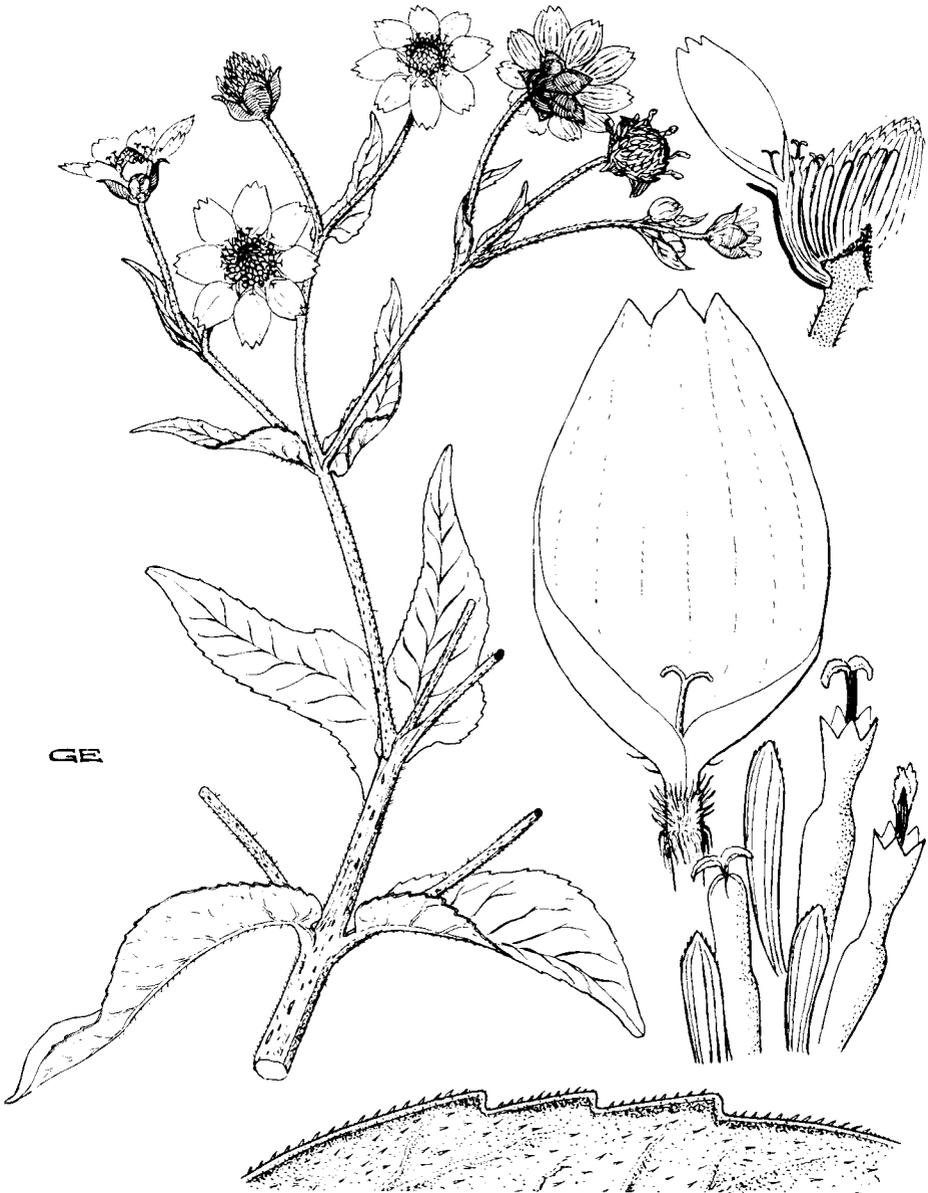


Edited by EDGAR D. WIGGINS

Cowpasture Farm, Felixstowe, Suffolk IP11 9RD



Guizotia abyssinica – see page 16.

ADMINISTRATION

General Enquiries from members should be addressed to:

HON. GEN. SEC. Mrs. M. Briggs, White Cottage, Slinfold,
HORSHAM, West Sussex, RH13 7RG.

Changes of address and subscriptions should be sent to:

**BSBI, Harvest House, 62 London Road,
READING, Berks. RG1 5AS.**

Matters concerning field meeting, should go to:

HON. FIELD SEC. Miss L. Farrell
Nature Conservancy Council
Godwin House, George Street,
HUNTINGDON, Cambs. PE18 6BU.

RECEIVING EDITOR Dr. C.A. Stace,
Watsonia Adrian Building, University Road,
LEICESTER LE1 7RH.

ANNOUNCEMENTS

BSBI Committee for Wales

The 17th Annual General meeting will be held at the National Museum of Wales, CARDIFF on July 7th, 1979. The programme will include :

Botanical Recording in Wales – the last 500 years – R.G. Ellis.

Botanical Recording in Wales in the 1980s – Dr. F.H. Perring.

There will be a field meeting to various sites in the Vale of Glamorgan on Sunday July 8th.

For further information please write to Gwynn Ellis, Dept. of Botany, National Museum of Wales, Cardiff CF1 3NP.

BSBI Committee for Ireland

The Quadrennial and the Annual Irish Meetings will be held at the Department of Botany, Trinity College, Dublin on October 13th 1979, with a field excursion on Sunday October 14th, Further details will be published in *BSBI News 22*.

Nominations for election of a member to represent Ireland on Council should be sent to the Hon. Secretary of the Committee for Ireland, Miss E.Ni Lamhna, An Foras Forbartha, St. Martins House, Waterloo Road, Dublin 4, **before 13th August 1979**.

The nominations must be in writing, signed by two members normally resident in Ireland, and accompanied by the written consent of the candidate to serve if elected.

For further information about the meeting please write to : Eanna Ni Lamhna at the above address.

Mary Briggs

BSBI NEWS 22

*Contributions intended to appear in this issue must reach the Editor
BEFORE 1st AUGUST 1979*

NOTE FROM THE TREASURER

The above heading is not a regular feature of B.S.B.I. News and its sudden appearance will in itself probably be sufficient warning of impending unpalatable news. At the time of writing this note the accounts for the year ending 31st December 1978 are in the press and show a deficit of £645, which together with the deficit for 1977 has caused a substantial drain on our financial reserves. A leading financial newspaper recently stated that in 1978 alone an average increase in income of 14½% would be needed by individuals and Societies to maintain standards; this at a time when inflation was supposedly being contained. You will not need reminding that the B.S.B.I. is not immune from the inflationary spiral and we anticipate that there will be a substantial deficit in our accounts for the year ending December 1979. Council has reluctantly decided that if we are to maintain our standards there is no alternative but to increase our subscription rates. It is now four years since they were reviewed and the average expenditure has risen in line with the above quoted figure of 14½% per annum which, calculated cumulatively over the four years, amounts to an overall rise in the region of 70%.

I think it pertinent to point out that the subscription not only entitles members to the benefits whose cost is reflected in the income and expenditure account but also to enjoy many advantages arising from the substantial time and effort freely given to the Society by its officers whose costs do *not* feature in the annual accounts. We have a most efficient Hon. Secretary, very professional editors for our journals, and the services of dedicated and knowledgeable members on all our Committees. If we had to pay for this expertise our expenditure would be at least trebled necessitating a subscription rate in excess of £30 per annum. Looked at in this light the proposed increase in the ordinary subscription rate from £5 to £7.50 per annum is surely very reasonable – perhaps, you might feel, insufficient ! Full details of the new rates are given in the Annual Report and have been decided upon after very careful consideration by the Council.

It is recognised that the new rates may prove a burden to some long-standing members who are retired on a fixed income, and therefore a change in Society's rules is also proposed which will enable such members to take advantage of a special senior subscription rate as from 1st January 1980.

I realise that many other Societies to which you may be affiliated are currently reviewing their subscription rates and will be anxious to retain your membership but I would express the hope that you will still find the benefits of B.S.B.I. membership worthy of your continued support and that you will remain a member of this Society.

M. WALPOLE
Hon. Treasurer.

CHANGES OF RECORDERS

The following changes have been made by the Records Committee on the recommendation of the Committee for Scotland.

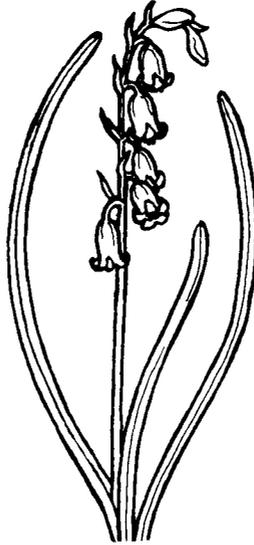
- v.c. 17 - Mrs. J.E. Smith has been appointed Recorder in succession to the late Dr. C.T. Prime.
- v.c. 76 - Miss E.R.T. Conacher has been appointed to succeed the late R. Mackechnie.
- v.c. 96 - This is now vacant following the resignation of Miss Conacher.
- v.c. 98 - Mr. P. Wormell has been appointed to succeed Mrs. E.J. Montgomery whose resignation was accepted with regret. We wish to record our sincere thanks for her services to the Society.
(Page 42 of the 1976 List of Members should be amended accordingly).

HON. GEN. SECRETARY'S NOTES

The BSBI Emblem has finally been chosen !

Congratulations and thanks to Olga Stewart who has put a great deal of thought and work into the chosen design, which is one of no less than 16 drawings that she has sent in for the selection committees on numerous occasions. The emblem will be printed on to BSBI notepaper and will in March be stamped on to the Post Office Flower Stamp first day covers ordered by members. Other uses will follow.

Predictably we cannot please everyone, and it was with real regret that other attractive ideas (particularly perhaps the Grass of Parnassus), compelling designs and some beautiful drawings were not chosen; we sincerely thank all the artists who contributed. In selecting the intentionally stylised drawing of *Hyacinthoides non-scriptus* we are aware of some confusion between the English and Scottish common names of this species, but its typically British Isles geographical distribution (well matching the name of our Society) was the over-riding reason for the choice.



From time to time we hear from v-c Recorders that they send information on their county to members planning a visit, but do not hear from the enquirers again. Please remember that a report on the plants seen, with localities is very helpful to the Recorder — especially to those in more remote and isolated areas.

Mrs. P.H. Burrows has kindly donated 2 vascula to the Society; a large black one that belonged to her late husband and a smaller white one that was her own. Please apply to the Hon. Gen. Sec. if you could make good use of a vasculum.

Many members have commented on the high standard and good quality of the Exhibits at the Annual Exhibition Meeting last November. We have received a request that for those exhibits which include large numbers of references, tables or figures, a duplicated sheet with a precis of the information on them to take away is invaluable. Some exhibitors

already provide these, and we do realise that such an information sheet could not be easily produced by all exhibitors. However these information sheets are very much appreciated when they can be made available.

Our thanks to all the exhibitors for the work and time put into the exhibits providing interest and enjoyment for the 300+ members who attended the meeting.

Your new **List of Members and Subscribers 1979** comes with this mailing, and again we thank our Hon. Membership Secretary, Rachel Hamilton, for completing the herculean task of correcting and preparing the list for the printers; also thanks to Chris and John Dony who have helped with additional proof reading.

Can we ask all members to **check their name and address entry in this new list, and to send any discrepancies to Mrs. R.M. Hamilton, Shambles, Whitwell, Hitchin, Herts SG4 8AL, as soon as possible.** But please note that changes of address sent after January 1st 1979 are not included in the new list, but will have been noted for the addressograph.

