

Reports

VICE-COUNTY RECORDERS' CONFERENCE, ROGATE FIELD CENTRE, WEST SUSSEX

5th-8th OCTOBER, 1979

INTRODUCTION

This conference attracted a far larger number of Recorders than might have been expected for the far south of the British Isles. Over 70 people assembled at the Rogate Field Centre, including representatives of all four countries of the British Isles. The Centre was ideal for the conference: the staff were most helpful, the food enjoyable and the charges reasonable. The lecture room was comfortable and the rain, when it came, did not hamper the excursions.

The programme was divided between two distinct themes. Saturday was devoted to papers on the determination of difficult taxa likely to be encountered in preparing maps for the revision of the *Atlas of the British flora*, whilst the Sunday was concerned with the organization of recording at County level.

The summaries of the papers which follow have been kindly supplied by the authors. In several cases, however, no summary is included where a full account is already available or in preparation.

FRIDAY, 5TH OCTOBER

By tradition the opening paper on the first evening is given by the Recorder of the host vice-county. Mary Briggs gave a fascinating talk on the flora of East and West Sussex, superbly illustrated by her own photographs. We were all left anxiously awaiting the forth-coming publication of the *Sussex Plant Atlas*, which took place in 1980.

SATURDAY, 6TH OCTOBER

R. W. David (*Carex muricata agg.*). The revision of this group will be incorporated into the new edition of *British Sedges* being prepared for publication by A. O. Chater, R. W. David and A. C. Jermy.

A. C. Jermy (*The pondweed families*) circulated two lateral keys, one on the grass-leaved and the other on broad-leaved species, which had been drawn up by N. T. H. Holmes. With the help of herbarium specimens (which were exhibited throughout the Conference) the general growth form of all species and their hybrids was illustrated. The grass-leaved species were illustrated by drawings of the diagnostic venation of the leaf-tip. In this group the free or tubular nature of the stipules is important; this was demonstrated in fresh or in moistened herbarium material by cutting the stem just above the node at the point of the leaf insertion. The cut stem can then be drawn from within the closed stipular sheath or moved laterally between the unfused (i.e. free) stipules. A plea was made to record ecological data and to study populations throughout the year, especially if they were thought to be hybrids. Little is known about pollen viability in many species or how pollination occurs. Although in many species of *Potamogeton* wind disseminates pollen and spreads it on the water surface, contact with the stigma is made in aqueous medium. It is likely that *Najas* and *Zannichellia* are both apomictic; certainly no male flowers of *N. marina* have been recorded in Britain, yet the species sets ample seed. Pollution of water courses is leading to habitat destruction or deterioration, and should be monitored.

N. T. H. Holmes (*Ranunculus, section Batrachium*). Early in 1979 Dr Holmes issued *A guide to identification of Batrachium Ranunculus species of Britain* as No. 14 of the Nature Conservancy Council's Chief Scientist's Team Notes. These were made available to all Recorders.

D. E. Allen (*Cardamine pratensis agg.*) argued that though infraspecific variation in this species received taxonomic recognition in Britain as early as 1880, it attracted little interest until the existence of numerous chromosome 'races' began to be reported from various parts of Europe. Ranging from

diploids all the way up to dodecaploids, many of these seem to be distinct morphologically, ecologically and geographically. Above the diploid level barriers to crossing are reportedly weak, even to the extent that a fertile hybrid has been induced between an aneuploid with $2n = 30$ and a euploid with $2n = 56$. Hybrids are perpetuated in nature by the proneness of the species to reproduce from adventitious shoots in moist conditions. About a third of the 'races' appear to occur in the British Isles. In the 1950s the author attempted to discriminate these employing a traditional taxonomic approach; but eventually work was suspended in the growing suspicion that in at least some cases plasticity is so great that external characters and chromosome number do not reliably coincide. A sizeable experimental programme is needed to test this. Seven taxa have tentatively been recognized. Three, all rare and local – in Sussex, the Welsh mountains and western Ireland respectively – are perhaps identical with known Continental diploids. Much more widespread are a shade-loving tetraploid, a putative hexaploid of short marshes and a heptaploid of meadows and reedswamp. An octoploid of bogs is mainly confined to the Highland zone. Two other entities, one western, one on the South Coast, may also prove to merit taxonomic recognition. The taxa seem best treated as subspecies, but their nomenclature remains problematic.

M. G. Daker (*The genus Fumaria*) stated that eleven taxa of the genus *Fumaria* may be recognized in Britain today. The classification below the species level given in the literature is perhaps best ignored, since it is based on rather trivial differences that have probably arisen through persistent inbreeding. It is important, however, to recognize the two subspecies of *F. officinalis*, which can be separated on morphological grounds and also differ in chromosome number (subsp. *officinalis* $2n = 32$; subsp. *wirtgenii* $2n = 48$). It should also be noted that *F. muralis* subsp. *muralis* has not been reported with any certainty for many years, and specimens identified as *F. muralis* nearly always belong to the very variable subsp. *boraei*. Certain characters used for identification can be misleading. Good characters include: length of flower and wings of upper petal, sepal size and serration, fruit shape and texture, raceme and peduncle lengths, numbers of flowers per raceme, and pedicel curvature. Leaf characters are of little value. Although *Fumaria* is normally inbreeding, artificial hybrids can be made, and a close relationship between *F. martinii* and *F. muralis* subsp. *boraei* is indicated by the ease with which fully fertile hybrids may be made between them. The genus is especially interesting in that *F. purpurea* and *F. occidentalis* are both endemic species, and the possibility that *F. occidentalis* is an allopolyploid between *F. capreolata* and *F. bastardii* is strongly supported by using these two species to synthesize an apparently fertile plant very similar in appearance to *F. occidentalis*.

D. H. Dalby (*The genus Cochlearia*) said that *Cochlearia* species are phenotypically highly plastic, and present particular problems in identification. Fresh material (with information on flower size) and completely ripe fruit are really necessary for accurate identification. He considered five species to be valid, of which *C. anglica* and *C. danica* present few problems. *C. micacea* is restricted to high altitude in the northern Highlands, and is distinguished by its relatively smooth pods, dense deep green leaf rosettes and its unique chromosome number ($2n = 26$). *C. scotica* is provisionally recognized; it is a strictly coastal species in Ireland and northern and western Scotland, and is obviously close to *C. officinalis*, but it differs in flower size, leaf size and shape, and in habitat. *C. officinalis* itself presents great problems, and is interpreted here as including two subspecies: *officinalis* (the tetraploid plants from more southerly coastal areas and from a few inland sites in Scotland), and *alpina* (the diploid inland populations). This conforms with taxonomic custom in treating morphologically indistinguishable cytotypes with differing environmental preferences as subspecies rather than species. Finally he argued that two new species named by Pobedimova are synonyms; *C. islandica* (British material) is *C. officinalis*, and *C. atlantica* is a mixture of *C. officinalis* and *C. scotica*.

D. E. Allen (*It must have been that*) gave a highly entertaining talk on botanical recording errors and their origins (see pp. 215–220).

SUNDAY, 7TH OCTOBER

Mrs J. E. Smith (*The organization and work of the Surrey Flora Committee*) stated that the name 'Surrey Flora Committee' embraces both the Committee members and helpers. It is not a society with a subscribed membership. It was formed in 1957 with the objective of producing a new *Flora of Surrey* (published 1976). Although originating from B.S.B.I. members, the S.F.C. is an independent body of botanists. They issue an annual newsletter, arrange field meetings and assist beginners. With general recording for the *Flora* complete they agreed to record S.S.S.I.s for the Biological Sites Recording Scheme. All subsequent recording work has been on a site basis. Today the work involves conservation,

from that of rare British species to large areas of ecological importance. The Committee works in very close co-operation with the Surrey Trust for Nature Conservation, the Nature Conservancy Council, the Forestry Commission, the National Trust and the Ministry of Defence. It has become the body to which all requests for botanical information within the county are referred. It supplies material for public enquiries and undertakes vegetation surveys for the N.C.C. The successful continuation of the S.F.C. and its many commitments is attributed to the fact that helpers have never refused to undertake any task. Moreover, as an independent body, immediate action can be taken when necessary.

