelling the M63, which follows the Mersey Valley through South Manchester, I observed a number of well-grown clumps of *Phragmites* by the crash barrier in the central reservation, which on this motorway is very narrow. Associated species were non-hydrophytes such as *Artemisia vulgaris* and *Elymus repens*.

I have interpreted this unexpected occurrence as a further example of a salt tolerant species colonising road margins in the UK. *Phragmites* is well known to extend down estuaries into the brackish water zone and to occur at the back edge of salt marshes. When growing in salt-scorched road margins, salt marsh species are able to tolerate considerably dryer conditions than is normally the case. A high 'inoculum pressure' of seed is required for *Phragmites* to establish as, in the UK at least, it has an extremely low viability. The population, which extends intermittently over 5km, is likely to have originated from the large stands of this grass growing in the Mersey Valley. It may be no accident that the first record of this phenomenon comes from the M63.

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TOWARDS AN "ATLAS OF THE BRITISH AND IRISH FLORAS 2000"

[This paper is a transcript of a talk given at the AGM in Liverpool, May 1991, and subsequently distributed to v.c. Recorders. It is considered to be of sufficient interest to all members to merit wider circulation.

Any comments on this paper should be sent to the Editor who will pass them on to the Records Committee which is considering various options. Ed]

INTRODUCTION

In 1950, Professor Roy Clapham put forward a proposal for mapping the distribution of British vascular plants (Clapham 1951). He suggested that the work should include all the British (and although unstated, Irish) species, be accurate, and be available in a convenient format at a reasonable price. 12 years later, a work meeting these criteria was published and widely acclaimed - the *Atlas of the British flora* (Perring & Walters 1962).

The principal aim of the *Atlas of the British flora* was to show plant distributions for phytogeographical and ecological work. Once published, it also rapidly became a work of major importance

for conservation, illustrating commonness/rarity in simple black and white terms easily understood by the layman. The use of different symbols to indicate pre- and post-1930 records for many species added to this by indicating species that might have declined in frequency.

We have known for some time that the *Atlas* is becoming out of date. There have been considerable changes in the countryside, many sites have been destroyed, many new records have been made, and we have become aware of many errors and imperfections in the original maps. The BSBI therefore set up the 1987-1988 Monitoring Scheme to assess how out of date the *Atlas* was. This survey showed that there have been significant changes to 10-20% of the floras in England, Scotland, Wales, the Republic of Ireland and Northern Ireland since 1962 (Rich & Woodruff 1990, in press), suggesting that the *Atlas* indeed is out of date as an indicator of the status of the flora.

Proposals for a new *Atlas* have been around for some time, and have been aired repeatedly at BSBI Records Committee, at a number of the BSBI VC Recorders Conferences, occasionally in BSBI News (McCosh 1988; Braithwaite 1989) and at BSBI Council. In 1989, BSBI Records Committee requested that Tom Curtis, David McCosh and myself should outline the methods to be used for preparing the new *Atlas*, based on the experience of the Monitoring Scheme. As the methods are determined by the aims of the work, which in turn depend on those funding it, it is premature to say how the new *Atlas* will be compiled. Instead, I will discuss some of the available options.

What is meant by a new *Atlas*? In essence, a new *Atlas* is a revision of the old one, but with the following specific aims:

1. To up-date the distribution information; ie revise the *Atlas* maps to include new records and correct errors, and present additional maps for new, critical, infraspecific and hybrid taxa.
2. To indicate the current status of the flora, perhaps by using different symbols to show when the records were collected.

Before discussing the options available for compiling a new *Atlas*, I should first like to ask do we actually *need* a new one?

Although there are many new records available, the current *Atlas* is, with a few exceptions, still perfectly adequate for most phytogeographic work. Large numbers of dots can be added to maps without changing their appearances markedly (eg. compare the maps of *Rorippa amphibia* in Perring & Walters (1962) and Rich (1991)). Significant new finds are regularly published in *Watsonia* and County Floras. There are a few major additions (eg. *Crepis praemorsa*, Halliday 1990) and some out of date maps need replacing (eg *Populus nigra*, Milne-Redhead 1990; Hobson 1991), but on broad phytogeographic grounds alone, a new *Atlas* may not be justified.

To the local botanist with a particular interest in the flora of his or her area, an out of date *Atlas* are often unsatisfactory in that known records are missing, and known errors present. However, local tetrad atlases and floras usually provide detailed, recent information, and a national *Atlas* is only needed to put the local flora into a broader context when its gaps are less noticeable.

For conservation, the main use of the *Atlas* was to identify which the rarest taxa were, and where they occurred. The rare and threatened plants are now well-documented in the *Red Data Books* on plants by Perring & Farrell (1983) for Britain and by Curtis & McGough (1988) for Ireland, and are under regular monitoring. In a changing world it is also important to know the current status of the flora as a whole so that, should a species decline into the rarest category, appropriate action can be taken. The BSBI Monitoring Scheme provides such general surveillance and could, for instance, have been used to assess which plants to include in the "Scarce Plants Project". This is a project currently being funded by NCC to collate information on and to assess the status of "pink" data book species (ie those occurring in 16-100 10-km squares) in England, Scotland and Wales, and will provide more detail about potentially endangered species. A similar exercise is under way in Ireland. Many counties have recent Floras or plant atlases with precise local information. With such detailed, up-to-date information available already, do the conservationists really need more?

In Ireland, the need for a new *Atlas* is perhaps greater than in Britain, due, first, to the rather limited information available about the rarer plants, and second because it was recorded on the extension of the British grid, which does not correspond well with the Irish Ordnance Survey grid. In recent years records have been "converted" automatically from the old British grid to the new Irish grid, resulting, for instance, in some coastal species appearing inland. There are also few local floras available due to the limited man power. A new *Atlas*, based on the Irish grid, would fill some of the gaps.

If we do have a new *Atlas*, plans can be separated into three main areas related to the aims stated above: which methods to use for a re-survey, compilation of historical records, and presentation of the data. Whilst planning, the following points have been borne in mind.

1. Potentially, one ninth of a re-survey has already been carried out during the BSBI Monitoring Scheme.
2. BSBI members will, I am sure, rise again to the challenge of collecting the data (1600 botanists contributed to the Monitoring Scheme, more than contributed to the *Atlas*). There is a danger of recorder fatigue from contributing to too many local tetrad floras and national schemes, so it must be remembered that volunteers must see the value of what they are doing, and enjoy it.
3. The Scheme will be limited by the coverage that can be obtained in remote areas of Scotland and Ireland, and not by what is feasible in SE England (there are probably more members of the Sussex Botanical Recording Society than there are field botanists in the Republic of Ireland!).
4. A re-survey must fit into existing Vice-county recording projects as far as is possible.
5. Conservation organizations have an ever demanding, unquenchable thirst for information.
6. Guidance with interpretation of the maps is required.
7. Recording must be practical and cost effective.

I should also perhaps define what is meant by the current status. As the number of records for a species is related to the amount of work put into collecting them, the current status should be judged from the relative frequencies of records collected during a widespread and preferably relatively uniform survey of all species during a limited time period (eg the BSBI Monitoring Scheme).

METHODS FOR A RE-SURVEY

If it is decided that a complete re-survey of Britain and Ireland on a 10-km square basis is needed to give the current status, then I suggest it should be done as follows.

Administration

For administrative purposes, the Scheme should be organized as follows:

1. The project should be overseen by BSBI Records Committee, and not a separate committee or subcommittee as for the Monitoring Scheme. The Committee should assume responsibility for the whole project from finance to publication (consulting with other BSBI Committees as appropriate), and report directly to Council.
2. A full time Scheme Organizer should be employed to run the project centrally, to prepare the maps and to write it up, as Frank Perring did for the *Atlas*, and as I did for the Monitoring Scheme; the organizer need not be based in Britain.
3. The Vice-County Recorders (or their deputies) should be asked to organize the recording on a local basis.

There are two distinct roles carried out by the VC Recorders, first, organizing the recording, and second, checking the records. Should the work load become too large for one person, one of these may be best delegated, at least in part. VC Recorders could appoint assistant recorders to help, which would have the added advantage of training up future VC Recorders.
4. Regional Co-ordinators should be appointed to help support and co-ordinate the recording in small groups of 10-12 vice-counties; a possible regional structure is shown in Figure 1 (this requires more consultation). Experience from the Monitoring Scheme showed that co-ordination was most effective in small regions (eg Wales and Northern Ireland).
5. All BSBI members, and other selected botanists, should be invited to contribute to the recording, as they did for the *Atlas* and Monitoring Scheme. Local botanical societies, such as the Sussex Botanical Recording Society, have support to offer too.

(At the start of the Monitoring Scheme there was concern that VC recorders might be swamped by untrained enthusiasts who needed 'servicing', as happened at the start of the *Atlas* project when it was advertised nationally. This problem could be avoided by only selective advertising outside the BSBI, or by delegating training of beginners to other helpers. I believe that all botanists have something to contribute and that they should be encouraged to do so; today's beginners are tomorrow's experts).

Recording

There are a number of decisions which need to be made about how to record the species lists for each 10-km square.

1. Summarized versus detailed information

There is a compromise between loss of information on summary cards, and too much detail on individual site visit cards. There is no doubt that site based information is immensely more valuable for phytogeography, conservation, planning enquiries, etc, than grid-square based information, but it requires considerably more work to collect and process, and comprehensive coverage at a site level is impossible to obtain on any scale. Atlases are therefore usually plotted by grid squares, acknowledging that the loss of site-based information is compensated for by improvements in coverage.

When we started the Monitoring Scheme, there was great lament about how much precise locality information had been lost during the *Atlas* when records were compiled on to summary cards. For the Monitoring Scheme, we therefore requested that each visit should recorded on a separate card. Rosemary and I were then overwhelmed by the enormous amount of information sent in for processing. Huge lists of detailed records on computer printouts may look very impressive, but they are probably not cost-effective, even in the long run, to compile.

If the re-survey is being geared more towards site-based information than grid squares, a compromise can be reached in which cumulative, site-based information is collected for botanically interesting areas (eg sites for rare species, nice habitats, etc) within 10-km squares*, and other records are simply summarized. A number of counties in England already have networks set up by Naturalist's Trusts which could be used and added to (eg the Sites of Scientific Interest in Cumbria). For the cumulative, site-based lists, there should be special cards on which details of the site and its interest can be collected and attached to species cards recorded in the usual way. These pairs cards can be copied to BRC, NCC or the Wildlife services as required, but they need not be processed for the new *Atlas* (the records should be compiled onto the summary 10-km square lists).

* These could be called Botanically important sites coming under Tim's surveillance (BISCUITS for short).

2. Dates of records to be included

There is much to be said for having a definite beginning and end to the recording scheme. Given the need for up-to-date information, and that nearly one million records are already available from the Monitoring Scheme, the re-survey must be dated from 1/1/1987. For an end to the Scheme, I suggest 1998, giving time to record and publish the *Atlas* by the year 2000.

3. All species versus rarer species only

One way to cut down the work would be to record only the rarer plants and ignore the common species. The arguments against this are that changes in distribution and frequency of the common plants would not be picked up, and that a plant common in some areas may not be common elsewhere. For instance, *Artemisia vulgaris* is very common in southern England but is uncommon and declining in parts of Scotland and Ireland (Figure 2).

Although it does take a little longer to record the common species as well, the time taken is not excessive and it is less troublesome to record all species at once rather than just a presumably long and difficult to remember, selected list.

In Ireland, common and rare species alike will have to be recorded on the new Irish grid anyway.

4. Critical, hybrid and infraspecific taxa

The Monitoring Scheme showed that there was considerable interest in recording critical taxa such as *Rubus*, *Hieracium* and *Taraxacum*, but less interest in infraspecific taxa. It is more cost-effective to collect critical and infraspecific taxa when first found during general recording than to re-visit them later. As coverage in many of these more critical groups will be poor, the data may again be better published in a critical supplement (this time we should aim to cover all the critical taxa, and some new infraspecific ones).

5. Introductions and garden escapes

Introductions, etc., should be recorded for the re-survey in the same way in which they were recorded for the Monitoring Scheme (ie casuals and well-established garden escapes should be recorded, but deliberately planted species ignored unless they are likely to be confused with native populations).

Recording should be directed towards obtaining representative lists for each 10-km square. Note use of the word representative; comprehensive lists are impossible to obtain on a national basis (on average about 49% and 56% of the total potential records per 10-km square were recorded for the *Atlas* and Monitoring Scheme surveys respectively; Rich & Woodruff, in review).

We should aim for similar coverage to the *Atlas*, ie visits to at least every 10-km square, and to collect about 50% of the total potential records. The only modification is that coastal squares with only a small area of land should be recorded separately and not lumped with inland squares as was done for the *Atlas*. Although this increases the number of 10-km squares to be recorded, the increase is cancelled out by rationalizing the VC boundaries along 10-km squares.

The recording of representative lists for each 10-km square is without doubt best organized on the traditional Vice-County basis. However, for this project I suggest that we modify, *for the purposes of organizing the recording only*, the Vice-county boundaries along 10-km squares. This will cut down the administrative load by over a quarter - for instance, the average number of 10-km squares, whole or part, in a vice-county in SE England is 28, which drops to 20 whole squares once VC boundaries are realigned along the 10-km squares (Figure 3). It is also more efficient in the field to record a 10-km square as a whole rather than recording two halves in different Vice-counties independently. I am not suggesting that the VC system should be abandoned - it should be updated in parallel; and if individual recorders want to carry on recording to their VC boundaries, I would not want to force them to look at the other side of a two foot wide ditch! Responsibility for individual squares could be delegated to individual co-ordinators, as was done successfully in many cases for the Monitoring Scheme.

For the *Red Data Book* species, precise locality details, population counts, etc. (following the existing population forms) should be collected for each population seen, and the data sent straight to the conservation bodies. Lists of the Red Data Book and 'pink' data book species for which detailed information is required should be included with the instructions for the Scheme.

Guidance with recording

A special instruction booklet detailing the recording methods should be prepared once funding has been obtained.

Guidance notes on how to record certain taxa, or the problems of recording others, would help to improve the quality of recording (eg Figure 4). In the *Plant Crib*, some such notes were included amongst the identification characters, but I now think that identification and guidance on recording should be treated separately; a list of problems should be prepared as soon as is practicable, bearing in mind Duggie Kent's new check-list of British and Irish plants, and Clive Stace's new Flora. *Plant Crib 2*, a work with over 100 new accounts of difficult taxa already on the list to be included, will help with identification of further problem taxa.

Taxonomic workshops to help with identification of the more problematical groups, as began in Liverpool in 1985, must be continued. We may, however, need to structure them to both local and national levels, as botanists in, say, SW England are not going to need to know the finer points of *Euphrasia* taxonomy in Northern Scotland.

We should also prepare guidance notes on how to collect vouchers, who to send them to (eg local experts) and where they should be deposited. Intraspecific taxa often require considerably less care during collection than critical taxa, and non-specialists may be encouraged to concentrate on the former.

Recording cards

I learnt much about recording cards during the Monitoring Scheme, and think that the current cards (including those prepared for the Monitoring Scheme) would benefit enormously from refinement. The principal modifications are that cards must be adapted to local areas (eg groups of 6-10 vice-counties), and that more information must be collected about the way in which plants are recorded by the botanists. An example of the new Supercard, prepared for the Sussex Botanical Recording Society by Paul Harnes and Alan Knapp, is shown in Figure 5. A full paper dealing with this in detail is available from me on request.

Help in remote areas, and in counties with recent floras

Without doubt, as for the *Atlas* and Monitoring Scheme, coverage in remote areas of Scotland and Ireland will be a problem. My impression is that BSBI members tend to attend meetings in their local area, and that only a few are inclined to travel great distances due to the horrific cost of petrol and accommodation. We are going to have to be much better at getting people into remote areas than we were for the Monitoring Scheme where I felt there was a general lack of interest. When applying for money for a re-survey, we should include a substantial allocation for a travel fund to help tempt botanists further afield.

The botanists in some counties with recent floras are also exhausted - we will have to find some way of motivating them once again.

Compilation of records and data processing

During the Monitoring Scheme, VC Recorders were told that BRC would compile the information on the individual cards for them on the computer. It took us much longer than expected due to the amount of information received and bad planning, and we were rightly criticised for the long delays in providing summaries.

