

B.S.B.I. NEWS

September 1977

No. 16

Edited by EDGAR D. WIGGINS

Cowpasture Farm, Felixstowe, Suffolk IP11 9RD



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BOTANICAL SOCIETY OF THE BRITISH ISLES
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O'Sullivan (Ireland).

Editor's note

It is always gratifying to get response to an appeal, and as this issue shows, several members of the "silent majority" have been moved to unsheath their ball-points and have a go, along with the regulars and the specialists. This is most encouraging, so much so that I am moved to make a further appeal, or rather, repeat a previous one, namely, **do not wait** until the few days before closing date to send in your communications. There is then insufficient time for proper consideration of contributions, which sometimes involve correspondence if they are to be adequately presented. The printer's deadline follows hard on the closing date and regrettably one has to be strict about cut-off times, if all the items for inclusion in a particular mailing are to be assembled on time.

A lot of botanising will have been done by the time issue No. 17 goes to press, so here's hoping for a big postbag but **BEFORE OCTOBER 26, PLEASE.**

PRESIDENT'S MESSAGE

I am very happy to have been elected President of the BSBI, a society of which I have long been a member and which over the years has done so much to foster the course of Botany in the British Isles. I take over from my predecessor Mr Swann in the hope of continuing in one way or another the tradition of floristic study which he exemplifies so well, especially in his work on the *Flora of Norfolk*. I am grateful to him also for dealing efficiently with one or two administrative tangles which have arisen and which often take time to settle.

My own interests, as members may know, are very much on the side of bio-systematics and have often been concerned with genetical and cytological studies of the British Flora. While these interests continue, I have been very conscious of late of the need to try and integrate the results of such work, of which a great deal has now been done, into the general body of floristic knowledge, so as to make it accessible to all, amateur and professional alike.

The production of a new Flora, of a comprehensive kind, would be one way of meeting such a need. And I am glad to say that the project of writing such a Flora (originally called a Critical Flora) has now been launched, under the title of a *Flora of Great Britain and Ireland*, Dr C. A. Stace and Mr P. D. Sell are co-operating with me as organising editors and authors.

It is intended to include in the *Flora* such matters as citation of type specimens (where the information is readily available). The descriptions will be ample, and variation will be treated at the level of variety and form, as well as subspecies. There will be paragraphs summarising our knowledge of the reproductive biology of the species (including pollination); and there will also be biosystematic information including cytological and genetical data. It is hoped to include for each species up-to-date maps from the *Atlas of the British Flora*; and it will be our aim to describe habitats as accurately as possible, though we realise the difficulty of doing this in a small space.

The *Flora* will thus be on quite a large scale, and five volumes are planned. It will obviously be a work of reference rather than of everyday use; but it should provide a sound base for future studies and a stimulus to investigate the many problems which it will bring to light. Members of the Society will certainly have a part to play in the *Flora*, as we are planning the writing of the *Flora* on a co-operative basis. We hope to use the News as a means of communicating with members and asking for their help on a variety of subjects. For example, up-to-date information will often be needed on the location of introduced species, and the extent to which they are naturalised.

I will conclude by saying that I am looking forward very much to my term of office, and to many Society activities both formal and informal. I particularly welcome the Editor's request to me to write this note in the News. I think most members would agree that a regular and lively *BSBI News* has much to add to the strength of the Society; and I shall do all I can to ensure its future welfare.

D. H. VALENTINE
June 1977

HON. GEN. SECRETARY'S NOTES

Meetings

Early in 1977 the A.G.M. was held in Plymouth with associated field meetings in Devon and Cornwall. These were very successful; visiting members were given a warm welcome by South-western colleagues, and in turn we were very pleased with this opportunity to meet them. At the CONFERENCE, on *Pollination of Flowers by Insects*, held at the University of Newcastle, 60 members joined with an equal number of visitors from other societies and from overseas for an exchange of ideas and information enjoyed by all participants. One point which emerged was that for many plant species there is a dearth of knowledge about visiting insects and pollinators. It was resolved to ask BSBI members to contribute field observations, and in *BSBI News* 17 there will be a list of plant spp. for which notes on insect visitors would be of particular importance to current research workers. In 1978 we hope to arrange a joint field meeting with members of the International Bee Research Association with instruction on identification of bumble and solitary bees; also, in co-operation with entomologists, to list titles of identification or handbooks for some pollinating insects. Meanwhile photographers who see an insect alighting on the flower as they are about to take a plant portrait, please take a quick shot rather than wait for the insect to fly off—it could well prove to be very useful evidence. Thanks again to our local organisers, Dr David Wigston in Plymouth and Dr John Richards in Newcastle, also to the leaders of all the field meetings.

The Society's "Postman" (see also under 'Notices')

With pleasure we congratulate John Cannon (Hon. Sec. Co-ordinating Committee) now Keeper of Botany, British Museum (Natural History). He is handing over to Richard Pankhurst the care of BSBI mail sent to our official address, and we should like to acknowledge our thanks to John for taking charge of BSBI mail for so many years.

Two Publications Reminders

1) Academic Press can still offer one copy of *Hybridization and the Flora of the British Isles* Ed. C. A. Stace, to members at the privilege price of £8.00 (£14.80 from booksellers). New members, or other members who have not yet purchased their copy, please write to me at White Cottage, Slinfold, Horsham, W. Sussex, for the application form.

2) Copies of the *List of British Vascular Plants* by the late J. E. Dandy, are available still at £1.75 (postage included) from: Publications (Sales), British Museum (Natural History), Cromwell Road, London SW7 5BD (other publications are listed on p. 30).

The updated **Code of Conduct** for the conservation of wild plants has been published through the generosity of the World Wildlife Fund (British National Appeal). This code is not directed at BSBI members, who, we trust, will already know and be acting on it, but at the general public; many people having not yet heard of the 1975 Conservation of Wild Creatures and Wild Plants Act. A copy of the Code is sent to you in this mailing to keep you in touch with conservation activities of the Society, and with the plea that each member will pass on this copy to

a local public library, college, school, W.I. or centre where the message may be further spread.*

*Additional copies—up to 5—may be obtained from me on receipt of a stamped, addressed 11x22 cm envelope.

The **BSBI Prospectus** has also been updated and recently published. If you have copies of the old Prospectus it will help the administration office for these to be taken out of circulation. (Single copies please destroy—if in quantity please return to the Hon. Membership Secretary). Please let us know if you would like a Prospectus to pass on to a likely new member.

Application time for **Churchill Fellowships** is here again. To apply, send your name and address only, on a postcard to the Winston Churchill Memorial Trust, 15 Queen's Gate Terrace, London SW7 5PR. You will receive an explanatory leaflet and form which must be completed before 1st November, 1977. There is no botanical category this year, but expeditions are included. One of the 1977 Churchill Fellows is Mrs Ann Davies, the botanical artist who has recently completed the illustrations for the forthcoming BSBI handbook *Docks, Sorrels and Knotweeds*. Ann's Fellowship is taking her to the Himalayas (with Mr and Mrs Oleg Polunin) to study and draw the flora there, and we wish them every success.

“The media”

It is good to hear BSBI voices on the Radio. In addition to the regulars, David Streeter and Frank Perring, in recent months those I have heard include Barbara Everard and Frances Le Sueur (Living World) on, respectively, Malaysian Plants, and Glow-worms in Jersey; also Eva Crackles (Radio 3 Leisure and Recreation) on Hull's bomb-site plants. Heather Angel featured in the Quiz “Two-by-Two”, and “The Better Half”, and Roy Lancaster on Trees and Shrubs (Radio 4, “Tuesday Call”). Sometimes a familiar voice comes as a surprise—twiddling the knobs one day for an accompaniment to some washing up I found Roy Lancaster on Radio Solent guiding us through Hillier's Arboretum with enthusiasm and dramatic sound effects of wind rattling through the bamboos.

Also noted in *The Dalesman* was an interesting description of the work of the botanists at Malham Tarn Field Centre, amongst whom is Anne Burn. This I read with particular appreciation as it was at Field Centres that my natural history interests were fostered in school and college days. Had it not been for Flatford Mill and Malham Tarn I should not now be writing in *BSBI News*.

BSBI Motif

Suggestions were requested in *BSBI News* 15 and in response 23 have been sent by 26 members:

| | |
|-------------------------------|-------------------|
| <i>Agrostemma githago</i> | Corncockle |
| <i>Anagallis arvensis</i> (2) | Scarlet Pimpernel |
| <i>A. tenella</i> | Bog Pimpernel |
| <i>Bellis perennis</i> (2) | Daisy |
| <i>Cypripedium calceolus</i> | Lady's-slipper |
| <i>Digitalis purpurea</i> | Foxglove |
| <i>Gentiana verna</i> | Spring Gentian |
| <i>Linnaea borealis</i> | Twinflower |
| <i>Menyanthes trifoliata</i> | Bogbean |
| <i>Ophrys apifera</i> | Bec Orchid |

| | |
|----------------------------|----------------------------|
| <i>Parnassia palustris</i> | Grass of Parnassus |
| <i>Primula veris</i> (2) | Cowslip |
| <i>P. vulgaris</i> | Primrose |
| <i>Pulsatilla vulgaris</i> | Pasqueflower |
| <i>Pyrola media</i> | Intermediate Wintergreen |
| <i>Silene rubrum</i> | Red Campion |
| <i>Spartina townsendii</i> | Townsend's Cord-grass |
| <i>Ulex europaeus</i> | Gorse |
| <i>Veronica sp.</i> | A Speedwell |
| <i>Viola arvensis</i> | Field Pansy (Heart's-ease) |

Three suggestions were received for a design rather than a specific flower: A botanical section; A simplified green plant; A stylised flower design.

Thanks to all those who sent in these suggestion, some with illustrations and/or detailed reasons for their choice. Some must be disqualified due to prior allocation—e.g. *Linnaea borealis* is the motif of the Linnean Society of London, *Primula vulgaris* is the emblem of the Primrose League and *Cypripedium* appears on the ties of Northern gardeners. The remainder will be considered by Council at its next meeting on November 1st.