E. G. Philp (*The organization of the mapping of the flora of Kent*) explained that in 1970 it was decided to map the vascular plants of Kent on a tetrad basis and that during that year preparations were made so that mapping could start on 1st January, 1971. A provisional list of plants to be found in the county was drawn up and recording cards to suit the Kentish flora were designed and issued with a duplicated booklet, containing instructions to recorders along with keys to critical groups. From the start the Kent Field Club was involved and volunteers to help with the mapping were invited from among its members. This caused certain problems in that some of the volunteers did not send back any records for their allocated tetrads, while others were not able to identify the plants that they found. From the Kent Field Club side the exercise was well worth while in that it helped with the recruitment of new members, gave a purpose and theme for a large number of field meetings, and provided instructions so that many members were able to improve their botanical knowledge. However, the bulk of the volunteers were capable botanists and, with over 256,000 records in and checked, a start has been made on writing up and preparing the results for publication of an *Atlas of the flora of Kent*. Some of the many problems of mapping the 1044 tetrads were discussed and illustrated. These included the varied geology (the boundary two-thirds of which is coastline, ranging from London Clay mud round to the shingle beaches at Dungeness), the large amount of development (such as new motorways, power stations, factories and housing estates), and changes in farming practice (removal of hedgerows and widespread use of herbicides). The problems of introduced species were also discussed.

J. R. Packham (*The organization of the Shropshire Flora Project*). A full account of this project is given in J. R. Packham *et al.* (1979). Preparing a new Flora of the Shropshire region using a federal system of recording. *Watsonia*, **12**: 239–247.

D. A. Wells (*The relationship between the B.S.B.I. Recorder and the Nature Conservancy Council*) described the former Nature Conservancy (N.C.) as consisting of two parts, the Conservation (Regional) Branch and the Research Branch. In 1973 these were separated by Act of Parliament and the Conservation Branch became the Nature Conservancy Council (N.C.C.), grant aided by the Department of Environment (D.O.E.). The Research Branch remained as a component of the Natural Environment Research Council (N.E.R.C.) and was renamed the Institute of Terrestrial Ecology (I.T.E.). Biological Records Centre (B.R.C.), formerly a section within the old Research Branch of N.C., thus now forms part of I.T.E.. The N.C.C. is the official government agency for fostering conservation of wild-life through site-safeguard and an advisory role. It acquires and manages National Nature Reserves (N.N.R.s). Areas of nationally high biological value outside N.N.R.s, together with areas taking account of regional and local variations, are scheduled as Sites of Special Scientific Interest (S.S.S.I.). These are notified to appropriate County Planning Departments, government and public bodies, and to their owners. Consultative procedures now exist between these bodies and N.C.C. over any proposals affecting S.S.S.I.s. N.C.C. has a commissioned research fund, some of which goes to the conservation of the British flora, notably part-funding of B.R.C. plus contracts to Universities and individuals to collect data on rare or local species on a county basis. This information is made available to the Vice-County Recorder (V.C.R.). The N.C.C. works through a three-tiered system based on *administrative boundaries* and not Vice-County boundaries:

- (a) G.B. Headquarters based at Belgrave Square, London and Godwin House, Huntingdon.
- (b) Country Headquarters with England at Banbury, Scotland at Edinburgh, and Wales at Bangor.
- (c) Regional Offices with eight in England, four in Scotland, and three in Wales.

The Regional Officer (R.O.) is responsible for N.C.C. policy within his/her region and has Assistant Regional Officers (A.R.O.s) responsible for day to day matters within a county (district(s) in Scotland). Many V.C.R.s already have excellent liaison with A.R.O.s, but with the influx of new A.R.O.s and the longer term prospect of staff mobility it is felt by both B.S.B.I. and N.C.C. that a formal system of notification of change in personnel is necessary. N.C.C. has agreed that R.O.s will notify change of A.R.O.s to the V.C.R. and B.S.B.I. will inform R.O.s, through *B.S.B.I. News*, of changes of V.C.R.s. It should be remembered that N.C.C. covers plant, animal, geological and geomorphological

conservation, so that some A.R.O.s are not trained botanists but have expertise in another science. These A.R.O.s in particular will benefit from botanical guidance from V.C.R.s. One of the duties of an A.R.O. is to liaise, not only with farmers, planners, etc., but also with experts such as V.C.R.s in order that N.C.C. may be fully informed about sites with rare species. N.C.C. is consulted very early in the planning process and can feed in information before major decisions, which may affect a site, are taken. It is imperative that N.C.C. is aware of *all* sensitive sites. Having exchanged records between V.C.R. and A.R.O., field records of *Red Data Book* species should be sent to Lynne Farrell at N.C.C., P.O. Box 6, Huntingdon, who will see that they are entered into the B.R.C. system. Full confidentiality for records of highly sensitive species will be maintained.

P. J. Reynolds (*Celtic Fields—the fifth dimension*) reviewed the archaeological evidence from agricultural cultivation, including ards and hoes, carbonised seed, seed impressions and harvesting techniques, in order to examine a working hypothesis for farming practice of the pre-Roman Iron Age in this country. Experiments seeking to establish crop yields per acre of the prehistoric type cereals of Emmer and Spelt wheats were reported. The problems essentially posed by competitive weed flora, many species of which are now virtually extinct in the United Kingdom, have led to a full-scale research programme for their propagation and preservation. All examples were drawn from the current research programmes at the Butser Ancient Farm Project Trust. The interim results of these programmes suggest a high level of achievement in the late Iron Age with yields in excess of those of the early 20th Century. Certain well accepted theories, especially of harvesting and storage techniques, and the new archaeological evidence would seem to be in conflict and in need of careful revision.

FIELD MEETINGS

During the week-end three field excursions were organized. On Saturday Dr Francis Rose led the party to the area north-west of Rogate in the woods around Hartney Coombe. Noteworthy species encountered included *Lycopodium clavatum* and *Polygonum dumetorum*. On Sunday A. C. Jermy led an excursion to Amberley Wild Brooks, where the wide range of aquatic and marsh plants in the ditches and meadows demonstrated the importance of the site for nature conservation. The presence of *Leersia oryzoides* was of interest to many of the visiting botanists. On Monday those who remained at the Field Centre had a fascinating visit to the Butser Ancient Farm Project under the expert guidance of Dr Peter Reynolds.

F. H. PERRING

ANNUAL GENERAL MEETING, 10th May, 1980

The Annual General Meeting of the Society was held in the Chemical Laboratories Lecture Theatre, University of Cambridge, on Saturday, May 10th, 1980 at 12.15, with 160 members present. Mr R. W. David (President) took the Chair.

The Minutes of the last Annual General Meeting, as published in *Watsonia* 13: 79–80 (1980), were passed.

REPORT OF COUNCIL

The adoption of the Report of Council for the calendar year 1979, which had been circulated to members, was proposed by Mrs A. Lee, seconded by Miss M. E. Young, and carried unanimously by the meeting.