The Taraxacum meeting on May 6th at Eyemouth, Berwick, to be led by Dr. John Richards, is a **Field meeting** – in spite of the asterisk printed against it in error in the 1979 Calendar.

Personal

Our very best wishes to *Watsonia* Editor **Susan Coles** on her marriage last year. Susan is now Mrs. S.M. Eden, but following editorial convention will remain as S.M. Coles on the covers of *Watsonia* until this Volume is completed by part 4, which is due for publication in July or August this year.

Field Secretaries and Vice-County Recorders are reminded that Dr. Susan Eden's address (for field meeting reports and plant records) is now 80, Temple Road, Cowley, Oxford OX4 2EZ.

Congratulations also to **Elizabeth Young**. As many members will already know Mr. Theodore O'Grady will be retiring from the Linnean Society in July after 25 years as Executive Secretary. He is to be succeeded by Miss Elizabeth Young, who has organised the BSBI Seven Year Covenant Scheme and has been Minuting Secretary for BSBI Council for ten years. She has resigned from these in preparation for taking on her new duties at the Linnean Society; we can look forward to a BSBI member taking charge of the office at the Linnean Society and we wish her well in her new post.

We also send our very good wishes to **Mr. O'Grady** for his retirement after so many years of devoted and efficient service to the Linnean Society. Members are reminded that our Treasurer, Mr. M. Walpole, has now taken on the BSBI Covenant Scheme, and correspondence on this should be sent to him at 68, Outwoods Road, LOUGHBOROUGH, Leics. LE11 3LY.

Congratulations to **Robin and Rachel Hamilton** on the birth of a daughter, Eleanor, on February 14th 1979. Rachel is our Hon. Membership Secretary.

Just as we go to press we learn with the greatest of pleasure of **Dr. Winifred Tutin's** election to Fellowship of the Royal Society. We send her our heartiest congratulations.

Many thanks to Mrs. Kathleen Lawson who has typed much of the copy for this number of *B.S.B.I. News*, and who was kind enough to say that she enjoyed doing it.

Mary Briggs Hon. General Secretary

PHOTOGRAPHERS – PLEASE LOOK BEFORE YOU LIE

It has already been pointed out how easily small seedlings can be inadvertently crushed during close-up photography of a flowering plant.

A local warden writing about one of our rarest, threatened and decreasing plants writes: "Last year two perfectly respectful enthusiasts with cameras happily lay on top of two small plants while they photographed one of the flowers".

If a photograph of a threatened plant is really needed, please contact the local warden or recorder first for advice on where some part of the photographers anatomy can safely rest, and please keep a sharp look out always for young plants underfoot.

MB.



RARE PLANTS DAMAGED

Orchids

Despite the passing of the 1975 Conservation of Wild Creatures and Wild Plants Act, three of our rarest orchid species have been picked or dug up in 1978. The first species to suffer was *Orchis militaris* (Military Orchid), which had its inflorescence cleanly removed. The second species was that shy flower *Epipogium aphyllum* (Ghost Orchid), one plant of which was damaged by trampling and another dug up and removed. The third species to suffer was *Himantoglossum hircinum* (Lizard Orchid), two plants of which have been dug up.

There is no excuse for this vandalism. For bona fide research workers, a special licence may be granted in the interest of furthering the conservation of rare species by the Nature Conservancy Council (to whom all applications should be made).

Cicerbita alpina – no-go area

This species now occurs in three localities only. At all these sites the populations are in precarious positions. They can be reached only by climbing. As the rocks are crumbling there is a danger that visitors may dislodge the rocks which may then fall down onto the plants, damaging them.

The *Cicerbita* colonies can be seen through binoculars adequately.

This is a request asking members not to visit the localities by climbing. If you must go, please stand at the bottom of the cliffs and look through binoculars.

LYNNE FARRELL.

FRAGARIA MOSCHATA Duchesne and *F. VESCA* L.

Following my note in *BSBI News* No. 18, I have had several interesting replies (of which more in a future issue). However, I was rather dismayed to see Mr. MacIntyre's note in *News* No. 20 and I should like to reply as follows :

1. His remarks concerning pedicel indumentum are a little unfortunate. My original note, as the sources indicated, was based on some herbarium material and the literature. During 1978 I have seen a great deal more herbarium material and living plants, here and abroad, and I have some plants in cultivation. In every case, the habit of the hairs on the upper pedicels is a quick and reliable guide to the identification of flowering and fruiting material (juvenile states of many plant species may differ from the mature condition and are not taken into consideration here).

2. He describes the petioles, peduncles, pedicels and leaves of *F. vesca* as 'almost glabrous'. This is not borne out by examination of living plants, herbarium specimens (BM, OXF, CGE), and as far as I know, the literature. The lower leaflet surface is always silky *appressed* pubescent (except sometimes at the base of the main vein, when the hairs may be spreading); the upper surface may be glabrous except on the veins, but is usually sparsely hairy. The peduncles and petioles are covered with ascending, spreading or deflexed hairs (or a mixture) and rosettes of *F. vesca* and *F. moschata*, placed side by side, may look identical in respect of hair habit and density on these parts of the plant.

3. Mr. MacIntyre confirms the leaf texture character, but this is only of use if one has or knows both species and is not so easy on dried material; thus it was not emphasized in my key. The dull or shiny upper leaf surface does not always work and some *F. vesca* plants in the garden now (Dec. 1978) have appressed veins.

4. Flower size is indeed a potential differentiating character, but there is not the wide separation Mr. MacIntyre indicates, in particular functionally female flowers of *F. moschata* may come within the range of *F. vesca*.

5. Leaf shape is variable, but there is a distinctive trend for more regularly toothed, less tapered, more rhombic leaves in *F. moschata*.

I was wrong to quote CTW about fruiting calyx teeth position in *F. x ananassa* (although it is true to say they are never appressed to the fruit in the other two). After studying the extensive living collections of cultivars of *F. x ananassa* at RHS, Wisley, it is hard to find any one character which reliably and easily separates it !

F. vesca generally does have smaller flowers and fruits, the latter with superficial, not slightly sunken, achenes. Many *F. x ananassa* differ from *F. moschata* in the appressed or ascending hairs on the upper pedicels, but in cultivars such as 'Cambridge Late Pine' this distinction breaks down. In this case the very broadly obovate or more or less orbicular leaflets of 'Cambridge Late Pine' mark it off, as do the hermaphrodite flowers. Almost all naturalized *F. moschata* have functionally dioecious flowers, about which space does not permit further comment.

I should be pleased to see any further candidates for *F. moschata* or to comment on any other *Fragaria* specimens. A.C.LESLIE, 72 Boxgrove Road, GUILDFORD, Surrey

A CALENDAR OF BEE PLANTS

A reprint of the article in *Bee World* 59 (3):97-100 (1978) by Dorothy Hodges and including a list of the scientific names of the plants mentioned is available from the International Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 0NR. (30p inc post). It includes a chart showing the months when the various species are in flower and indicating whether they are major providers of pollen, honey or both.

PROFILE – Professor D. H. Valentine

In the 1930s the Botany School at Cambridge was a very good place to be for those undergraduates with a passion for the native flora. A number of members of staff, especially some of the more junior ones, were keen and knowledgeable field botanists, and the enjoyment derived from the Botany School's field excursions will not readily be forgotten by those who took part in them. Most of these members of staff have since become well known in British Botany, to which they have made major contributions. Among them was David Valentine, who had come up to St. John's from Manchester Grammar School and who was not only for a time Curator of the Herbarium but also played for the Botany School cricket team.

Durham

He began his post-graduate career as a plant physiologist, and during the war was concerned, among other things, with the dehydration of vegetables (the virtues of which he was apt to extol for some years afterwards). After the war he went to Durham as head of a tiny Botany Department which then had only one lecturer, a research fellow, one lab. assistant, hardly any accommodation, a diminutive greenhouse and few students.

Slowly at first, he began to build up the Department. His research interests became well established in experimental taxonomy, especially of violets and the British primulas. His contributions to our knowledge of the interspecific relationships and evolution within these groups, and his discussions of more general taxonomic principals, are too well known to need amplification.

Inevitably (since a small department has to specialise) undergraduate courses had a large content of taxonomy, field botany and ecology, with excellent field excursions modelled on the Cambridge pattern. He set in motion the formation of a departmental herbarium. It was not surprising that many students developed interests in experimental taxonomy and in the British flora, and David Valentine had a succession of very able research students many of whom now have well-established reputations which owe much to his early guidance and enthusiasm, as did the well-deserved and substantial reputation which the Department itself came to achieve.

Manchester

As the University and its departments grew in size, so did the administrative work for professors, but David Valentine shed little of his teaching load. Believing it to be particularly important, he did a good share of first-year teaching, both lectures and practical classes. He knew his undergraduate students well; contacts in field and laboratory made for good relationships, and he was always readily accessible.

His move to Manchester in 1966 was a homecoming, as he is a native of neighbouring Salford, but the large Museum herbarium and University Botanic Gardens also proved an attraction. In a far larger city, University and Botany Department, he carried out his duties and ideas with the same determination and enthusiasm that he showed at Durham.

David Valentine is first and foremost a biosystematist. He has never had much time for the legalities of nomenclatural detail or for chasing up ancient type specimens. But he has an excellent eye in the field for any 'interesting' situation which will shed some light on the adaptations and evolution of plants. Most of his work has involved a close combination of studies in the field, botanic garden and laboratory, and he remains one of that relatively rare breed who strives to incorporate the results of biosystematic research into improved classifications. While at Durham he became very much concerned with the defence of Upper Teesdale, and was a member of the Teesdale Committee.

He is keen on travel and has taken part in numerous conferences and other visits to many parts of the world. He has often preached that taxonomy must transcend national boundaries, and he practises accordingly. His involvement with *Flora Europaea* was entirely appropriate. Not only did it take him abroad for the Flora Europaea Symposia, but it brought visits from leading Continental taxonomists to Durham and Manchester. In 1972 he organized a joint BSBI - Linnean Society Symposium at Manchester on Taxonomy, Phytogeography and Evolution, which was attended by over 200 botanists from all five continents.

1979 will be an important year for David. It will see the publication of the final volume of *Flora Europaea* and his retirement from professional botany. His final year also as President of the BSBI will be marked by his second Manchester conference, this time on the taxonomy of the British flora. By its relative informality and promise that the proceedings will not be published, this conference will aim at a frank and (where necessary) controversial presentation of ideas, an approach very dear to his heart as all his present and past colleagues and students will readily testify.

However, there will be no chance of his fading into the background. His thriving family (wife Joan, 5 children and 13 grandchildren) and the recent signing of the contract for the *Flora of Great Britain and Ireland* will demand and receive his fullest participation.

BSBI COMMITTEE FOR SCOTLAND – THE FIRST YEAR (From a report by Allan Stirling)

The BSBI Committee for Scotland, elected at the Scottish Exhibition Meeting in Edinburgh on 5th November 1977, resulted from a ballot of members resident in Scotland, following suggestions that BSBI representatives in Scotland should be brought more into line with that of other Regions. As previously reported, the CSSF was disbanded, and the new Committee made good progress during its first year.

Besides devoting much time to administrative matters, including a suitable Constitution and liaison with BSBI Council, it has arranged for the annual Exhibition Meeting, an AGM of Scottish members, and a summer programme of field meetings to be part of the year's activities. Scottish V.C. Recorders will meet frequently and close liaison with BSE includes joint consultation with meetings and reciprocal representation on governing bodies.