For the new *Atlas*, the VC recorders should compile their own lists for the 10-km squares to help direct the recording and check the records as they go along to avoid this problem.

It is essential to monitor progress during the Scheme. Each year for the first five to six years, VC Recorders will be asked to send in the total number of taxa recorded for each 10-km square so that a total progress map can be plotted. Records for a few selected, widespread species should also be requested each year so that individual progress maps can be plotted. Only towards the end of the scheme should all the records be sent in to the processing office and compiled on the computer.

Duplicate copies of all the record cards should be made in case of loss by fire, etc; this could be done centrally as for the Monitoring Scheme. Data compiled on computers should have printed hard copy too.

Data processing for the maps should be from summary 10-km square lists prepared by the VC recorders. These should be processed towards the end of the Scheme when draft maps can be circulated and obvious absences identified on the computer (eg species not recorded but occurring in neighbouring squares). This information can then be used to direct effort for the last one or two years. Additional records should be added to new cards, and processed and added to the existing data for the final maps.

The more detailed general recording cards and site cards should not be computerised unless it is felt very desirable. The frequency with which these cards are referred to, and the presence of additional information on the cards which is not computerised, suggests that they are not worth processing in full - this will cut down the cost and time taken to process the data enormously. If it is desirable to process these cards, then it should be done as a separate exercise so as not to hold up production of the maps.

The major point here is that not all the data that is collected needs to be computerised. For the Monitoring Scheme we did six times more data processing than was actually used in the final analysis, and three times more than will probably ever be used; it nearly killed us.

The development of Mark Atkinson's BRASSICA computer recording program for the BSBI Computer Users Group, directly compatible in information content with BRC, means that if detailed computer records are wanted at a county level, they can be processed and down-loaded directly for the Scheme. This can be done with some other computer programs too.

Records can now be scanned directly into computers rather than being laboriously typed in. Figure 6 shows the results from a couple of hours development work one Saturday morning by Nick Rich. A master card was read into the computer using a flat bed scanner, and then analysed using character recognition software (Figure 6a). Trails showed that a regular number and name structure resulted in the simplest computer file, and character recognition on master cards was virtually 100%. Species were then crossed out on another card (Figure 6b), which was read into the computer for comparison with the master card. Any names crossed out cannot either be read correctly or at all (Figure 6c), and thus the taxa recorded can be identified by subtracting the sample card from the master card (Figure 6d). As this system can work on names alone, the numbers could be dropped completely, though they could be left and used to check that a card has been read in correctly, or for manual input. This system would be ideal for processing carefully prepared summary master cards. A complete system (computer, scanner, printer and software) should cost around £2500, and is very rapid to use.

Storage of data

Data should be stored and made available both on the computer and as original cards, and made available for consultation in a number of places. All the site and summary cards should be stored in fire-proof filing cabinets. The VC Recorders, BRC, the Irish BRC and the Northern Irish BRC must all have copies of all the cards. The Conservation bodies should have copies of the site cards. Access to the data, including that held on computer, must be available to all, perhaps free to those with *bona fide* research interests or for a small commission (payable to the BSBI!!!) for those with commercial interests.

In summary, recording for the scheme should be carried out as follows:

VC Recorders should be asked to organize the recording in their vice-counties. VC boundaries should be rationalised along 10-km squares for organization of the recording.

All BSBI members and selected other botanists should be invited to contribute.

The aim of the re-survey will be to record representative lists for each 10-km square. Squares should be recorded by keeping detailed but cumulative cards for botanically important sites, and summarized details for other areas. All records should be compiled onto one summary, master list.

All species should be recorded, including introductions, critical and hybrid taxa.

Detailed information about Red Data Book and other rare species should be collected and sent to the appropriate conservation bodies.

The re-survey should be dated from 1/1/1987 - 1998.

A general instruction booklet should be prepared. Guidance notes on recording problem taxa should be prepared, and taxonomic workshops and many field meetings organized.

New record cards should be prepared.

Data should be processed from summarised 10-km square cards. A larger scale trial should be set up to assess the potential for processing summary data optically.

HISTORICAL DATA

There are a huge amount of historical data available, as anyone chasing up records will tell you (history is defined here as pre-1987!). We were only able to compile two-thirds or less of the available records for the maps in the *Crucifer Handbook* (Rich 1991), and I am sure I could go on abstracting records for another seven years.

There is an enormous amount which could be done. There are records in hundreds of county Floras which could be abstracted and computerized (contrary to popular belief, BRC do not routinely abstract records from the County Floras, etc), there are thousands of published papers and notes, thousands of herbarium specimens, and who knows how much information in files held by nature conservation and other organisations, which could also be abstracted. Some work already done will have to be repeated - the records available 30 years ago were not systematically extracted for the *Atlas*, and no list has been kept of what has been done, or where. 10-15% of the data already held at BRC needs to be computerised, and much that is computerised requires extensive checking (eg many Irish records, as we found during the Monitoring Scheme). Whether it is worth doing it all is another matter, we will have to be careful not to get into the Rolls Royce syndrome of wanting a perfect job; it took 30 years to compile comprehensive data for the *Atlas of the Bryophytes of Britain and Ireland* (Hill, Preston & Smith 1991).

It also needs to be decided how and whether to break down the historical data into separate date classes. Based on the Monitoring Scheme experience, I think that the historical records should be broken down into two categories:

1. 1930-1986
2. pre-1930 (as for the *Atlas*)

(Some might argue that the 1930 could be increased to 1950 (eg maps in the *Carex Handbook*) as the bulk of the *Atlas* field work took place between 1954 and 1960; 5-10% of the *Atlas* data were collected before 1950 and thus 1930 is a little more honest!)

When the new *Atlas* was outlined 3 years ago (McCosh 1988), 1962-1986 and pre-1962 were suggested as the two historical date classes. I now want to revise this, due to the problem of different amounts of recording effort during the different periods, to avoid the maps being misinterpreted. Precisely how to break down the historical data is a contentious point; my case is stated below.

The information displayed on maps is very dependent on the amount of effort put into recording at certain times. There was a huge national effort for the *Atlas* (1954-1960), much less effort

nationally during 1962-1986 (though there was considerable local effort for some county floras), and potentially a huge effort again 1987-1998. A map showing records for 1954-1960 as open circles and others as closed symbols will be potentially very misleading, implying that there has been a large decline when the open circles are largely a result of under-recording. This can be illustrated using a hypothetical taxon, *Cruciferus flavus*, which has always occurred in the same 50 10-km squares in Britain (Figure 7a). For the first survey 50% of the potential records were collected (Figure 7b). For the second survey, a different 50% are collected (Figure 7c). When a map is plotted showing records for the first survey as open circles, and for the second as closed circles (cf the *Atlas*), there will be a large apparent decline in *Cruciferus flavus* (Figure 7d) even though the species has not changed in frequency at all. A third incomplete, patchy survey would add to the picture of apparent decline.

The best way to resolve this contentious point will be to compile and examine data for 5-10 species and plot trial maps using both date classes. Perhaps we should not worry about the maps being misinterpreted as they can only add to the conservation lobby, but the funding bodies must be made aware of this point.

In Ireland, all the historical data for the *Atlas* was allocated to 10-km squares on the extension of the British grid; this will have to be re-gridded from the primary sources on the new Irish grid, an enormous task. The *Atlas* field records collected on the British grid may be best ignored completely (Tom Curtis, pers. comm.).

If the historical data are to be compiled on any widespread basis, then we will have to be careful to plan, prioritise, and cost any exercise very carefully. It took over twice as long as planned to compile the *Atlas* data for the Monitoring Scheme, and the data are still far from satisfactory (eg many records such as *Saxifraga oppositifolia* in Brecon are missing, and there is a $\pm 8\%$ error rate per record for the Irish data).

In summary, I suggest that historical data should be compiled as follows:

Records should be compiled for each 10-km square and split into the two groups: first, 1930-1986, and second, any pre-1930 records additional to the first group.

Existing data held on the computer and in the data banks at BRC should be compiled and summarized for the two date classes. These records should be then analysed to see where the main gaps are.

Any gaps are filled as far as possible and new summaries prepared.

These summarized 10-km square lists should be sent to the BSBI VC Recorders to check and add any other records.

Draft maps are prepared and checked for these data before any re-survey data are added.

For Ireland, it may be best to ignore data collected on the British grid and go back to primary sources.

PRESENTATION OF THE DATA.

Just as Professor Clapham said 41 years ago for the *Atlas*, the work should include all British and Irish species (perhaps with a critical supplement), be accurate, and be available in a convenient format at a reasonable price (not CUP!!). There are several options for preparing maps for the new *Atlas*.

If funding for compilation of the historical data cannot be obtained, then a new *Atlas* could be published simply showing the results of a re-survey alone (Figure 8a); anyone requiring historical information could refer back to the original *Atlas*. Alternatively, existing historical data already available on the computer could be added to give some, even if inadequate, historical perspective. Both these options would be unsatisfactory for phytogeographic work and for the botanist interested in his local flora.

If the Monitoring Scheme is taken to indicate the current status of the flora, or if there is no money available to fund a re-survey, the distribution maps could be updated by simply by adding dots, derived from historical data alone, to the existing *Atlas* maps; this would certainly be quick and cheap (Figure 8b). The critical question here is as to whether the Monitoring Scheme can be taken to indicate the current status of the flora (one of its stated aims), or not.

Hopefully, we will be able to obtain money for a re-survey and for compiling at least the more important historical data. For presentation of the maps the following symbols could then be used (eg Figure 8c):

- pre-1930
- 1930-1986 (this includes all the Atlas data and any records made after)
- || 1987-1998
- X Introductions

Legends should also be prepared to provide interpretation of the maps, as has been done for the *Fern Atlas* and the bryophyte Atlas. These may include comments and references on taxonomy, phytogeography, conservation, recording bias, etc (eg Figure 9; *Lunaria annua*). Space could be made by reducing the maps to the size of those in the 1990 reprint of the *Atlas of the British flora*. Perhaps we should also commission the phytogeographic essay drawing together the information in the maps; 30 years after the first *Atlas* was published we are still waiting for it.

CONCLUSIONS

The plans above set out how the new *Atlas* can be recorded to achieve the aims of providing updated distribution information and an indication of the current status. They are practical, effective, efficient and manageable without putting too much strain on the volunteers. The next step is to cost them and persuade someone to fund the work. For the conservationists, the decision about whether to do a re-survey or not hinges on the question of whether the Monitoring Scheme can be taken as the current status or not.

Finally, for a title, I think we should call it the *Atlas of the British and Irish floras 2000* to acknowledge that British is not Irish, and that as an indicator of the current status, it has a limited shelf life.

The final decision about whether there will be a new *Atlas* will depend on those who perceive a need for it to provide the funding - the market place economy of the 1980s.

ACKNOWLEDGMENTS

I would like to thank Geoff Halliday, David McCosh, Mary Briggs and Tom Curtis for many helpful comments on a draft manuscript, and Nick Rich for demonstrating the potential of optical scanning for processing records.

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Figure 1. A possible regional recording structure for the new *Atlas*; areas such as southern and western Ireland may need revising.

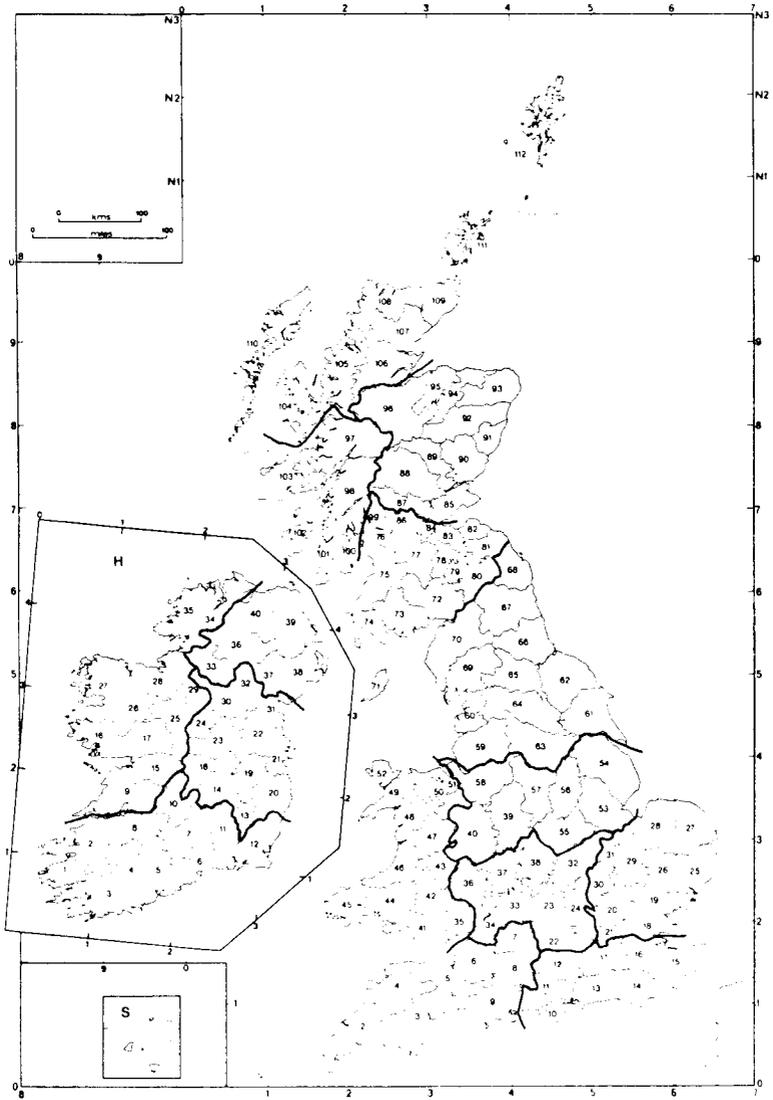


Figure 2. The decline in Scotland and Ireland of *Artemisia vulgaris* (data collected for the BSBI Monitoring Scheme; see Rich & Woodruff 1992b). O Recorded for the Atlas alone (1930-1960 in Britain, pre-1930 in Ireland); + Recorded for the Monitoring Scheme alone (1987-1988); ● recorded for both the *Atlas* and Monitoring Scheme.

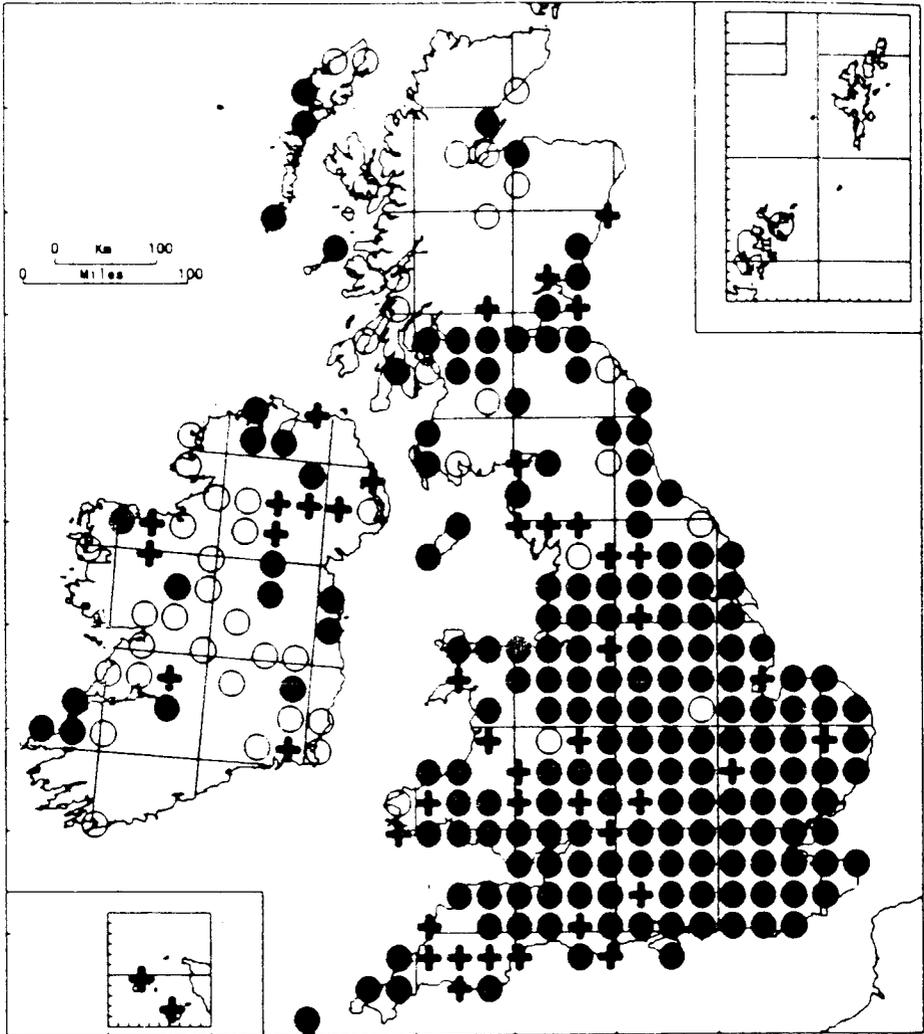
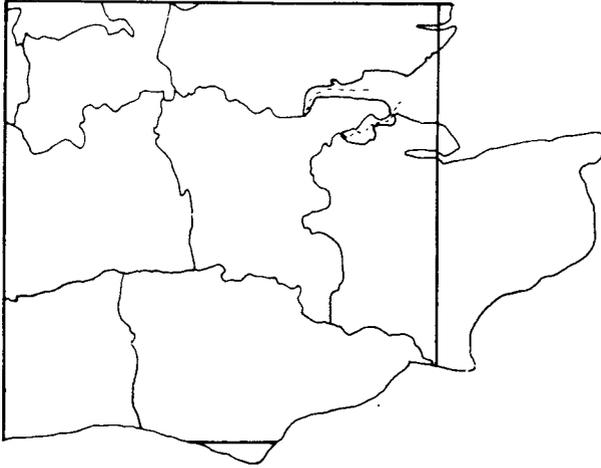


Figure 3. Possible realignment of Vice-County boundaries in SE England along 10-km square borders for organization of the recording. **A.** Permanent VC boundaries. **B.** Realigned VC boundaries.