TREASURER'S REPORT AND ACCOUNTS

The Report of the Treasurer and Accounts had been circulated to members. The Treasurer, presenting the Report, regretted the deficit for the year. This was due in part to a steady increase in printing costs. Mr Walpole commented that Societies such as ours could face difficulty in publishing at all in future years. The Treasurer also stressed the great value to the Society of bequests and donations from members. Adoption of the Report was proposed by Mr P. C. Hall and seconded by Dr J. H. Chapman, and was carried unanimously by the meeting.

PROPOSED AMENDMENTS TO RULES 20 AND 25: ANNUAL SUBSCRIPTION

The Treasurer explained that this was a Bank requirement for collection of subscriptions by Direct Debit, and proposed the following amendments to Rules 20 and 25:

Rule 20, add: "The Society may participate in the Direct Debiting Scheme as an Originator for the purposes of collecting subscriptions and/or any other amounts due to the Society. In furtherance of this object, the Society may enter into any Indemnity required by the Banks upon whom Direct Debits are to be originated. Such an Indemnity may be executed on behalf of the Society by delegated officers of the Council of Members".

Rule 25, add: "Subscriptions may be paid under the authority of a Standing Order Mandate or a Direct Debiting Mandate lodged with the member's Bank and expressed to be in favour of the Botanical Society of the British Isles".

The adoption of the amendments was seconded by Mr R. J. Pankhurst and approved by a large majority.

ELECTION OF VICE-PRESIDENT

The President warmly thanked the retiring Vice-President, Mrs B. H. S. Russell, and proposed from the Chair the Council's nomination, Mr P. C. Hall, who was unanimously elected.

ELECTION OF OFFICERS

Mrs M. Briggs (Honorary General Secretary), Mr M. Walpole (Honorary Treasurer), Drs S. M. Eden, N. K. B. Robson, C. A. Stace and D. L. Wigston (Honorary Editors), Miss L. Farrell (Honorary Field Secretary), and Mrs R. M. Hamilton (Honorary Membership Secretary), had been nominated for re-election. Mrs J. M. Mullin had resigned and Council had nominated Miss J. Martin for election as Honorary Meetings Secretary. The election of these officers en bloc was proposed by Mr E. Milne-Redhead, seconded by Mr D. R. Donald and was carried unanimously. The meeting extended their thanks to Mrs J. M. Mullin for her services to the Society and thanked all the officers for their work during the year.

ELECTION OF COUNCIL MEMBERS

Dr H. A. McAllister, Mr A. O. Chater and Dr A. J. Richards had been nominated and were unanimously elected. Their order of precedence (for Rule 10), as given, was determined by ballot.

ELECTION OF HONORARY MEMBERS

The President proposed from the Chair two Honorary Members nominated by Council: Mrs I. M. Vaughan and Mr T. A. W. Davis, both of whom had served the Society well over a great many years. Their election was carried with warm applause.

ELECTION OF HONORARY AUDITORS

The Treasurer, expressing our gratitude to Messrs Thornton Baker & Co. for their help in auditing the Society's Accounts, proposed their re-election. This was carried unanimously.

ANY OTHER BUSINESS

The Treasurer thanked Professor T. G. Tutin, whose name appeared on both numbers 1 and 2 of the B.S.B.I. Handbook Series, for writing the text of *Umbellifers of the British Isles* very quickly—an example to other contributors.

Mr Milne-Redhead voiced appreciation for *B.S.B.I. News* and to the Editor Mr E. D. Wiggins.

Dr S. M. Walters was thanked for the good local arrangements and Mrs L. Walters was thanked in advance for preparing lunches for the unusually large number of members attending the meeting.

The President expressed appreciation and thanks to all the voluntary officers for the very considerable work that they undertook for the Society, with mention particularly of the Honorary General Secretary and the Honorary Treasurer.

The meeting endorsed and applauded all the above comments, and closed at 12.50.

M. BRIGGS

EXCURSION HELD IN CONNECTION WITH THE ANNUAL GENERAL MEETING

BRECKLAND, 11TH MAY, 1979

The response to the proposal for an excursion, on the day following the A.G.M., was gratifying evidence of the health of the Society and the enthusiasm of its members, but daunting to the organisers, who had the problem of enabling 156 people to view a series of tiny, scarce, and delicate annuals. The plants were, however, enjoyed, and even photographed, without damage to them or to their environment, and for this the Society owes particular gratitude to three persons: first and foremost to Mrs Crompton, who took infinite trouble in planning the strategy of the expedition; second to Mr Edge of H. E. H. Enterprises, who gave permission not only for the cavalcade to visit Chippenham gravel pits, but for those who joined it from outside Cambridge to park their cars there while making the rest of the trip by coach; and lastly to the Clerk of the Weather, who provided continuous sunshine. A warm tribute is also due to the patience, good humour and docility of all those attending.

The party travelled in three coaches with a guide in each – Mrs Crompton, Philip Oswald, and the President. The guides had toured the possible sites earlier in the week, together with John Trist, who was prevented, by an assignment in Crete, from being present on the day but whose knowledge of the Breck was an invaluable assistance. We proceeded in convoy to Chippenham, where *Herniaria glabra*, small, but in strong bud, was seen in some quantity. We were reunited for lunch at Maidscross Hill, where Mr Rutterford kindly came in from Lakenheath and demonstrated the few tufts of *Trifolium suffocatum* in a red carpet of *Crassula tillaea*. A number of other Breck specialities could also be seen there: *Muscari atlanticum* in quantity (on one bank mixed with the garden outcast, *M. armeniacum*, a useful comparison), *Ornithogalum umbellatum*, *Silene conica* (leaves only), and *Veronica praecox*.

Before and after lunch the coaches separated, so that more restricted sites could be visited in turn without overcrowding. On the Suffolk Trust site at Tuddenham two other rare Veronicas, *V. verna* (native) and *V. triphyllos* (originally introduced but now self-sown), were observed, as well as a superb stand of *Euphorbia cyparissias*. At Foxhole Heath *Carex ericetorum* and *C. caryophyllea* could be compared; also seen were *Festuca caesia*, *Silene otites* (in bud as well as conspicuous by the dried fruiting stems of the previous year), *Cerastium arvense*, and several mats of *Thymus serpyllum*.

As the coaches returned on schedule to Cambridge, the smiling faces of the passengers bore witness to a good day.

R. W. DAVID

FIELD MEETINGS 1979

ENGLAND

NORTHWICH & WINSFORD, CHESHIRE. 30TH JUNE

About 20 members and friends gathered at the Winsford salt mine, near which is a remarkably diverse series of habitats: heathland occurs on the sandy soils of the River Weaver terraces, which cap slopes where the Middle Keuper Marls are exposed; superimposed on these are old evaporation pits, once used by a now extinct salt industry, and ashes and rubble from old works, which are now overgrown by *Salix* scrub.

In hollows among the *Callunetum* a few healthy plants of *Osmunda regalis* were admired, but close by grew luxuriant masses of *Vicia sylvatica* both in scrub and in the open. This plant in Cheshire is closely associated with the Keuper saliferous beds. In some old pits further halophytic evidence was present in the shape of *Scirpus tabernaemontani*, *Spergularia marina* and *Puccinellia distans*, while nearby a stand of *Carex pseudocyperus* and *Typha angustifolia* was conspicuous.

After lunch the lime-waste beds at Northwich (edaphically similar to dune slacks) provided *Erigeron acer*, *Inula conyza* and *Hirschfeldia incana*, while several thousand spikes of *Dactylorhiza fuchsii*, *D. praetermissa* and their hybrids (many over 1 ft high) were admired. *Gymnadenia conopsea* subsp. *densiflora* appears to have spread considerably in the last few years, but the small colony of *Dactylorhiza incarnata* subsp. *coccinea* appeared to have been submerged under town rubbish. Thousands of *Hieracia* were a colourful sight but the party was noticeably reluctant to attempt their diagnosis.