Replies to a letter from the Chairman produced helpful suggestions for future activities, and questionnaires have yielded much updated information on v.c. recording, production of local floras, check-lists and current research.

The existing projects will continue under the auspices of appropriate sub-committees. These are (1) a Scottish News Letter (2) completion of the Flora of Inverness, and (3) feasibility study for a projected v.c. plant distribution Census Catalogue with the help of Recorders.

B.S.B.I. Scottish News Letter

The BSBI Committee for Scotland is to produce a News Letter which it is anticipated will appear annually. The first number is scheduled for the spring of 1979. Success will depend largely on the contributions of BSBI members, and the editors welcome the submission of short articles and notes, letters etc, with a relevance to Scottish botany, for consideration. The Scottish News Letter will be issued without charge to BSBI members resident in Scotland and Recorders for Scottish vice-counties. Others may receive a copy on receipt of a stamped addressed envelope. The joint Editors are : Dr. P. Macpherson, 15, Lubnaig Road, Glasgow G43 2RY and A. McG. Stirling, 17 Austen Road, Glasgow G13 1SJ.

NOTICES

VACANCY AT S.L.B.I.

A part-time Secretary, Curator or married couple required. An interest in systematic botany an advantage. No salary but a free 4 room flat in return for assistance in running the Institute. Apply with full details to Council, South London Botanical Institute, 323 Norwood Road, London SE24 9AQ.

NATURE CONSERVATION BOOK LIST

A list of books on conservation, the environment, and many groups of wildlife has been selected and annotated by Shirley Penny, Chief Librarian Nature Conservancy Council. It is available for £1.00 + 15p postage from the National Book League, 7 Albemarle Street, London W.1. An associated travelling exhibition is available from the N.B.L. at the above address. The section headings of book titles in the N.C. Book list are :-

Introduction	Birds, Mammals, Insects, Amphibians, Reptiles
The Landscape	Trees, Flowers and Fungi
The Nature of the Countryside	Planning and Conservation
Need for Conservation	Pressure Groups
Conservation of Wildlife	Nature Conservation for the Individual
Ecology	Publishers' Addresses

SURVEY OF PEAT-BOGS IN FRANCE

Any members going to France who would like to participate in the present survey of French peat-bogs please write for a survey form to :-

Parcs et Reserves, Direction de la Protection de la Nature
14, Bd du General Leclerc
92521 NEUILLY SUR SEINE CEDEX, FRANCE.

LUNDY FIELD SOCIETY

The annual day trip to Lundy has been arranged for Saturday June 9th when the M/V "Balmoral" will sail from Ilfracombe at 10.30am and arrive off Lundy at about 12.15pm, allowing 4-5 hours ashore, during which Society specialists will conduct parties according to their interests.

Return fare is £5.00 (any profits to conservation) and the trip is expected to be oversubscribed. Further details and application form for tickets can be obtained from A.J.B. WALKER, 29 Nassau Road, LONDON SW13 9QF

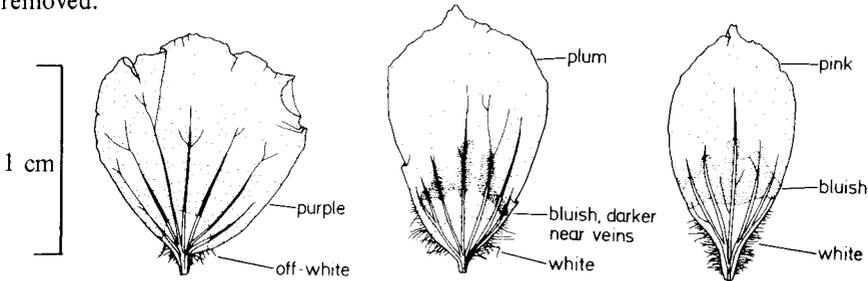
FRITILLARIES AND MILITARY ORCHIDS IN SUFFOLK

The Suffolk Trust for Nature Conservation announce the opening to the public of the Framsdon Fritillary field will be on Sunday 29th April 1979 and the Rex Graham Reserve near Icklingham, will have its Open Day on Sunday 10th June. Please note that the opening is for one day only at each site this year.

GERANIUM x **MONACENSE** Harz: *G. pharum* x *G. reflexum*

Eric Clement's note on this hybrid in *B.S.B.I. News*, Sept. 1976, p.24, has led to the solution of some problems in Cambridge. As I became increasingly involved with *Geranium* I had become uneasy about the identity of a stock growing on the Systematic Beds and Herbaceous Border at the Cambridge Botanic Garden and named *G. phaeum*. The petals are more reflexed than in a very dark-flowered *G. phaeum* that I had seen at Wisley or in *G. phaeum* var. *lividum* and *G. phaeum* var. *lividum* 'Major' in the Botanic Garden, and the flowers are not disc-like as in these other plants. Because of absence in 1977 I was not able to look again at the living plants at Cambridge until 1978. When I compared the doubtful plant with the stocks of *G. phaeum* var. *lividum* and more particularly with a plant (which I had previously overlooked) like the Wisley one which is evidently var. *phaeum*, and also with *G. reflexum*, I was convinced that it represented the hybrid.

This re-determination of the supposed *G. phaeum* is supported by some phytochemical results obtained in 1971 by Dr. E.C. Bate-Smith, and which at the time had been puzzling. Dr. Bate-Smith had found that methanolic extracts of many plants, including *Geranium*, turned deep blue on the addition of nitrous acid, which is a test for esters of ellagic acid. However, the plant now believed to be *G. x monacense* failed to give this reaction. The test was then carried out on various stocks of *G. phaeum* and *G. reflexum* growing at Cambridge and at Kew, and on *G. phaeum* var. *phaeum* from the roadside colony at Wandlebury near Cambridge. The related but obviously distinct species *G. aristatum* was also tested. The only plants not giving the blue reaction were the two lots of *G. reflexum*, and *G. aristatum*. At the time, therefore, it seemed that the *G. phaeum* stocks were inconsistent, most being positive but one being negative and therefore like *G. reflexum*. As this one now appears to be a hybrid of *G. reflexum* its negative reaction can be explained by inheritance from that species, governed by a dominant gene, and the anomaly is removed.



Petals of *Geranium* cultivated at the University Botanic Garden, Cambridge. Left to right :- *G. phaeum*, var. *phaeum*, *G. x monacense*, *G. reflexum*. (Sources and entry numbers respectively: the late Miss E.M. Savory, 449-58, Mr. G.S. Thomas, 172-74, and University Botanic Garden, Marburg, Germany, 109-71).

Drawings of petals which have been preserved between cellulose tape and clear plastic sheeting are shown above. *G. x monacense* is intermediate in the general colour of the petals, and it has a white base bordered by a bluish zone as in *G. reflexum*. The hairs on the petal margins of the hybrid are about as profuse as in *G. reflexum*, while those on the stamens are about as well developed as in *G. phaeum* (they are long and bristle-like in *G. phaeum* but short and insignificant in *G. reflexum*). The brown spots in the sinuses of the leaves of the hybrid are presumably inherited from *G. reflexum*, though they are also a feature of eastern populations of *G. phaeum* var. *phaeum*.

P.F. YEO University Botanic Garden, CAMBRIDGE CB2 1JF.

BLACK NIGHTSHADE SURVEY – INTERIM REPORT

The Black Nightshade Survey got off to a good start last Autumn, despite delays in the distribution of the record cards. I have received 100 completed cards to date, together with 28 requests for a total of c. 260 blank cards, and so anticipate an even better response in 1979.

The completed record cards were well-spread over the vice-counties south of mid-Yorkshire, though until the time of writing, none had been received from vice-counties 2, 7, 11, 13, 15, 18, 19, 22, 24-26, 33, 34, 36, 39, 42-47, 49, 50, 52-54, 56, 58, 60, 63, 65, 69 and 71. Members in these vice-counties are therefore particularly asked to be on the look-out for the Black Nightshade and its associated species this year. No records are expected from Ireland or from vice-counties north of mid-Yorkshire, with the exception of casuals.

Most of the completed records were of the purple/black - or black-berried variant of *Solanum nigrum* L. subsp. *nigrum*, though five records of the diploid casual *S. sarrachoides* Sendtn. were also received. The plants were recorded from a variety of habitats and substrates, thereby providing invaluable information on the types of habitats that these species can colonise.

It is clear from some of the completed record cards, and from some accompanying letters, that a few of the characters are proving particularly difficult to score. These are characters :

2. *Stem ridging*. Most of these *Solanum* species should have well-marked ridges, which may or may not have small teeth on them (2a. – easily detected by running a finger around, and up and down, the stem). True stem-winging is comparatively rare and only expected in the casual *S. scabrum* Mill. These stem wings are prominent; they stick out, distorting the circular symmetry of the stem, and are often somewhat membranous.

3. *Pubescence*. The recognition of glandular heads on the multicellular hairs has caused many problems, until their presence has been demonstrated (many members kindly sent in such problem specimens). My original illustration is a little misleading, as these glandular heads are more ovoid than shown on the scoring cards, e.g. ; they should glisten when viewed under a hand-lens in bright light. In general, if spreading, or spreading and appressed multicellular hairs are recorded, they are likely to be glandular and their apices should be carefully scrutinised for these blunt, ovoid heads.

4. *Leaf margin shape*. This is a very variable character, often differing from leaf to leaf on the same plant. If different shapes are present, they should all be recorded. The margin should be recorded as lobed rather than sinuate, if a number of distinct (and usually measurable) indentations are visible.

6. *Anther length*. Most anthers have been recorded as (1.5)2-2.5 mm, as expected. Occasionally, anthers of 3-3.5 mm have been recorded. In such cases, would recorders please ensure that they have measured the anther only, and not included its filament ?

9. *Fruiting pedicel axis length*. Measurements of 2-10 mm have mostly been recorded for this character, with occasional records of completely umbellate cymes (and hence 0 mm). While this inflorescence type does occur in *S. nigrum*, it is essential to record this character from fully mature inflorescences, as the pedicel axis expands during berry development and ripening.

10a. *Pedicel number/inflorescence*. Although this character was omitted from the original card, in view of the records so far received, it would be extremely useful to know the range in number of flowers or berries per inflorescence exhibited by the different plants. This character is probably best recorded from mature fruiting inflorescences, where the pedicel number is easily visible, even if the berries have dropped.

10. *Fruiting peduncles*. Where fruiting peduncles appear deflexed, recorders should ensure that it is an inherent character, rather than simply due to the weight of the mature berries. When a true character, the peduncle is usually subtended by one or two small obovate leaves, and the peduncle itself is often slightly swollen on the upper surface at its junction with the main stem.

12. *Berry shape*. Though only berry breadth has been requested (13a), it would be useful if recorders also measured the berry length, to get an accurate assessment of the berry shape. Both spherical and broader-than-long berries occur in *S. nigrum*, and I am anxious to determine whether these shapes are correlated with any other characters.

14. *Berry colour*. Many members have found it difficult to find plants with mature inflorescences, and hence truly ripe berries. Most berries have been recorded as purplish/black or black, and I suspect that many of those scored as greenish/yellow were immature. The cuticle of the greenish/yellow-berried variant of *S. nigrum* softens as it matures, sometimes becoming translucent so that the seeds are visible through it. The peduncle and pedicels dry, becoming woody, and the berries eventually fall from the dried calyces, leaving a skeleton inflorescence on the plant.