A



B

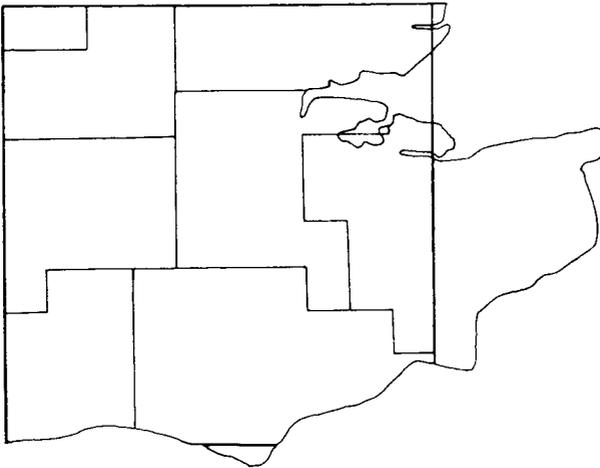


Figure 4. An example of guidance notes on recording selected taxa.

CRUCIFERAE

General - for taxonomy, identification and selected distribution maps, see T.C.G. Rich (1991).

Crucifers of Great Britain and Ireland. BSBI Handbook No. 6. London.

Brassica oleracea L. Record plants established inland as well as on the coast.

Brassica napus L./*Brassica rapa* L. These two species have been widely confused in the past, and historical records are of little value unless supported by voucher material. Both species are widespread, and the provisional *Atlas* maps should be treated with caution.

For taxonomy and identification, see Rich (1991).

Brassica nigra (L.) Koch. This species is now rare in cities (eg London, Dublin), where it has been regularly recorded in error for *Hirschfeldia incana* which is quite common in some areas. For characters separating the two, see Rich (1988, 1991).

Hirschfeldia incana (L.) Lagreze-Fossat. More widespread than the map in Rich (1991) suggests, especially in South Wales. (See also *Brassica nigra*).

Coincya Rouy (*Rhynchosinapis* Hayek). Although now treated as subspecies, *C. monensis* subsp. *monensis* (*Rhynchosinapis monensis*) and *C. monensis* subsp. *recurvata* (*Rhynchosinapis cheiranthos*) are distinct and should be recorded to subspecies when found. The former is of particular interest as an endemic taxon, and full grid references and population estimates should be given for all sites.

For taxonomy and identification, see Leadlay & Heywood (1990) or Rich (1991). Voucher specimens (especially of the latter) would be useful provided conservation considerations allow.

Diploaxis (L.) DC. *D. muralis* is rare in Scotland, where full details should be recorded.

Figure 6. Trial example of data processing using computerised optical scanning and character recognition system (developed by Nick Rich). A. Original card (note full names and numbers have to be included to simplify the data structure resulting from scanning). B. Sample species crossed out on card. C. Sample card data as read by the computer after character recognition. D. Species recorded (ie those on the original card not crossed out on the sample card).

A.	18500 Asple adi	B.	18500 Asple adi
	18900 Asple mar		18900 Asple mar
	19200 Asple rut		19200 Asple rut
	19400 Asple tri		19400 Asple tri
	19500 Asple vir		19500 Asple vir
	21100 Athyr fil		21100 Athyr fil
	24400 Blech spi		24400 Blech spi
	24800 Botry lun		24800 Botry lun
	47300 Ceter off		47300 Ceter off
	58600 Crypt cri		58600 Crypt cri
	60300 Cysto fra		60300 Cysto fra
	12130 Dipah alp		12130 Dipah alp
	66200 Dryop aff		66200 Dryop aff
C.	18500 Asple adi	D.	
	18900 Asple mar		
	19200 Asple rut		
	19400 Asple tri		
	19500 Asple vir		
	21100 Athyr fil		
			24400 Blech spi
	24800 Botry lun		
	47300 Ceter off		
	58600 Cr~r-L~c~i-		58600 Crypt cri
	60300 Cysto fra		
	58600 D1~l~a		12130 Dipah alp
	66200 Dryop aff		

Figure 7. Hypothetical distribution maps of *Cruciferus flavus*. **A.** Total records. **B.** Records for first survey at 50% coverage. **C.** records for second survey at 50% coverage. **D.** Combined records for first and second surveys (O first survey, ● second survey); there is an apparent decline although there is no change in frequency.

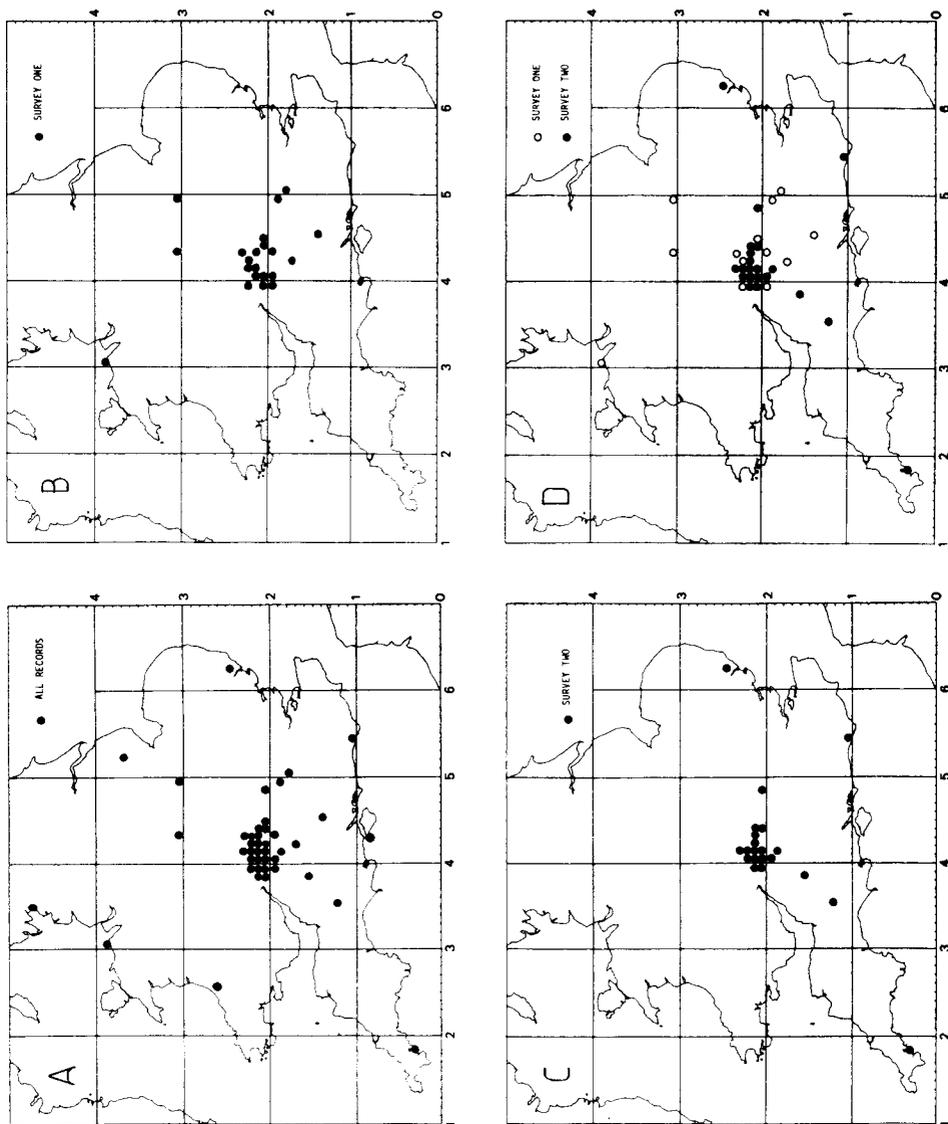


Figure 8. Presentation of results (based on real data for *Thlaspi perfoliatum*; Rich, Kitchen & Kitchen 1989). **A.** Records for re-survey only. **B.** New records added to old maps. **C.** Combined records from a re-survey and historical data sources.

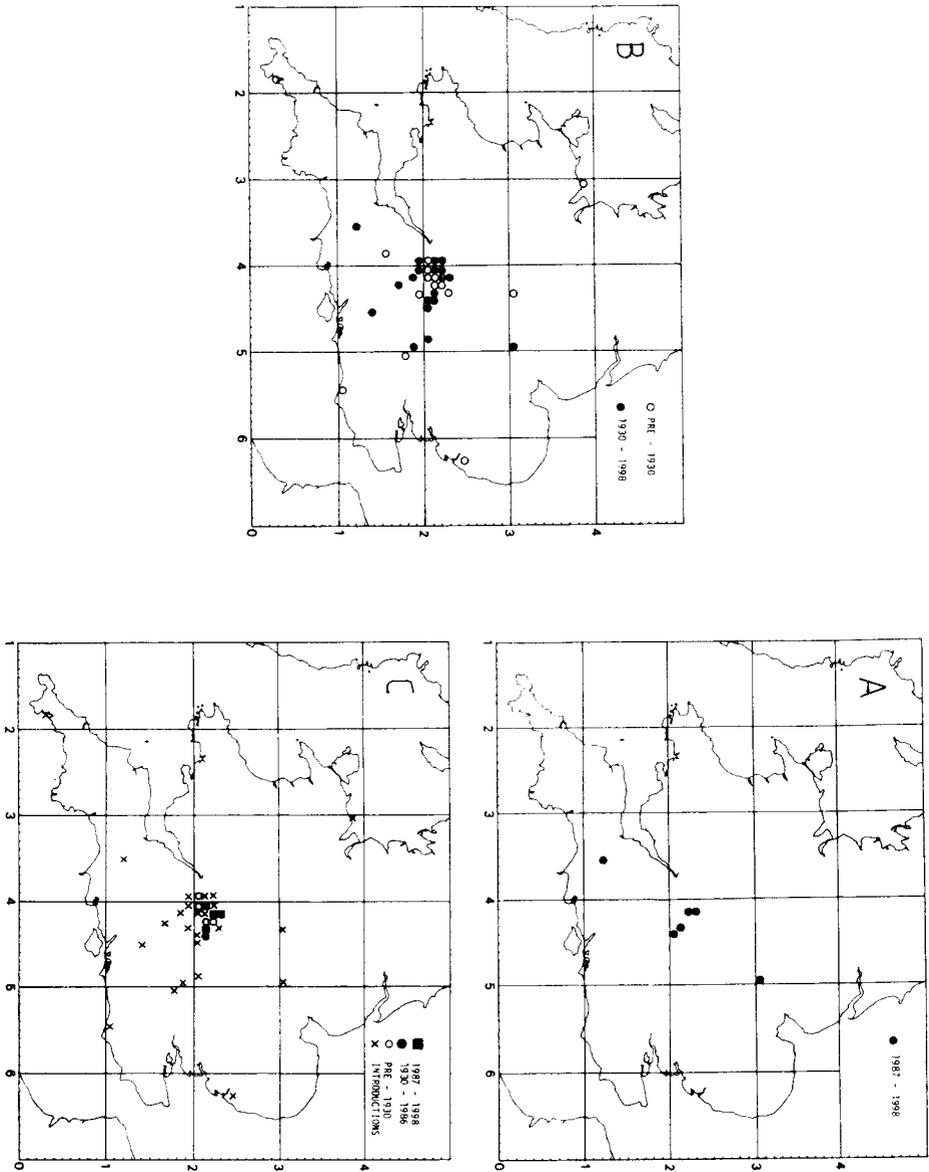
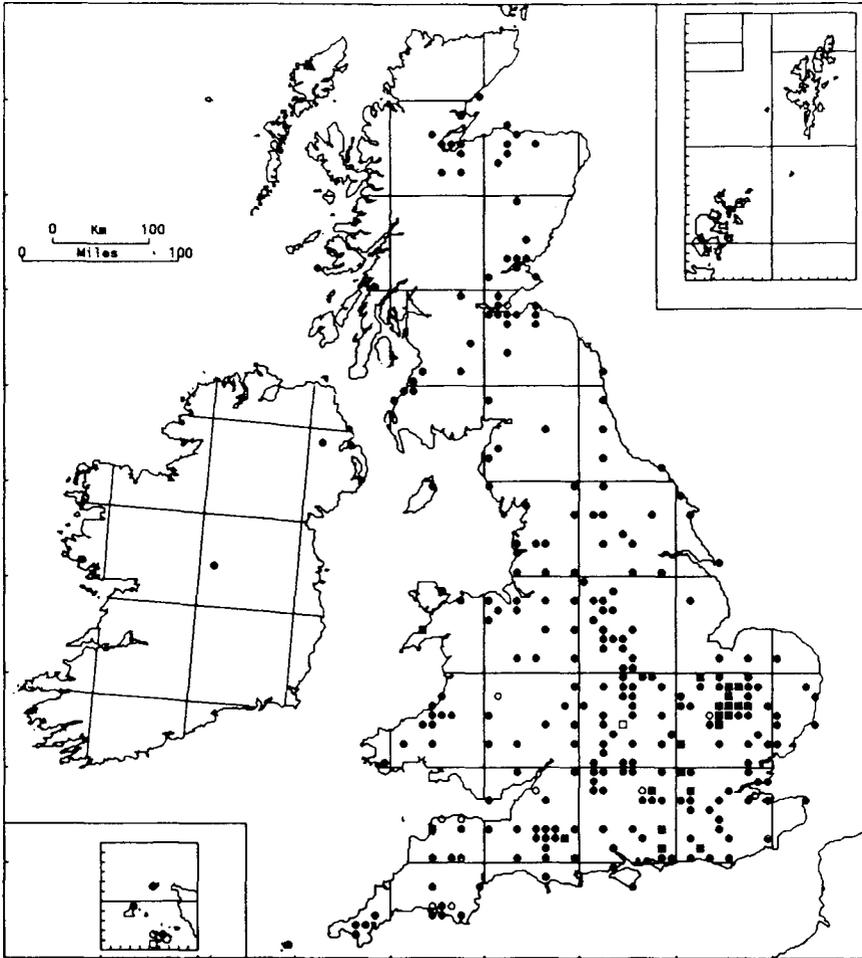


Figure 9. Example of a legend (map from Rich 1991).



Lunaria annua L. Honesty, Money Flower.

A garden escape on waste ground, banks, roadsides, hedgerows and waysides, etc, but rarely persisting long. Cultivated in Britain for over 400 years, the silvery septa being used for decoration.