A. NEWTON

SOMERTON, SOMERSET. 21ST-22ND JULY

A party of 26 members and friends gathered to look at the flora of part of West Sedge Moor, under the leadership of Captain R. G. B. Roe. We were told there has been local controversy over the proposal to lower the water table but the threat has been averted for the present. The alkaline water of the rhynes (pronounced locally 'reens') attracted most members. We soon found *Stellaria palustris*, *Carex pseudocyperus*, *Oenanthe aquatica*, *Scirpus tabernaemontani* and *Samolus valerandi*. Although we saw a whole field of *Thalictrum flavum*, it was difficult to find a flowering specimen due to the activities of grazing cattle. Also in this peaty field were *Carex nigra*, *C. disticha*, *Cirsium dissectum* and a white specimen of *Lychnis flos-cuculi*.

After lunch by the side of a calcareous wood, reputed to contain *Lithospermum purpureocaeruleum*, the party moved to Drayton to examine the banks of the River Isle and River Parrett. Both *Sagittaria sagittifolia* and *Butomus umbellatus* were agreed to be superb. Small, partly eaten specimens of *Petroselinum segetum* were found and it was interesting to hear that it is increasing in Somerset. *Oenanthe fluviatilis* was just beyond the reach of the precariously-balanced Captain Roe even with the longest walking stick.

The party met again on the Sunday at the Somerset Trust's 150 acre reserve of Great Breach Wood. This oak wood, noted for its butterflies and fungi, also proved botanically interesting under the guidance of Mr Keylock, chairman of the reserve management committee. He outlined the management policy for the wood, one aim of which was to encourage butterfly species. The ride clearance scheme was shown to be favourable for many plant species. Many leaves of *Primula veris* were seen and other less common species which were found included *Ophioglossum vulgatum*, *Paris quadrifolia*, *Ophrys apifera* (including a yellow form), *Lathyrus sylvestris*, *Rubia peregrina* and *Silaum silaus*. Tree species of special interest were coppiced *Tilia cordata* and *Carpinus betulus*.

After lunch, several sites around Charlton Mackrell were visited. Firstly a dry, calcareous lane for *Astragalus glycyphyllos* and a fine stand of *Sambucus ebulus*, known at this site for 150 years. A steep, calcareous bank yielded a blaze of colour from typical species and was enhanced by *Asperula cynanchica*, *Prunella laciniata* and *Carduus nutans* (white form). A small quarry in the Blue Lias yielded *Lathyrus aphaca*, *Anagallis arvensis* subsp. *foemina*, *Legousia hybrida*, *Vicia tenuissima*, *Valerianella eriocarpa*, *Silene noctiflora* and *Thlaspi perfoliatum*. The final 'find' of the day was *Salvia horminoides* on a dry roadside bank.

It is a pleasure to record the much improved conservation awareness shown by all members, but especially the care taken by the group's photographers.

E. J. ADNAMS

BRATTON, N. WILTSHIRE. 28TH JULY

Twenty one members met on Warden's Down, Bratton, v.c. 7, to visit the best remaining site in Britain of the Tuberous Thistle, *Cirsium tuberosum*. In the absence of Mrs Swanborough, due to serious illness, the party was led by the writer. We were pleased to welcome Miss H. M. Hughes, who discovered the site in 1951.

Pure *C. tuberosum* is found elsewhere only on the Whylye Downs, S. Wilts., v.c. 8, where, however, most plants are referable to the hybrid with *C. acaulon*, *C. × zizianum*. At Avebury, N. Wilts., v.c. 7, only this combination remains and at Nash Point, Glamorgan, v.c. 41, only *C. × semidecurrans* (= *C. palustre × C. tuberosum*) is now to be found. *C. tuberosum* is extinct in Cambridgeshire. Its continued existence on Warden's Down is largely due to the dominance of uncropped, robust grasses, mainly *Bromus erectus*, which does not favour the growth of *Cirsium acaulon*. *C. tuberosum* is best separated from intermediates by the truncate nature of the base of the involucre and the presence of arachnoid hairs only on the upper cauline parts. Plants in the hybrid swarms range from acaulescent forms close to *C. acaulon* to plants only distinguished with difficulty from pure *C. tuberosum*.

The introduced crucifer, *Erucastrum gallicum*, a native of central and south-western Europe, was locally abundant on tank-tracks and disturbed soil. An outstanding feature of the typical downland flora was an abundance of *Campanula glomerata*, some up to 75 cm in height. The party saw a fine colony of *Neottia nidus-avis* in a nearby beech-wood, before continuing to Bratton village, where *Torilis arvensis*, which is decreasing in abundance, was seen. *Galeopsis angustifolia* at Seend Station preceded the final stop at Morgan's Hill, where the extraordinary downland site of *Epipactis palustris* was visited. Much *Phyteuma tenerum* and *Thesium humifusum* brought a rewarding and enjoyable meeting to its close.

Our thanks are due to Major R. H. B. Oatts, of the School of Infantry, Warminster, for permission to visit the Army ranges.

A. L. GRENFELL

SPURN POINT, S.E. YORKSHIRE. 11TH AUGUST

This was a joint meeting with the Yorkshire Naturalists' Union and 15 persons attended. The aim of the meeting was to look at the various habitats on Spurn Point and observe recent changes due to erosion and the severe flooding of 1978. Habitats examined included short turf, mobile and fixed dunes, river shore, salt marsh and a brackish-water canal.

A single plant of *Glaucium flavum* with several plants of *Salsola kali* were seen by the Spurn road, where they had first appeared in 1978 after flood water had surged over the peninsula and up the road. The hybrid, *Ononis repens* × *O. spinosa*, was also seen on the road-side sand. The party spent some time in the 'Point Camp' examining short turf and bare sand for *Trifolium suffocatum*, which is at its northernmost limit on Spurn, and plants with both flowers and fruits were seen. *Filago apiculata* was also seen here. *Catapodium marinum* was seen in four places on the peninsula, in some of which it is a recent introduction. Disturbance of sand by storms has favoured some species. There was a particularly fine show of *Eryngium maritimum* and *Calystegia soldanella*; *Viola canina* subsp. *canina* and *Phleum arenarium* were also seen.

Following the extensive colonization of the mud-flats by *Spartina anglica* over the last 30 years, a salt marsh is building up and this was examined with interest. A brackish-water canal just north of the Yorkshire Naturalists' Trust Reserve was visited. The most interesting species seen included *Juncus maritimus*, *Carex extensa* and *C. distans*, which appeared by the canal soon after the construction of the new flood bank in 1954.

F. E. CRACKLES

WALES

MWNT AND GWBERT, CARDIGANSHIRE, 2ND JUNE

A dozen members met at the National Trust car park at Mwnt and then proceeded on to private land along the top of the cliffs to see colonies of *Scilla verna* in full flower; the largest colony covered about an acre. *Sagina maritima* was abundant, especially by the paths, and we also inspected the coastal heath vegetation which had *Serratula tinctoria* on the slopes. After climbing Foel y Mwnt and lunching, the party proceeded to The Patch, Gwbert: 15 acres of sand dune largely occupied by caravans but containing a fine assemblage of plants. On the youngest dunes were *Euphorbia paralias*, *Vulpia fasciculata*, *Phleum arenarium*, *Calystegia soldanella* and large colonies of *Oenothera stricta* and *O. cambrica* (*Anacamptis pyramidalis*, 460 spikes of which were seen here two months later, was not yet visible). Where sea erosion is removing the western part of the dunes, at a rate of 20m in the last 3 years, we found a small colony of *Anchusa arvensis*. Some of the more stable inner parts of the dunes had a rich flora including *Stellaria pallida*, *Trifolium micranthum*, *T. scabrum*, *T. striatum*, *T. arvense*, *Myosotis ramosissima*, *Erodium glutinosum*, *Cerastium semidecandrum*, *Vicia lathyroides* and a prostrate dune form of *Sarothamnus*. Towards the north, where the dunes overlie boulder-clay, *Rosa pimpinellifolia* and *Ulex europaeus* form scrub with colonies of naturalised *Lupinus arboreus*. We saw a total of c. 160 species on The Patch before rain intervened. Mr & Mrs Boyes Lee kindly entertained the party to tea nearby.