Questionnaire to Scottish Members

At the 1975 AGM in Dumfries there was some discussion of the organisation of BSBI members in Scotland, and during the two years since there have been further discussions through Co-ordinating Committee and Council, and contact with the Botanical Society of Edinburgh. It was finally decided to ask BSBI members resident in Scotland if they would like a BSBI Committee for Scotland set up, or prefer the organisation in Scotland to remain as at present. In March 1977 the questionnaire was posted to 159 members in Scotland; 98 were returned, and the result announced at the AGM 1977 by Mr E. L. Swann, retiring President, as follows:

| | |
|-----------------------------|----|
| BSBI Committee for Scotland | 57 |
| Organisation as at present | 38 |
| Abstentions | 2 |

Scottish members will therefore be invited to elect a Committee at a meeting on Saturday, November 5th, in Edinburgh (preceding the Scottish Exhibition).

We would like to take this opportunity of thanking present and past Chairman and members of the Committee for the Study of the Scottish Flora, for their valuable work towards furthering botanical interests in Scotland, and in particular to Basil Ribbons for his 22 years as Hon. Secretary of the C.S.S.F., during which time he put in very many hours organising meetings and reports for the BSBI.

Congratulations!

A card with congratulations from the BSBI was sent to Professor K. W. Braid, O.B.E., M.A., B.Sc., (Agric.), F.L.S., (a BSBI member since 1926) on his ninetieth birthday recently. Thanking the BSBI for the good wishes, Prof. Braid says that a reception for the occasion held in the College Rooms, University of Glasgow was "a most delightful reunion of members of the Andersonian Naturalists of Glasgow, Botanical Society of Edinburgh, Botanical Society of the British Isles and others, as well as of former colleagues and students of at least a quarter of a century ago." The inclusion of Bracken into the floral decorations was particularly appropriate.

Sincere congratulations also, to Dr Margaret Bradshaw of Durham University on the award to her of the M.B.E. in the Birthday Honours List, for her outstanding work on conservation, notably in Upper Teesdale.

The **Naturalisation of Native Plants** Working Party has issued a press release to explain that in response to the growing interest in the use of native plants in landscape design, the BSBI working party is studying the cultivation, use and availability of selected native plants. The Nature Conservancy Council has given a grant for the collection, and preparation for publication, of:

- 1) Information sheets about the propagation, cultivation, use and biology of some native trees, shrubs, climbers and selected aquatics;
- 2) A pamphlet on the availability of native species for horticultural use in urban situations.

The need for this information has been summarised and the points include: to prevent the plundering of the countryside by giving the nursery trade information and guidance about the propagation of native plants; also to satisfy the large numbers of enquiries being received by the BSBI (and others) for information about the use and availability of native plants.

Very careful consideration has been given to the list of common species to be included in the publication, and Ken Beckett (past Editor of BSBI News) is at present writing the texts which will be primarily for use by landscape architects, local authorities etc. Meanwhile the press release has been sent to the Horticultural Trade Association, the Landscape Research Group, New Town Development Corporations and the Parks and Gardens Journal.

MARY BRIGGS

NOTICES

THE SOCIETY'S ADDRESS

This is: c/o THE DEPARTMENT OF BOTANY, BRITISH MUSEUM (NATURAL HISTORY), CROMWELL ROAD, LONDON SW7 5BD.

In mid-August, I shall be passing the duties of BSBI postman at the official address, over to Richard Pankhurst. He is, of course, already well known to many members and, as officer-in-charge of the Museum's British flowering plant section, is well placed to further co-operation between the BSBI and the Museum. He will also be responsible for the BSBI archive cupboard, and for making its contents available to the Society's archivist, and others who have reason to make use of them.

Members are again asked to bear in mind that **the department acts only as an official address and forwarding organisation. No facilities are available for dealing with Society business by telephone.** Many organisations and individuals imagine that the Society has a vast office, complete with staff and modern technological aids, housed at the Museum! Nothing could be further from the facts. Little do they realise the extent to which the successful operation of the Society depends on shoe-string methods and the loyal service of our principal officers. Naturally, Museum staff will help inquirers whenever possible with simple matters of Society information, but it would be quite wrong for staff to comment on questions involving Society policies (e.g. conservation) and in these cases it is essential for inquirers to

be in direct contact with the appropriate officer of the Society. It would greatly help if Members would make this situation widely known among their contacts in natural history who are not members of the BSBI.

JOHN CANNON

FRITILLARY MEADOW

The famous 5-acre meadow at Framsdon in Suffolk, considered to be one of the two best sites for *Fritillaria meleagris* in the whole country, has been secured by the Suffolk Trust for Nature Conservation who are currently negotiating its purchase. An urgent appeal for the £5,000 required has been launched and contributions should be sent to: The Treasurer, S.T.N.C., St Peter's House, Cutler Street, Ipswich. Arrangements for access will be announced later.

SOCIETY FOR THE BIBLIOGRAPHY OF NATURAL HISTORY

first meeting in Dublin
in National Botanic Gardens, Dublin, October 22 1977

IRISH NATURAL HISTORY BEFORE 1800

Preliminary notice of papers.

- 1) Irish Geology in the Eighteenth Century
Prof. G. L. Davies, Dept. of Geography, Trinity College, Dublin.
- 2) Richard Kirwan and the Coal Controversy 1795-1804
Dr A. Scott, Dept. of Geology, Trinity College, Dublin
- 3) The Natural History of Some Irish Fishes
Dr A. E. Went, Dept. of Fisheries, Dublin
- 4) In the Contemplation of Vegetables; Caleb Threlkeld (1676-1728), his background, life and contribution to Irish Botany
Dr E. C. Nelson, National Botanic Gardens, Dublin
- 5) Transit of Botany from Ireland to America
Prof. J. Elwan, Dept. of Biology, Tulane University, New Orleans, U.S.A.

The order of presentation is provisional. Further information about the meeting and abstracts will be sent to those interested later. Non-members are very welcome, and anyone intending to be present at the meeting is asked to notify: E. C. Nelson, National Botanic Gardens, Glasnevin, Dublin 9.

ADVANCE NOTICE

SYMPOSIUM ON AQUATIC AND MARSH PLANTS

to be held Friday October 27th—Sunday October 29th, 1978

at Brathay Field Study Centre, Old Brathay,
Ambleside, Cumbria.

Papers will include: Charophyta, Alismataceae, and other aquatic macrophytes; the flora of drainage channels, the ecology of the Lake District.

Field excursions will be arranged and a detailed programme will be sent to all members in January 1978.

ANNE MULLIN
Hon. Meetings Secretary

Don and Dearne Action Group (DADAG)

Members who live, or find themselves, in the Doncaster, Rotherham, Barnsley area of S. Yorkshire might like to look in at the shop which this enterprising band of conservationists have opened in Bank Street, Mexborough. There you would learn of the work these volunteers are doing in the way of river clearance, tree planting, fencing, restoration of footpaths, dry-stone walling, hedge-laying, scrub control and similar activities. Besides a stock of conservation literature, you will find keen members of the Group, led by Mr M. Wilde of 6 Princess Road, Mexborough, who will try to persuade you into joining them for an annual subscription of £1 plus as much hard work as you care to put in.

NEWS FROM MONKS WOOD

Red Data Book

This book, which will be published by the Society for the Promotion of Nature Conservation in the autumn, is a summary of the present status of all the rare plants in the British Isles. For our purposes a rare species is defined as one occurring in 15 or fewer 10 km squares, though we have not included *Hieracia* or *Rubi*.

For each species an outline of its past and present distribution is given and an account of the major threats, if any, to its survival. In addition a table is given in which the species are arranged according to their **Threat Number**. This number is an attempt to distinguish the more endangered species in order to decide priorities for conservation measures. The threat number is calculated from the following criteria, using index numbers to give a numerical value.

1. Rate of decline pre 1950/post 1950
2. Number of localities
3. Attractiveness
4. Conservation
5. Accessibility of site
6. Accessibility of plant on site

To comply with European standards we have used also the IUCN categories:—

Ex EXTINCT

E ENDANGERED

Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating.

Included are taxa whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction.

V VULNERABLE

Taxa believed likely to move into the endangered category in the near future if the causal factors continue operating.

Included are: taxa of which most or all the populations are *decreasing* because of over-exploitation, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously *depleted* and whose

ultimate security is not yet assured; and taxa with populations that are still abundant but are *under threat* from serious adverse factors throughout their range.

R RARE

Taxa with small populations that are not at present endangered or vulnerable, but are at risk.

These taxa are usually localised within restricted geographical areas or habitats or are thinly scattered over a more extensive range.

A breakdown of habitats of the nationally rare species is given in table form indicating the much greater threat to which our lowland species are now exposed compared, for example, with the mountain flora.

This is a very short precis of the book which we hope will be used by Conservation organisations to mount a rational campaign to protect our truly endangered wild flowers. Needless to say, new records have appeared since the book went to press and the work will require updating every few years. In order to do this, I still rely upon BSBI members sending in records, so please keep them coming.

L. FARRELL
July, 1977

LINNEAN SOCIETY AWARDS

to PROFESSOR T. G. TUTIN

All who know Professor Tom Tutin were delighted with the news that he had been awarded a Gold Medal by the Linnean Society of London; this was presented to him at the Society's Anniversary Meeting on 24th May, 1977.

The Linnean medal is awarded to leading biologists "as an expression of the Society's estimate of their services to science". The first medals were awarded to Sir Joseph Hooker and Sir Richard Owen in 1888, the year of the Linnean Society's centenary and nowadays they are generally awarded two a year, usually one to a botanist and one to a zoologist. Other well-known British botanists similarly honoured in recent years include W. B. Turrill (1958), W. H. Pearsall (1963), J. Hutchinson (1965), J. Ramsbottom (1965), H. Godwin (1966), C. E. Hubbard (1967), A. R. Clapham (1972) and W. T. Stearn (1976).

Professor Tutin joined the staff of University College, Leicester in 1944 and became Professor of Botany in 1947, holding this post or, later, the chair in Plant Taxonomy, through the granting of the Charter to the University of Leicester in 1957, until his retirement in 1973. Since that time to the present he has worked more or less daily in the herbarium of the Botany Department, so that his retirement did not diminish his taxonomic work or his contact with the University.