Under-recorded. Frequent in Britain near habitation, rarer in Ireland. There are relatively few historical records as the plant was poorly recorded up until about 1950 as it was an obvious garden escape; the clusters of dots represent areas for which data have been abstracted or where the plant has been routinely recorded. The regular arrangement of dots, especially noticeable in northern and western England, results from the records collected for the BSBI Monitoring Scheme.

Probably native in S.E. Europe, but widely cultivated and naturalised in Europe, N. America and Australasia

SCARCE PLANTS PROJECT

SCARCE PLANTS UPDATE

Since the end of the field season the Scarce Plants Project has been receiving many records as vice recorders and members send in their records for the year. It is, however, still far too early to make any comments about what changes may be taking place in the distribution of our scarce flora. There is still much basic preparation of data to be done before any analysis can be made.

As we have compiled the data and extracted records from current local floras, it has become clear that there are great differences in the amount of basic information we already have on particular species. Several are very well covered with detailed information on many sites, but others have been relatively or completely neglected.

As can be seen from the maps which accompany the Focus on Scarce Plants articles, which distinguish between pre and post 1970 records, there is often a prevalence of white dots. In many cases we are sure that this is not connected in any way with the decline of the species but rather the lack of post 1970 records sent in to BRC. DP has often been able to update these maps for Dorset by referring to his field notebooks and there must be many of you who can do the same.

We are sure that sending in recent records from notebooks would be a worthwhile exercise for many members while confined to base preparing for 1992 fieldwork. Whilst records of any of the scarce species will be of great value to the project, the following species are some of those which we think are particularly poorly covered.

<i>Allium oleraceum</i>	<i>Polygala calcarea</i>
<i>Bupleurum tenuissimum</i>	<i>Polygonum mite</i>
<i>Campanula patula</i>	<i>Polygonum minus</i>
<i>Carex elata</i>	<i>Ribes alpinum</i>
<i>Dianthus deltoides</i>	<i>Teesdalia nudicaulis</i>
<i>Fumaria</i> spp.	<i>Thlaspi alpestre</i>
<i>Goodyera repens</i>	<i>Torilis arvensis</i>
<i>Hypericum montanum</i>	<i>Trifolium glomeratum</i>
<i>Minuartia verna</i>	<i>Trifolium suffocatum</i>
<i>Moenchia erecta</i>	

Many alpine calcicoles are likewise poorly covered; there are just not enough up-to-date records for widespread species such as *Dryas octopetala*, *Juncus biglumis* and *J. castaneus*, *Phleum alpinum* and *Salix* spp. But this is only a sample, a highlight - any records are very welcome.

In cases where you are not sure who the appropriate vice county recorder may be, or if you have rather a lot of records, it may be best to send them direct to BRC. All vice county recorders will receive details of records sent to BRC from their area.

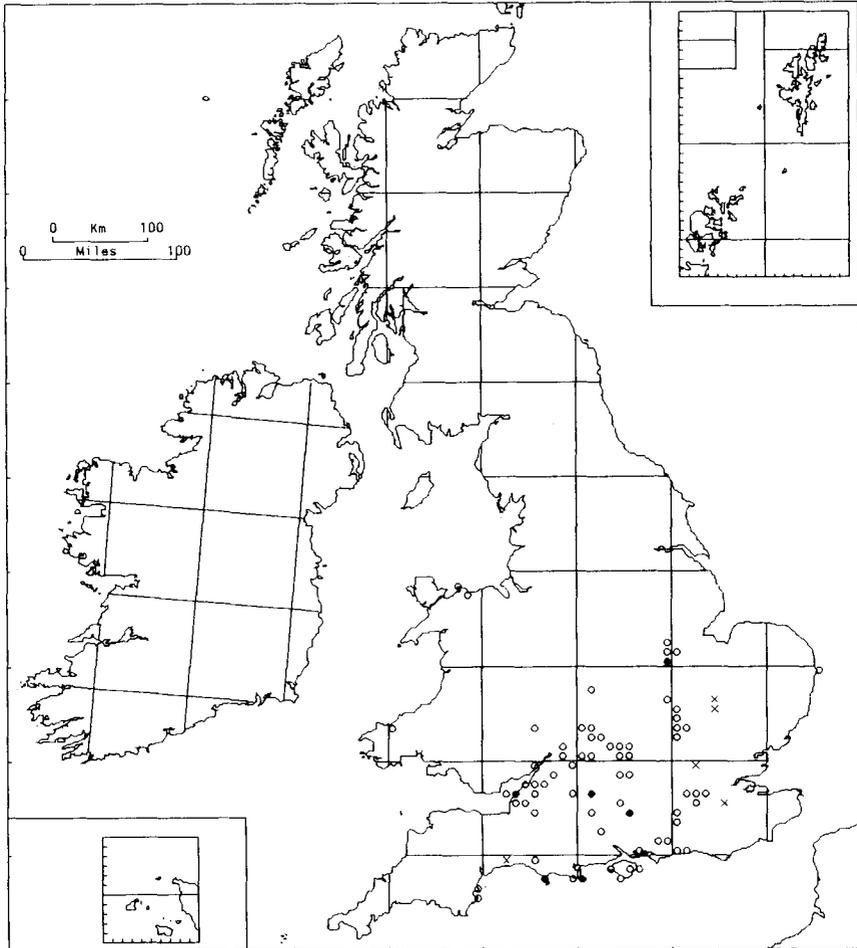
The project, to ascertain the status of these Scarce Plants, is really vital in conservation terms and the duration of the work is very short, with only one more summer for fieldwork. The full list of scarce plants can be found in *BSBI News* 57. This is accompanied by notes on the information required for each record. Any one who has any queries about the project or wishes to get involved during the next field season, please contact us.

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FOCUS ON SCARCE PLANTS

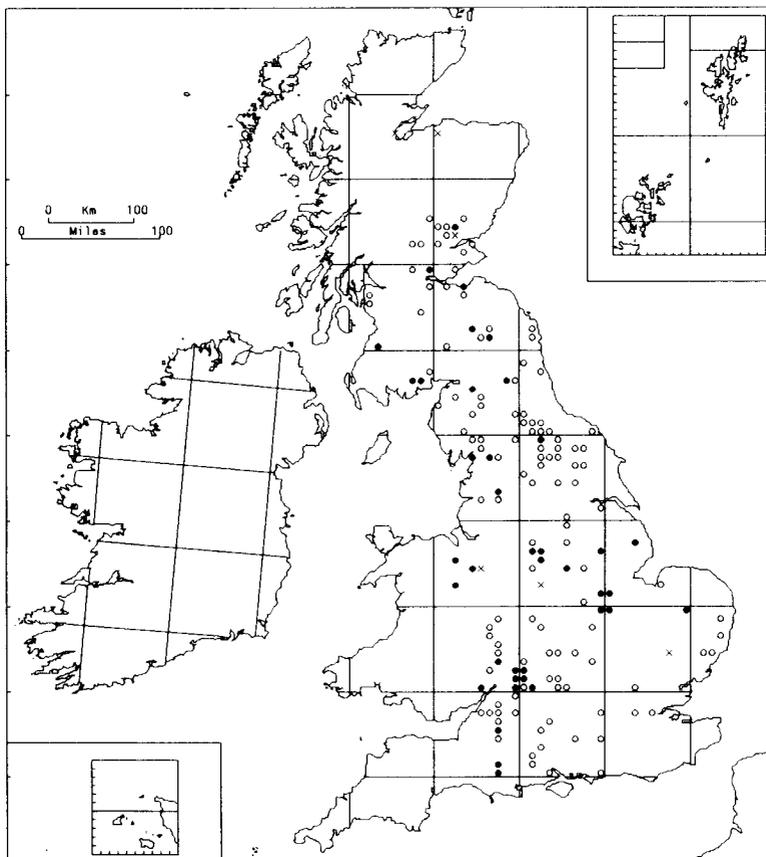
In this issue we are looking at 3 species which have been adopted. We have asked the adopters to write the text, giving their first thoughts on how their species should appear.

Cerastium pumilum (Dwarf Mouse-Ear)

Cerastium pumilum is a native herbaceous winter annual which flowers in April and May. It is a calcicole, preferring dry grassy banks with thin overlying soils and open vegetation. Quarries also provide suitable habitat. There are localities on chalk and both carboniferous and oolitic limestones. Sometimes colonies have been observed on railway lines but these are seldom persistent. Populations tend to fluctuate, being greatest in years following droughts. A hot dry early spring can cause significant seedling mortality.

There have been difficulties in identifying this species in the past due to its similarity with *C. diffusum* and *C. semidecandrum*, with which it may occur. Herbarium specimens have been found to be incorrectly determined and thus some literature references may be erroneous. The most reliable characters to differentiate *C. pumilum* is the relatively large petal size, at least equalling the sepals, the characteristic narrow scarious upper bract margins and the arching fruit stalk. The leaves are characteristically reddish and glandular.

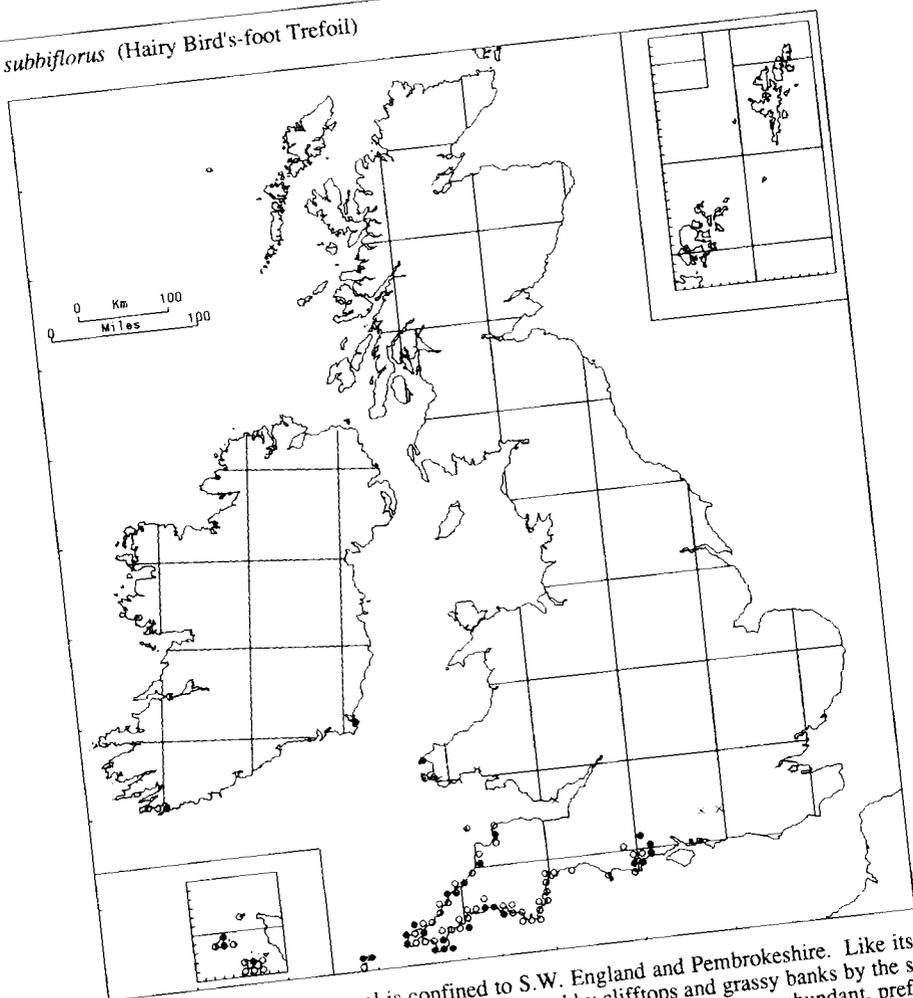
North-eastern Europe extending to the Balkans with populations in southern Scandinavia, Russia, Spain and North Africa. Introduced in North America.

Gagea lutea (Yellow Star-of-Bethlehem)

A small, bulbous perennial, flowering during March and April. It occurs very locally in small, moist, base-rich woodlands, woodland borders, wooded limestone pavements, pastures and shady river banks. In this last situation it is often found in association with *Chrysosplenium alternifolium*. Although it can occur as scattered individuals, colonies are often quite dense but may be of limited extent, just a few square metres in area. Some of these appear to persist for many years in a vegetative state, others are very free-flowing, and the density of the tree canopy is probably a controlling factor. Non-flowering plants can be distinguished from the rather similar *Hyacinthoides non-scripta* by their proportionally narrower, more deeply grooved and slightly yellower leaves. The leaves of *Gagea lutea* are also more veined on the underside, are rigid and erect (not prostrate) and have more pronounced hooding at the tips. The possibility of confusion is greatest when plants are immature.

Some populations have been lost, mainly through felling of its woodland habitat, but adverse agricultural practices and river bank reinforcements also take their toll. Losses due to erosion are probably less important as displaced plants may re-establish themselves downstream.

The plant is widely distributed throughout western and central Europe, extending eastwards into Russia with outlying populations in northern Scandinavia. It also occurs in eastern Asia and the western Himalayas, Japan and the Kamchatka peninsula.

Lotus subbiflorus (Hairy Bird's-foot Trefoil)

In Britain this rather elusive annual is confined to S.W. England and Pembrokeshire. Like its rarer congener *L. angustissimus*, it is typically a plant of scrubby clifftops and grassy banks by the sea. It avoids truly maritime grasslands where *Armeria maritima* and *Scilla verna* are abundant, preferring rather 'scruffier' grasslands in more sheltered situations. Here it occurs in an 'open' turf with such species as *Agrostis capillaris*, *Dactylis glomerata*, *Jasione montana*, *Plantago coronopus*, *Rumex acetosella* and *Hypochaeris radicata*, and with patches of gorse, bramble or bracken never far away. In Devon and Cornwall long stretches of coastline are now covered by impenetrable scrub, and in such areas *L. subbiflorus* is often confined to the narrow strips of open ground beside footpaths and trackways. This facilitates searching, as there is no need to bash through endless scrub. *L. subbiflorus* may have been lost from some of its former localities, perhaps as a result of scrub encroachment following the removal of traditional management practices such as grazing and burning, or due to agricultural improvement of clifftop grasslands. However, in many squares in which it has not been seen since 1970 it could still be 'hanging on' in low numbers.

Western Europe, extending through the Mediterranean eastwards as far as Sicily; also in N. Africa. The species is at its northern limit in the British Isles.

NOTES AND ARTICLES

VARIATION IN THE SCENT OF *ORCHIS MORIO*

Following my request (*BSBI News* 57) I have received a number of different replies regarding the scent of *Orchis morio*. It was pointed out that some people may be unable to detect certain scents. Whilst this is a factor to be guarded against, human genetic variation does not preclude the possibility of plant genetic variation and from the surveys made this does not appear to be a solution to the problem. It was also pointed out that weather conditions and the time of day will have some effect on the emission of scent. Most people seem to agree that the best time of day to smell the orchids is in the afternoon and the weather should be calm and sunny. However even when these conditions are met there still appear to be orchids that lack scent.

There is of course no doubt that many colonies of *Orchis morio* contain plants that emit a strong vanilla fragrance. However, a small colony in north Bedfordshire has for a number of years produced plants that have no scent, or in some cases very little scent. It was from these observations together with noting the conflicting references regarding scent made by various authors that I put forward the hypothesis that scent is a quality that is absent in some colonies of *O. morio*.

I received a very detailed survey from Mrs Suzanne Hart who is fortunate in enjoying, over the last 27 years, a colony of *Orchis morio* in her lawn in Swansea. Upon being informed of my request, she checked the orchids for scent for the first time in 1991. Mrs Hart checked every one of her 300 plus plants and the results were verified by two other people. From this survey it was found that some plants were highly scented, others emitted some scent, but the majority of plants completely lacked scent.

In addition to confirming my own observations, Mrs Hart's survey produced the interesting discovery that there appears to be a correlation between the variation in scent and the variation in colour of the flowers. Thus the pale pink and dark purple flowers emitted no scent whereas some other coloured flowers were highly scented. Plants of similar colour within a colony are presumably more closely related than those of different colour, and this may explain the correlation of colour and amount of scent. Thus in other colonies pale pink orchids may be highly scented etc.

The only reference in the literature to variation in the scent of *Orchis morio* is in Summerhayes (1951), where he states that the scent is 'especially noticeable in white-flowered individuals'. Here, I believe, this may have been the case in only one particular colony. In the north Bedfordshire colony, over a period of nine years, I have checked 30 albino plants and found them to have little or no scent.