A. O. CHATER

ISLE OF MAN

ISLE OF MAN. 15TH-18TH JUNE

The President and 25 members of the Society attended the meeting. On the morning of the first day flushes and brackish pools were examined on the west coast of the island, near Creglea. Here, *Dactylorhiza maculata* subsp. *ericetorum*, *D. purpurella*, *Eleocharis quinqueflora*, *Pedicularis sylvatica*,

Pinguicula vulgaris, *Samolus valerandi*, *Schoenus nigricans*, *Triglochin palustris* and the sedges *Carex demissa*, *C. distans*, *C. echinatus*, *C. extensa*, *C. flacca*, *C. hostiana*, *C. nigra* and *C. ovalis* were noted. In the afternoon one of the Manx National Glens, Glen Maye, was explored. The abundance of ferns, including *Asplenium adiantum-nigrum*, *A. trichomanes*, *Athyrium filix-femina*, *Blechnum spicant*, *Dryopteris dilatata*, *D. filix-mas*, *D. pseudomas*, *Phyllitis scolopendrium*, *Polypodium vulgare* and *Polystichum setiferum* was a feature. Although not seen by the party, *Polypodium australe* still persists in the Glen. The coastal cliffs north of Glen Maye were also examined and *Adiantum capillus-veneris* and *Vicia sylvatica* were seen. To end the day, spoil from old mine workings at Foxdale was visited and *Botrychium lunaria*, *Lycopodium selago* and *Ophioglossum vulgatum* were noted.

The second day was spent in the north of the island. In the morning the Curraghs were visited and fine stands of *Carex diandra*, *Hypericum elodes*, *Myrica gale* and *Osmunda regalis* were admired. As the party left the Curraghs, marshy meadows were visited and *Listera ovata*, *Platanthera chlorantha*, *Salix cinerea* subsp. *cinerea* and *S. cinerea* subsp. *oleifolia* were found. *Dactylorhiza fuchsii*, *D. maculata* subsp. *ericetorum* and intermediates were also abundant. In the afternoon the party went to the Ayres. In sandy fields *Ornithopus perpusillus* and *Rhynchosinapis monensis* were seen, whilst in the dunes *Dactylorhiza incarnata* subsp. *coccinea* and subsp. *incarnata*, *Erodium glutinosum*, *Myosotis ramosissima*, *Neotinea intacta*, *Trifolium ornithopodioides*, *Valerinella locusta* subsp. *dunense* and *Vicia lathyroides* were recorded as of interest. *Chara hispida* (det. Mrs J. Moore), a new vice-county record, was also found in a pond on the Ballakinnag Ayres. In the evening Dr Garrad gave an informal talk on the island's natural history to those members who had come over from England.

The third day of the meeting was spent in the south of the island. The first part of the day was spent at Langness examining coastal flushes and salt marshes. Little of note was seen although *Carex pulicaris* and *Juncus foliosus* were recorded. Later the limestone and brackish pools at Scarlett were examined. *Carex distans*, *C. extensa*, *Catapodium marinum*, *Eleocharis uniglumis*, *Samolus valerandi* and *Triglochin palustris* were recorded, but the vivid colours of *Armeria maritima*, *Astragalus danicus*, *Lotus corniculatus* and *Silene maritima* were a particular feature of the meeting. The afternoon was spent at the Manx Folk Museum at Cregneish and in exploring the marshy fields on the way from the village to the Chasms. In the evening *Carex punctata* at its Onchan site was visited.

On the last day the party divided into two. One group visited the Dhoon Glen and other east coast localities for *Carex laevigata*. The second group walked from Glen Mona to Snaefell, visiting the Snaefell mines on the way. Most of the route was over dry *Calluna*-covered hills and few species were seen. The spoil heaps at the mines were generally too toxic to support vegetation, but in the streamside flushes of the Laxey River *Carex demissa*, *C. echinata*, *Drosera rotundifolia*, *Narthecium ossifragum*, *Salix aurita* and *Thelypteris oreopteris* were seen. Near the summit *Luzula sylvatica* was noted whilst on the summit plateau *Salix herbacea* was recorded.

E. F. GREENWOOD & L. S. GARRAD

SCOTLAND

EYEMOUTH, BERWICKSHIRE. 6TH MAY

On a day typical of an appalling spring following an execrable winter, a group of 12 enthusiasts met at the Church corner in Eyemouth. It being 11 a.m. on Sunday morning, hailing viciously, and the parking place for worshippers of three denominations, the start was slightly confused. The winter showers finally stopped just after midday, and we drove out of the town to view the local dandelions, the chief object of the expedition. Somebody, very possibly the leader, had decided that this corner of Scotland was sufficiently promising, unknown taraxacologically, and near to England, or more specifically Newcastle, to warrant a visit. In the event it proved to be rather dull with regard to dandelions, and extremely cold.

The first stop, on a roadside, provided material of *Taraxacum huelphersianum*, till then only known from near the coast in north-east England. Other species such as *T. hamatiforme*, *T. hamatum* and *T. polyodon* very much set the scene for the day, but *T. insigne* and *T. expallidiforme* were not recorded again. The next stop, in a small car-park on the seaward side of Coldingham, provided a sheltered lane with a south-facing bank, on which magnificent specimens of *T. cyanolepis*, with cobalt-blue bracts, were much in evidence. The commonest member of the confusing aggregate of species around *T. hamatum*, here proved to be *T. kernianum* with its very wide exterior bracts; *T. hamatiforme* with

bordered bracts, its near relation *T. hamiferum* with unbordered bracts and *T. hamatulum* with short and narrow bracts (scarcely exceeding 2mm in width) were also recorded. A walk along the coast to the village of St Abbs produced the only Sect. *Erythrosperma* (*T. lacistophyllum*) and Sect. *Spectabilia* (*T. euryphyllum*) species of the day, the former characteristically confined to shallow soils on the cliff-ledges. *T. croceiflorum* and *T. ancistrolobum* were added to the list of Sect. *Vulgaria* species.

A general monotony in the *Taraxaca*, which were dominated by *T. hamatiforme*, combined with an all-pervasive and very persuasive numbness in our extremities, suggested a move inland, and we drove to the banks of the Eye Water just west of Ayton. A meadow showed large quantities of *T. raunkiaerii* (surely the commonest dandelion in Scotland and northern England) and *T. hamatiforme*, but the hedge above provided a rarity in the shape of *T. piceatum* with its characteristic heavy-coloured bracts. *T. brachylepis*, a scarcer relative of *T. raunkiaerii*, and *T. oblongatum* were noted in the lane above. A nearby tip produced little in the way of dandelions, except for one as yet unidentified species quite strange to the leader, but had an interesting alien flora including *Allium paradoxum*, *Cicerbita macrophylla*, *Paeonia officinalis*, *Chenopodium bonus-henricus* and a *Knautia* species.

A final port of call was to the little cove at Burnmouth, but scarcely had we noted *T. hamatiforme*, and sheets of very well-developed *Cochlearia officinalis*, which had invaded a rock-garden almost to the exclusion of less salt-tolerant congeners, than the rain returned with a vengeance and we dispersed hurriedly to our cars, and the meeting broke up in weather-borne confusion, much as it had started.