Professor Tutin is, of course, best-known to B.S.B.I. members as the 'T' in 'CTW'. *Flora of the British Isles* was published in 1952 (2nd ed., 1962), and the *Excursion Flora of the British Isles* in 1959 (2nd ed., 1968). The publication of 'CTW' in 1952 was a tremendously important event, well remembered with delight by the writer who, as a 14-year-old receiving it for a Christmas present that year, had fortunately not then learned many plants by their latin names, so the numerous name-changes in CTW, necessitated by the years of relative neglect of such matters,

did not come as such a shock to me as to many older botanists. In the long-term 'CTW' served not only to stabilize our currently adopted nomenclature, but, also as an impetus to a great deal of renewed research in the 1950s and 1960s, in which Professor Tutin was himself very active, both personally and through his research students. Three of his favourite families, Gramineae, Cyperaceae and Umbelliferae, often present difficulties to beginners, many of whom have benefited from his helpful advice given freely in correspondence, in conversation (especially at the Annual Exhibition Meeting in London, which he rarely misses), and in his book (written with A. C. Jermy) *British Sedges* (1968).

In the international field his main contribution has been the Chairmanship of the *Flora Europaea* Organisation, which he has held for all its 23 years, and for his Chief Editorship and major authorship of the *Flora* itself. For the last 16 years he worked on the *Flora* at Leicester with A. O. Chater, but 1977 saw the departure of the latter for the Natural History Museum and will see the completion of the last volume of *Flora Europaea*. Lately Tom Tutin has been editing the Gramineae for the *Flora* (and the key to its 155 genera) and making plans for post-*Flora Europaea* activities. Since these include the production of a companion handbook to *British Sedges*, on the Umbelliferae, and a third edition of the *Excursion Flora*, we are happily assured of the benefit of his knowledge of the British flora for many years to come.

The Society offers its congratulations to him on the award of his Linnean Society Gold Medal, on the completion of *Flora Europaea*, and on the Silver Jubilee of 'CTW'.

C.A.S.

to D. H. KENT

Members will hear with great interest and much satisfaction that Mr D. H. Kent has been presented with the Bloomer Award by the Linnean Society of London. This is an annual award consisting of a medal and a sum of money given to an amateur naturalist in recognition of his work.

Mr Kent is not our first member to be so honoured but few have been more worthy. He became our assistant secretary in 1953 since when much of the routine work of organising our affairs has fallen upon his shoulders. He was editor of our *Proceedings* from 1954 until 1966 and since 1969 has been editor of Abstracts which had previously formed an important part of the *Proceedings*. The greater part of the actual abstracting has been done by him. No society has ever been served better for so long by an honorary officer.

The outside world may know Mr Kent for his *Historical Flora of Middlesex* (1975), *British Herbaria* (1958) and his joint authorship of *A Handlist of the Plants of the London Area (1951-1957)* but in addition he is known to us for the invaluable work he has done for the Society over a quarter of a century.

J.G.D.

J. E. LOUSLEY—a personal appreciation

Among the hundreds of people who knew Ted Lousley for longer, co-operated with him more closely, and saw him more frequently, than myself, there must be many better qualified to write of his great work for the British flora and the BSBI. I write as a regular member of the botanical tours which he led.

Seven years ago, as a novice botanist, I joined a tour to the Algarve with Ted as leader. Knowing his reputation as an eminent botanist and author, I felt some trepidation at holidaying in such erudite company. I need not have had any qualms. Ted and his wife, Dorothy, I found the easiest and happiest couple one could ever wish to know. Every year thenceafter I went on at least one of "Ted's Tours" and became one of his most ardent admirers.

Ted never spared himself, physically or in his generous help with knowledge and encouragement. His infectious enthusiasm always had every member in a party eagerly searching for new "finds". When summoned by shouts from all directions to come and look at some plant, he would comply with alacrity, although it must have meant being distracted from his own investigation or photography. Everyone's questions, no matter how elementary, were fully answered and no one was ever made to feel inadequate. In fact he boosted everyone's botanical morale by crediting them with more knowledge than they actually had.

He was adept at averting those "difficult" situations, liable to occur when a mixed bunch of people are holidaying together. The absence of crises was due, almost entirely, to Ted's good humour and unassuming organising ability. His evening "school" was invariably lengthy and even after that he would press his own specimens and write up his notes before going to bed. Yet, next morning, he would be up as bright and enthusiastic as ever. The amount of "homework" Ted did in preparation for, during, and after each tour must have been phenomenal and only dimly appreciated by his party.

All "Ted's Tours" were tremendous fun. Odd and often hilariously funny occurrences gave rise to stories and sayings which became legendary. No wonder his tours were so popular, the same people rejoining him year after year. As if the tour itself was not enough Ted would arrange a reunion at which the party could hear him talk about the tour and see some of his beautiful transparencies, as well as show their own less expert efforts.

What small botanical ability I possess, and the great pleasure I derive from field botanising, painting or photographing wild plants, I owe largely to Ted's enthusiasm and encouragement. Although I write as a personal friend and regular member of his tour parties I am sure I speak for very many others who travelled with him.

MARGARET GILLISON (now Mrs Todd)
Pen-y-Llewyn,
Llanarmon-yn-Ial,
Mold, Clwyd

MORE ABOUT THE BLACK POPLAR SURVEY

Space prevented me from giving details of my highly successful W.W.F.-sponsored Black Poplar "safari" last year. Here are some of the highlights: the recording of 13 trees in six different localities whilst trying to locate a single tree seen from the M5 near Taunton; a conducted tour to see many of the trees in North Wales recorded by Mr and Mrs Stephenson; the recognition of an apparent variety of *P. nigra* frequent in Salop; the verification of most of Mr E. S. Edees's records in Staffordshire; the recognition of another apparent variety in Derbyshire, recorded by Miss K. M. Hollick, who also showed me the only coppiced *P. nigra* I have ever seen. Finally, a very fine female tree near Brigg in South Humberside (v-c 54) and a very scruffy windswept tree on the coastal flats south of Grimsby, the two most northerly British records, were visited, and on my way back to Suffolk I obtained my first record from v-c 31, Hunts.

Following an article on Black Poplar by Brian Jackman in the *Sunday Times* last June, in which he mentioned that the Survey had up to then not revealed so much as a single place where a male and female tree grew near enough together to breed,* a farmer's wife in Cheshire wrote in to say that she believed they had both sexes of *P. nigra* growing near their farm. Sample leaves and photographs, kindly submitted, confirmed the identification, and I was able to visit the site, on my W.W.F. safari in September, accompanied by Mrs Stephenson, to see two female and one male tree growing around a small farm pond on land belonging to my informant's neighbour, luckily with no male hybrids anywhere around. Furthermore, she had collected seed in June which had quickly germinated on sowing, and we were able to see a batch of a dozen or so seedlings, two months old and up to almost six inches high. We were given one each of the seedlings, which are now in the University Botanic Garden, Cambridge. Later several seedlings were generously presented to the Royal Botanic Gardens, Kew.

Unfortunately some trees recorded from the Stour Valley near Holdenhurst (v-c 11) and others in the Frome Valley, north-west of Dorchester (these latter trees shown me by Mrs Geraldine Hobson and her son Desmond) proved to be of hybrid origin. However two other Dorset records in the Stour Valley, also shown me by Mrs Hobson, were *P. nigra*, and we added a third in the same area. I failed to find a tree reported from Babcary and one from Cheddar and the tree recorded years ago by the late Mrs C. I. Sandwith at Nailsea sadly had been "developed" out of existence, all three absentees being from v-c 6. The only records I have had from Gwent unfortunately proved to be *P. x canadensis*. But the gains far outnumbered the losses, and the safari was a most useful exercise. My sincere thanks to the W.W.F. for making this possible.

1977 has so far seen the collection of seed from the Cheshire site by Eric Greenwood and its distribution to 14 establishments, county councils and individual growers, and a larger quantity to the seed-bank at Kew; the dating of the famous Flag tree of Aston on Clun (v-c 40) by T. Beardsley back to 1660. Noteworthy, too, was the discovery by B. R. Fowler of a reference to the Black Poplar being "plentiful in the Welsh counties of Denbigh and Montgomery" 120 years ago, a reference apparently and not surprisingly, overlooked by Welsh botanists (see Alexander Irvine, "On the Botany of the Clent Hills" in *The Phytologist*, April 1858, p. 398)!

I keep on receiving useful additional records, and gaps in the distribution are

gradually filling in. I hope to deal with the fantastic population of pollarded Black Poplars on Castlemorton and adjacent Commons (v-c 37) which I visited recently, in a future issue of BSBI News.

E. MILNE-REDHEAD

*Mature male and female *P. nigra*, growing about 100 yards apart by the River Yare at Whitlingham (v.c. 27), shown me by Dr E. A. Ellis in 1972 were felled by the County Council the following year, as they were considered a danger in a newly formed Country Park!