Obviously we need many more detailed surveys in order to establish the extent of this variation in scent, and exactly how it correlates with colour variation. Although many detailed observations have been made in connection with minor variations in the shape and colour of native orchids, it seems to me that it is just as important to record variations in the quality of scent.

From the evidence of the above surveys it appears that there is more than a *prima facie* case for concluding that the scent of *Orchis morio* is a quality that varies between individual plants within a colony and some colonies may contain plants that are completely lacking in scent.

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

MEASURING AND MAGNIFYING LENSES - I

I would like to add to the information in Ron Payne's letter published in *BSBI News* 58, Sept. 1991.

I too have sought the means of measuring plant dimensions whilst examining them through a lens. I have discovered two different methods, one 'cheap and cheerful', the other more precise but dearer.

The 'cheap and cheerful' method is to use what I believe is known as a "textile tester" which is normally used to determine the number of threads per inch in woven or knitted fabrics. The

smallest division on such devices are 1/8th of an inch, which can obviously be mentally subdivided during observation. The area of measurement is limited to a square 0.5" by 0.5". Textile testers can be obtained from good optical or tool stores and cost less than £10.

The other device is manufactured and marketed by a company called Verdict and is called a 'Scale Lupe 7x'. It comes with interchangeable scales which can be purchased separately. My own scale (No 5) has, among other units, inches down to a smallest division of 0.0025". It also has metric units down to 0.01mm. The inch scale is 0.5" long and the metric one 10mm. Price is likely to be about £20 plus £5 per extra scale and they can be obtained through good industrial optical equipment suppliers.

I would be happy to try to find more information for anyone having difficulty.

GEORGE STEELE, 73 Marland Fold, Marland, ROCHDALE OL11 4RF

MEASURING AND MAGNIFYING LENSES-II

I read Ron Payne's letter on the 'Brinell lens', and thought members might be interested in a far cheaper, and very satisfactory alternative which I use.

Jessop's Photographic shops (I have no connection with the firm), carry what sounds to be a similar lens, under the name of *Jessop Magnifier/Viewer 8X*, which has a good quality 3-element lens, and a 27mm long scale, graduated in 0.2mm. The lens is angled, with a transparent, hollow, base which can be placed straight on the object without flattening it, and also has a translucent attachment for viewing slides, negatives, or film-strips. This is a first class 8 magnification Japanese optic, and one can easily measure the width of a hair with it. The cost is £8.50 incl. VAT, which makes it affordable by everyone.

BRIAN BONNARD, The Twins, Le Petit Val, ALDERNEY, Channel Isles

LEPIDIUM LATIFOLIUM L. IN LEICESTERSHIRE

Lepidium latifolium L. is usually stated in standard works as being a coastal species of salt marshes and wet sand. I was therefore intrigued, when reading Nick Sturt's note in *BSBI News* 58: 23, to find that he was apparently seeking a source for the intrusion of this species into the region of Chichester Harbour rather than assuming that it could be a likely constituent of the normal vegetation of such a region.

Leicestershire, on the other hand, is about as inland as it is possible to be. It therefore came as some surprise to me, when I was receiving, during the field work for our *Flora of Leicestershire*, quite a number of records of *Dittander*, all from the west of the country and occurring in no less than 18 tetrads. The underlying geological formations (more or less free from drift) are productive coal measures and Keuper marl.

I have visited some of these sites, and in all of them the *Lepidium* has all the appearance of being a natural constituent of the vegetation. It is true that most of the habitats can be described as ruderal - coal mine spoil heaps, dismantled railways, waste ground or roadside verges, but in the ones I have seen, the *Dittander* is certainly not of casual status, but firmly established, as can be inferred from its status remaining unchanged from the time when the field work for the *Flora* began in 1968 to the present day.

When and how *Lepidium latifolium* became established in the west of Leicestershire remains a mystery. The 1886 *Flora* (Mott *et al.*) has no record at all. In Horwood and Gainsborough (1933) there are only two records. One of these was an introduction by Crabbe, in 1790, at Muston near Belvoir in the extreme north east of the county. The other, of more interest, was from Blaby Mill, about 6 miles east of the nearest present *Dittander* site, where W.A. Vice, in 1903 just after the closure of the mill, recorded no less than 143 aliens and casuals, all except two of which had disappeared by the following year, including the *Lepidium*.

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- Vice, W.A. 1905. List of casuals and aliens gathered at Blaby Mills, 1903. *Trans. Leicester lit. phil. soc.* **9**(2): 105-109.

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

CARNIVOROUS, SAPROPHYTIC AND PARASITIC PLANTS

Saturday 7 September 1991

This one-day symposium on abnormal modes of plant nutrition attracted 60-odd delegates to the School of Plant Sciences, University of Reading.

Dr D.S.H. Drennan opened the proceedings with a review of plant parasitism, highlighting the interesting biological features concerned with seed germination and infection, control strategies (many species are serious crop parasites in the Middle East and North Africa) and present research programmes. (Don had originally expected to be away, and the lecturer was to have been Dr R. Froud-Williams, happily also present in the audience).

Mr F.J. Rumsey of Manchester presented evidence to show that the family Orobanchaceae should be sunk into the Scrophulariaceae. He discussed problems concerning the generic limits of *Orobanche*, as well as specific and infraspecific delimitation. Reasons for the treatment of the *O. minor* agg. adopted in a recent revision (Rumsey, F.J. & Jury, S.L., *Watsonia* **18**: 257-295 (1991)) were outlined.

Dr D.M. Keith-Lucas discussed the nutrition of the British Saprophytic Orchids (*Neottia nidus-avis*, *Corallorhiza trifida* and *Epipogium aphyllum*) where recent work has demonstrated the possibility that in *Corallorhiza trifida* nutrients could be passed from 'host plants' direct to the orchid rhizome.

Carnivorous plants supplement low soil nutrient levels by a supplementary diet of animals. Mr A. Culham showed slides of the wide range of trapping mechanisms found, and related this to taxonomy.

Extended coffee, lunch and tea breaks allowed participants to view the posters and wealth of plant material on display (also photographed for the *Times Higher Education Supplement*).

It was a very full day and good to 'christen' our new lecture theatre with a lecture by Don at a BSBI meeting. The new lecture theatre proved comfortable but the chairman soon noticed the absence of a clock! It was also a good thing none of the lecturers wanted to write on the blackboard - it hadn't arrived.

It is hoped that similar full-day programmes can be arranged in the future along similar lines.

STEPHEN L. JURY, Dept. of Botany, Plant Sciences Laboratories, University of Reading, Whiteknights, READING RG6 2AS

A FURTHER TWIST TO THE SAGA OF QUEEN VICTORIA'S WEDDING BOUQUET

I do seem to have stirred up something in my query about Queen Victoria and the myrtle in her wedding bouquet!! Here is a further bit to add to the saga.

An undated copy of a woman's magazine called *Hello* was seen at a hairdresser's establishment by a friend who kindly sent me a photocopy of the relevant bit. In the magazine was an account of Mrs Doris Wellham's career as a florist, including her making of the wedding bouquet of the Princess of Wales (Lady Diana). The Princess wanted to have gardenias, golden-coloured Mountbatten roses AND "sprigs of myrtle and Veronica taken from cuttings used in Queen Victoria's bouquet"!

As "sprigs" are mentioned *Veronica* must be the shrub (*Hebe* spp.?) and not a speedwell (*Veronica* spp.).

Anyway, the myth is apparently thriving and snowballing.

NORA McMILLAN, The Nook, Uplands Road, BROMBOROUGH, Wirral, Merseyside L62 2BZ

[The *Radio Times* (16-22 November 1991) joined the bandwaggon with a piece about *Myrtle for love*. I think it probably time to call a halt to this correspondence, but if anyone else...! Ed.]

COMMON NAMES

I was interested to read Christopher Perraton's note about common names in the last issue of *BSBI News*, and echo the sentiments of Gordon Knight in the same issue.

I referred to my copy of *The Englishman's Flora* to see what Grigson had to say about 'The Boggart'; Grigson's 'Boggart' is *Lemna minor*. *Mercurialis perennis* is given the common names of 'Boggart-flower' and 'Boggart-posy'.

The edition I consulted was published by Paladin in 1975 and has an ISBN with 9 digits not 10! It cost £1-95; I believe a more recent but better quality edition is now £25.

MALCOLM J. DEGG, 4 Digby Road, KINGSWINFORD, West Midlands DY6 7RP

SEED DISPERSAL IN *VERBASCUM LYCHNITIS*

During the summer of 1990 I collected some seed capsules of *Verbascum lychnitis*, intending to grow the species in my garden.

Although brown and dry, the capsules were quite full and had lost very little of their contents. I shook out as many of the seeds as possible, but it was clear that shaking, however vigorous, was not going to release all the seeds contained within the capsules, so I put them away in a very dry place, hoping this would enable the remaining seeds to be shaken free. After a few weeks I was able to shake out a few more seeds, but still more remained inside. Eventually, the only way in which it proved possible to extract the last of the seeds was to put the capsules between sheets of newspaper and crush them with a rolling-pin! About 15% of the total seeds were thus retrieved.

It seems that in nature this 15% would remain trapped in the capsules until released many months later when the capsules decay.

V.A. JOHNSTONE, 25F Nevern Square, LONDON SW5 9PD

BOTANICAL PUBS - A HEATHLAND RELIC

In front of the 'Fox' public house at Juniper Hill, near Bicester in North Oxfordshire, stands a large Juniper (*Juniperus communis*) bush, a relic of a former area of heathland. Here, before the enclosures of the late 18th century, squatters built the settlement that was to become the present hamlet, immortalised as 'Lark Rise' in Flora Thompson's well-loved trilogy of vanished village life, *Lark Rise to Candleford*. The pub itself features in the book, and subsequent stage productions, as the 'Waggon and Horses'.

Visits to Juniper Hill (outside opening hours, alas) in 1988 and 1989 by JRA, Ro FitzGerald and Mark Watson, confirmed that the bush (perhaps better described as a small tree) remains in good health. David Coombe has propagated material, which has been grown on at the Cambridge University Botanic Garden.

JOHN R. AKEROYD, 24 The Street, Hindolveston, DEREHAM, Norfolk NR20 5BU

BOTANICAL PUBS - I

Noting the Editor's project on Red Data Book Pubs *BSBI News* 56: 4 reminded me of *A Botanical Hotel* by J. Edward Lousley, published in the BEC Report for 1941-2. After listing 15 hotels famed for botanical treasures nearby (before the second world war), Ted gives a detailed description of his favourite - the Star Castle Hotel, St Mary's in the Isles of Scilly, listing the plants found on the walls and ramparts as a unique flora growing on an English building used as a Hotel.

The Herbarium of Joseph Andrews, the earliest in the British Herbarium, Dept. of Botany NHM, mentions a pub as a plant locality - not a 'RDB' plant, but of interest possibly because of the age of the record, predating the Liverpool Botanic Garden label by 71 years? (See *BSBI News* 58: 16). His specimen of *Eleocharis palustris* (which he calls 'Scirpus equiseti capitulo majore' in his pre-Linnean naming) was collected from "Bulmur, behind the Cock and Blackbird" on 23 May 1746. G.S. Boulger, in *Journal of Botany* 56 (1918) had failed to find this inn, and thought it renamed 'The Blackbirds'. However on a visit to Sudbury in 1983, when researching the Joseph Andrews localities, the Cock & Blackbird sign was still extant - see photo below. Joseph Andrews (1688-1764) was an apothecary botanist who lived in Sudbury, but also collected plants in London and his informative herbarium labels give an interesting picture of the countryside of his time.



The Cock & Blackbirds Inn, Bulmer, Suffolk, photo Mary Briggs © 1983

MARY BRIGGS, Hon General Secretary.

BOTANICAL PUBS - II

Of course botanizing and pubs go together; the former provides the reason for the walk to the latter and the latter the refreshment necessitated by the walk. This is well documented from the past.

Thomas Johnson in his botanical expeditions into Kent in 1629 & 1632 visited several pubs or inns including two mentioned by name, the Bull at Rochester and the Bull at Dartford (and there was a very helpful landlord, Richard Pollard, on the Isle of Thanet). He also records, in 1629, that after a very hot and thirsty walk on the Isle of Grain they arrived at Stoke where, after dinner, "the whole company of Fellows, now in a state of fatigue, (with the exception of Styles and me) boarded a brewers dray travelling to Rochester." He went on "thus parted from our comrades, *whom we left lolling among the barrels and entrusted to the care of the drivers [my italics]*, we set out from Stoke..." One wonders if it was just the botanizing that brought that on!

In his *Flora Londinensis*, Curtis recounts that on 24th September 1780 he found a dozen specimens of *Phallus impudicus* (Stinkhorn) in "a small fir wood near the Spaniard Hampstead-heath." One of these specimens "my draughtsman... took with him to the Spaniard (a place of entertainment on the spot) but the fetor arising from it quickly pervading every part of the house and rendering it intolerable we were obliged to get rid of it." I'll bet they were! It is still a very good pub.

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Curtis, William (1777-1798. *Flora Londinensis*.

JARLATH J. FINNEY (Judge), The Crown Court, Wood Green, LONDON N22 5LF

IRISH WEATHER

Rain

'The rain here is absolute, magnificent, and
frightening. To call this rain bad weather is as
inappropriate as to call scorching sunshine fine weather.'

From the essay - 'Thoughts on Irish Rain', in *Irish Journal* (1967) by Heinrich Böll (translated from the German). McGraw-Hill Book Company, New York, page 9. Heinrich Böll, Nobel Prizewinner, had a holiday home in Achill, West Mayo for many years.

Wind

'Winter on the West coast [of Ireland] might be
described as a succession of westerly gales with
westerly winds between'.

- in a chapter on Climate in Praeger, R.L. (1934) *The Botanist in Ireland*. Dublin. Hodges & Figgis.

MAURA J.P. SCANNELL, DUBLIN 4

NEWS FROM THE NATURAL HISTORY MUSEUM

Since our note in *BSBI News* 57, a new member of staff, Megan Dowlen, has been recruited to work on vascular plants. Megan, a graduate of Bristol University, will be working closely with Alison Paul on the curation of the pteridophyte herbarium and the reorganisation of the British herbarium.

The herbaria remain open from 8.30am to 5.30pm, Mondays to Fridays, and arrangements can usually be made for visitors to use the herbaria on Saturdays, providing two weeks advance notice is given. Anyone who has not used the herbaria before, and is diffident about doing so, is encouraged to contact Roy Vickery, who will be pleased to provide any necessary guidance and information. The maintenance of herbaria is not an end in itself, but is an attempt to provide a wide range of easily accessible material for researchers to use.

Every effort is made to ensure that full use is made of specimens. Thus during September 1991, which was a comparatively quiet month, 121 people signed the visitors' books in the flowering plant herbaria, and 18 loans (373 specimens in all) were despatched. Fifteen loans (4,158 specimens) were returned to the museum. Noteworthy among the returned loans was one of over 3,000

specimens of British *Rosa*, which have been studied and annotated by Gordon Graham and Tony Primavesi. We thank them for their painstaking work on this group.

As an experiment a series of workshops will be held on Saturdays during the spring of 1992. These workshops will enable participants to learn about difficult groups, and demonstrate how herbarium specimens can be used as an aid to identification. Workshops will start at 10am and continue until c.3.30pm. The following experts have kindly agreed to participate:

18 January: Chris Preston - *Potamogeton*

15 February: Tom Cope - grasses

14 March: David Allen - *Rubus*

11 April: Clive Jermy (and, it is hoped, Arthur Chater and Dick David) - *Carex*

The workshops will be open to all who are interested, but advance booking is required. Bookings, together with a fee of £3 per workshop (or £10 for all four workshops), should be sent to Roy Vickery, to whom any cheques etc. should be made payable.

Anyone wishing to use the herbaria should ideally inform one of the staff listed below in writing. Failing this, they should telephone one of the following: Clive Jermy on 071-938-9428 (general), Mary Chorley on 071-938-8814 (non-European flowering plants), Megan Dowlen or Alison Paul on 071-938-9497 (pteridophytes and British flowering plants), or Roy Vickery on 071-938-8897 (flowering plants in general).