A. J. RICHARDS

APPIN, ARGYLL. 16TH-17TH JUNE

The meeting was held to examine the limestone flora of the area. On Saturday the north end of Lismore Island, in square 17/84, was visited. Ten people made for Loch Baile a 'Ghobainn, while seven rounded the north tip of the island to Port Ramsay. On or near limestone outcrops both parties saw the following species which are locally frequent on Lismore: *Arabis hirsuta*, *Helianthemum chamaecistus*, *Geranium columbinum*, *G. lucidum*, *Saxifraga tridactylites*, *Valerianella locusta*, *Orchis mascula* and *Dactylorhiza incarnata*. In addition the Port Ramsay party saw *Sherardia arvensis* and *Listera ovata*, while the loch party saw *Hippuris vulgaris*, *Veronica anagallis-aquatica*, *Potamogeton perfoliatus*, *Carex paniculata* and *C. diandra*.

On the Sunday Glen Creran, in square 27/04, was visited. Nine people ascended to 2000 ft on Beinn Sgualaid, while six explored Loch Baile Mhic Chailein and its surroundings. The upland party met *Lycopodium alpinum*, *Botrychium lunaria*, *Trollius europaeus*, *Arenaria norvegica*, *Oxytropis halleri*, *Potentilla crantzii*, *Dryas octopetala*, *Salix herbacea*, *Gnaphalium supinum* and *Helictotrichon pratense*. Meanwhile the lowland party recorded a much longer list, including *Dryopteris carthusiana*, *Alisma plantago-aquatica*, *Eleocharis uniglumis*, *Scirpus sylvaticus*, *Blysmus rufus* and *Carex vesicaria*. The weather co-operated well and, apart from the unfortunate loss of a camera on the hillside, all enjoyed the meeting.

A. A. P. SLACK

CORRIE FEE, GLEN CLOVA, ANGUS. 30TH JUNE

Approximately 40 people participated in the annual joint meeting between the Alpine Section of the Botanical Society of Edinburgh and the B.S.B.I.

While approaching the corrie, *Alchemilla conjuncta* on the banks of the White Water and *Listera cordata* amongst the tall heather added interest during the walk through the forestry plantation. In the corrie the south-east facing cliffs were searched, and *Oxytropis campestris* was soon encountered in some quantity. Nearby, a few fine specimens of both *Woodsia alpina* and *W. ilvensis* caused a long debate before their true identity was established. Other ferns seen included *Dryopteris abbreviata*, *Polystichum aculeatum* and *P. lonchitis*. On the more basic rock ledges were *Saxifraga nivalis*, *Potentilla crantzii*, *Saussurea alpina* and *Melica nutans*.

By late afternoon the south-east facing cliffs had been searched and the party divided, half returning to the cars while the more intrepid ascended the cliffs on the south side of the corrie. Here *Carex stenolepis* (*C. grahamii*) was in rather immature fruit, whilst *Carex norvegica* was seen on high moist rocks, near a fine colony of *Salix lanata* and *Salix lapponum*.

The weather was fine and dry although rather cold. Unfortunately, in separate incidents, two

members of the party were injured on the unstable rocks, which somewhat marred the enjoyment of an otherwise successful day.

R. J. D. McBEATH

DUNS, BERWICKSHIRE. 7TH–14TH JULY

The object of the meeting was to record at sites suggested by the Scottish Wildlife Trust, in conjunction with the Nature Conservancy Council, to be of probable botanical interest, but for which no detailed records existed. Suitable sites are to be notified by S. W. T. to their owners as 'Listed Wildlife Sites' to encourage their voluntary conservation. The attendance at the meeting ranged from four to eleven with a total of 21 participants in all, ten from B.S.B.I., ten from S. W. T. and Mr C. O. Badenoch of the Nature Conservancy Council. Not one of the participants lives in Berwickshire.

On Saturday we visited the coast near Cockburnspath. The grassland at Greenheugh Point was a little disappointing, though there were fine displays of *Helianthemum chamaecistus* and *Anthyllis vulneraria*. Difficulty was experienced in distinguishing lush specimens of *Senecio sylvaticus* from *S. viscosus*, though the latter was only found on the beach, where we also found *Stellaria pallida*. Flushes yielded *Oenanthe crocata* and *Eupatorium cannabinum*, both almost exclusively coastal plants in Berwickshire. A small colony of *Asplenium adiantum-nigrum* was found, which is unusual on the coastal rocks. At Reed Point the grassland was richer and *Orchis mascula* was present. The shore was more exciting with colonies of *Glaucium flavum* totalling about 80 plants. Nearby, in a patch of turf at the sea's edge, were *Puccinelliamaritima*, *Juncus gerardii*, *J. maritimus*, *Carex extensa* and *Blysmus rufus*. At Rams Heugh there was a huge multicoloured colony of *Centranthus ruber* surrounded by a dense sward of *Anthyllis vulneraria*. *Carex pendula* was recorded at Dunglass Burn.

On a damp Sunday we were welcomed to the grouse moor of Roxburghe Estates, above Longformacus, by the Duke's keeper, who ran an appreciative eye over Mr Howitt's veteran Rolls Royce. Here *Rubus chamaemorus* still grows below 1500ft. In flushes by the Dye Water *Sedum villosum* was frequent and the sedges included *Carex curta* and *C. disticha*. The cleuchs were sampled without any base-rich areas being discovered, but *Listera cordata* was found among *Sphagnum*. A most elegant crested 'sport' of *Athyrium felix-femina* was found, worthy of any Warden case. The birds, which included Ring Ouzels and Merlins, had been more impressive than the flora.

On Monday the sun re-appeared and we recorded at Duns Castle Wildlife Reserve. The flora of the Hen Pool is well known with *Acorus calamus*, *Nuphar lutea* and both *Typha angustifolia* and *T. latifolia*. The Howitts elucidated the willows, which included a range of introduced hybrids, and we noted the few tussocks of *Carex paniculata*. Some of the party scoured the woodlands and found strong colonies of *Pyrola minor* (relocated after many years) and *Lycopodium clavatum*, an interesting lowland record at 500ft. *Viola lutea* was seen at a hillfort above Langtonlees, the only record for the week of this species, which is so common a few miles further west.

Tuesday morning was spent in Edrington Deans. The upper part was rich in ferns including *Polystichum aculeatum* and *Phyllitis scolopendrium*, and *Campanula latifolia* was plentiful. Fine banks of elm and rowan had a ground flora of *Brachypodium sylvaticum*, *Hypericum hirsutum* and *Primula vulgaris*. Other associates were few except on one steep bank where *Gymnadenia conopsea* and *Listera ovata* grew with *Briza media*, *Carex flacca* and *Trifolium medium*. The burnside had frequent colonies of *Scrophularia umbrosa*. By the Whiteadder Water *Scirpus sylvaticus*, *Butomus umbellatus* and a species of *Thalictrum* were found in an area much invaded by *Heracleum mantegazzianum* and *Impatiens glandulifera*. Grassland at the Dean at Foulden proved pleasing with *Scabiosa columbaria* and *Listera ovata* together with *Helianthemum chamaecistus*, *Thymus drucei*, *Briza media*, *Helictotrichon pratense* and many other associates. A small elm and oak wood by the Whiteadder boasted a bank draped with *Vicia sylvatica*. At Bonkyl Wood, where the formerly fine birch has been extensively felled and the wood drained, *Dryopteris carthusiana* was traced with difficulty. No habitat remains for the *Trollius europaeus* and *Goodyera repens*, formerly recorded there.