ALIENS AND ADVENTIVES

ADVENTIVE NEWS 8

Compiled by Eric J. Clement

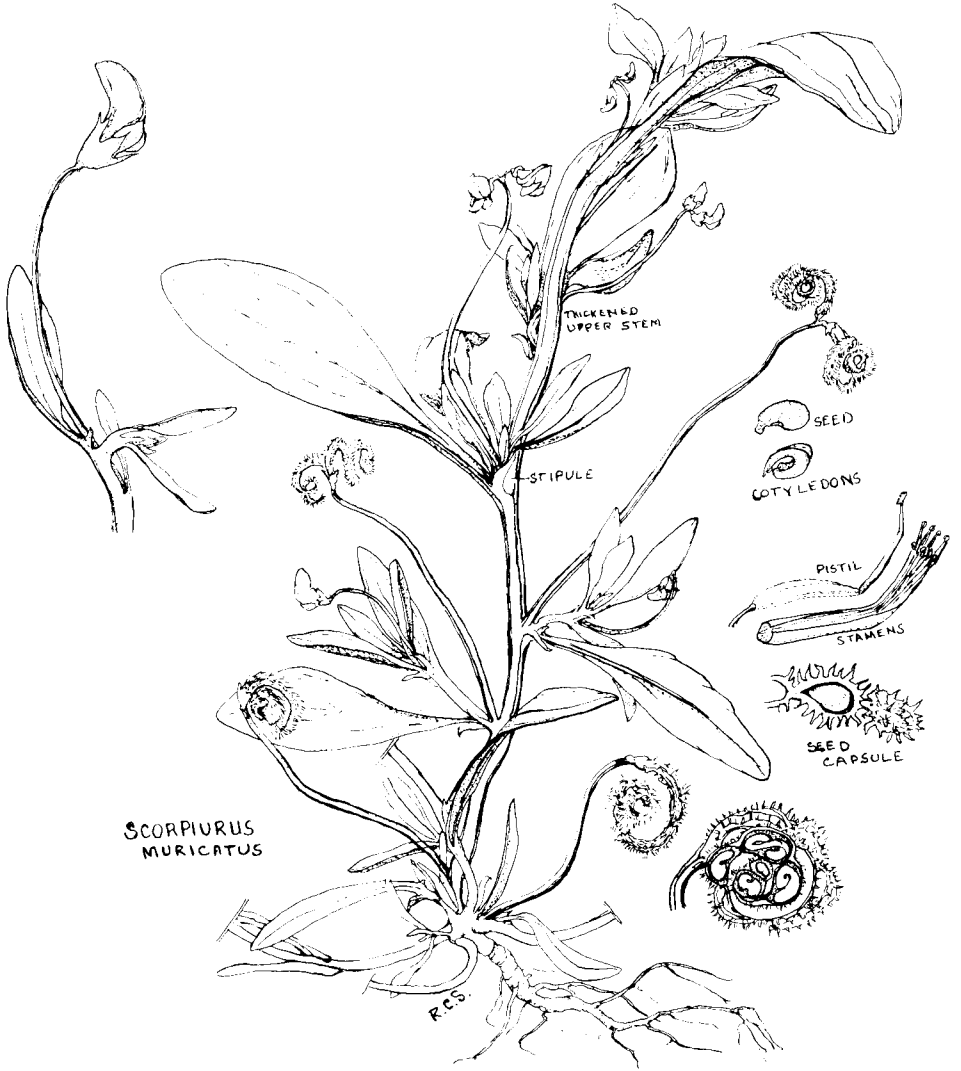
SOME BIRD SEED ALIENS

In the Feb 1976 issue of *Friends of the Lake District—News Letters*: 22-23, the occurrence of unusual plants at a road-building site on the slopes above Keswick (Cumberland) is entertainingly described: "They were as alien as the new highway, as eerie and inappropriate in the Lakeland landscape as the vast yellow machines which roared and pushed and shoved away . . . Eventually, with the help of expert naturalists the plants were identified as *Abutilon theophrasti* (from South-east Asia), *Hibiscus trionum* (from South Europe and Asia), *Ipomoea hederacea* (from tropical America), *Solanum rostratum* (from America and Mexico, being the original food of the Colorado beetle), *Ambrosia artemisiifolia* (from North America), and *Datura stramonium* (Thorn Apple) . . . It was finally discovered that many years ago birds of various species had been kept in an aviary close by. Seeds fed to them, long buried, had lain dormant until disturbed . . ." Country Diary in *The Guardian*, 26 July 1976, presented the same story but with many mis-spellings!

In a Lowestoft (E. Suffolk) garden, bird-seed gave rise to the frequent *Bupleurum subovatum* (see *BSBI News* 15:13), *Asperula arvensis* L. (both white- and the more normal blue-flowered forms) and *Rhagadiolus stellatus* DC. (a composite with distinctive star-shaped fruiting heads which is rarely recorded in Br), whilst a garden at Reydon, near Southwold (E. Suffolk) produced *Ammi visnaga* (L.) Lam. P. G. Lawson sent me specimens of all of these finds during 1976.

From gardens at Cirencester (Glos) Mrs H. M. Povah sent, in August 1976, *Centaurea diluta* Aiton (a frequent species from its native home of Algeria and Morocco only), *Scorpiurus muricatus* L., *Solanum rostratum* and *Picris echioides* (obviously not rare in bird mixes!). Miss Rosalind Sedergreen has kindly provided the drawing of *Scorpiurus* (p. 15) from a 1976 plant from Stone tip (W. Kent).

Mrs A. C. Powell sent me, in 1975, from a garden at Hereford *Ammi majus* L., *Torilis nodosa* (L.) Gaertner var *pedunculata* (Rouy & Fouc.) Druce (this explains why this native species crops up in "odd" places, like a street pavement in London W.1., as reported accurately by Miss R. Hadden) and *Vaccaria hispanica* (Mill.) Rauschert (which is yet another recently-spotted earlier epithet for what the gardeners always have—and wisely always will (?)—call, quite legitimately, *Saponaria vaccaria* L.: **V. hispanica** predates the name *V. pyramidata* Medicus used in *Flora Europaea*



1:186 which must now be abandoned. By disallowing tautonyms like *Vaccaria vaccaria*, which the zoologists happily use, botanists have created quite a problem for themselves!).

Miss B. M. C. Morgan sent to me in July 1977 from a Redhill (Surrey) garden *Chamaemelum mixtum* (L.) All. (*Anthemis mixta* L.) with the comment that "Haithes Bird Seed" mixture seems to produce more rarities than the traditional "Swoop". During 1976 she reported *Lythrum junceum* Banks & Solander and *Salvia reflexa* Hornem. from the same locality.

Crucianella angustifolia L.: In crack of garden asphalt path, Truro (Cornwall), July 1976. Mrs B. E. M. Garratt. Hb. EJC. A rare bird-seed casual with flowers crowded in a narrow and long bracteate spike, the typical, whorled leaves giving away its family, *Rubiaceae*. A glabrous, annual species from the S. half of Europe and N. Africa.

The bird-seed records mentioned above are somewhat randomly chosen (I could fill this *News* with such records!), but illustrate some of the characteristic species involved as well as a few rarities. The commonest species, like *Linum usitatissimum*, have been omitted.

C. G. Hanson and Dr J. L. Mason are currently preparing for publication a comprehensive check list of aliens introduced into Britain with bird-seed: any lists of probable or definite records would be much appreciated (please forward them via myself). Have any other members been conscientiously growing mixtures to ascertain indubitably which species (incl. British natives) are introduced?

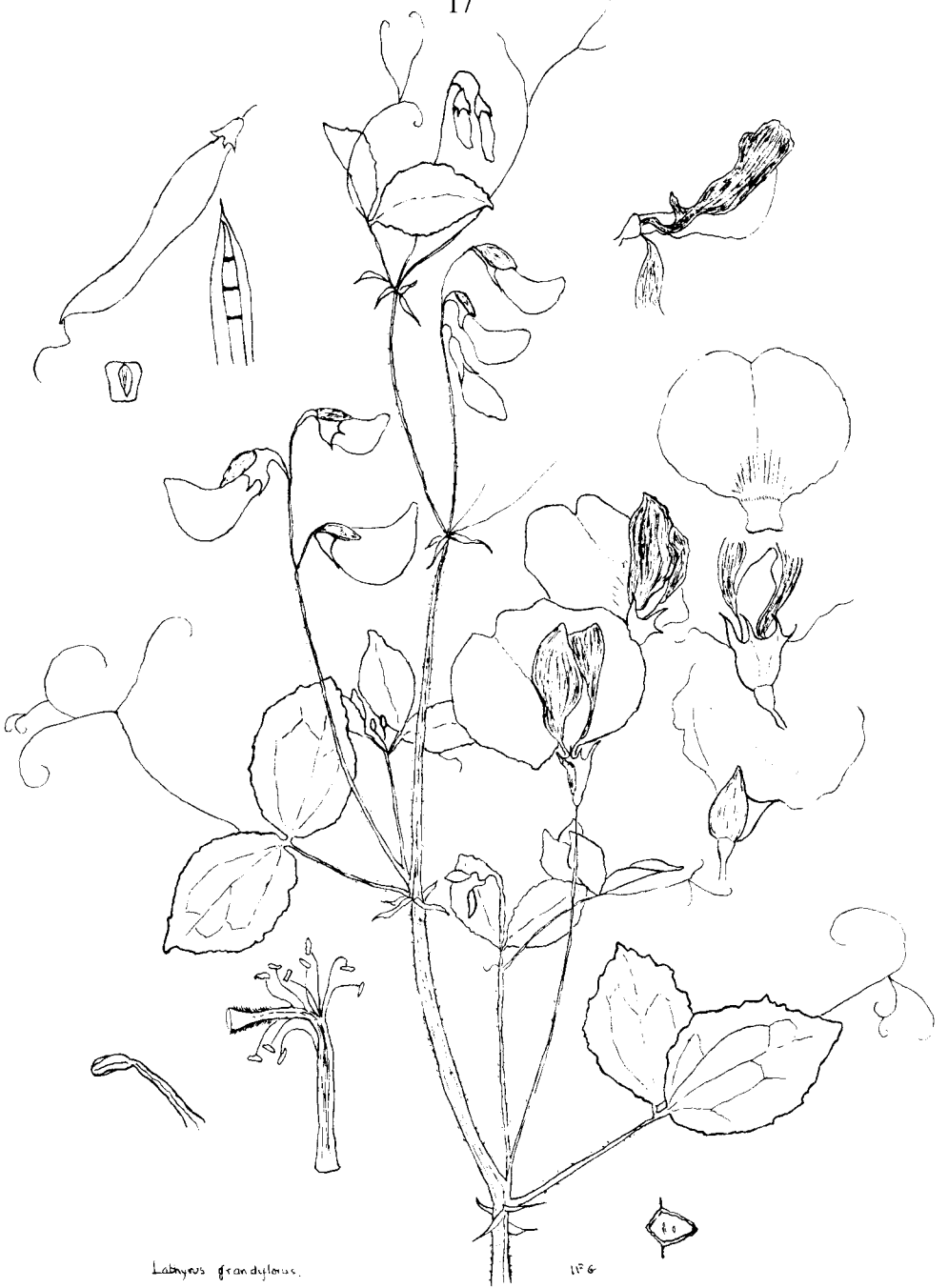
Mixed Bag

Aponogeton distachyos L.f.: Flowering in Oct 1976 in the Rochdale Canal at Rochdale (S. Lancs). A. Marshall. It is a first local record of a plant rare in Br.