CLIVE JERMY & ROY VICKERY, Department of Botany, The Natural History Museum, Cromwell Road, LONDON SW7 4BD.

THE WALLACE MEMORIAL RESERVE

A ceremony took place on 24th September 1991 to mark the establishment of the Wallace Memorial Reserve at Greywell Moors near Odiham in Hampshire. This was organised by the Hampshire Wildlife Trust in conjunction with the British Bryological Society.

The proceedings consisted of speeches by Dr Francis Rose (who had known Ted Wallace for over 45 years), Dr Mark Hill (President of the BBS) and Mr Graham Darrah (Chairman of the Hampshire Wildlife Trust). Mark Hill referred to the agreement made between the BBS and the Trust, and handed over a cheque for £5,000; in thanking him for this Graham Darrah referred to the essential need for maintenance on this Reserve and the valuable contribution which the donation would make towards the cost of this.

The speeches were made alongside a newly installed memorial stone made of Purbeck stone with an angled face inscribed as follows:

The Wallace Memorial Reserve
Dedicated to the memory of E.C. Wallace
1909 -1986
Eminent Botanist who loved this place.

A number of invited guests were present, including representatives from Hampshire botanical and conservation organisations, long-standing members of the BBS who had special associations with Ted and botanical representatives from adjoining counties where Ted had spent much time: Mrs Joyce Smith (representing BSBI as Recorder for v.c. 17 and Secretary of the Surrey Flora Committee) and Mr Rod Stern (Chairman of the Sussex Botanical Recording Society).

Following the formalities, Francis Rose conducted a tour of the Reserve, pointing out the richness of the site for vascular plants and bryophytes and explaining the management requirements. Much scrub clearance had been carried out, and this in conjunction with grazing had already resulted in a significant improvement from its very overgrown condition. Much more however needs to be done.

The donation from the BBS to the Trust included many contributions which had come in as a result of the Appeal, among which were several from BSBI members. For those who would like to visit the Reserve to see the memorial stone, the entrance is opposite the pumping station on the south side of the village of Greywell near Odiham, and by this there is an entrance board headed "Wallace Memorial Reserve". Access is along footpaths but a permit is needed for more detailed

inspection, obtainable from Hampshire Wildlife Trust, 71 The Hundred, ROMSEY, Hampshire SO51 8BZ (0794-513786).

ROD STERN, Botany Bay, Main Road, FISHBOURNE, Chichester, West Sussex PO18 8AX

THE BSBI DATABASE AT LEICESTER

The idea of setting up a BSBI Database was mooted in March 1988 and the decision to go ahead was made in February 1990. The siting of the database for at least the first three years in the herbarium of the Department of Botany, University of Leicester, was agreed in November 1990 and the equipment was purchased in February/March 1991. Inputting started in July 1991.

The hardware consists of a Dell 325D computer with 190 MB hard disk and 2MB RAM, plus a Star Laserprinter 8II and a Star LC24-200 dot-matrix printer. The database is constructed on Advanced Revelation Version 2.0.

All the initial programming and subsequent modification in the light of operation experience has been carried out by Richard Pankhurst under contract to the BSBI. The day-to-day running of the database is supervised by the undersigned. Control of the database project is overseen by a Management Committee consisting of Mike Walpole and Chris Boon (representing the BSBI) and Clive Stace and Richard Gornall (representing the 'operators'). In addition there is an Advisory Committee consisting of the above four plus Stephen Jury (Chairman), Chris Preston and Richard Pankhurst, and the President and Hon. Gen. Sec. ex officio, who decide overall policy and priorities and the general procedure for carrying these out. The BSBI pays for the running costs of the project (including the payment of inputters), but the database is housed rent-free under a written agreement with the University of Leicester.

The first task of the project has been to input the data needed to produce Douglas Kent's *List of Vascular Plants of the British Isles*. This consists of accepted names of taxa at the level of subspecies and above, as well as of hybrids, all basionyms and selected synonyms, with full author citation but without literature citation. These data were taken from 500 pages of hand-written manuscript and were input in about ten weeks. This data-set is now being edited and it is anticipated that camera-ready copy should be available by the end of the year, with a view to publication within two to three months of submission.

The Advanced Revelation database is relational, which means that the data are stored in a series of inter-connected files such that data can be searched for, modified, supplemented or retrieved from any file while one is working in another. In our particular system the main working file is called Taxa, but this is supported by a number of other files (such as Authorities, Literature). This means that pieces of data such as 'Ranunculus', 'Linnaeus' or 'Watsonia' are stored only once in the whole database and are 'called up' rather than re-input whenever needed. This obviously saves much memory space and cuts down on typographical errors.

The Kent checklist will become the basis for virtually all future projects using the database. The first two of these have already been started:

- (1) the addition of literature citations for all the taxa in the Kent checklist.
- (2) the addition of a much fuller set of synonyms (with literature citations) for all the accepted names.

Three further projects are being planned now and should be commenced before next Spring:

- (3) English Names. The next edition of this work will be produced by the BSBI Database and will include English names of all taxa (except hybrids and microspecies) in the Kent checklist, a considerable increase on the number in the current edition.
- (4) Vice-comital Census Catalogue. This will contain vice-comital distributions of all the taxa in the Kent checklist. It is planned that primary data-gathering will be completed by the end of 1992 by a 7-man working party.
- (5) BSBI Abstracts. It is planned that this will in future be produced by the database, but whether this will commence with the 1992 or 1993 editions is not yet decided. Once it has commenced the problem of tackling the backlog of bibliographical records on the flora of the British Isles can be addressed. This would be by far the largest project that might be attempted.

Many further projects can be envisaged. Whether or not they are undertaken depends not only on whether the BSBI decides that they are worth the expenditure involved, but also whether there are the necessary people to assemble the data and monitor the inputting.

Some personal ideas are:

- (6) Incorporation of Richard Gornall's Cytological Catalogue of the British and Irish Flora.
- (7) Conservation status of each taxon nationally and/or by vice-counties, which could lead to a Red-data Book for each vice-county.
- (8) A wide range of data such as first record, altitudinal limits, or poisonous, medicinal or culinary uses.

At the time of writing (25th November 1991) the BSBI Database contains a total of over 22,000 records in all fields, including over 10,000 in the Taxa file. The more data that are added the more useful the database will become and the more it will be consulted. Whether, to whom and at what level charges will be made for consultation and the provision of print-outs or disks from the database has not yet been decided.

CLIVE A. STACE & RICHARD J. GORNALL, Department of Botany, University of Leicester, Adrian Building, LEICESTER LE1 7RH

BIRDS AND THEIR 'JIZZ'

The Times of August 16, 1991, published a long and comprehensive article by Philip Howard on the origin of the word 'jizz' - *Where did this odd word come from? A little birdie told me.*

In a letter to the same paper on 28th August 1991, Lady Philippa Scott gave what may be the definitive definition of jizz.

'... I would like to quote an excerpt from a piece written by my husband, the late Sir Peter Scott, in the magazine of the Wildfowl and Wetlands Trust dated September 1987:

"In the long ago when I was at my preparatory school I carried in my pocket the *Wayside and Woodland* book of British birds by T.A. Coward. I remember some little time later meeting the great man, for great he was as an ornithologist and for his impact on aspiring birdwatchers through his book. He explained to me that he always noted down the general impression of the shape of a bird, GIS, which he pronounced 'jis' - General Impression of Shape."

In another letter in the same issue, Robin Paddock suggested 'Is it not likely that 'jizz' is simply the pronunciation of 1920s Irish, possibly semi-literate country-folk of the word 'guise'?

My thanks to G.R. Seamons of English Nature and Roger Henson of HARROGATE for bringing this correspondence to my attention.

GWYNN ELLIS, Editor

JIZZ

According to a rather elderly edition of the Oxford English Dictionary, 'Jis' or 'Gis' is an oath or exclamation first recorded in 1528 & it cites 'By Gis' in Hamlet IV v58. The possible derivation from 'By Jesus' is given.

ROBERT FLOOD, NIAB Official Seed Testing Station, Huntingdon Road, CAMBRIDGE CB3 0LE

CUTTING OF ROADSIDE VERGES and VERNACULAR NAMES

In *BSBI News* 58: 16, Peter Sell states that 'Councils, trying to save money, now cut our roadsides very late or not at all, allowing their seed to ripen'. Saving money could be true in some cases, but I thought that many years ago, and following conservation pressures, enlightened councils adopted a

policy of allowing the verges to flourish and cut them after seeds had ripened, except in the case of those where the view is obscured and long grass etc. could be a hazard, in which case it was cut more frequently. Perhaps this is something that naturalists should monitor and liaise with local councils over. A verge with trimmed edges and backed by wild plants, including grasses, is extremely pleasing and is akin to a well-managed wildlife garden.

Moving on to more than just verges, I understand that where the next sections of the eastward bound A27 will be cut through the South Downs in Sussex, a programme of planting on the deep embankments species conducive to butterfly survival will be incorporated.

Still at the roadside, am I being unduly worried by the drastic way in which hedges are cut nowadays? Does the seemingly brutal flailing method of trimming, which leaves the ends of the growths severely split, do any long-term damage to the hedge? It is far removed from 'judicious pruning'.

Lastly, in the same issue of *BSBI News* (58: 19), Gordon Knight laments the lack of vernacular and Latin names together 'at the start of a paper'. It is normal practice in a vast range of natural history (as opposed to some strictly 'scientific') journals, magazines and newsletters, for both names to appear when first mentioned, unless a full list of all the species is included as an appendix. I am not a botanist and I find myself needing to check some of the Latin names in the *News* itself to ascertain what species is under discussion. But I'm learning!

KEITH HYATT, 1 Tremcelynog, Rhandirmwyn, LLANDOVERY, Dyfed SA20 0NU

[This is the only comment I have received on the subject of vernacular names. If any member has strong views please let me have them. Ed.]

ALIENS AND ADVENTIVES

ALIENS AND ADVENTIVES NEWS: PLANT RECORDS

Thank you for all your contributions, a most interesting summer harvest. With no further ado, here are some of the choicer items:

Dr H.J.M. Bowen sent me the following observations from Dorset, v.c. 9, this year:

Dicentra formosa A fair sized patch in a small Woodland Trust reserve at Broadstone.

Euonymus latifolius A bush in a steep hedgebank outside Winterborne Stickland, quite some way from any garden.

Ornithopus compressus At least fifty plants of this bright yellow-flowered Mediterranean legume along a sandy roadside near Poole. Also seen here by B. Edwards. The roadside surveyor claims that no ballast or outside soil was used to make up this road.

Aronia melanocarpa By the edge of a ride near a derelict pinetum on Bere Heath.

Ornithogalum nutans Several plants along the verge of a lane near Muston. It has been much planted at Sandbanks, near Poole, and is likely to escape here, although very rarely reported from Dorset.

Iris spuria subsp. *ochroleuca* Well established in several places. It has long been known in a field near the old Manor at Abbotsbury which was burnt down in 1913. It now occurs at several places on Portland (Grove and near St George's Church), as well as on Winfrith Heath. Readers are also referred to J.R. Palmer's record of this species growing in abundance in the Northfleet and Springhead areas of N. Kent, v.c. 16 (*BSBI News* 55: 32).

Festuca heterophylla About fifty clumps along a shaded hedgebank on acid soil near Briant's Puddle; new to the vice-county.

R. Vickery, Curator of Flowering Plants at the Natural History Museum, sent in a further record of *Solanum cornutum* (see *BSBI News* 58). This was from v.c. 55, Rutland, where it was observed in a kale field at Holmes Farm, Aldgate, Ketton, by E. Andrew in October 1991. The seeds of some Solanaceae have demonstrated the most extraordinary longevity when deeply buried in soil, and one can but wonder in which year an alien such as this was actually introduced.

J.R. Palmer has again explored many parts of N. Kent to compile a long, stimulating list of both native and alien species. The latter include:

Allium siculum var. *dioscorides* Horton Kirby, rubbish tip, 1986.

Papaver orientale 'Orange King', *P. bracteatum*, *Levisticum officinale* and bird-sown *Cotoneaster hjelmquistii* together with other garden escapes in chalk grassland and wasteland below Darenth Wood, 1990.

Vitis coignetiae, *Coronilla emerus*, *Cotoneaster bacillaris* (some books call this *C. affinis* var. *bacillaris*) and *C. dielsianus* naturalised together on roadsides at Hextable, 1990.

Sisyrinchium striatum and *Cynara scolymus* together in chalk pit, Swanscombe, 1990. In my own experience, the former self sows all too freely in the garden and is remarkably drought-resistant. John also noted it as an escape on relict heathland at Swanley.

Pyracantha rogersiana, *Alnus cordata*, *Cotoneaster hjelmquistii*, *Leycesteria formosa* and *Viburnum rhytidophyllum* all self sown in cracks between paving stones and along the bases of garden walls in the New Ash Green area. We saw these together in October 1989, and they opened my eyes to their similar occurrence in parts of the London area.

The status of *Stephanandra incisa* at New Ash Green is intriguing. It certainly looks wild in its roadside copse there, but it is difficult to decide whether it spread from nearby cultivation or is a long-distance introduction. This species is an attractive low-growing Rosaceous shrub occasionally used as ground cover.

Rosa damascena Remote hedge at Stonehill Green, 1990.

Lonicera morrowii By footpath, Swanley, 1990.

Chenopodium probstii On soil heaps, Darenth and Wilmington areas, 1990.

Verbascum phlomoides var. *albiflorum* Dartford Marshes, 1990. I noted a white-flowered form of this myself on a soil infill site at Bexley in August, 1991.

Limonium latifolium Abundant in long grass at Hextable, 1990.

Solanum scabrum On fields spread with sludge near Crockenhill, 1990.

Cotoneaster splendens Thinly scattered as naturalised seedlings around Horton Kirby and Sutton-at-Hone, 1990.

Trifolium alexandrinum Rubbish tip, Swanscombe, 1990. Det. E.J. Clement.

Limonium sinuatum Rubbish tip, Stone, 1990.

Phalaris aquatica Abundant in remote field N.E. of Farningham Wood, 1990. Of personal interest, being found almost on the same day that I found another huge naturalised colony, also in a remote field, near Waltham Abbey in Essex. Known in the States as "Harding Grass", it is highly drought-resistant, is evidently planted as a fodder crop in warmer climes and is able to naturalise during hot summers in this country. Several records, under its older name of *P. tuberosum*, have also been published in our literature as shoddy aliens.

Not to overdo it, I'll add just four species of my own to this list. All are from South Tottenham, v.c. 22 (London Borough of Haringey), and the first three have spread from my own garden:

Agrostis semiverticillata Introduced to this address in 1965 from Guernsey seed, it soon became a small-scale, then a large-scale weed, and over the years spread to paving stones, kerbsides and wall bases widely throughout the local back streets. Isolated tufts now turn up on roadsides even a quarter of a mile away. It is no more objectionable than *Poa annua*, colonises similar niches and flowers later in the year. Quantities annually succumb to council clearing operations along with everything else ... but plants always reappear.

Sigesbeckia jorullensis Introduced as a shoddy alien novelty in the Seventies, this tall tropical plant thrives in the sun-baked concrete crevices of two nearby alley-ways, but seems reluctant to spread further. It is a regular garden weed here.

Polycarpon tetraphyllum Again of Channel Isles origin, this sprouts more abundantly than *Stellaria media* on my roof garden each spring, and is not an uncommon adventive in neighbouring gardens at the same time.

Erodium moschatum Never before seen as an alien in London, this summer coincidentally revealed two wild colonies, one in South Tottenham and one by Peckham Rye Common in the London Borough of Southwark. In both localities, plants were numerous, well developed and associated with urban grass habitat complete with its periodic lawn mowers, joggers and dogs.

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

ANTHEMIS AUSTRIACA Jacq. IN BRITAIN

In 1990 I noticed this composite, fruiting well, in open private woodland north of Broom Hill, Swanley, W. Kent. It was determined by Eric Clement and is thought to be new to Britain. There is a description in *Flora Europaea* vol. 4.

It is probable that the *Anthemis* was brought in with top soil to assist some replanting after many mature trees were blown down in the 1987 storm. This top soil came from the Elephant & Castle area of v.c. 17 (Surrey botanists please note).