15. *Berry cuticle*. This is another character that is dependent on the state of maturity of the berries. Though glossy and dull-cuticled berries both occur in *S. nigrum*, all berries start off glossy. Some maintain this hue, but others become dull as the pedicels and calyces lignify, before dropping.

16. *Fruiting calyx*. Similarly, this character also depends on the maturity of the berry, with adherent calyces finally becoming reflexed in some plants, and those of others starting off reflexed, but later becoming adherent.

Many recorders mentioned the difficulty of finding plants which were flowering and fruiting simultaneously. Since so many of the inflorescence and berry characters are dependent on the state of maturity of the inflorescence, where there is any danger of the plant concerned being uprooted or destroyed if left *in situ*, I suggest that a branch should be cut and left in water on a light window sill. The berries in particular should then ripen. Berry characters are more informative than floral characters, so if only fruiting specimens are found, please do record them!

Finally, I would like to thank all those BSBI members who have so far completed record cards, not only for the care that they have taken over their recording, but for patiently answering my queries in many cases, and for sending in problem specimens when asked to do so. I am most grateful, and look forward to receiving many more records.

JENNIFER M. EDMONDS, University Botany School, Downing Street, CAMBRIDGE CB2 3AE.

Lord Cranbrook

With regret we learned of the death of The Earl of Cranbrook earlier this year. It was Lord Cranbrook who was largely responsible for the amalgamation of the Plant Protection Bill into the Conservation of Wild Plants and Wild Creatures Bill which passed successfully through Parliament in 1975. As well as being an active member of the Drafting Committees, Lord Cranbrook kindly looked after BSBI representatives attending long sessions during the progress of the Bill through the House of Lords.

Dr. C. T. Prime

It is with regret that we report the death of Dr. C.T. Prime on 5th February 1979. A member since 1933, he will be remembered for his outstanding work at the South London Botanical Institute. Dr. Prime was currently a Vice-President; also Chairman of both the Surrey Flora Committee and the Sussex Flora Committee.

ALIENS and ADVENTIVES

ADVENTIVE NEWS 13

Compiled by Eric J. Clement

CORN ALIENS

In 1978 G.M.S. Easy had a look round the corn silos in his area; 3 out of the 4 Cambs. sites proved interesting, where railway wagons had been unloaded:

Kennett (Cambs): *Euphorbia uralensis*, *Diplotaxis tenuifolia*, *Geranium rotundifolium*, *Lepidium densiflorum* (conf. EJC) and *Torilis arvensis*, *Cotoneaster simonsii* was also here (bird-sown?).

Fulbourn (Cambs): *Amaranthus retroflexus*, *Camelina sativa*, *Echinochloa crus-galli*, *Lepidium densiflorum*, *Setaria viridis* and *S. verticillata*.

Newmarket (Suffolk; v.c. 29, Cambs): *Bromus secalinus*, *Camelina sativa*, *Echinochloa crus-galli*, *Geranium rotundifolium*, *Lepidium campestre*, *L. densiflorum*, *L. ruderale*, *Setaria viridis* and *Sorghum halepense* (conf. EJC).

C.W. Bannister tells me that 1977 was a good year for grain aliens at Gloucester Docks – his finds here included *Amaranthus retroflexus*, **Axyris amaranthoides*, **Bromus japonicus*, *Camelina microcarpa*, *Erysimum repandum*, **Helianthus petiolaris*, *Malva pusilla* and *Ranunculus sardous* (* = conf. EJC).

These and other reports strongly suggest that some more flour mills may still be worth looking at for aliens, in spite of our tidy 1970's.

MIXED BAG

Atriplex muelleri Benth.: Thriplow rubbish-tip (Cambs), Nov 1974 and Nov 1976. G.M.S. Easy. Hb. EJC. Wrongly recorded as *A. laciniata* in *Nature in Cambs.* 19:31 (1976), and hence the suggestion (*l.c.*:27) of the introduction of a coastal plant to the inland tip by gulls is also incorrect. Graham Easy has kindly provided a drawing of his plant; the fruiting bracteoles are only 2-4 mm long (cf 6-7 mm in *A. laciniata*), and have slender, acute teeth. In 1976 there were 70+ plants present in a small area. All Br records for this Australian plant appear to be associated with wool waste, where it is fairly frequent – was it wool here? Similar plants have been recorded in Br as *A. suberecta* I.C. Verdoorn, first described as late as 1954, but this is a split that seems to be dubiously separable as a distinct species (cf. J.H. Willis, 1972); it is the form naturalised in S. Africa. I prefer to sink into synonymy.

Amaranthus palmeri S. Wats.: On granary sweepings, Avonmouth Docks (W. Glos), Oct 1977. A.L. Greenfell & T.G. Evans. Hb. ALG. Conf. J.P.M. Brenan, as "male plant". This is undoubtedly a fresh, casual introduction, and not persistence since the first Br record which was at Avonmouth in 1959, Miss M. McCallum Webster, abundant male and female plants, and recorded then as *Acnida palmeri*, a genus now sunk into *Amaranthus*. None of these N. American, dioecious amaranths appears to get properly established away from their homeland.

Centaurea solstitialis: Garden casual, Fitzwalton Lane, Danbury Common (S. Essex), Oct 1978. Ms. E. Bowker. Det. K. Adams. This species appears to be, nowadays, much less frequent than in the past.

Downingia elegans: Loughton, Milton Keynes (Bucks), July 1978. J.G. Kelcey. A single plant close to a newly constructed lake. This locality is only about 5 Km from the Willen site given in *BSBI News* 20: p.10, grass-seed mix again being the probable origin.



GE
1976

Atriplex muelleri

Dianthus cv.: Sandstone cliffs near the harbour, Whitby (NE York), June 1978. Miss I.F. Gravestock. Hb. EJC. Det. Miss S.S. Hooper (at Kew). "Your specimen is nearest to *D. gratianopolitanus* but I think from the larger size of the calyx and petals, rather slender acuminate leaves and number of flowers per stem [3 in spm submitted] that it is likely to have some *D. plumarius* in it as well. Pinks hybridise very freely and these semi-naturalised garden escapes which crop up fairly frequently are generally *plumarius-gratianopolitanus* hybrids, sometimes with some *caryophyllus* characters as well".

Cultivars of garden plants often defy traditional taxonomic treatment. Very specialist horticultural assistance is necessary. For this reason, I am at a loss how to accurately record genera like *Sidalcea* which are well-established, presumably by rootstock fragmentation, in wild spots in Br. Can anyone help by naming the clones (e.g. the Surrey plant by the R. Wey at Shalford, 1955 - 1974+, Hb. EJC. is certainly not pure *S. malvaeflora* A. Gray, as recorded by JEL).

Dracocephalum parviflorum: Waste land by mills, Kings Langley (Herts), Aug 1978. Mrs E. Goode. Comm. & Det. Mrs C.M. Dony. Hb. CMD. Conf. EJC. (Drawing in *BSBI News* 17).

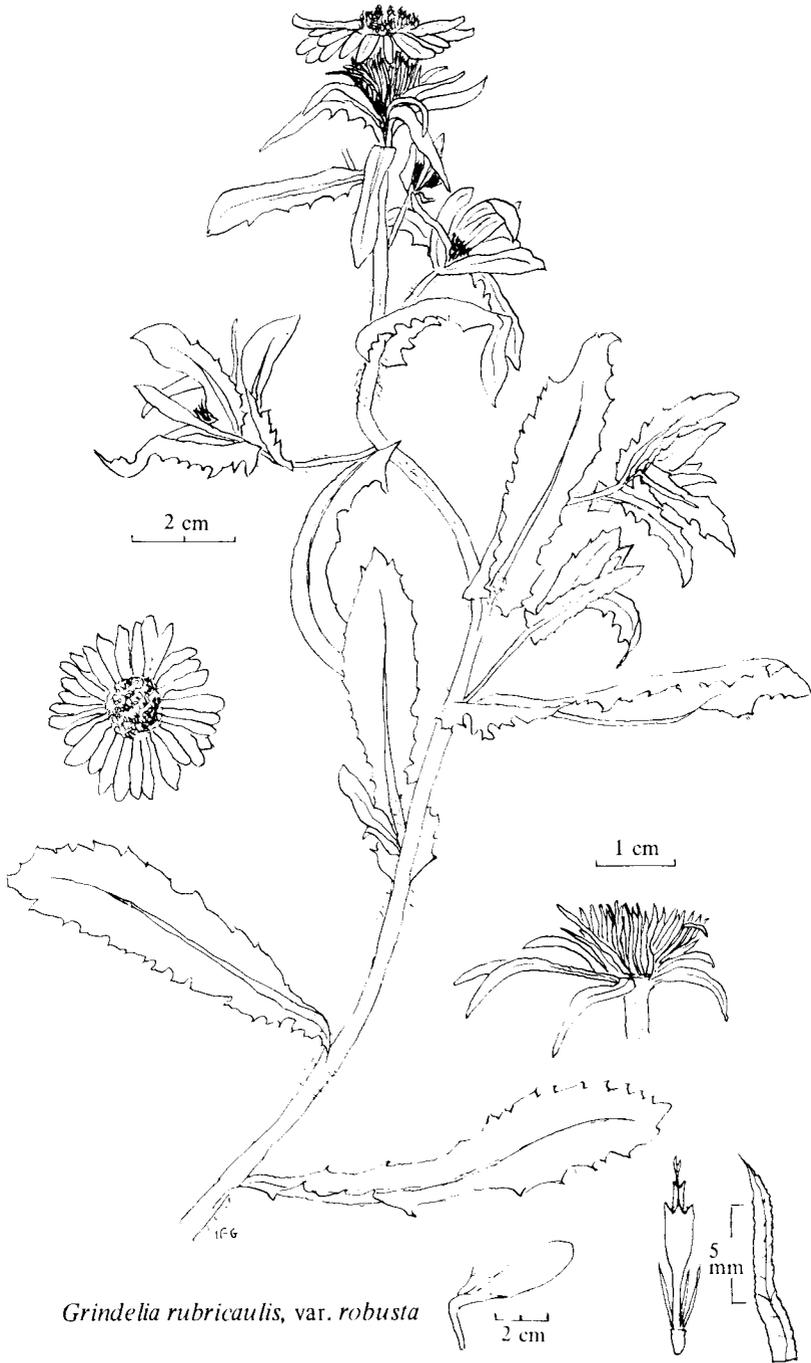
Grindelia rubricaulis var *robusta*: I underestimated the status of the Whitby colony described in *BSBI News* 18 p.13. Mrs E. Bray found it, independently, in 1978 "growing abundantly on the cliffs at Whitby. It seems to prefer the places where Sea Cabbage was". Florence Gravestock very kindly searched out the locality to provide us with a drawing; she remarked that "it can hardly, I think, have been planted, as it is among a whole lot of purely wild plants. There are several clumps and it is colonising all up the cliffs, which are of bare sand and practically vertical. It is growing in association with *Brassica oleracea*, *Plantago maritima*, *Cerastium tomentosum* and a *Dianthus* cv. [see above]". One specimen sent to me appeared to possess good, viable seed (Hb. EJC).