Aronia arbutifolia (L.) Pers.: Near Walton Mere, Walton-on-the-Hill (Surrey), Oct 1975 (lvs) and May 1976 (fls). B. R. Radcliffe. Hb. EJC. One large clump, approximately 3 m high, spreading by suckers in dense oak-birch woodland on acid soil. It was damaged by a heath fire in summer 1976 and so the fruiting characters (size and colour of the pomes) are still unchecked—*A. prunifolia* is rather unsatisfactorily similar in flower and leaf. The three closely-related species of this genus (Chokeberry) all come from Eastern N. America and could be overlooked as *Amelanchier* sp., into which the genus is still sunk by J. C. Willis's *Dictionary*, (8th edn)—surely a relic from the distant past and not the current view of anyone? All three species escape from cultivation on the Continent but are unmentioned by *Flora Europaea* 2 (Rosaceae). In the Netherlands *A. melanocarpa* is well-known and occurs in swamps (its natural habitat) looking like a native plant.—e.g. in fen habitat; see *Gorteria* 5:159 (1971).

Artemisia verlotiorum Lamotte: A small colony on some waste ground near a garage in Ipswich (E. Suffolk), 19 Nov 1976. F. W. Simpson. Conf. EJC. Seen here for the first time in flower; it is still an unusual plant away from the London area where it is now frequent. Note the new, correct, spelling decreed by a change in the ICBN (*International Code of Botanical Nomenclature*) in 1972; the epithet commemorates two brothers called Verlot and therefore requires a genitive plural ending.

Beta trigyna Waldst. & Kit.: North End, Crayford (W. Kent), 1976. Comm. K. A. Beckett. Det. EJC. Sent in, from G.R. 51/515768, as a "White Dock", a name which describes very well its overall appearance.



Lathyrus grandifolius.

Erysimum linifolium (Pers.) Gay: Old gravel-pit, Passford, Lymington (S. Hants), 1975. R. P. Bowman. Hb. RPB. Det. EJC. The purplish flowers give the appearance of a *Malcolmia* or *Matthiola* species, but the copious indumentum of closely appressed, *medifixed* hairs betrays its true affinities. A variable, rock-garden plant originating from Spain and Portugal.

Euphorbia maculata L.: One plant making a circular mat nearly 2 ft across in quarry, Frémont Point, above Bonne Nuit Bay, Jersey, Sept 1966. J. Flock. Hb. JEL, now incorporated into **RNG**. Conf. EJC.

Gazania uniflora (L.f.) Sims: Mont Orgueil Castle, Gorey, Jersey, Aug 1976. R. C. Stern. HB. RCS. Det. EJC. This taxon, treated as a variety of *G. rigens* (L.) Gaertner (*G. splendens* Hort. Angl. ex Henders.) by H. Roessler's monograph of the genus (1959), differs from *G. rigens* in having shorter, yellow (not orange) rays which are immaculate at their base (not with a black patch and white eye).

Geranium psilostemon Ledeb. (*G. armenum* Boiss.): Between Headley Heath and Box Hill (Surrey), July 1976. B. R. Radcliffe. Hb. EJC. 4-5 plants, some 80 cm tall, established in rough grassland by unmetalled road and apparently setting good seed. The large flowers (3-4 cm diam) of a bluish, dark red with a nearly black centre are distinctive; a native of Armenia often grown in gardens.

Hordeum jubatum L.: "This attractive grass was found scattered in groups over a length of motorway verge between Ketly and Cowdenbeath (A90) in Fife. It was seen there in 1975 and specimens collected (not without difficulties) on 4th August 1976. It occurs only on the closely cut areas of verge, the soft shoulder, nearest to the tarmac, being absent from the uncut areas (uncut in 1976 at any rate). Its silvery shining inflorescences are eye-catching and always appear to be bent forward in the direction of the traffic although this may be an "accident" of prevailing wind direction! At maturity the spikelets break up and presumably spread the grass in a linear fashion along the verge. There is all the evidence of a possible build-up of the population in this artificially maintained habitat." A. W. Robson. **BM**. Conf. Dr A. Melderis.

Lathyrus grandiflorus Sibth. & Sm.: Beside the old railway and towpath of R. Avon, Rownham Hill, Bristol (Somerset), June 1976. Mrs J. Swanborough. Det. EJC. This is the taxon described under *L. tingitanus* L. in D. McClintock's *Supplement*: 13 (1957), a similar-looking but annual species. *L. grandiflorus* is perennial; the Bristol plant portrayed here by Miss Florence Gravestock (p.17) has very narrowly winged stems and subequal calyx-teeth but otherwise agrees with the description in *Flora Europaea* 2:141. This colony sets very few fruits and no (?) viable seed, but makes up for this in rampancy.

Nonea lutea (Desr.) DC.: Newly sown lawn, Belmont Road, Bangor (Caernarvon), 20 April 1977 (when fls and ripe seeds were present). R. H. Roberts. Hb. EJC. The 30-35 plants on newly seeded "waste" ground also caught the attention of other botanists and it was independently reported to the Nature Conservancy and the local Naturalists' Trust! It was originally assumed to have arrived as a grass-seed impurity, but further investigation later revealed the unexpected—it had grown from dumped garden rubbish which had formerly occupied one corner of the site. It had been introduced, from a forgotten source, into the nearby garden and had become a not unwelcome weed being an annual which seeds prolifically. This occurrence shows the plant's potential for spreading, although few Br records exist (possibly because it flowers so early in the year?). Graham Easy has provided the

cover illustration, drawn from a plant from Cambridge Botanic Garden where it is cultivated. It is a weed in Jardín Botánico in Madrid (Spain)—R. M. Burton, Apr 1970. Hb. EJC—and naturalised in S. Europe, its native home being Russia. In N. America it seems to be no more than a casual. Confusion of this yellow-flowered boraginaceous plant with any other is unlikely (*Amsinckia* spp have ebracteate flowers, at least above), although older published records are nomenclaturally confused with the related *Alkanna lutea* DC. (*N. lutea* DC., *Fl. Fr.*, non (Desr.)DC.) which has the calyx divided almost to the base and very short, broad nutlets. *Nonea* Medik. is the correct spelling, predating *Nonnea* Reichb. and other variants.

Oenothera perangusta Gates var *rubricalyx* Gates: Waste ground near the R. Orwell on the outskirts of Ipswich (E. Suffolk), July 1975 & 1976. M. A. Hyde. Det. Dr K. Rostański, and pronounced by him to be the first U.K. record.

Tulipa saxatilis Sieb. ex Sprengel: Near the Tresco Abbey Gardens (from which it presumably has escaped), Tresco, Isles of Scilly, April 1976. "The plants are circa 10 inches tall with lime green foliage and remarkably glossy leaves. The perianth is *Colchicum* coloured but slightly more pinkish with a yellow basal blotch to the segments. It is generally bi-flowered and the filaments are hairy at the base. The species is a Cretan endemic, which may explain why it is thriving in such a dry sunny spot (stony wasteland between Tresco Abbey Gardens and Appletree Banks). Its early flowering (8.4.76) may explain why it has not been noticed before (not in J. E. Lousley's *Flora*), although the colony is large—c. 10 x 10 m. It seems to be increasing rapidly by stolons." Q. C. B. Cronk. Hb. QCBC.

OTHER ADVENTIVE NEWS

ELODEA NUTTALLII: Further notes

I have been asked if Mr E. L. Swann's measurements of *Elodea* flowers (*BSBI News* 15 p. 9-10) referred to diameter—they do, and should read "*E. nuttallii* 2.5mm dia. *E. canadensis* 5.0mm diam. of flower." But Mr Swann tells me that these figures are wrongly attributed to Norfolk specimens, as, at the time of going to press, *E. nuttallii* in Norfolk has yet to be recorded.

There was no mention in the earlier note of *Elodea ernstiae* St John, but there is now some doubt over earlier British records of this species. The Surrey Flora Committee has noted that all records of *E. ernstiae* in *The Flora of Surrey* J. E. Lousley (1976) should, in the light of present knowledge, be ascribed to *E. nuttallii*. A deep water specimen from Lake Coniston, caught by the toe while swimming, by Prof. C. D. Pigott, still awaits identification.

MARY BRIGGS

PLANTS AND YOUNG PEOPLE

"Spurred on by the article in *BSBI News* 15 by Ted Adnams", writes Roy Smith, a schoolmaster from near Derby, "I have found that although difficult to interest pupils academically in botany (they do not seem to think plants are living), they will respond practically", and he sends the following account of his own experience.

WILD DAFFODILS IN DERBYSHIRE

This note is written to show how I, as a teacher in a large comprehensive school, have been able to involve children with plants.

Recently I have been studying my local 10 km square (43/35), trying to re-find some of the old records. Clapham's Flora of Derbyshire (1969) does not list the Wild Daffodil for the square, yet there are three records in Linton's flora (1903). I thought there was a good chance that the plant could be found, so this spring I asked the pupils to report if they saw any.

The results were very pleasing. All records were checked personally with a visit to the sites. The final outcome was that instead of just one site in the square, no fewer than nine were found (Clapham only gives seventeen for the whole county). Miss K. M. Hollick, the county recorder, visited one site and pronounced it as 'probably the best in the county', as it covered three fields and an area of woodland. Also of note is that while looking for Daffodils I explored an unpromising piece of woodland and found, again according to Miss Hollick, 'probably the best site in the county' for Spurge Laurel (*Daphne laureola*), which is rather rare in Derbyshire.

Resulting from the survey, many of the children have shown interest in plants and are continually coming with extra pieces of information. Other members may like to try tapping this source of potential reconnaissance. Children do possess a few good points such as being likely to have a better knowledge of a locality (eight of the sites were on private land), and are considerably more active early in the season than many botanists!

R. SMITH, Beech House, Nether Heage, Derby DE5 2AT

He then concludes with some very complimentary remarks about *BSBI News* which modesty forbids us to print.