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

ALIENS AND ADVENTIVES NEWS: MORE MALLOWS

There's something about our tiny urban front garden which favours the growth of massive Malvaceae. *Lavatera arborea* has already been celebrated (*BSBI News* 57). *Alcea rosea* scarcely needs to be. But two other giants of the tribe flourish here as well, and these are worthy of consideration.

Lavatera thuringiaca suddenly appeared out of the blue. Native in Central and S.E. Europe, this robust perennial is characterised by having widely spreading branches and tomentose, bluntly-lobed, orbicular upper leaves with solitary pale lilac flowers in their axils. Although I haven't a clue how it arrived here, it is a welcome addition to the garden.

Althaea broussonetiiifolia has more of a history to relate. Ten years ago, a small plant was given to me by Harry Hay who had obtained wild-origin seed direct from a riverbank in S.E. Russia. Now mature, it produces dense clusters of stout, straight, and rather brittle stems up to 3m tall each season. Overall these lack the densely canescent tomentum of native *A. officinale*, and as Laura Andrew's front cover illustration shows, the plant further differs by producing flowers not exceeding 25mm across and leaves deeply three- to five-lobed. Tutin *et al.* (1968) questions whether *A. broussonetiiifolia* should be ranked as a species distinct from *A. armeniaca* merely on the strength of having leaf bases more cuneate and leaf-lobe sinuses tending to broaden towards their own bases. My reply would be that our plant merrily bears as many leaves with these characters as without, so I'm not going to worry about it. Moreover, *A. broussonetiiifolia* rolls easily off the tongue; it reminds me of the elegant Paper Mulberry tree, *Broussonetia papyrifera*. It is the name I was first introduced to by a friend, the name I have lived with for a decade, and the name under which I have enjoyed sharing seed with many other friends. Should scientific arguments weigh more heavily than these?

Each year, numerous seedlings of this species self-sow in different parts of the garden and between paving-stones in the street outside. Their inclination to grow tall even at the cotyledon stage means that pedestrians and council workers are constantly knocking them down again. Once in a while, though, it is heartening to notice a luckier one managing to attain 50cm or more, perhaps underneath a neighbour's garden wall, sometimes twenty or thirty houses away. Thus I have no doubt that this species would naturalise itself quite effectively on waste ground in Southern England if it were horticulturally attractive enough to merit wider cultivation.

Regarding seed of *Lavatera arborea*, I apologise to the 27 members who sent s.a.e.'s for this; my present plants, although tall and healthy, have not yet flowered. I'll assume, therefore, that next year's crop will be acceptable and keep you all on file. Alternatively, would you like seed of *L. thuringiaca* and/or *A. broussonetiiifolia*? If so, please phone or drop me a postcard, and I'll be pleased to fill your envelopes according to instruction. Likewise, if these aliens appeal to anyone else, I'd be happy to supply seed on the same s.a.e. basis. Both species fruited well this autumn, and there's plenty to go round.

Finally, there was yet another enormous Mallow naturalised outside a garden at Fryent Country Park (London Borough of Brent) last summer. Take ordinary *Malva sylvestris*, build it up to 2m tall, increase the number of flowers per cluster, slightly deepen their purple hue ... and that's what it was. Except that I ought to know what it was and still can't figure it out. Oh well, I guess it happens to us all!

Reference

Tutin, T.G., *et al.* (1968). *Flora Europaea*, Vol. 2, Cambridge.

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

CABBAGE PATCH IX

AN UNRECOGNISED RADISH *RAPHANUS LANDRA* Moretti ex DC. DOES OCCUR IN BRITAIN!

There is nothing like publishing what you do know to find out what you do not!

I was unable to confirm the occurrence of *Raphanus landra* in Britain for the *Crucifer Handbook* (Rich 1991), all material seen up to 1989 labelled as such, being *R. raphanistrum* with large fruits. Whilst reading the Handbook, Prof. Swan immediately noticed that his recent record from Northumberland had been overlooked, which prompted me to look at *Raphanus landra* in more detail (see also Cabbage Patch VI, *BSBI News* 51:13-15).

Raphanus landra is defined here following the account in *Flora Europaea*, which works well (*R. landra* is there treated as a subspecies of *R. raphanistrum*, an equally valid treatment). *R. landra* is distinguished from *R. raphanistrum* and *R. maritimus* by the combination of thick fruits (5 mm or more wide when dry), small (10-15 mm), usually white, petals, and few, distant lateral lobes to the rosette leaves.

I have seen the following specimens or records, but am still cautious of accepting records without seeing voucher material, and cautious of voucher material without flowers and ripe fruit; it is likely that some of the records below still refer to *R. raphanistrum*. I would welcome any other records!

- v.c. 7. Bremhill, [H.J.] Hunt, undated, det. J.E. Lousley (**DZS**, !TCGR; see also *Fl. Wils.*, Grose 1957: 132).
- v.c. 17. Wandsworth Pier, A. Irvine, undated but probably collected between 1851 and 1859 (**K**, !TCGR; see also *Phytologist* 3: 330-350 (1859) and subsequent Surrey floras).
- v.c. 27. Great Yarmouth, J.H. Silverwood, 1964, det. J.E. Lousley. (*Fl. Norf.*, Petch & Swann 1968: 106).
- v.c. 34. Avonmouth Docks, C.I. Sandwith, October 1926 (**BRISTM**, !TCGR; see also *B.E.C. Report for 1926*: 107). Sharpness Docks, R.B. Abell & C.W. Bannister, 1952, det. J.E. Lousley (*Suppl. Fl. Glouc.*, Holland *et al.* 1986: 14).
- v.c. 39. Burton-on-Trent, G.C. Druce, 1930, det. O.E. Schulz as forma *parviflorus* Murr. (**OXF**, !TCGR; *B.E.C. Report for 1931*: 553). Burton-on-Trent, J.E. Nowers, undated (**LLN**; !TCGR).
- v.c. 67. Blyth, sand dunes south of, 45/322.803, G.A. & M. Swan, 14/10/1979 (**herb. G.A. Swan**, !TCGR; *Watsonia* 13: 132).
- v.c. 83. Duddington, near Edinburgh, A. C. Christie, 7/1866 (**E**, !TCGR). Gorgie, waste ground, W.E. Evans, 24/10/1903 (**E**, !TCGR; see also *Annals Scot. Nat. Hist.* 13: 175). Gorgie, frequent, J. Fraser, 1904 (*Annals Scot. Nat. Hist.* 14: 98).

The plant from v.c. 35 (Ellis, 1983; **NMW**) has odd, very dissected leaves and large petals, and is probably best treated as variable *R. raphanistrum* s.s., and specimens from Kirton (Gibbons 1975; **LLN**), and from Leith Docks and Slateford (**E**), are errors for *R. raphanistrum*.

I am grateful to Prof. Swan for drawing my attention to his record, to Gwynn Ellis, Anne Hollowell, Serena Marner, Douglas McKean, Andrew Tucker, Rene Weston and the Keepers of **BRISTM**, **BM**, **DZS**, **E**, **K**, **LLN** and **NMW** for access to or loan of specimens, and to Mrs M.C. Foster for her invaluable help with historical records.

References

- Ellis, R.G. (1983). *Flowering Plants of Wales*. Cardiff.
 Gibbons, E.J. (1975). *The flora of Lincolnshire*. Lincoln.
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TIM C.G. RICH, Unit of Vegetation Science, University of Lancaster, LANCASTER LA1 4YQ.

***AETHUSA CYNAPIUM* subsp. *CYNAPIOIDES* IN W. KENT (v.c. 16)**

Flora Europaea Vol. 2 describes three subspecies of *Aethusa cynapium*, of which two only are given as occurring in Britain, subsp. *cynapium* and subsp. *agrestis*.

In September 1986 I noticed the third subspecies (subsp. *cynapioides*) growing in some quantity on a suburban footpath E. of Bromley.

The plants were noticeable because of their height (4 feet high on asphalt, a poor medium), and the oblong leaf-lobes and pruinose, striate stems gave them a distinctive appearance.

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NEW ZEALAND BITTERCRESS

I was interested to read of the presence of a New Zealand Bittercress as a weed in Berwicks. and Midlothian (Braithwaite 1991). The combination *Cardamine uniflora* (J.D. Hook.) Allan (1961) is, however, rendered illegitimate by the earlier homonym *C. uniflora* Michaux (1803). The taxon found in Britain is currently referred to *C. corymbosa* J.D. Hook. (1864). This is represented in New Zealand by a complex of coastal, lowland and montane-subalpine races (Webb, *et al.* (1988)).

References

- Allan, H.H. (1961). *Flora of New Zealand* 1: 183. Wellington
 Braithwaite, M. (1991). The Scottish Cabbage Patch. New Zealand Bittercress. *BSBI News* 58: 38-39
 Hooker, J.D. (1844). *Flora Antarctica, etc.* 1: 6. London
 Michaux, A. (1803). *Flora Boreali Americana* 2: 29. Paris
 Webb, C.J., *et al.* (1988). *Flora of New Zealand* 4: 414. Christchurch

DUGGIE H. KENT, 75 Adelaide Road, West Ealing, LONDON W13 9ED

***CARDAMINE CORYMBOSA* IN v.c. 53, S. LINCS.**

Mrs Vyvyan Pennell has recorded this small crucifer from her garden rockery in Bracebridge Heath, Lincoln (GR. 43/97.67) since 1985, as a quite distinct, albeit persistent, form of *Cardamine hirsuta*. Mr M. Braithwaite's article in *BSBI News* 58 prompted an immediate submission of a specimen to Dr Tim Rich for confirmation as *C. uniflora* (J.D. Hook) Allan. [Now known as *C. corymbosa* J.D. Hook., see D.H. Kent's note above. Ed.]

RENE WESTON, Lindhris, Riseholme Lane, RISEHOLME, Lincoln LN2 2LD

AMERICANS IN WEST NORFOLK

Following on from Jaen Gaffneys letter about *Amaranthus bouchonii* in West Norfolk, it may be worth noting that a number of American weed species were introduced into Norfolk in the late 1940s and early '50s with carrot and other vegetable seed. Some seem to have established themselves there, amongst others *Downingia elegans* seed turns up as an impurity in Norfolk grown crop seed lots from time to time.

ROBERT FLOOD, NIAB Official Seed Testing Station, Huntingdon Road, CAMBRIDGE CB3 0LE

CONSERVATION NEWS

SPECIES RECOVERY PROGRAMME

In *BSBI News* 58: 43, a general outline was given of The Species Recovery Programme. For reasons of space, the following descriptions of the first four plant taxa involved had to be held over until this issue.

Fen Ragwort (*Senecio paludosus*)

Whilst similar in appearance, having large yellow flowers, to our common Ragwort, *Senecio jacobaea*, this closely related species reaches a height of 2 metres and is now found in one place only in the East Anglian fenland. Previously it has been recorded from a restricted area in Cambridgeshire and Suffolk, near the Wash in Norfolk, and one area in Lincolnshire. Drainage of ditches and nutrient enrichment are thought to be the main causes of decline, as in Europe where it is vulnerable in several countries.

It is relatively easy to propagate and stock is held at the University Botanic Gardens, Cambridge. This will be used to re-establish populations in former sites in Cambridgeshire and Suffolk. Both the National Trust and Suffolk Wildlife Trust will support English Nature in this project.

Plymouth Pear (*Pyrus cordata*)

This attractive tree with pinkish-white flowers with purple stamens grows to a height of about 5 metres. It grows in old hedge-banks and is endemic to the western margin of Europe. In England many of its former sites around the city of Plymouth have been destroyed through industrial development, and attempts at transplanting have often failed. Now only 2 main populations survive in the area together with a few isolated trees in factory grounds. Recently a new locality has been discovered in Cornwall and another is awaiting confirmation.

Propagation from cuttings has proved difficult and part of the Recovery Programme will include detailed horticultural studies using various techniques to propagate plants from both cuttings and from seed. In this English Nature is being assisted by the Royal Botanic Gardens, Kew, and by the Plymouth Pear Group. The ultimate aim is to ensure long-term survival in the existing areas, and to re-establish several more in suitable places in Plymouth.

Ribbon-leaved Water-plantain (*Alisma gramineum*)

This is an aquatic, usually perennial, plant which is a good indicator of water quality. It is very similar in appearance to the common water-plantain, *Alisma plantago-aquatica*, with three-petalled small white flowers borne above the water in a delicate, branched inflorescence. The leaves are strap-like and submerged for much of the year. It has been known in Britain since the early 1900s, and is thought to be distributed in Europe by migrating wildfowl. It now occurs at one site only in Worcestershire. The species is vulnerable throughout its range in Central and Eastern Europe and is declining in several countries.

The Recovery Programme aims to ensure the survival of the present population by negotiating the continuation of the right conditions on the site, and by initiating regular monitoring of the plant, with the landowner's permission. It also aims at re-established healthy colonies at 2 former sites in Cambridgeshire and Lincolnshire.

In this programme English Nature will be working with the Royal Society for the Protection of Birds, the Lincs. and S. Humberside Trust for Nature Conservation, the Botanical Society of the British Isles, Plantlife, and the Royal Botanic Gardens, Kew.

Strapwort (*Corrigiola litoralis*)

An annual, procumbent plant with small white flowers found on sandy and gravelly banks of pools and water bodies where there is a fluctuating water level. It is now found only at Slapton Ley in Devon. Occasionally it occurs as a casual on railway ballast in Hertfordshire. In western Europe the species is widespread, but it grows in vulnerable localities and is known to be declining and threatened in many areas, particularly through drainage of these small water bodies.

The programme involves the re-establishment of several strong populations of the species around the shores of Slapton Ley. This will involve growing plants on in cultivation, assessment of seed viability, providing increased access to the shoreline for grazing cattle, and investigating the installation of a variable sluice. A former site at Looe Pool in Cornwall will be assessed for suitability of re-establishment.

English Nature will be working in conjunction with the Field Studies Council, the National Trust and the National Rivers Authority.

ANDREW DEADMAN, Science Directorate, English Nature, Northminster House, PETERBOROUGH PE1 1UA

BSBI AND CONSERVATION

One of the topics on which our varied membership has divided views is the extent to which the BSBI should also be involved actively in Conservation. Other botanical societies face the same problem - the Secretary of the Botanical Society of Edinburgh (now the Botanical Society of Scotland - see page 5) in *BSE News* Spring 1988 wrote in "Secretary's Notes":

"The BSE is not primarily a conservation organisation but it does have an interest in safeguarding our native Scottish flora and conservation matters appear regularly on the agenda at Council meetings. Also, of course, many individual members are very concerned with conservation issues and lend their support to other organisations such as the Scottish Wildlife Trust."

and in *Irish Botanical News* No 1: 14, 1991 (the new Bulletin of the BSBI Committee for Ireland) from the paper presented to the Irish AGM in October 1990 by J.C.L. Phillips:

"Where do we in BSBI fit into this picture? Our membership in Ireland is approximately 120, so in numerical terms we are very small. What we do have is a high percentage of professional and expert amateur botanists in our membership. This is in total contrast to the membership of the big battalions where the, often emotional, desire to support conservation which caused the majority to join is not coupled to any expert knowledge. How can this special quality of our membership be best used? We are short on manpower but long on botanical expertise and we should aim to exploit this strength and not waste it by taking on general conservation work better tackled by those with greater numbers and resources. I do not feel therefore that we should enter the lists as a general conservation lobbying body, this is something better done by the big battalions. What we should try to ensure is that where such campaigns have a botanical element those fighting the conservation cause have the benefit of any botanical knowledge or expertise we can supply. We can also try to ensure that the campaigning bodies are aware of development proposals which have botanical importance. I imagine many of us are also members of one of these campaigning bodies and thus work under their banner if we so wish. Likewise I do not feel we have the resources to involve ourselves in public education or nature reserve ownership though we can offer botanical advice to those that are. How much we can do in these supporting roles will depend greatly on the ability and the willingness of individual members to get involved in conservation matters."

The BSBI Conservation Committee has taken the initiative in convening a Working Party on which representatives of most of the conservation organisations concerned with the future of the British Flora - English Nature, Plantlife, RSNC, RSPB and WWF with BSBI have prepared a strategy for the conservation of wild vascular plants in the U.K. (see next issue).

The policy for assessing which species are threatened, as part 1 of the Strategy, outlines the activities of the BSBI in recording, surveys and monitoring, with further sections on land acquisition and management, and wider education possibly not so applicable to BSBI.