Wednesday was spent on the sea cliffs near Burnmouth, in magnificent weather. *Vicia sylvatica*, in full flower, and very plentiful *Helianthemum chamaecistus* with *Geranium sanguineum* combined to give a memorable colour display. *Petroselinium crispum* has been established for many years near the village; it has lost the much dissected leaves of the garden variety but not the smell. Other aliens which are established and spreading here are *Cotoneaster horizontalis* and *Aira caryophyllea* subsp.

multiculmis. *Poterium sanguisorba* and *Viola hirta* were present in quantity with *Carlina vulgaris*, *Koeleria cristata* and *Catapodium rigidum*; *Orchis mascula* was locally abundant. Two good colonies of *Ligusticum scoticum* were found and *Catapodium marinum* (second record for v.c. 81) was noted on the rocks. The flushes not only featured *Equisetum telmateia*, *Eupatorium cannabinum* and *Lythrum salicaria* but also *Pinguicula vulgaris* with *Carex lepidocarpa*. A plutonic outcrop had a distinctive flora with *Calluna vulgaris*, *Empetrum nigrum*, *Erica cinerea*, *Endymion non-scriptus* and *Allium ursinum* covering the northern slopes. *Astragalus danicus* was on the crest with a fine display of *Agrimonia eupatoria* below. *Fumaria micrantha* was found on the railway line by N. Stewart, the first record for v.c. 81. In the evening an excursion was made by invitation to Longformacus to see an important wet meadow with *Trollius europaeus* and *Cirsium heterophyllum*. Miss Blance had paused by Greenlaw moor on her way to the meeting in the morning and arrived with *Selaginella selaginoides* and *Blysmus compressus*.

On the Thursday *Populus nigra* was seen on the way to Eccles. At Eccles we visited some pools thought to be glacial kettle-holes; if so they are much modified. They yielded little but *Carex riparia*, *C. vesicaria* and many frogs. Then we visited the remains of a series of bogs along a burn towards Coldstream. Bishops Bog has been deeply drained; it is dominated by *Phragmites australis* with *Solanum dulcamara* as its sole associate. *Scrophularia umbrosa* was frequent here and in the lower bogs. Horse Bog has been much drained and planted but there is an area of alder and birch wood of interest, despite some invasion by nettles. Here *Crepis paludosa* was locally dominant, as also was *Carex riparia*, and *Listera ovata* was present. Lithtillum Loch is a pleasant place dominated by stands of *Carex riparia* and by willow carr of *Salix atrocinerea* and *S. alba* with *Dryopteris carthusiana*. *Carex otrubae*, which in Berwickshire is normally restricted to the coast, was recorded here. Haigsfield has been planted with conifers but a small duck-pond remains and *Carex paniculata* and *Listera ovata* were found. *Anagallis arvensis*, *Lamium amplexicaule*, *Lycopsis arvensis*, *Fumaria micrantha* (second record for v.c. 81) and *Matricaria recutita* were recorded from field borders. The *Matricaria recutita* was in a depression with *Alopecurus geniculatus* and *Veronica scutellata* about a mile from where it was recorded almost twenty years ago. There is strong evidence that it is established and not a mere casual. We also recorded it from a field-edge at Burnmouth.

Mr Arblaster of Silverwells entertained us on Friday with his fine rhododendron collection and refreshments before we visited a small birch wood, where *Corallorhiza trifida* was seen in an area invaded by *Montia sibirica*. A neighbour's birch wood where there was much *Sanicula europaea*, yielded *Pyrola minor* but there was no sign of the *Corallorhiza trifida* recently reported there also. In the afternoon we visited Long Moss on Coldingham Common. Here we found an unexpectedly important site with a variety of habitats including a birch wood surrounded by willow carr, *Phragmites* beds, open areas with *Carex curta* and a mass of *Vaccinium oxycoccus*, and a small loch. The woodland proved rich with plentiful *Trientalis europaea*, *Pyrola minor* and *Dryopteris carthusiana*. Exciting finds were *Corallorhiza trifida*, *Gymnocarpium dryopteris* and *Listera cordata*. Open ground yielded *Salix repens* and *Platanthera bifolia* with *Dactylorhiza purpurella*. S.S.S.I. status will now be sought for this site. Flushes elsewhere on the Common yielded *Parnassia palustris*, *Dactylorhiza incarnata*, *Oreopteris limbosperma*, *Juncus kochii* (first record for v.c. 81) and many *Carex* species including *Carex dioica*.

On Saturday we visited grassy craigs on plutonic outcrops between Hume and Stinchill. Those at Hume and Lurgie were sun-scorched and species-poor. *Koeleria cristata* was quite plentiful with *Scleranthus annuus*, but *Helianthemum* was absent and even *Thymus* scarce. For variety we pushed through a field edge bright with *Galeopsis speciosa* to Lurgie Loch. This is primarily a wet birch wood surrounded by willow carr and *Carex disticha*, but open areas are dominated by *Molinia caerulea* with holes full of *Eriophorum angustifolia*, and *Carex hostiana* was present. The woodland was found to have widespread *Corallorhiza trifida* and some *Pyrola minor*. In one part Scots pine was regenerating well with *Salix repens*, *S. pentandra*, *Erica tetralix* and *Vaccinium oxycoccus*. The *Carex disticha* flushes were white with *Galium uliginosum* but *G. palustre* was also present. *Dactylorhiza fuchsii*, *D. purpurella*, *Angelica sylvestris* and *Holcus lanatus* were also present but not plentiful. This site is now a probable S.S.S.I. Further grassy craigs were visited in the afternoon. Hareheugh and Sweethope look superficially similar to Hume and Lurgie but carry a richer flora, with *Helianthemum chamaecistus*, *Aira caryophylla* and *Dianthus deltoides*. *Vulpia bromoides* was recorded from Sweethope. The week ended, as it had begun, in sunshine.

As S.W.T. Branch Secretary for the Tweed Valley I would like to thank the B.S.B.I. participants for making this a successful joint venture.

M. E. BRAITHWAITE

CAM CHREAG, MID PERTHSHIRE. 22ND JULY

Thirteen members and guests attended the field meeting at Cam Chreag. The purpose of the meeting was to record on this little-known mountain in Glen Lyon. The party ascended the mountain via a stream running northwards from Gallin. This stream quickly develops into a wooded gorge, the sheltered depths of which supported a rich flora. Among the plants seen were *Orthilia secunda* and *Melica nutans*. Climbing out of the gorge, a stretch of moorland was traversed to the east-facing quartzite crags of Cam Chreag. Quantities of *Chamaepericlymenum suecicum*, *Trientalis europaeus* and *Rubus chamaemorus* were seen en route. The crags themselves supported a rather dull flora with few alpine, although *Thalictrum alpinum*, *Juncus trifidus* and *Sibbaldia procumbens* were noted. Of rather more interest were a few micaceous flushes below the crags, in one of which a patch of *Sagina* × *normaniana* was seen. An interesting orchid was spotted on the return journey in a clump of *Gymnadenia conopsea*; this was subsequently determined to be a hybrid between *Gymnadenia* and *Pseudorchis albida*. A total of 200 species was recorded.

J. WINHAM

ULLAPOOL, W. ROSS. 28TH JULY–3RD AUGUST

The object of the meeting was to visit possibly under-recorded 10km squares in the Ullapool area, in the hope of adding further species and to check on critical genera. A total of ten members attended at some time during the week and we were pleased to welcome Professor Ljerka Godicl from Yugoslavia. G.C. Druce, in his remarkably comprehensive 'Flora of West Ross' (1929) gave graphic descriptions of the 'extraordinarily high' rainfall and the rapacity of the midges, and little has changed. However, local landowners were generous in the access they allowed us to their properties and we had no need to employ Druce's ruses to avoid gamekeepers.