NATIONAL VEGETATION CLASSIFICATION

Progress Report No 4 from the above, issued at the beginning of July 1977 gives the results for 1976/77. During this, the first field season, 2,470 samples were collected from 249 10 x 10 km squares. In addition, over 10,000 compatible studies from previous years have been made available for analysis and comparison, and these more than double the present geographical coverage of the survey.

This spring has seen the production of regional syntheses of these data, and preliminary synoptic studies of particular vegetation types. Details of these are given in the Reports under the activities of each of the five Regions, (SW, SE, Midlands, NW, NE). Storage and analysis involves the use of computers, and progress has been made towards a unified system of data storage based on programmes developed at Cambridge. A variety of computerised analytical methods are being developed by mutual co-operation using computer links between centres, and details of these are given.

The NVG is co-operating with the Soil Survey of England and Wales, the Forestry Commission and the editorial committee of the new *Flora of Great Britain and Ireland*, exchanging site information, raw data, as well as results.

SOLANACEAE SYMPOSIUM—SOME HIGHLIGHTS

This Symposium, held in July 1976 at Birmingham University brought together 116 delegates to hear papers from 55 leading authorities on this interesting family from all over the world. The following is condensed from a report by I. G. Webb.

The Solanaceae were first recognised as a group in 1700 and classified by Wettstein

in 1891. But the genera cannot even now be arranged in a satisfactory way. The 2,500 species in belonging to some 75 genera with world-wide distribution can be fitted into three sub-families, Solanoidae, Nolanoidae, and Cestroidae. Despite the most modern techniques, including serological and chemical studies there are still big gaps in our knowledge and there are no convincing suggestions as to ancestry.

In S. America there are 55 genera with 1,600 species, 800 of them in *Solanum*. Two sub-families are represented, Solanoidae and Cestroidae distinguished by coiled and straight embryos respectively. Australia has some 90 species of *Solanum*, some dioecious, and almost all endemic. India's Solanaceae are represented by 24 genera with 105 species; fifteen endemics from the Himalayas include the genera *Hyoscyamus*, *Atropa*, *Mandragora*, *Physoclaina*, and *Scopoli*. Evidence from the study of *Solanum incana* and *S. insana* suggest that *S. melongena*, the egg plant, originated in India. The taxonomy of Nigeria's 15 endemic species of *Solanum* is based on a pollen key, the various polyploid forms of *S. nigrum* being the most widely distributed species. The Chinese and Japanese species of the desert genus *Chamaesaracha* should be considered a distinct genus *Leucophysalis*. According to one authority the distribution of *Brunfelsia* reflects the uplift of the Andes and the periodic drying out of the Amazon basin.

The genus Solanum

With 1,500 species, this genus affords immense scope for research, taxonomic, phylogenetic, and economic. *S. mammosa* of the section Acanthophora has bizarre fruits reputed to poison cockroaches, while fruits of *S. suaveolens* growing at 3,000 metres in Mexico, Peru and Chile are sold in sackfuls in local markets. An extensive survey of Australian species for steroidal alkaloids as suitable chemical starters for the contraceptive pill had some success. Three compounds convertible to hormone type drugs have been found in *S. dulcamara*.

The Potato, Tomato, etc.

The familiar domestic vegetable is a tetraploid, and as a result of his studies in polyploidy in both wild and cultivated species. Prof. Hawkes of Birmingham considers that *S. tuberosum* arose as a cross between two closely related diploids (which are widespread in the Andes) followed by chromosome doubling. Although it is the most abundant species in the Andes cytoplasmic studies do not support this view.

Because proteins are the primary products of genes, the electrophoretic pattern of storage proteins in the mature tubers of any one variety is very characteristic, and Prof. Stegemann of Braunschweig has based his "Index of European Varieties" on it.

The nine species of *Lycopersicon* all have 24 chromosomes and are closely allied, having most probably been derived from the Juglandifolia series of *S. tuberosum* subsection Hypobasarthrum.

Peculiar happenings have been observed in *Capsicum annum* where twin seedlings with unfertilized ovules set seed. The twins, one haploid, the other diploid are produced by an unfertilized ovule and a fertilized synergid respectively.

Drugs

In South America some 1,000 hallucinogens, many of them known since the days of the Incas and Aztecs, have been analysed and some of them have bizarre effects, including screaming intoxication, horrendous dreams and prolonged coma. A "synthesized" *Datura* species is much prized by the natives for intoxicating snakes.

In India, *Datura* and *Mandragora* are used in religious rituals and Solanaceous products are exploited for medicines and charms, *S. nigrum* being employed by rain-doctors and *S. ferox* providing ingredients for elephant poultices.

The Aborigines of Australia's Northern Territory utilize certain species for food; *S. centrale* for example dries whilst still on the bush to something like a sultana. A modern development is the cultivation of *Duboisia*, one of the oldest endemic genera, for compounds to be used in contraceptive preparations.

DEAD BEES UNDER LIME TREES

This is part of an article by Dr Eva Crane of the International Bee Research Association, published in "Bee World" No 3, 1977, where further details and references will be found.

When the limes were in flower in England last year, many people were disturbed to see bees lying dead, paralysed, or "drunk" under the trees. There were reports that the ground was covered with dead honeybees—or, more often, with dead bumble bees—and some other species were also affected. The damage was variously attributed to the nectar or pollen of the lime trees, to toxic chemicals, or to more mysterious sources. Most reports came from localities where the soil is quickly drained, and in any case the 1976 summer was exceptionally dry. The cause of this damage seems to be rather little known, although it was established in 1960.

The toxicity of the nectar and pollen of lime (*Tilia*) species is due to certain sugars in them, which are present in abnormally high amounts in dry years. These sugars disturb carbohydrate metabolism in bees of various species. The chief culprit is mannose, which von Frisch found was strongly toxic to honeybees in 1930. Mannose is a common sugar, utilizable by many organisms (including man), but not by certain insects, in which it produces a "metabolic disease". The first stage in mannose metabolism is its transformation into mannose-6-phosphate by the enzyme hexokinase, which is present in bees. The second stage is the conversion of the mannose-6-phosphate (which is itself toxic to them) into fructose-6-phosphate by the enzyme mannosephosphate isomerase. But honeybees and some other bees have no more than a trace of this enzyme; in these bees, therefore, mannose-6-phosphate is formed but is not broken down again; it accumulates in the digestive system. More than this, hexokinase produces a faster reaction with mannose than with glucose and fructose, so the latter non-toxic sugars are not metabolized in the presence of mannose, and the sugar level in the blood falls.

Honeybees fed experimentally on the sugars galactose and rhamnose, as well as mannose, died similarly; the toxic sugars increased in the blood and thorax, while the levels of glucose and fructose dropped. The thoracic muscles were unable to function, so the bees could not move their wings and legs—and appeared paralysed. This is what had happened to the dead and "drunk" bees under lime trees. Some wild bees are more affected than honeybees, possibly because of their different feeding habits with regard to nectar and pollen.

The lime species most implicated seem to be *Tilia tomentosa* (the silver lime) and its cultivar *T. petiolaris* (weeping silver lime), *T. x orbicularis* (*T. euchlora* x *petiolaris*), and *T. cordata*. *T. miqueliana* has been recommended as a late species for planting instead of *T. petiolaris*, for this reason.

The severity of the effect varies from season to season, and from place to place, being greatest in dry years and on well drained soils.

A few groups of plants are sources of nectar and honey that is toxic to man, although bees are not adversely affected. Most such plants are Ericaceae; they include species of *Rhododendron*, *Azalea*, *Andromeda* and *Kalmia*. Although such honeys from toxic nectar are of scientific interest, they are extremely rare; rarer still are honeys from honeydew that is toxic to man, such as that excreted by the aphid *Scolyopa australis* on the New Zealand tree *Coriaria arborea*.

REQUESTS

TROPICAL FRUITS AND SEEDS ON BRITISH ISLES BEACHES

Ocean currents in the North Atlantic can carry the fruits and seeds of tropical plants from the West Indies to the coasts of northern Europe. These "drift seeds" are often cast ashore on beaches on the west-facing shores of the British Isles, especially in Ireland and the Outer Hebrides.

There has been very little information published about such "drift seeds" for over fifty years. The classic work was published by H. B. Guppy in 1915 (*Plants, seeds and currents in the West Indies and the Azores*), and in 1919 Nathaniel Colgan published an account of Irish records* (*Proc. Roy. Irish Acad.*, 35B, no. 2). No concise account or list of species is available for the British Isles. Recently, two American workers, Dr C. Gunn and John Dennis published a "World Guide to Tropical Drift Fruits and Seeds" but the work does not contain precise information about British records.

In an attempt to rectify this lack of information, I am undertaking a study of "drift seeds" at the National Botanic Gardens, Dublin in co-operation with Mr Dennis and Dr Gunn. Initially it was planned to tackle Irish records only, but a list prepared by John Dennis shows that Scotland is one of the best areas for collecting "drift seeds"; about 20 species are recorded from the Western Isles, compared with about 10 from Ireland. It is now planned to study the whole of the British Isles, and to try to collate data from Ireland and Great Britain. A review of Irish data is in preparation and, if sufficient information is forthcoming, a paper on the "drift seeds" of the whole region will be prepared. A book on tropical drift on N. European coasts (including zoological data) is also planned.

I should like to receive information from botanists who have collected "drift seeds"—commonly known as sea beans—and I am prepared to examine and identify specimens, which will be returned to collectors.

Dates and localities of collection should be given (of course!) though unlocalised and undated material will be of interest sometimes. I should also be glad to know of collections of drift seeds held in local museums or similar institutions. The main species presently recorded from British beaches are *Entada gigas* (sea heart), *Mucuna sloanei* (sea bean, horse-eye bean), *Merremia discoidesperma* (Mary's Bean) and *Caesalpinia bonduc* (nickar nut); *Cocos nucifera* (coconut) should not be overlooked. Records of seeds and fruits of native or widely naturalised species are also of interest; hazelnuts, horse-chestnuts and pine cones are commonly found.

Finally, if you are at the sea-side please keep at least one eye open for these exciting objects and collect any you find. It is supposed to be lucky to find a sea-bean! Please address material to: Dr E. C. Nelson, Nat. Botanic Gdns., Glasnevin, Dublin 9.