Guizotia abyssinica (L.f.) Cass.: Graham Easy's beautiful drawing adorns our cover, drawn in 1976 from a Cambridgeshire tip plant. Although one of our commonest bird-seed aliens, it is little known to most members, primarily because it so often fails to flower before succumbing to the frosts. But, even in a very immature stage, it is easily recognized by its bolt upright, stout, single stem which is unbranched below; opposite, sessile leaves and usually purple-streaked stem. At this stage it vaguely resembles a *Dipsacus* sp. (it has been det. thus !), but in flower (Sept-Oct), the bright yellow rays suggest Corn Marigold. Amply described in *CTW2*:817, and also featured in D. McClintock's "must" for alien enthusiasts - *Supplement to The Pocket Guide to Wild Flowers* (1957).

Inula viscosa (L.) Aiton: Amongst building brick debris, New Wharf Complex (Westland Helicopters), Yeovil (S. Somerset), Oct 1978. C.J. Cornell, comm. J.G. Keylock. BM. Det. EJC. A single plant, but much branched, submitted as ?*Solidago* sp., but it could equally easily be passed over as *Senecio* sp. It is a densely glandular, viscid perennial, with stems woody at base, frequent on waysides in much of S. Europe, but this is the first Br specimen that I have seen. With it were two plants of *Conyza sumatrensis* (Retz.) E. Walker, doing very well, some 4ft tall. BM. Conf. EJC.

Lythrum junceum Banks & Solander: Bird-seed alien in garden, Bedworth (Warwick), Sept 1978. H.H. Fowkes. Conf. EJC. This is a surprisingly frequent bird-seed alien, since it is a plant of wet places in its native Mediterranean region, typically of roadside ditches in my experience, and not a weed of cultivated fields. It is much like our rare, native *L. hyssopifolia* but with much larger, garishly purple flowers and some, or all 12, stamens exceeding the sepals (cf. all stamens, usually 4-6 in number, included in *L. hyssopifolia*). Both species also occur in Br as scarce wool aliens. Trevor Evans has provided the fine,

large-scale drawing for us, of a plant from Newport tip (Monmouth), seen in 1977.



Grindelia rubricaulis, var. *robusta*

Phalaris tuberosa L.: Wilcote Rough (Warwick), July 1978. B.R. Fowler. Det. C.E. Hubbard. "A Mediterranean species, introduced into this country as a fodder grass". The small patch was at the edge of a cornfield on calcareous soil. It has the overall appearance of a stout *P. minor*, but differs in being a perennial. As a wool alien on tips, it has a tendency to persist – e.g. at Newton Abbot (S. Devon), 1967, Hb. EJC; and Glastonbury (N. Somerset), 1976, the latter site being found by Mrs J. Swanborough, and det. CEH.

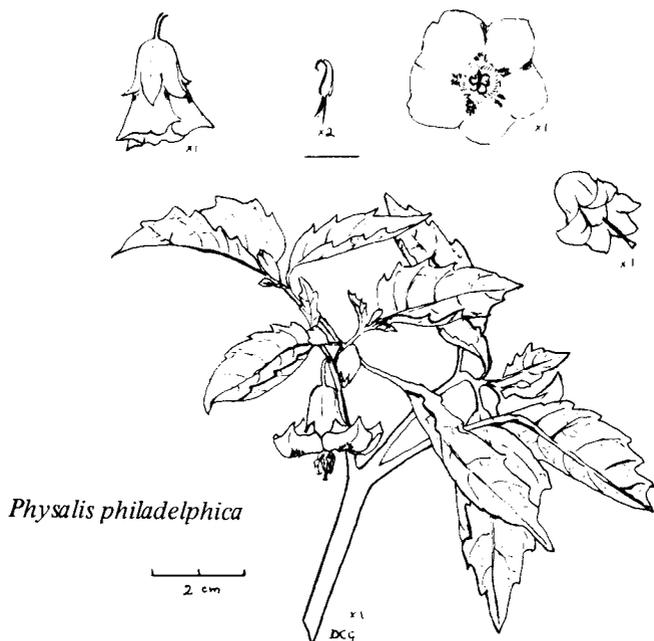
Physalis philadelphica Lam.: Refuse-tip, Gerrards Cross (Bucks), Aug 1971. T.B. Ryves et al. Hb. EJC. Wrongly recorded in *Watsonia* 9(2):189 (1972) as *P. ixocarpa*. This solanaceous plant belongs to a much confused triplet of subglabrous, yellow-flowered annuals. *Fl. Eur.* 3:196, alas, continues to confuse the issue. In my experience the three are readily differentiated as follows (agreeing with R.B. Fernandes, *Bol. Soc. Brot.* 44:343-366; 1970):

(a) *P. philadelphica* Lam. ("*P. ixocarpa*" of American and other floras). Corolla, with brown blotches in throat, of diam. (10)15-25(30) mm; anthers 3-4(5) mm, curved at maturity; fr. pedicels c. 8 mm.

(b) *P. ixocarpa* Brot. ex Hornem. Corolla, with brown blotches in throat, of diam. 5-10 mm; anthers 1.2-1.8 mm, straight at maturity; fr. pedicels c. 8 mm.

(c) *P. angulata* L. Corolla unblotched (sometimes with a purplish throat ?), of diam. 5-10 mm; anthers 1.5-2 mm, straight at maturity; fr. pedicels usually 15-30 mm (sometimes much elongating in fr, unlike the above two spp. in which the pedicel scarcely lengthens).

Diana Grenfell has kindly provided the very diagnostic drawing of *P. philadelphica* drawn from a plant growing from sweepings from the mill at Avonmouth Docks (W. Glos) in 1977. *P. ixocarpa* is the commonest of the three in Br, but it seems to be restricted to wool waste; *P. philadelphica* is a much rarer casual, and the more tropical *P. angulata* is rarer still. Misnaming abounds in this genus !



Phytolacca clavigera W.W. Smith: Garden weed, Pilston House, GR SO 50 (Monmouth), July 1961. K.W.G. Hunt. NMW. Det. A.E. Wade. Comm. G. Ellis. New to Br. as an escape? Its flowers are reliably purple-rose (not the miserable, greenish-white, often turning purple, of other spp.) and hence it appears to be the commonest species currently distributed, by the hort. trade.

Salix eleagnos: R.C.L. Howitt wrote to say that the Bawsey plant mentioned in *BSBI News* 20: p10 was wrongly named, by me, as ssp. *angustifolia*. I quote, with permission, from his interesting letter:

“*S. eleagnos* does not like competition and will not grow in shrubberies or woods. I have tried it many times in my willow holt always to have it die. It flourishes well in a damp *open* situation. I have not got any growing here [Newark, Notts] now. This can be distinguished by the upright habit, up to 10 ft, looking like a small *S. viminalis* for which it is often taken, with ascending leaves and brownish twigs.

“*Var angustifolia* is bush-like, 6 ft, always greyish twigs and compact habit not the least like *S. viminalis*; I collected this at Chatsworth Park [Derby] but lost the cuttings.

“Neither of these are common but both are grown in gardens at times. I have never seen any seedlings. I have no records for alien willows ever semi-naturalised.

“I fancy the trouble with the plants from Norfolk is probably you only saw immature specimens. I went to see these with E.L. Swann and the leaves were much wider than the original specimen sent to me for identification”.

Teline monspessulana (L.) C. Koch: Many bushes on waste ground, Brading, Isle of Wight, Sept 1968. K.E. Bull. Hb. ELC. “Also seen on the big dump at Sandown, I.O.W.”

Please remember to use 5 x 3” slips, if at all possible – already these are building up into a valuable data bank. I hope these resulting notes are in a form useful and welcomed by members. They are, of course, forming the groundwork for a possible Adventive Flora.

And please warn me if *you* intend to write up your alien discoveries, yourself, in *Watsonia* (*Short Notes* is the convenient vehicle) or in a future *News*, otherwise my potted précis could jeopardise publication of your fuller account. (It has already happened once).

Much remains unmentioned, but I’ve run out of my allocated space. I look forward to hearing about and seeing your 1979 finds.

ERIC J. CLEMENT 13, Shelford, Burritt Road, KINGSTON, Surrey KT1 3HR.

CRASSULA HELMSII

(found at Purshull Green, Worcs, 10 Sept. 1977 by Worcs, Naturalist Club)

At our July 1976 meeting at Purshull Green we found the little plant still flourishing on the same muddy pond-site, but although I peered into the murky water I could see no sign of submerged plants. This patch of *C. helmsii* is compact, dwarf and prostrate, quite unlike the specimens illustrated in *Watsonia* 5(2), Dec. 1961. and *BSBI News* 19. A local man told me he had cleaned out and deepened the pond in the drought year of 1976 and had then introduced *Elodea canadensis* but nothing else.

I was unable to inspect his garden pond on this occasion but it seems that *C. helmsii* has survived cleaning-out operations in other ponds, so it may have been in the Purshull Green pond beforehand. Incidentally the plant was in bloom and we have a colour slide of it.

DINA COCKERILL, Horseshoe Cottage, Trotshill, WORCESTER.

REQUESTS

FURTHER NOTES ON *ELODEA* SPP

Following the report in *BSBI News* 20 p.4 that Prof. Cook is making a special study of world Elodeas, we are pleased to also report that David Simpson is working on a PhD project on British Elodeas. He writes: "The project is aimed at sorting out the taxonomic problems of *Elodea* in Britain ONLY, hopefully fitting in with Prof. C.D.K. Cook's study of the Hydrocharitaceae. The need for research has arisen due to the recent appearance of larger and narrower-leaved plants. Many records of long-leaved plants have been received during the past 5 years, and they seem to be on the increase; it is quite possible that they are new to Britain. But the present taxonomic situation is confusing, with several names chasing an unknown number of taxa.

It is my intention to carry out an intensive ecological study as little has been done with regard to the ecology of *Elodea* spp in Britain.

Any Herbarium material or records would be most useful, and flowering material would be especially welcome".

When the plants from Amberley Wild Brooks, West Sussex, had been named by C.D.K. Cook as *Elodea nuttallii*, it was at first assumed that all apparently "invading" sp. of *Elodea* were *E. nuttallii* also. The high degree of variability in morphology of the Amberley plants, seasonally and under differing conditions, appeared to support this possibility. However the specimen caught by the toe by Prof. C.D. Pigott (*BSBI News* 16 p.19) and the subsequent recording of this long-leaved *Elodea* sp. now declared by Prof. Cook to be "not *E. nuttallii*", in all the Cumbrian lakes by R. Stokoe and other field workers, suggests the possibility of 2 "invading" *Elodea* spp. in Britain ?

At the Aquatics Symposium, 1978, Dr. J.W.G. Lund of the Freshwater Biological Association at Ferry House Ambleside told us that the zoologists has been for 5 years regularly collecting *Elodea* from Lake Windermere as food for *Asellus aquaticus* the water hog-louse, which they are studying. After 2 years of using *E. canadensis* they had seen the *Elodea* samples change; a collector commented "some of this *Elodea* is jolly queer" as long leaved plants first appeared in his bucket, where apparently there were 2 Elodeas. The "queer *Elodea*" steadily increased until in October 1978 collections from the Lake by Ferry House contained only long-leaved plants.

Meanwhile you will remember that Prof. Cook has asked for no non-flowering specimens, or specimens with female flowers only, to be sent to him in Switzerland; but David Simpson will welcome British specimens sent to him at University of Lancaster.