A unique strength of the Society is the knowledge of the distribution of British plants in depth, through the experience and standard of the botanical recording by members. This is increased by the supporting BSBI publications, many by BSBI members.

The resulting records, maps and information have been a very valuable tool for the conservation of plants, often providing the essential information on the threatened plants in any area; especially possibly since the publication of the first *Atlas of the British Flora* in 1962, and followed by the many local and more specialised Atlases.

It would be interesting to know member's views on the extent to which BSBI should be involved with conservation campaigns in the British Isles and abroad.

MARY BRIGGS, Hon. General Secretary

BSBI RARE PLANTS TRANSLOCATION PANEL

This panel has now been reconstituted, and is comprised of the following members.

Frank Brightman (South London Botanical Institute) - acting as Hon. Secretary

Duncan Donald (BSBI, working for The National Trust for Scotland)

Lynne Farrell (English Nature)

Sue Minter (Chelsea Physic Garden, 66 Royal Hospital Road, Chelsea, LONDON SU13 4HS) - from whom translocation forms are available and who updates the lists of rare plants held in botanic gardens.

Franklyn Perring (BSBI)

Joyce Stewart (Royal Botanic Gardens, Kew)

The remit of the panel remains the same, which is to assess and advise on the translocation of rare plants in Britain. The panel has produced Guidelines for translocation, and a copy of these is available from Sue Minter.

There is a renewed interest in translocation and reinstatement of rare plants, especially in conjunction with English Nature's Species Recovery Programme, which aims at reinstating self-sustaining populations of endangered species. For people working in partnership with English Nature on these projects, Andrew Deadman is the main point of contact.

The panel would like to hear from anyone who is, or wishes to be involved in translocation projects. This is partly so that there is a record of such undertakings for future information, and also for the provision of advice, and acting as a facilitating agency by putting people in touch with one another for their mutual benefit.

LYNNE FARRELL, Science Directorate, English Nature, Northminster House, PETERBOROUGH PE1 1UA

CONVICTION OF UK NURSERYMAN FOR SMUGGLING ORCHIDS

On 10th June 1991, at Uxbridge Magistrates Court, Mr Jacques Amand, a specialist bulb nurseryman from Clamp Hill in Middlesex, was convicted of two offences of smuggling plants under Section 170(2) of the Customs and Excise Management Act.

The convictions concerned the importation of 853 orchids and 457 woodland plants from the USA. The orchids, for the greater part North American Slipper Orchids of the genus *Cypripedium*, were imported in contravention of the requirements of the Convention on International Trade in Endangered Species (CITES).

The plants were found by Customs Officers in Amand's hand luggage as he attempted to walk through the Customs Green Channel at London Heathrow on 14th November, 1990. Mr Amand on pleading guilty was fined a total of £200 and ordered to pay costs of £50. [What a paltry amount. Ed.]

ELSA WOOD, Hon. Secretary, Conservation Committee.

NOTICES (BSBI)

BOTANICAL TOUR OF HUNGARY - 1993

Following the very successful BSBI visit to Hungary in 1985 led by Philip Horton, he is proposing to organise a further visit in 1993, probably in June.

For further details of the possible venue, please send an s.a.e. to the address below.

PHILIP HORTON, 12 Cumberland Gardens, Castle Bytham, GRANTHAM, Lincs. NG33 4SQ

BSBI EXCURSION TO THE DOLOMITES, ITALY 1991



A highlight of this excursion was the day on which the 25 BSBI members were joined by the Professors Sandro and Erika Pignatti with 11 of their students from Rome and Trieste. Here the groups together are conducting a relevé in an alpine meadow, for us a useful exercise confirming our identifications and solving puzzle plants, at Passo Gardena with part of the Sellagruppe massif as backdrop. Photo © Paul Bartlett 1991

MARY BRIGGS, Hon. General Secretary

NOTICES (OTHERS)

ROYAL BOTANIC GARDEN EDINBURGH

Winter lectures

This years winter lecture series takes as its theme the tremendous variety of plantlife found on earth. The speakers will emphasise the importance of maintaining this diversity if the human species is to survive, the talks aim at bridging the gap between the specialist and the lay person. Advance booking is only required if you are bringing a group. All lectures take place in the Royal Botanic Garden Lecture Theatre, 20A Inverleith Row, Edinburgh Admission is free.

Thursday 23 January 1992, 3pm

Plants wild and cultivated by Dr Crinan Alexander. A look at the origins of some domestic plants and how we have changed them.

Thursday 20 February 1992, 3pm

A hectare of tropical rainforest by Dr Ian Edwards. Some conservation groups are offering tropical rainforest by the hectare. How much variety is found in small plots and what is it really worth?

Thursday 12 March 1992, 3pm

Biodiversity in the hands of the plant breeder of the 21st century by Prof. Richard Flavell. The use of genetic engineering to produce new varieties of plant is one of the most controversial scientific issues facing biologists and the public at large.

Horticultural day schools

These popular day schools which include tours, talks and demonstrations are designed to meet the needs of the enthusiastic amateur gardener. Each runs from 10am to 4pm (lunch not provided).

Saturday 18th January 1992

Alpines of the Himalaya and Western China with Ron McBeath and David Long. A look at Alpines in their natural habitat and the Garden, including a tour of the Herbarium.

Saturday 15th February 1992

Winter Colour out of Doors with David Paterson and Ross Kerby. The use of flowers, fruits and stems to brighten up the garden during the long winter months. Including a selection of plants for small or large gardens, plus a guided tour.

Saturday 21st March 1992

Smaller Bulbs for the Garden with Bill Tait and Ron McBeath. What to choose, how and when to plant bulbs to provide colour in the garden, including a guided tour.

For further details including costs, and bookings please contact Marisa Main at the address below.

MARISA MAIN (Events), Royal Botanic Garden, Edinburgh EH3 5LR Tel. 031-552-7171 ext. 454

GATES FLY OPEN TO WELCOME FRIENDS OF THE ROYAL BOTANIC GARDEN EDINBURGH

Supporters of the Royal Botanic Garden Edinburgh, and its three Specialist Gardens at Benmore, Logan and Dawyck have responded enthusiastically to the announcement that they can now become directly involved in the vital work of this historic institution and help to guarantee its future, by becoming 'Friends of the Royal Botanic Garden'.

Dr David Ingram, Director of the Botanic Garden said, 'The Royal Botanic Garden Edinburgh is recognised as one of the world's finest and oldest botanic gardens, with a history dating back to 1670. Many visitors appreciate the beauty and tranquillity at Inverleith and the Specialist Gardens, without realising the full extent and the importance of our work. The new "Friends" organisation will bring enthusiasts for the Garden together and encourage greater understanding of its vital scientific, conservation, horticultural and educational roles. The primary aim is not to raise extra funds in an aggressive way, but provide a focus for people to translate their support into a positive commitment to the Garden.'

For further information please contact:

FRIENDS OF THE ROYAL BOTANIC GARDEN, Inverleith Row, EDINBURGH EH3 5LR
Tel. 031-552-7171

RESEARCH AND TRAVEL GRANTS

FINANCIAL SUPPORT FOR SMALL PROJECTS

WILF NELSON RUM BURSARY

On 14 September 1989 Wilf Nelson suffered a fatal fall while carrying out routine survey work as Warden for the Nature Conservancy Council on the Island of Rum National Nature Reserve.

Wilf had already contributed a great deal to nature conservation, both on Rum and elsewhere, in his short career and such was the widespread feeling of loss amongst his many friends and colleagues that a memorial fund was established. This fund, which is still open for donations, now stands at around £6000 and with the support of Wilf's widow, Rosemary, it was decided to establish a Bursary which will be used to support small research/survey projects centred on Rum.

Applications for financial support are therefore invited for individual projects to be carried out during 1992. Preference will be given to studies on the natural environment of Rum, particularly its wildlife, but consideration will also be given to projects dealing with conservation management, including education and interpretation. It seems likely that around £500/£600 will be available for dispensing during 1992.

A brief summary of the project proposal and estimated costs should be sent initially to the Chief Warden, Rum and should arrive by 31 March 1992.

Further enquiries to Chief Warden, Rum at the address below or tel. 0687-2026 during normal office hours.

CHIEF WARDEN, Reserve Office, ISLE OF RUM, Scotland PH43 4RR

REQUESTS

A.G. BOURNE F.R.S.

Mr A.G. Bourne who died at Dartmouth in 1940 (obituary notice in *Obituary Notices of the Fellows of the Royal Society* 10 (1942) 3: 545-549; see also *Who Was Who* (ed. 2, 1967) Vol. 3: 141) had spent his working years in India as University teacher, Principal of Presidency College, Madras, Director of School Education, and finally Director of the Indian Institute of Science, Bangalore, India. He retired to England.

One of his most creative scientific contributions was an excellent and comprehensive collection of South Indian Flowering Plants (happily preserved at Kew). Such a fine contribution remains unacknowledged, and I wish to make up in some way by dedicating my forthcoming volumes of the *Flora of the Palni (Pulney) Hills*, the montane counterpart of the *Flora of the Tamilnadu Carnatic*

(1981-88) to him and his wife, Lady Bourne, who deserves to be remembered in her own right; besides, organizing all the collections and depositing them in Kew, she made water-colour paintings of South Indian Plants.

The following lines from the Obituary cited above is all the information that I have (The Linnean Society and the Royal Society Libraries could not give anything more).

"He married in 1888, Emily Tree Elaisher who survives him. He leaves a son, Ray, so named after his godfather Sir E. Ray Lankester, who gained experience in the Indian Forestry Service, became a lecturer at Oxford and now is a well-known consultant, and a daughter, Nora, wife of Mr Stephen Cox, C.I.E., who was Chief Conservator of the Indian Forest Service in the Madras Presidency". J. STANELY GARDINER (1872-1946), Professor of Zoology, Cambridge (see *Who was Who* vol. 4, 1941, 50).

I shall be grateful if anyone can identify someone in the lineage of the Bournes, who may have more information on them, and particularly photographs. I am leaving for India on 24th September, 1991, so all correspondence to my Indian address please.

Dr K.M. MATTHEW S.J., Director, The Rapinat Herbarium, St Joseph's College, TIRUCHIRAPPALLI 620 002 INDIA

BOOK NOTES

NEWS FROM OUNDLE BOOKS

A number of new books have been included in a Supplement to my Autumn 1991 Catalogue which I will send on request. In the Catalogue, Clive Stace's *New Flora* was advertised at £22.95. It has now been re-priced at £24.95 and is due in January. I am still taking orders for this much awaited publication for which I am not making a postal charge.

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

ADVERTISEMENTS

AN UNUSUAL PRESENT

Do you have friends who remember (and perhaps still use!) Bentham and Hooker's *Flora*? You have a unique opportunity to obtain one of the original blocks from which W.H. Fitch's illustrations were printed. Exquisitely detailed, the metal plates polish up well. Fewer than 150 of the original 1200+ blocks are still available. For a list of these send a s.a.e. to the address below.

ANGELA PRICE, Granham West, Granham Hill, MARLBOROUGH, Wilts. SN8 4DN

1992 BOTANY TOURS OVERSEAS - LED BY BSBI MEMBERS

The tours listed below are those which have been brought to my attention; there must be others which could be included, the only essential is that the tour is led by a member of the BSBI. Please send details to the Editor preferably in time for inclusion in the December issue of *BSBI News*, but late comers could go into the April issue.

Advertisements

Cyprus	Mary Briggs	3 - 12 March
Crete	Mary Briggs	18 March - 1 April
Southwest Turkey	Tony Kemp	4 - 18 April
Natural History Tour to Berdun	Joan Tubbs	25 May - 8 June
Sweden	Mary Briggs	1 - 11 June
Wengen	Mary Briggs	17 June - 1 July
Wengen	Mary Briggs	1 - 15 July
Dolomites	Tony Kemp	27 June - 11 July
Western Himalayas	David Lang	1 - 18 July
Dominica	Mary Briggs	4 - 19 August
Western Australia	Mary Briggs	16 September - 7 October

Further information from: Cox & Kings Travel Ltd., St James Court, Buckingham Gate, LONDON SW1 E 6AF

Peloponnese	Ro FitzGerald	4 - 13 April
Algarve	Ro FitzGerald	27 April - 3 May

Further information from: Adult Education Study Tours, Granville Court, 49 The Mall, FAVERSHAM, Kent ME13 8JN. Tel 0795-539744

Crete	John Akeroyd	31 March - 14 April
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Further information from: Friends of Botanic Garden, Cambridge/Beach Villas

Crete	John Akeroyd	21 April - 5 May
Crete	John Akeroyd	13 - 20 October

Further information from: Simply Crete, 8 Chiswick Terrace, LONDON W4 5LY. Tel 081-994-4462/5226

Guernsey	Mark Wilson	15 - 22 April
Albania	John Akeroyd	14 - 28 May
Poland	Ruth Dawes	18 - 31 May
Isles of Scilly	Mark Wilson	23 - 30 May
E. Pyrenees	Alan Harrington & Peter Wanstall	30 May - 13 June
Swiss Alps	Anne Bebbington	13 - 27 June
Central Apennines	John Bennett	17 June - 1 July
High Pyrenees	Ruth Dawes	28 June - 12 July
Swiss Alps	Michael Proctor	14 - 26 July

Further information from: Field Studies Council Overseas, Montford Bridge, SHREWSBURY, Salop SY4 1HW. Tel. 0743-850164

Samos (botanical & walking tours)	B. & E. Anderson	April & May
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Further information from: B. & E. Anderson, 9 Bramley Road, ROCHDALE, Lancs OL11 5QN (s.a.e. please). Tel. 0706-525560

Malta	Alan Harrington	11 - 25 March
E. Crete	Alan Harrington	10 - 24 April

Further information from: The Natural History Museum, Dept. of Public Services, Cromwell Road, LONDON SW7 5BD

Advertisements

The Natural History of the
Algarve

Michael Scott
& John Clarke

28 March - 11 April

Further information from: Scottish Field Studies Association, Kindrogan Field Centre, Enochdhu,
by BLAIRGOWRIE, Perthshire PH10 7PG

Catalan pre-Pyrenees (Spain)
Andalucia (Spain)

Teresa Farino
Teresa Farino

3 - 15 April
24 April - 6 May
22 May - 3 June
5 - 17 June
17 - 29 June
3 - 15 July

Picos de Europa (northern Spain)

Teresa Farino

Further information from; Spantrek Ltd, 79 Egmont Street, Mossley, ASHTON, Lancs. OL5 9NF
(Tel. 0457-836250)

GWYNN ELLIS, Editor

HIGHLAND FIELD STUDIES

Brian Brookes has again put together an interesting and varied programme of courses for 1992. Some are specifically botanical and several others, though more general, have a high botanical content. All will be run as small, friendly groups in a relaxed, informal and enjoyable atmosphere.

Specially recommended to BSBI members are the courses on *Mountain Flowers* (July 4-11) & *Wildflowers of Tayside* (July 18-25), both courses based at Dunkeld, Perthshire.

The programme also includes:

Mosses & Liverworts	Dunkeld, Perthshire	April 24-27
Highland Wildflowers	Dunkeld, Perthshire	May 23-30
Botany in Morvern	Ardtornish, Argyll	June 13-20
Bryophytes	Dunkeld, Perthshire	August 22-29
Autumn in Tayside	Dunkeld, Perthshire	October 10-17

His full programme and details of any particular courses are available from the address below. All enquiries are welcomed (sae appreciated).

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

FIELD STUDIES COUNCIL COURSES - 1992

The 1992 brochure of courses at the nine residential Centres of the Field Studies Council is now available. There are many that will be of interest to members and the brochure is free.

For your free copy write to the address below:

FIELD STUDIES COUNCIL, Central Services, Preston Montford, Montford Bridge, SHREWSBURY SY4 1HW.

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

Articles can now be Fax'd to the Editor on 0222-373219 (Groups 2 & 3).

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BSBI News (ISSN 0309-930X) is published by the Botanical Society of the British Isles.

Enquiries concerning the Society's activities and membership should be addressed to:
The Hon. General Secretary, c/o Dept. of Botany, The Natural History Museum, Cromwell Road,
London SW7 5BD.

Camera ready copy produced by Gwynn Ellis and printed by J. & P. Davison, 3 James Place, Treforest, Pontypridd, Mid Glamorgan CF37 2BT (tel. 0443-400585)

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