*Copies are still available from the Royal Irish Academy.

AUSTRALIAN PLANTS

Dear Editor,

I was in Australia recently and became interested in the common names of plants there. Relating these to the current Latin names is something of a palimpsest. My task would be easier if any member could lend, sell, or refer me to a source of N. T. Burbidge's "Dictionary of Australian Plant Genera" (Angus and Robertson, Sydney, 1963). I should welcome constructive advice on disentangling synonyms as I am a mere amateur.

Yours, etc.,
Carolyn McNab

Kelly's Steps, 3 Blair St, Dalbeattie, Kirkcudbrightshire

BOTANICAL FILMS

Mary Briggs, our Hon. Gen. Sec. is compiling a list of good films, especially those suitable for students, dealing with botanical topics.

Will members who have knowledge of such films kindly let her have particulars of them. The kind of information required is: Title, sound or silent, running time, maker, distributor (where to make further enquiries), whether for sale or hire, and any other comments on subject matter, treatment, suitability, etc. Please send, with as much detail as possible, to Mrs M. Briggs, White Cottage, Slinfold, Horsham, Sussex RH13 7RG.

ACHILLEA MILLEFOLIUM

The Editor,

BSBI News

Dear Sir,

I am a junior member of the society and at the present time I am engrossed in an A-level course, part of which consists of the designing and carrying out of a project.

As the subject for this, I have decided to investigate the local distribution of the white and pink forms of *Achillea millefolium*, to determine whether the distribution differs between the two. I am anxious to discover whether the pink flower colour could possibly be due to some factor in the environment causing a normally recessive gene to express itself.

In August '76 I noticed a colony of pink flowered forms growing on an area of previously burnt grassland (fire had occurred that same year), this same area supported no white forms whatsoever, although these did occur in unburnt grassland several metres away.

I would be very interested to know whether any other members have noticed a situation similar to this.

Yours sincerely,
Paul L. Smith

238 Linden Road, Gloucester

BOOK REQUEST

Mr E. N. M. Phillips wishes to obtain a copy of the pocket-size, thin-paper 10th edition (1922) of Babington's Manual of British Botany, edited by A. J. Wilmott. Please contact Mr Phillips at Chestnut Cottage, Maudlin Rd., Totnes, Devon TQ9 5EX.

LETTERS

OSMUNDA REGALIS

The Editor,
Dear Sir.

Mrs Kington suggests in her letter (*BSBI News* No 14 December 1976) that Dunnet Head is an extraordinary habitat for *Osmunda regalis*. In our opinion the habitat is very typical for this part of the world, being at the margin of a loch in open moorland. It is clear that Robert Dick first found it about 1856 "growing there in its native beauty": Edmonston knew the plant in Shetland in the 1840s so there is no reason to believe that Caithness is beyond its natural range.

Her second comment prompted a re-examination of a specimen which was confirmed to be *Orthilia secunda* (by an obliging professional, Dr S. M. Walters). Perhaps *Pyrola minor* grows nearby.

We, from our underworked area, would like to record our thanks to the BSBI referees, both amateur and professional, who have patiently (and often promptly) helped us to name the local plants more accurately. We propose to send lots more!

Yours sincerely,

E. R. Bullard, J. K. Butler, J. M. Gunn, V. Hewison

Hawthorn Hill,
36 Wordsworth St.,
Penrith,
Cumbria CA11 7QZ
May 1st '77

Dear Sir,

With regard to T. D. Walker's letter in *BSBI News* No 15, Robert Dick was a baker by profession and not a barber. The early rising at 4 or even 3 a.m. to bake his bread, together with his extraordinary long distance walks covering the geology and botany of Caithness and often not returning until the early hours, was not conducive to his health and probably hastened his death at the age of 54 years.

I would certainly recommend any field naturalist to read Dr Samuel Smiles biography of Robert Dick, Baker of Thurso, Geologist and Botanist.

Yours sincerely,

R. W. M. Corner

VERONICA and RORIPPA

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

Dear Sir,

On receiving *BSBI News* No 15 I was dismayed to find that my article on *Veronica hederifolia* and *Rorippa* spp. had been very substantially cut and altered. I appreciate that space in this issue was limited, but still regret the omission of some of the factual material.

However, alterations have introduced a serious error. For the benefit of microscope users, figures for stomatal length in *Veronica hederifolia* were *mean* values

for each plant, not the total ranges, which are, of course, a lot wider. I would recommend measurements of an absolute minimum of ten stomata.

The name "*V. lobata*" appears twice in the final article (but not in my original manuscript) and has, I am told, caused confusion. This is, of course, a misprint for *V. sublobata*.

I hope that botanists will feel encouraged to record the two *V. hederifolia* segregates; I would be willing to supply a photocopy of my original manuscript to anyone who might find it useful.

Yours sincerely,
Alan J. Silverside

(Sincere apologies are tendered to Mr Silverside.—Ed.)

ONONIS RECLINATA

Dr H. A. Lang, Westwood, Newton Stewart, Wigtownshire, writes:

Dr Perring has suggested that I write you a note for *BSBI News*, as *Ononis reclinata* has turned up again in v-c 74.

It was found growing down to sea level at the foot of a rocky spur, on fine earthy scree, about 2-3 miles north-west of the Mull of Galloway; and had been reported from that area in 1830-1840.

Associated species were: *Geranium sanguineum*, *Aira caryophyllea*, *Lotus corniculatus*, *Bromus mollis* with some *Anthyllis vulneraria* and *Centaureum erythraea*. It was in sufficient quantity to make its future survival probable. When found on 15th June this year some plants were still in flower, but many were overflowered.

HYBRIDS AND DISTURBED HABITATS

33 Elmcroft Rd.,
Yardley,
Birmingham B26 1BJ

Dear Editor,

Being a fairly new member of the BSBI and an amateur tending more toward the student than the savant end of the botanical spectrum, it was with interest I read your Editorial in *BSBI News* 15.

To be classed as one of the "silent majority" would be a fair description so in response to your "cri de coeur" for communications from members, may I lift my silence briefly to ask "why?" in connexion with a statement by Mr E. L. Swann in his Presidential Farewell. He wrote, "We must all be appalled at the changes wrought in the landscape and the wildlife of hedges and woodlands but we can find some compensation here for it is in such disturbed habitats that hybrids occur." Being very much a layman, can I ask someone to explain, in a few paragraphs, why hybrids should occur in disturbed ground.

Yours sincerely,
G. Nall

This was submitted to Mr E. L. Swann who has kindly written the following:

In my Presidential Address I referred briefly to the considerable changes wrought in our landscape by development and exploitation with the inevitable loss of much

of our wildlife. For botanists I claimed some compensation even under such changed conditions in the increase of hybrids to be found in disturbed soil. Some of the hitherto "silent majority" have asked for an explanation of these observations but it must be admitted that a short note can but barely touch the fringe of such a complicated subject as hybridization.

Disturbed soil forms the greater part of our country today; the process has been going on for a long time but has been accelerated in recent years. It may range from more or less closed communities, now clothed with vegetation, to bare exposed soil.

An existing plant species is by its peculiarities predisposed to grow in a certain type of environment and its characters are controlled by a large number of genes. Its success depends on particular conditions of light, moisture and soil types. Unless disturbed it will complete its life-cycle successfully but if the habitat is subjected to interference then new conditions are created; the environment is a powerful controlling factor and it has become generally recognised that there is a connection between disturbed soil and hybridization.

Two species, hitherto distinct, will be brought together and will now occupy a changed environment which will exert its influence on their subsequent behaviour. Physiological differences are inherited in the same way as morphological ones and a hybrid plant, better able to withstand the change, may arise and succeed. It will be more or less intermediate in characters and tend to occupy an intermediate habitat.

A few examples of this hybridization observed in Norfolk may serve as illustrations. The grass growing nearest to the sea in the sand of the drift-line is the Sand Couch (*Agropyron junceiforme*) and in nearby cultivated land the ubiquitous Couch Grass (*A. repens*) is abundant. The hybrid occurs along man-made sea-banks, an intermediate habitat. Although male-sterile its long creeping rhizomes ensure its success.

A frequent grass of salt-marshes and established sand-dunes, the Sea Couch (*A. pycnanthum (pungens)*) hybridizes with the Sand Couch and occurs in intermediate zones; this, like the last, is male-sterile but spreads vegetatively.

One of the best examples of a hybrid which has increased considerably recently is that between the Red Campion (*Silene dioica*) frequently in some of the base-rich woodland and the White Campion (*S. alba*) often abundant in cultivated land. The hybrid has pink flowers and occurs where woodland and arable land adjoin. It is fertile and back-crosses occur exhibiting introgression with an exchange or re-combination of genes.

This vast subject of hybridization is fully explained by Dr C. A. Stace and his team of workers in *Hybridization and the Flora of the British Isles** published in 1975 in collaboration with our Society and will long remain the authoritative work.

E. L. SWANN

*A specially reduced price is available to members of BSBI; see Secretary's Notes in this issue.

EPIPACTIS SP

Dear Sir,

I read with surprise in *BSBI News* No 15 Dr J. T. H. Knight's request that BSBI members despatch to him mature shoots of *Epipactis helleborine* ensuring that such shoots are neatly severed at the base using scissors. Quantities are not limited but specimens should fall into a category defined as being somewhat depauperised, with green flowers, bifarious leaves, lacking a rostellum etc. The shoots are to be

examined to determine their affinity to *E. helleborine* or the continental *E. muelleri*.

With BSBI membership at 2,205 in 1976 I envisage in 1977 a similar number of botanists roaming the countryside in search of one of our widespread, but by no means common orchids. Surely collection on such a potentially vast scale is contrary to the "BSBI Code of Conduct" which discourages the duplicated collection of flowering shoots of orchids.

E. helleborine is a fine plant and for this reason alone some members will be reluctant to collect flowering shoots. Others, aware of the need for conservation, will also refrain.