However a real breakthrough for both these 'Elodeologists' would be the discovery of male flowers or seed on Elodeas in Britain this summer. Mary Briggs

WETLAND SAVIOUR

This is how Dr. F.H. Perring was described by "Peterborough" in his "London Day by Day" feature in the *Daily Telegraph* of 9th January, when commenting on his recent appointment to the secretaryship of the S.P.N.C.

He is quoted as saying "Although we have 120,000 members and manage 1100 nature reserves the general public is scarcely aware of our existence".

Knowing Frank as we do, this situation should not remain long. B.S.B.I. members can no doubt help him to make the S.P.N.C. better known. The D.T. paragraph pays tribute to his work in producing the "Atlas of the British Flora" and recalls his being a judge for their "Save the Village Pond Campaign". EDW

BOOK REQUEST

Walter Scott, who is our v.c. Recorder for the Shetland Isles, is looking for a copy of the first edition (1962) of *The Atlas of the British Flora*. He says a battered, but complete, working copy would be ideal; and adds that he would want to pay a reasonable price for it. If any member can help will they write to Mr. W. Scott, Easterhoull, Scalloway, Shetland.

BSBI NEWS – BACK NUMBERS

The Hon. Gen. Sec. would like to thank members who anonymously sent back numbers requested in BSBI News 20. The Library of the Middle-Thames Natural History Society is missing some early numbers of *BSBI News* :- Vol 2, Nos 1 & 2; Vol 3, Nos 1, 2 & 3; No. 11.

Possibly a BSBI member who is also a member of M.T.N.H.S. would donate copies for use in this library ?

Please send to: Mr J.K. Letts, Hon. Treasurer, Middle-Thames NHS, 113 Holtspur Top Lane, Beaconsfield, Bucks. who will refund postage.

PLOIDY AND METAL TOLERANCE IN THE OX-EYE DAISY

During a recent survey of chromosome numbers in *Chrysanthemum leucanthemum* in N. Somerset and Avon, a significant number of tetraploid populations were found on heavy metal contaminated sites in the vicinity of Avonmouth and Portishead. As tetraploidy is very rare elsewhere in the region, it would be interesting to know if this local situation has arisen since zinc smelting began fifty years ago.

It is possible to estimate ploidy from herbarium specimens without damage, and I should be most grateful if any member knows of – or better, could lend – specimens collected more than 50 years ago from sites within 5 km of Avonmouth. I should of course refund postage.

C.J. GRANT

Botany Department, Bristol University, Woodland Road, BRISTOL BS8 1UG.

ETHNOPHARMACOLOGY IN AUSTRALIA

I am in the early stages of a study of the botanic medicine of the Australian aboriginal peoples, and would be most grateful to any B.S.B.I. members who could help me with information.

The information sought, at present, is of three types :

- a) advice concerning extant literature, newspaper articles, fictional references, etc.;
- b) names and addresses of further contacts who may be able to help, especially regarding tribal sources;
- c) direct information, with references, on native plants and methods used therapeutically, and ailments treated, by either the aborigines themselves or by the early European settlers.

I am but a new member of the B.S.B.I., and would like to take this opportunity of expressing my respect and gratitude for the excellence of its organisation and publications.

CLIVE WINMILL

Badger's Keep, Chewton, 3451 Victoria, Australia.

SAXIFRAGA ROSACEA and *S. HYPNOIDES* in the British Isles

Saxifraga rosacea (one of the 'mossy saxifrages') in the British Isles is now only certainly found in the wild in western Ireland. However, there are a few records from North Wales where it was last recorded in about 1890. Recently, it was brought to our attention that a Bangor botanist had taken a cutting of an "odd" mossy saxifrage from Cwm Idwal, North Wales in 1962. This plant has since been growing very successfully in his garden. Morphological comparisons indicate that this plant is *S. rosacea*. The Welsh plant is very similar to some Irish populations, but distinct in its greater vigour and slightly more pointed leaves. All the Welsh and Irish material so far studied is tetraploid ($2n=52$) whereas Welsh and Irish material of *S. hypnoides* is diploid ($2n=26$). It would be of great interest to re-find the species in the wild in North Wales.

There is a specimen of *S. rosacea* (in the Manchester Museum Herbarium) collected from Glen Dole (almost certainly Glen Doll, off Glen Clova, Forfar, Scotland) by Druce in 1883. This appears to be the first Scottish record of the species. Would botanists visiting this area please check any mossy saxifrage very carefully in case the *S. rosacea* is still there.

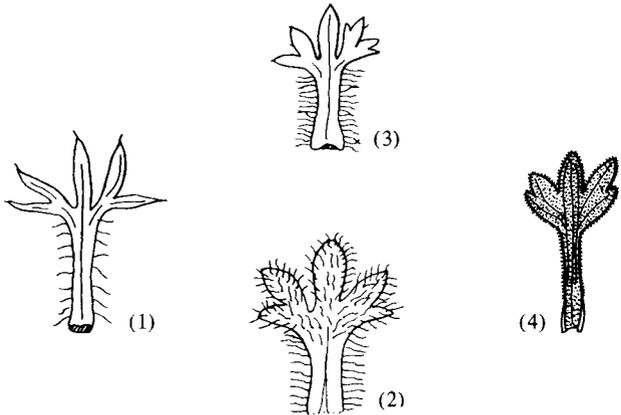
As *S. rosacea* may well occur at other sites in the British Isles (in particular, Scotland and the northern Pennines), the following leaf drawings will help to illustrate the differences between *S. rosacea* and *S. hypnoides*, and the related *S. cespitosa*. (The drawings are adapted from S. Ross-Craig, (1957); *Drawings of British Plants*).

1) *Saxifraga hypnoides*
Mature leaf

2) *Saxifraga rosacea*
Mature leaf from a
Clare Island plant

3) *Saxifraga rosacea*
Mature leaf from a
Burren plant

4) *Saxifraga cespitosa*
Mature leaf



The description given in Clapham, Tutin and Warburg, (1962), *Flora of the British Isles*, (2nd Edition) should be followed and used with the drawings. The tip of the leaf lobe is the most important feature to distinguish *S. rosacea* from *S. hypnoides*, *S. hypnoides* has an aristate tip to the leaf lobe, while *S. rosacea* has an acute to obtuse leaf lobe which may be mucronate but is never aristate. *S. hypnoides* and *S. rosacea* both have, almost always, long non-glandular hairs. This contrasts with *S. cespitosa* which has leaves covered with short glandular hairs.

Saxifraga hypnoides in the British Isles is a plant of upland districts in the north and west mostly on wet calcareous sites. It has now been shown to have two chromosome races in the British Isles; plants from Western Ireland and Wales are diploid ($2n=26$), while plants from northern Ireland, northern England and Scotland are tetraploid ($2n=52$). The chromosome numbers of the following populations have been determined :-

Diploid (2n = 26)

VC 6	North Somerset	23/48 - 54 -
VC 36	Hereford	32/297296
VC 42	Brecon	22/852155
VC 42	Brecon	22/963218
VC 47	Montgomery	33/073294
VC 48	Merioneth	23/711139
VC 49	Carnarvon	23/611544
VC 49	Carnarvon	23/648595
VC H9	Clare	93/3 - - 6 - -

Tetraploid (2n = 52)

VC 39	Stafford	43/098580
VC 64	Mid-west York	44/008615
VC 64	Mid-west York	34/742765
VC 69	Westmorland	35/35 - 11 -
VC 73	Kirkcudbright	25/423853
VC 76	Renfrew	26/321591
VC 88	Mid Perth	27/592409
VC 97	Westernness	27/15 - 71 -
VC 97	Westernness	27/47 - 75 -
VC 97	Westernness	27/24 - 72 -
VC 98	Argyll	27/083093
VC 99	Dunbarton	26/453747
VC 104	North Ebudes	18/338004
VC 104	North Ebudes	18/495543
VC H9	Clare	93/1 - - 8 - -
VC H39	Antrim	15/3 - - 9 - -

The two cytotypes are not always morphologically distinct; both have an aristate tip to the leaf segments (cf. *S. rosacea*) and a similar range of growth forms in the wild. It is to be hoped that further work will show consistent morphological differences that can be used by field botanists. The Burren, Co. Clare, Ireland is the only area so far detected where the two cytotypes come together; the tetraploid is found on the coastal limestone while the diploid plant is found on the inland limestone.

The author (address below) would like to obtain plant material from other populations in the British Isles to complete the cytological and morphological work. Please do not take plant material if this will seriously interfere with the viability of the population. Removal of seed interferes least but if this is not possible a few rosettes or 'runners' (roots are unnecessary) placed in a polythene bag would be satisfactory. The seeds or plants will be grown on in the Botanic Gardens and incorporated into the study. All plants sent will be acknowledged and the postage refunded. Any information on associated species and habitat details would also be very valuable. The author would also be very pleased to hear from anyone who has any comments about *S. hypnoides* in Britain, particularly details of habitats and frequency in their own area.

D.M. PARKER

University of Liverpool Botanic Gardens, Ness, Neston, WIRRAL, Cheshire L64 4AY

ABBREVIATIONS

A member has written asking about the abbreviations found in, amongst other places, Eric Clement's "Adventive News". It is some years since these were explained, so for the benefit of members who have recently joined, here are some of them : Coll = collected by; Comm = in a communication from; Det = determined (identified positively) by; Conf = confirmed by; followed in each case by the name of an individual. The others, are the code letters of officially recognized herbaria as registered in the Index Herbariorum.

Herbia in the possession of Universities and National Institutes are shown in heavy type e.g. **K** (Kew), **BM** (British Museum, Nat. Hist.), **CGE** (Cambridge University); those belonging to private individuals are in plain medium type and preceded by Hb (=in the herbarium of), e.g. Hb EJC (= specimen to be found in the herbarium of Eric J. Clement).

There is a list of these in the BSBI Miscellaneous Publication "British Herbaria" by D.H. Kent copies of which are still available, price £2.70, from F. & M. Perring, Oundle Lodge, Oundle, Petersborough PE8 5TN.

EDW

LETTERS

CONYZA CANADENSIS – A New Species for Ireland

In July 1978 I went to Carbury, Co. Kildare, to see my week-old grand-daughter and to give my son and daughter-in-law a helping hand, I picked pounds of strawberries from their kitchen garden and pulled up large quantities of common and less common farmland weeds which literally spring up overnight in the warm damp climate of this part of Ireland. There was also a forest of sturdy 3ft tall plants of *Conyza canadensis* on the garden path and in the large flower border between the house and the road to Edenderry. These I hastily consigned to the rubbish heap.

The only botanical book to hand was Praeger's "*A Botanist in Ireland*" which does not mention *C. canadensis*. However on my return home, armed with some of Dr. Perring's BRC recording cards and the master card for the Edenderry square, I.G. 22/63, I checked the sixty-eight new species I had recorded for the square with the "*Atlas of the British Flora*". To my astonishment I found *C. canadensis* a common adventive in England frequent in the Cheltenham area, was not recorded for the Irish Republic or for Northern Ireland. Even the recently published "*Flora Europae 4*" says "not in Ireland".

My son's garden was permanent pasture up to 1976 and I saw no sign of *C. canadensis* on my visits in September of that year or in June 1977. It is obvious, though, that one or two specimens must have been present in the late summer of 1977 to produce the 1978 crop of eighty or more plants.

Now that *C. canadensis* has arrived in Ireland, it will be of considerable interest to observe the rapidity and pattern of its spread which, hopefully, can be documented. Will it first colonize waste ground in the Edenderry neighbourhood or suddenly appear in Dublin, Cork or Limerick unwittingly carried there by my son's car ?

SONIA C. HOLLAND 64, All Saint's Road, CHELTENHAM, Glos. GL52 2HA.

CORIANDRUM SATIVUM L.

In September, 1978 Miss E.R.T. Conacher saw about 30 plants of Coriander growing in an apparently derelict garden in the Battlefield district of Glasgow (Renfrewshire V.C. 76). Enquiry elicited the fact that it had been sown three years before by a Pakistani immigrant.

Search of the area revealed further plants in a Pakistani owned garden in a neighbouring street. The owner here has brought seeds from Pakistan to Leicester, three years previously and from there to Glasgow earlier in 1978.

They call the plant "DHANIA" or "DHIANA", use the fruits for curry and the foliage for chutney or to garnish meat.

C.T.W. state that though the fruits are aromatic, the plants smell of bed-bugs ! – we thought like wet washing.

I was informed also that they considered the plant to be important medicinally. It was good for relieving arthritic pains and for strengthening brain and nerve – e.g. it was boiled in water and given to mothers after childbirth to clear the brain !

An immigrant said that no respectable garden should be without it, so that the plant may become a more frequent "casual" in certain areas than it has in the past.

PETER MACPHERSON 15 Lubnaig Road, GLASGOW G43 2RY.

A BICOLOURED TOADFLAX IN SURREY

In September 1973 my mother and I collected an interesting colour form of *Linaria vulgaris* from a disused railway line south of Guildford, Surrey (V.C. 17 GR 51/002.461). We have had vegetatively propagated stock in cultivation ever since and it has continued to produce white corollas, with an orange palate. It is also unusually tall (1m), with a slender, rather elongated, raceme and glabrous pedicels. Leaf width is more or less typical (3-4 mm). Similar white to pale cream-flowered plants have been noted at least by Blomfield in the Isle of Wight and Sussex (var. ♂ in *The Phytologist* 3:627 (1849)) and by Druce in Berks. and Oxon. (f. *bicolor* Druce, in *Flora of Berkshire*, 1897). Comparable taxa are evidently known on the continent as Hegi (III.Fl.von Mit. - Eur. 6(1):25-26 (1925)) lists f. *albida* Jacobasch, white with yellow palate, and f. *albescens* Abrom-eit, whitish with pale orange-yellow palate.

Several other flower variants are known, including a peloric form and these may be associated with variations in habit (e.g. var. *prostrata* Domin), pedicel pubescence (glabrous or glandular-hairy) and leaf width.

Re-visiting the Surrey site in October 1978 we were able to confirm the plants continued existence, scattered along 10-15 yards and evidently involving several clones. Plants with typical corolla colour were found further east along the old railway track. No *L. repens* is known in the area and there is no evidence from the morphology that this plant is a hybrid.

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OROBANCHE MINOR – HOST SPP.

Further to the letter from D.P. Stribley (*B.S.B.I. News* 20) concerning the parasitization of garden plants by *Orobanche minor*, the occurrence of this broomrape on cultivated plants has been brought to the attention of the Royal Horticultural Society on a number of occasions in recent years by various correspondents.

An initial letter from John Elsley (*J. Roy. Hort Soc* 96(3):131 (March 1971) associating *Orobanche minor* with pelargoniums was followed by further observations in *Extracts from the Proceedings of R.H.S.*, all concerning *O. minor*.

These were: *Extr. Proc. Roy. Hort. Soc.* 96(1):4-5 (1971) blackcurrant, *Senecio* 'Dunedin Sunshine', *Hebe* 'Marjorie', *Hebe cupressoides*, *Lathyrus odoratus*, *Hypericum pseudohenryi*(?), *Lonicera nitida*, *Pelargonium* or *Tagetes*.

Ibid. 97 (2):53, 56 (1972) *Aubrieta* or *Senecio* sp., *Petunia*, *Pelargonium*, carrot, strawberry, caraway, *Lathyrus latifolius*.

Ibid. 99 (1):3 (1974). *Olearia macrodonta*, *Mahonia bealei*, *Kalmia latifolia* or *Mutinia ilicifolia* or *Trochodendron* sp.

Ibid. 101 (2):69 (1976). *Fuchsia* (various cvs).

The precise identities of some plants remain in doubt as not all correspondents dug down to determine the host, but the above list indicates the broad spectrum of species to which *Orobanche minor* is adapted. The records are drawn from both private gardens and nurseries.

D.M. DONOVAN

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SAXIFRAGA CESPITOSA – IN NORTH WALES

Saxifraga cespitosa is an arctic species found as isolated relict populations at ten sites in the Scottish Highlands and at one site in North Wales. By 1976 the North Wales population (in Cwm Idwal, Gwynedd) had been reduced by collecting (for herbaria, 1821-1967) to only four plants growing together on a single six-inch ledge. *S. cespitosa* is a protected species under the Conservation of Wild Creatures and Wild Plants Act, 1975.

In 1975, seed was collected (under licence) and plants grown from the seed at the University of Liverpool Botanic Gardens. The plants were kept in isolated insect-proof enclosures and seed collected (approximately 30,000 seeds in 1977; 10,000 of these have been placed in the Kew seed bank). With permission from the Nature Conservancy Council, in May 1978, plants grown from some of this seed were planted out around the extant site in Cwm Idwal. About 100 small plants, plus seedlings and seed were used in the re-introduction. All plants and germinating seedlings are being individually monitored and a precise report is in preparation.

The plantings have been very successful, helped by the wet summer, and the population should now be safe from extinction in the wild.

The North Wales *S. cespitosa* population has been extensively planted on a native plant garden in the Botanic Gardens creating a feature of both nature conservation and horticultural interest. A large number of herbarium specimens have been made for distribution to herbaria. Plant material and seed is also available for scientific purposes. It is to be hoped that collecting pressure has now been taken off the wild population.

The ultimate aim at the native site is to restore the colony to approximately what it was in 1821. A rough idea of population size can be obtained by reference to the number of Cwm Idwal plants on herbarium sheets in the British Isles. A relict species like *S. cespitosa*, which has its natural habitat on open morainic gravels in the Arctic, could well be expected to become extinct on its southern relict sites. However, in North Wales, the reduction of plant numbers arose prematurely because of collecting for herbaria.

Anyone requiring further information or who would like to comment on the moral questions raised by this work should contact the author (address below), or write to the Editor *BSBI News*.if for publication.

D.M. PARKER, University of Liverpool Botanic Gardens, Ness, Neston, WIRRAL, Cheshire L64 4AY.

COMMON NAMES OF BRITISH PLANTS

As a comparatively new member of BSBI and very much a beginner at that, may I dare to ask others in a similar position how they feel about the use of common names?

Although we now have "English names of Wild Flowers" by Dony, Perring & Rob, the BSBI -sponsored list of common names, which gets over the difficulty of regional variations, these seem to be little used in BSBI News.

Would it attract and encourage less experienced botanists if these names were more freely used? I am of course, fully aware of the reason for, and importance of, scientific names and recognize that they must take precedence in the literature. But I feel it might help many of us to know our wild plants better if the common name was printed in parenthesis after the scientific name. What do expert and not-so-expert members think of this idea? I do appreciate that the official list does not provide for distinction to be made between the sub-species or varieties within a species, but I have always thought it strange that ornithologists seem to get on quite well with English names, which they quote first, whilst botanists rarely give the English name at all.

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GIANT HOGWEED – A Poisonous Plant

There has been some confusion on the ‘poisonous’ properties of *Heracleum mantegazzianum*. On the one hand are descriptions of painful skin reactions from contact with the plant, while other reports claim that gardeners have been pulling up the plant for years with no ill effects. Both experiences are true as the blistering is a phyto-photo-dermatitis produced only under very specific conditions.

The sap of *H. mantegazzianum* contains compounds related to furocoumarin which, when in contact with skin may sensitise it to ultra-violet light. But this only occurs in long wavelengths of more than 3,200 Å – that is in this country only on bright days in mid-summer months, and mostly in July sunshine. The symptoms are an exaggerated sunburn reaction caused locally by the sensitisation which is triggered off by radiation on skin which has been splashed by sap from the plant and is then exposed to strong ultra-violet light.

Gardeners uprooting young plants, possibly early in the year, protected by clothing and not breaking the plant stems are at no risk. But scything large plants in mid-summer with bare arms can be a real hazard. There is clearly a distinction here between “pulling up” and “cutting down”.

Some early reports of dermatitis were from gardeners. In 1937 two hospital gardeners suffered photo-dermatitis after contact with the plant. Children playing with broken stems of Giant Hogweed are very vulnerable; extensive rash on arms and legs of two small boys was recognised by their doctor as a chemical burn, but the cause was discovered only when the boys were later found in mock combat using pieces of *H. mantegazzianum* as weapons. In 1961 and 1966 the *Gardeners Chronicle* mentioned blistering from the plant; also in 1966 after some British Rail workers had suffered after clearing a stand of the plant on a railway embankment in mid-summer in direct sunlight. Dr. J.G. Jones and Dr. D.G. Russell, medical officers to British Rail at Crewe, wrote a paper in *The Practitioner*, “Giant Hogweed Dermatitis”, showing the blistering to be caused by the sensitisation of the skin and the intensity of the ultra-violet light. Drs. Jones and Russell therefore warned that men required to fell Giant Hogweed should be provided with suitable clothing including gloves. A Horsham entomologist after cutting down *H. mantegazzianum* in his garden on a sunny day in July, drove to Wales in an open car with shirt-sleeves rolled up. He suffered very severe dermatitis on his arms and the blisters recurred in several subsequent years if he exposed his arms to the sun, or even when the sun was covered by a layer of cloud on a bright day in July. In hot summers there have been reports of picnickers blistered after lying among the crushed stems of Giant Hogweed – on hot summer days in brilliant sunshine.

H. mantegazzianum, a native of the Caucasus, was introduced in 1893 to this country as a decorative curiosity for landscaped gardens. It has been spreading slowly across Britain for the last fifty years, but more rapidly recently, especially in the North where it has rapidly colonised some river banks where it has in places almost replaced the native vegetation. *The Atlas of the British Flora* gives 9 pre-1930 records of plants naturalised away from gardens, and by 1962 the plant had been recorded in 170 x 10 kilometre squares and by 1972 there were reports from 100 more 10 kms. most of these in Scotland.

Some native Umbelliferous plants contain the same chemical (and plants of other families also) but particularly *Pastinaca sativa*, *Daucus carota* and *Angelica sylvestris*, Downland picnickers in summer sunshine have felt the results of leaning on wild parsnip

Giant Hogweed (continued)

plants, but as stems of these are fine and wiry as compared with the coarse and particularly juicy stalks of the Giant Hogweed, so the ill effects are less traumatic.

However, although *H. mantegazzianum* must be regarded as potentially dangerous, the hazard has been so precisely identified that precautions can easily be taken and harmful effects can be entirely avoided.

MARY BRIGGS

References:

J.G. Jones, D.G. Russell (1968) Giant Hogweed Dermatitis. *Practitioner* 200, 704.

J.C. Drever and J.A.A. Hunter (1970) Giant Hogweed Dermatitis. *Scot. Med. J.* 15, 315.