Another argument against the widespread collection of uncommon plants exists. Assume that the variant of *E. helleborine* that Dr Knight refers to is in fact *E. muelleri*. This being so it is probable that at present the species is progressively colonizing new territory within Britain in a way characteristic of the species. This type of event is of considerable scientific interest and widespread picking can only hamper investigations into invasive colonization. Similarly, if the variant proves to be a mutant or sub-specific form then picking will not assist evolutionary studies. Indeed the variant may become extinct.

I applaud Dr Knight's correspondent who sent for identification a photograph.

Yours sincerely,

Donald MacIntyre

Riverside Cottage, Stairaired, Mauchline, Ayrshire

This letter was sent to Dr Knight for his comments, and in reply he says he was "by no means surprised to receive this correspondence. When I initiated the matter in BSBI News I foresaw it but decided that I would not 'cross my bridge' until I got to it. However, at the time, I made up my mind as to how to deal with the matter, if and when it arose. I have carefully noted the contents of the letter and I concur with all the remarks therein. You will, in fact, recall that I admired the photography of the sender last year when my opinion was sought. As I have already intimated I have long decided in my course of action. So please find attached, an AMENDMENT to the recommendations in my original appeal."

Redetermination of suspected *Epipactis muelleri*

AMENDED RECOMMENDATION—If only **one** or a **few** suspected specimens are found, **I undertake**, at the request of the finders, personally to visit *with them* and examine the plant or plants **in situ**.

from MR E. B. BANGERTER

479 Beach Road,
Mairangi Bay,
Auckland 10,
New Zealand

In a letter just received, our former Hon. Gen. Sec. writes: "I find the *News* a very welcome source of BSBI information and the illustrations of British adventives often of assistance in identifying adventives here. I would still be pleased to hear from fellow members. My present address (I moved from No 412 to No 479 Beach Road) is likely to be permanent at long last. Best wishes."

CAPSELLA RUBELLA—A LARGE POPULATION IN HERTS

My attention has been drawn by Mr N. E. Gammon of Hemel Hempstead to *Capsella rubella* growing in abundance in meadows at Boxmoor, Hertfordshire, his determination having since been confirmed by Mr A. O. Chater. The plants are growing in meadows to the north of the A41 road for a distance of about a mile from TL042060 to TL055057, the large areas covered by the plants appearing conspicuously pink from a distance. With these plants are other, larger, ones which are apparently sterile and are possibly hybrids with *C. bursa-pastoris*. The origin of *C. rubella* here is not known and as the meadows are common land there is not likely to have been any improvement to the pasture. There is, however, a stretch of the Grand Union Canal adjacent to the meadows.

It would be interesting to know if members know of other similar large populations of *C. rubella*.

John G. Dony

9 Stanton Rd., Luton, Beds. LU4 0BN

BOOK NOTES

The January part of *Watsonia*, Vol. 11(5), will contain reviews of the following books:

British and Irish Botanists and Horticulturists, by R. Desmond.

Tree Rings and Climate, by H. C. Fritts.

Flowers of Greece and the Aegean, by A. Huxley & W. Taylor.

Welsh Timber Trees (4th edition), by H. A. Hyde (rev. S. G. Harrison).

Joshua Gosselin of Guernsey, by D. McClintock.

A Flora of the Maltese Islands, by S. M. Haslam, P. D. Sell & P. A. Wolseley.

Atlas zur Flora von Sudniedersachsen, by H. Haeupler.

Neuste Anweisung, Pflanzen nach dem Leben abzudrucken, by E. W. Martius.

Facsimile edited by A. Geus.

Books that have been received recently (and will be reviewed in *Watsonia*, unless marked by an asterisk) include:

Pennine Flowers, by Joan E. Duncan & R. W. Robson.

Biological Nomenclature (2nd edition), by C. Jeffrey.

A Nature Conservation Review, ed. by D. Ratcliffe.

**The Burren Flowers* (Irish Environmental Library, No. 33), by Florence Donaldson.

Pp 32, including 16 pages of coloured illustrations by the author. Folen & Co., Ltd. Dublin. The attractive flower paintings in this booklet should enable the botanically uninitiated visitor to the Burren (Co. Clare) to identify those plants which will immediately attract their attention, despite their larger-than-life scale. The text, which has been written for 10-15-year-olds like the author's *The Lusitanian Flora* (cf. *BSBI News*, No. 13), is also helpful in providing additional means if identification and interesting background information.

**A Caithness Checklist*—A checklist of the vascular plants of (v-c 109) compiled by E. R. Bullard, J. K. Butler, J. M. Gunn and V. Hewison and published by Caithness Field Club. The list for this under-worked county has 903 entries including those which are likely but unconfirmed. Arranged according to Dandy's *List of British Vascular Plants* it includes an index of English names, together with an indication of frequency and status. With an attractive cover designed by Sheila Butler it is available from J. K. Butler, 15 Brims Rd., Thurso, Caithness; price 55p. incl. postage.

**Molecular Aspects of Gene Expression in Plants* (Experimental Botany Series, Vol. 11), by J. A. Bryant; Academic Press (1977). Price £21.00.

**Experimental Embryogenesis in Vascular Plants* (Experimental Botany Series, Vol. 10), by V. Raghavan; Academic Press (1977). Price £21.00.

**The Biology of Symbiotic Fungi*, by Roderic Cooke; Wiley (1977). Price £10.75.

**Autökologische Studie der Tschechoslowakischen Stipa-Arten* (Vegetace CSSR, A8), by M. Rychnovská & B. Ulehlová; Academia, Prague (1975). Price not stated.

**Hochmoore am Teich* (Vegetace CSSR, A9), by V. Dárko. Academia, Prague (1975). Price not stated.

If any member ever gets to know of a new publication that would be of interest to other BSBI members and would be unlikely to come to my notice. I should be glad to be given details of it.

N. K. B. ROBSON

PUBLICATIONS

SALES OF THE SOCIETY'S JOURNALS

Owing to problems which have arisen through Messrs. E. W. Classey no longer handling the sales of our journals, Council will shortly be considering the possibility of selling all the back numbers to an appropriate agent. This will undoubtedly mean that the cost of back numbers will increase substantially if and when they are taken over by an independent agent.

Members may like to take this opportunity of purchasing back numbers of *Watsonia*, *Abstracts* and *Proceedings* at competitive prices. The availability is as follows:—

ABSTRACTS Parts 1-6 complete.

WATSONIA volumes 1-10 complete except for: volume 2 parts 4-5-6, volume 3 parts 5-6, volume 4 part 1, volume 5 part 5.

PROCEEDINGS volume 1-7 complete except for volume 2 part 4, volume 5 part 1.

We are substantially reducing the price of orders for sets as quoted above to the following:—

ABSTRACTS £8.

WATSONIA complete (except as above) £50.

PROCEEDINGS complete (except as above) £25.

Orders for the above should be sent to the Treasurer at 68, Outwoods Road, Loughborough together with a cheque, made payable to the BSBI. In the first instance only orders for complete sets will be dealt with on a first come first served basis. Please allow two or three weeks for delivery as they have to be taken from our rather large stocks.

M. WALPOLE

Atlas of the British Flora

This is now out of print but arrangements are being made for a further reprint. Orders should be sent to F. & M. Perring, Oundle Lodge, Oundle PE8 5TN. Price £25.00. It is hoped that the "Critical Supplement" will also be reprinted shortly.

It has now been found possible to produce a set of overlays similar to those issued free with the first edition. There will be 12 in all including climate, topography and soils. A complete set may be purchased from Oundle Lodge for £1.50.

OTHER PUBLICATIONS AVAILABLE FROM OUNDLE LODGE

Conference Reports

Recently joined members may not be aware of the attractiveness of some of the earlier reports, e.g. No. 6, *A Darwin Centenary* in 1961 had papers by Nora Barlow on "Darwin as a Botanist", "The development of Cytotaxonomy since Darwin's time" by T. W. Böcher. "The pattern of variability and evolution in plants" by W. H. Camp, "Evolution in the genus *Primula*" by D. H. Valentine, "Some trends in modern research work on Scandinavian vascular plants" by N. Hylander "Evolution in the Pteridophyta" by I. H. Manton, and "Phylogeny, genetic variation and plant breeding" by G. D. H. Ball. 136 pages still available for £2.50 post paid.

Miscellaneous

| | £ |
|--|-------|
| British Herbaria (Kent) | 2.70 |
| Flora of Islay & Jura (Morton) | 1.00 |
| West Norfolk Plants today (Petch & Swann) | 1.50 |
| British Sedges (Jermy & Tutin) | 1.95 |
| The Taraxacum Flora (Richards) | 2.30 |
| The Botanist in Skye (Murray) | 1.30 |
| Flora of Cambridgeshire (Perring et al) | 2.00 |
| Flora of Surrey (Lousley) | 10.75 |
| Flora of Staffordshire (Edees) | 2.75 |
| Flora of Folkestone (Walton) | 1.10 |
| Rubi of Great Britain & Ireland | 5.10 |
| Check-list of Dumfries, Kirkcudbright & Wigtown (Milne-Redhead) | 85p |
| Plants of Montgomeryshire: the field records of Janet Macnair (Highnett, M. & Lacey, W.S.) | 80p |

Posters

| | |
|---------------------------------------|---|
| "Please leave wild flowers" (Cowslip) | 15p each. 10 or more, 10p. each |
| "Save these flowers" | 35p each. 10 or more, 10p. each |
| "Endangered Plants" | 35p each. 10 or more, 20p. each 500 or more, 15p. each |

All prices quoted include postage as at 1st August, 1977.

Any subsequent increases in postal charges should be allowed for.

Orders and cheques to **BSBI Publications, Oundle Lodge, Oundle, Peterborough PE8 5TN.**

STOP PRESS

MONKS WOOD EXPERIMENTAL STATION

Open days 1977—14-16 October 10.30-1700

Further details from: The Educational Officer, Institute of Terrestrial Ecology, ABBOTS RIPTON, HUNTINGDON.

Monks Wood National Nature Reserve will also be open on these dates. Details from: The Chief Warden, Nature Conservancy Council, George House, George Street, HUNTINGDON.

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The Hon. Gen. Sec., BSBI, c/o Botany Dep't, British Museum (Nat. Hist.), Cromwell Road, London SW7 5BD.