THE RAY SOCIETY

The Ray Society commemorates the great English naturalist John Ray (1627-1705). It was founded in 1844 by a group of British naturalists which included many well-known names who evidently and rightly considered Ray's breadth of interests, his learning and eminence, ideals which the Society might emulate. The purpose of the Society as stated by the founders was "the promotion of Natural History by the printing of original works in Zoology and Botany; of new editions of works of established merit; of rare tracts and mss; and of translations and reprints of foreign works; which are generally inaccessible". The aims of the Society today remain the same.

Over 150 publications have appeared; full details of these can be found in *The Ray Society, a bibliographical History (1954)* by R. Curle. More than sixteen volumes published by the Society are still available, among these are included *British Knapweeds (1954)* by E.M. Marsden-Jones and W.B. Turrill, *Carl Linnaeus, Species Plantarum*; A facsimile of the first edition 1753 with introduction by W.T. Stearn. Vol. 1 (1957), Vol. 2 (1959), *Watsonian Vice-counties of Great Britain (1969)* by J.E. Dandy, *British Tortricoid Moths*. Vol. 1. (1973) by J.D. Bradley, W.G. Tremewan & A. Smith, *British Spiders* Vol. 3 by G.H. Locket, A.F. Millidge & P. Merrett, *The Historical Flora of Middlesex* by D.H. Kent.

The Society's business is conducted by a Council of botanists and zoologists

The President of the Society is F.J. Bingley, M.A., F.L.S. and the Honorary Secretary is G.A. Boxshall, Ph.D. Information concerning membership of the Society and purchase of any of the Society's publications may be obtained from the Honorary Secretary, Ray Society, c/o British Museum (Natural History), Cromwell Road, London SW7 5BD.

Membership is open to any person willing by subscription to promote the Society's work of publishing scholarly contributions to British Natural history, which are issued as funds and manuscripts permit. The subscription currently is £4 per annum. New books are available for purchase by members at a *very* favourable pre-publication price, also publications (in print) are available to members at a discount of 20 per cent. The most recently published volume is *Parasitic Copepoda of British Fishes (1978)* by Z. Kabata. The following are in various stages of preparation: *British Tortricoid Moths* Volume 2, *The Lichen Flora of the British Isles*, *British Millipedes*, *British Weevils*, *A Flora of Established Aliens* and *Gamasid mites of Britain and Ireland*.

I.K. FERGUSON

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FIELD STUDY CENTRES

The Field Studies Council have issued the programmes of courses at their ten field centres. There seems to be an expanding interest in lichens, eight of the centres offering at least one course in the subject.

Other cryptogamic groups receive attention with courses on Algae (Malham Tarn) Bryophytes and/or Hepatics (Dale Fort, Draper's, Malham Tarn, Preston Montford) and, Fungi (in addition to autumn forays) (Draper's, Leonard Wills', Flatford Mill).

Trees and Woodlands feature in the programmes of Draper's, Flatford Mill, Juniper Hall (Alan Mitchell), and Malham Tarn.

There are the usual courses in local plants, botany for beginners and botanical illustration, but each centre has one or more courses that break new ground. Both Flatford Mill and Malham Tarn offer a course in 'Difficult Plants' which feature Composites, Crucifers, Umbellifers & Willows.

Most centres have some individual innovations, Flatford Mill for instance offers "Grasslands, meadows & marshes" by Derek Wells (of the Nature Conservancy Council), a "Pre-retirement course in Local and Natural history" and "a course for bee-keepers, botanists and entomologists" entitled "Honey, Flowers, and Insects". Hedges, their history, and natural history, Preston Montford's new introduction.

Although not new this year, courses—intended for teachers—on Techniques including statistics, at Slapton Lay and Preston Montford introduce a definite quantitative note into Field Centre work, though this is not to say these methods do not feature in many other courses,

As in previous years, details of programmes at the various centres are obtainable from The Information Office, Field Studies Council, Preston Montford, Montford Bridge, SHREWSBURY SY4 1HW. Incidentally the standard charge for a week's course is now £56.00, an increase of only £4.00 on last year.

Kindrogan Field Centre near Blairgowrie, Perthshire, run by the Scottish Field Studies Association has, besides a wide variety of courses for the general student a series for specialists among which are : Taxonomy of *Alchemilla* spp (M.E. Bradshaw), Identification and ecology of *Carex* spp (A.C. Jermy), Grassland Ecology (D.A. Wells), Ferns and their allies, (C.A. Page), Willows (R.D. Meikle & D.V. Pankhurst), Lichens (F.H. Brightman & P. Topham), Photography and Fungi (Heather Angel & Roy Watling). Fuller details from The Warden, Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire PH10 7PG.

EDW

BOTANISING IN EUROPE

Although *BSBI News* does not carry advertisements, members may like to know of some botanical tours which are being led by members of the Society to floristically interesting areas of Europe in 1979.

Mrs. Mary Briggs 29th May SPAIN (Vale of Aragon and Pyrenees)
 18th June SWITZERLAND (Wengen)
 14th July SWEDEN (including Lapland)

Mr. Alan Newton 20th July N. ITALY (Dolomites)

Mr. David Paton 18th July SPAIN (Pyrenees)

Mr. Eric Clement 4th June SPAIN (Vale of Aragon and Pyrenees)

Details of these "Special Interest" tours can be obtained from Messrs. Cox & Kings, Vulcan House, 46 Marshall Street, London W1V 2PA (01-734 8291).

BOOK NOTES

In the July part of *Watsonia*, Vol. 12(4), it is hoped that reviews of the following books will be included :

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

Plant Communities, by A. Bülow-Olsen.

Nature's Use of Colour in Plants and their Flowers, by J. & S. Proctor.

The Island of Mull, edited by A.C. Jermy and J.A. Crabbe.

Upper Teesdale: its Area and Natural History, edited by A.R. Clapham.

Nature, Day and Night, by R. Adams.

Bibliographie über die Orchideen Europas und der Mittelmeerländer 1744 - 1976, by B. & R. Willing.

Key Works to the Fauna and Flora of the British Isles and North-Western Europe, edited by G.J. Kerrich *et al.*

Origin and Relationships of the Californian Flora, by P.H. Raven & D. Axelrod.

Flowering Plants of the World, edited by V.H. Heywood.

Flora of the Isle of Wight, by J. Bevis, R. Kettel & B. Shepard.

An Illustrated Guide to Pollen Analysis, by P.D. Moore & J.A. Webb.

Biological Identification, by R.J. Pankhurst.

Applied Plant Anatomy, by D.A. Cutler.

Reprints of Floras of Bedfordshire, Perthshire and Shropshire

In addition the following books have been received recently. Those that will NOT be reviewed in *Watsonia* are marked by an asterisk.

Welsh Ferns, Clubmosses, Quillworts & Horsetails, 6th edition, by H.A. Hyde, A.E. Wade and S.G. Harrison.

Flowering Trees in Subtropical Gardens, by G. Künkel.

Flore de France, Fasc. 3, by M. Guinochet & R. de Vilmorin.

Palms of Malaya, by T.C. Whitmore.

Euphorbes prostrées de France, by P. Huguet.

Identification of Flowering Plant Families, 2nd edition, by P.H. Davis & J. Cullen.

Le cas Lamarck, by J.P. Faure.

**The Pollination of Flowers by Insects*, edited by A.J. Richards.

Pp xii + 213, with coloured frontispiece, 23 black & white plates and 34 text-figures.

Academic Press, London 1978. Price £12.60 (see below).

**Plant Metabolism*, by G. Richter, translated by D.J. Williams. Pp. 475, with 101 text-figures. Georg Thieme Verlag, Stuttgart 1978. Distributed by Croom Helm, London. Price £11.95. This well-known textbook, first published in German in 1969, is now available in English in an up-to-date form.

**Structural and Ecophysiological Pattern in the Xero-Halophytic C₄ Grass*

Sporobolus rigens (Tr.) Desv., by T. Böcher & P. Olesen. *K. danske Vidensk. Selsk., Biol. Skr.* 22(3). Pp. 48, with 11 black and white plates. Munksgaard, Copenhagen 1978.

Price not stated.

**Plant Life in Anaerobic Environments* edited by D.D. Hook & R.M.M. Crawford.

Pp. 564, with numerous text-figures. Ann Arbor Science Publishers Inc., Ann Arbor, Mich. 1978. Price £17.65. This comprehensive study of plants growing in conditions where oxygen is scarce or lacking is really a collection of 18 papers by international authors. It has two parts, entitled respectively "Processes in Anaerobiosis" and "Recent Contribution [sic] on Anaerobiosis."

**Studies in Biology, No. 96. Plant Growth Analysis*, by R. Hunt.

Pp 67, with 18 text-figures. Edward Arnold, London 1978. Price £3.50 (boards) £1.70 (paper).

**Irish Weather*, by F. Donaldson; *Irish Seeds and Berries*, by Florence Donaldson. Irish Environmental Library, Nos. 48, 49. Each pp. 32, with coloured illustrations. Folens & Co., Ltd., Dublin. 1978. Price not stated. The latest volumes in this series, which is intended for 10-15 year-old readers, are both attractive and informative. The word "Irish" in their titles implies that their subject matter is more restricted than it actually is.

**Journal of Ethnopharmacology*, Vol. 1(1) January 1979. Edited by L. Rivier & J.G. Bruhn. Published by Elsevier Sequoia A.A., Lausanne, Switzerland. Subscription price S. Frs. 150.00. Here we have a new journal "devoted to bioscientific research on indigenous drugs". The first part, which contains papers on herbal remedies, hallucogenic plants and cocaine, among others, is certainly a good example of the interdisciplinary approach which is the aim of the editors (see BSBI News No. 19:8), and which is becoming so fruitful (and necessary) today.

As a matter of policy, B.S.B.I. publications are not reviewed in *Watsonia*. I should therefore like to take this opportunity of recommending to you the latest B.S.B.I. Conference Report (No. 16). *The Pollination of Flowers by Insects* comprises the proceedings of the Symposium so entitled, which was organised jointly with the Linnean Society and held in Newcastle-upon-Tyne in 1977. John Richards has brought together a fascinating series of papers which, unlike some symposium volumes, provides an excellent source of reference. The papers are wide-ranging; but they are all concerned with the interrelationships of pollen and insects, and together constitute a summation of current knowledge and views on this topic. The subjects of the papers include Pollination ecology (Faegri), Insect pollination syndromes in an evolutionary and ecosystemic context (Proctor) and Pollinator behaviour and the breeding structure of plant populations (Levin), as well as more specific studies on *Echium vulgare*, *Plantago lanceolata*, *Salix*, *Impatiens*, *Nigella arvensis*, *Viola*, *Primula veris*, *Cirsium palustre* and Brussels sprouts.

NORMAN K.B. ROBSON

MINISTRY OF AGRICULTURE RECOMMENDS BSBI BOOK

It is interesting to note that in their latest (1979) editions of two advisory booklets for farmers on the use of chemical weedkillers in Cereals and Potatoes respectively, the Ministry of Agriculture's Agricultural Development and Advisory Service (ADAS) have inserted a paragraph headed "Botanical Names". This states that the names of the weeds mentioned in the booklet are those recommended in *English Names of Wild Flowers* published by the Botanical Society of the British Isles. It explains that this book "has been produced to overcome the ambiguity caused by referring to the same plant species by different colloquial names". Though gratifying to see the BSBI being thus recognised in official publications, unfortunately, no indication is given as to how the book can be obtained.

EDW

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