After an unnecessary wait for further members who had booked, but were never to appear, we spent the first day in square 29/10, with most of the party following the Allt Claonaidh from the southern end of Loch Lurgainn up to the cliffs of Ben More Coigagh above Lochan Tuath. This was an excellent introduction to the blanket bog of north-western Scotland, with the presence of *Schoenus nigricans* and *Pinguicula lusitanica* showing its similarities to the peatbogs of western Ireland. Wet hollows contained *Drosera* × *obovata* with its parents, while *D. intermedia* occurred very locally on bare peat hummocks. *Cornus suecica* and *Listera cordata* were found on higher ground. Such areas of cliff as we had time to explore were disappointing, dominated largely by *Sedum rosea*. Grassy slopes below the cliffs had *Rhinanthus minor* subsp. *borealis* and *Luzula spicata*. A small colony of *Hammarbya paludosa*, spotted by Helen Jackson, enlivened the return journey. Meanwhile those who had stayed nearer the road had made a fine discovery in *Lycopodiella inundata*.

The Sunday was spent exploring the coast at the mouth of Strath Kanaird (square 29/10). The moorland was disappointing, other than producing two further small colonies of *Drosera intermedia*. The same single plant of *Pseudorchis albida* was independently discovered by almost every member of the party, while the disturbed river-banks, adjacent to farmland, produced several plants of *Senecio* × *ostenfeldii*. However, the gravelly fragments of saltmarsh provided most interest. *Carex scandinavica* and *C. extensa* were locally frequent, while an *Euphrasia* astutely spotted by Miss McCallum Webster had characters suggesting *E. heslop-harrisonii*.

On the Monday we kept in the footsteps of Druce, visiting one of his favoured localities at Dundonnell (square 28/18), where fragments of natural woodland remain. By kind permission of A. Roger, Esq., we first explored the gardens of Dundonnell House, where a fine collection of cultivated plants is to be seen. Naturally we also hunted out the weeds, of which *Veronica agrestis* was unusual for the area. Shrubberies had the typically woodland *Myosotis arvensis* subsp. *umbrata* and, most surprisingly, *Circaea lutetiana*, surely an introduction here. The surrounding woodlands and river-banks contained calcareous rock-faces with *Allium ursinum*, *Agropyron caninum* and a very old, glabrous-leaved tree of *Malus sylvestris* subsp. *sylvestris*, which Druce had accepted as native. The local ivy had the patently stellate hairs of the diploid, *Hedera helix* (*sensu stricto*), though the newly-discovered tetraploid would undoubtedly have occupied similar west-coast sites further south. *Lathyrus montanus* var. *tenuifolius*, a strikingly distinct plant, was new to most of us. The afternoon saw a move to the nearby saltmarsh at the head of Little Loch Broom (square 28/08). *Cochlearia scotica* was common and convincing, though a few intermediates with *C. officinalis* were found. Some, but by no means all, of the small red oraches were *Atriplex praecox*. *Euphrasia ostenfeldii* was also found in one area.

On the following day, some members returned to Little Loch Broom, working the southern shore (square 28/09). An area of basic ground provided a contrast to previous days and produced *Festuca pratensis*, perhaps the second record for the vice-county, *Platanthera chlorantha* and *Trollius europaeus*. *Vulpia bromoides* and *Corydalis claviculata* were also good finds. Meanwhile, across the loch, others headed for Beinn Ghobhlach. *Lathyrus montanus* var. *tenuifolius* was recorded again and a single plant of *Osmunda regalis* relieved an otherwise tedious walk. The hill itself was very base-poor and unproductive, the main western corrie containing very few alpine: *Alchemilla alpina*, *Juncus trifidus*, *Empetrum hermaphroditum* and *Epilobium anagallidifolium*. Mist hindered exploration of the summit ridge, but *Arctostaphylos uva-ursi*, *Arctous alpinus* and *Juniperus communis* subsp. *nana* were recorded.

The Wednesday was a drier and more relaxed day, with most of the party visiting Tanera More (square 19/90), one of the Summer Isles. A peaty lochan above the shore contained *Isoetes echinospora* and a nearby gully had *Hymenophyllum wilsonii*. *Dryopteris assimilis* occurred here, almost at sea-level. A fine tree of *Salix caprea* × *viminalis* was seen near the island post-office, but was clearly planted.

On the Thursday, Glen Achall was explored. Though asked by one landowner to avoid an area we would otherwise have recorded, much was still seen. Some stayed on the well-recorded limestone in the lower part of the glen (square 28/19), finding *Carex hostiana* × *lepidocarpa* with its parents. Others risked the dirt road and reached Upper Rhidorroch (square 28/29). A fragment of native pine-wood contained a rich fungus-flora and a known colony of *Goodyera repens*, while ravines in the wood had *Melica nutans* and, surprisingly, *Cotoneaster simonsii*. Calcareous flushes below the wood, with *Platanthera bifolia* and *Schoenus nigricans*, suggested richer ground above, and a few limestone outcrops were eventually discovered. *Asplenium viride* and *Saxifraga oppositifolia* were abundant here, along with *Tofieldia pusilla*, *Arctous alpinus*, *Alchemilla filicaulis* (*sensu stricto*) and *Rhinanthus minor* subsp. *lintonii*.

Friday was for clearing up loose ends and the first stop was a return to Strath Kanaird. Examination of a greater number of plants left little doubt that the mystery *Euphrasia* was, indeed, *E. heslop-harrisonii*, though this still remains *sub judice*. Worryingly, the colony is endangered by construction of new farm-roads. With a brief stop at Loch Vatachan (square 29/01), finding *Potamogeton gramineus*, the party continued to the coast at Polbain (square 29/00) where an interesting-looking pond had been seen. This proved to contain a large stand of *Sparganium erectum*, almost unknown in the area. Conversation with local fishermen suggested that this had appeared in the last 20 years, following their commencing to wash their nets in the previously base-poor water. *Carex scandinavica* occurred in wet coastal turf nearby.

With a number of critical plants awaiting certain determination, the results cannot yet be assessed. However at the very least, a number of new 10km square records have been made. We are grateful to the Ullapool Sailing Club for allowing us the use of their premises in the evening and I must thank Mr & Mrs Scouller for placing their local knowledge at our disposal.

A. J. SILVERSIDE

IRELAND

THE MURROUGH, CO. WICKLOW. 26TH MAY

The purpose of this one-day meeting was primarily to assess the impact that drainage has had on this extensive area of fen, which holds a rich and diverse flora. Five members attended. The first stop was at Five Mile Point, south of Newcastle, where the fen and the adjoining marsh were investigated. Several new drainage ditches have been cut in the area, which has lowered the water table considerably and has apparently affected the numbers of *Dactylorhiza incarnata* subsp. *incarnata*, which used to be such a feature of the fen. Due to the lateness of the season little was in flower but *Orchis mascula* was found to be particularly abundant throughout the area. *Dactylorhiza traunsteineri* was just beginning to flower in the fen.

The marshes at Clonmannon, further down the coast, were next investigated and again few species of orchid were obvious. *Glyceria maxima* was noted in the drainage ditches, this being the first record for the species in Co. Wicklow in over a hundred years. The adjoining marsh is rich in species of *Carex* and

included *C. acutiformis*, *C. otrubae*, and *C. elata*. The small sand-dune alongside the nearby railway yielded *Anthriscus caucalis*, and *Cerastium arvense*, being the first post-1930 record for the latter species in Wicklow. On the sand-hills *Primula veris* was abundant though little else of interest was noted.

The site for the rare clovers at Wicklow was next visited. Few plants of *Trifolium subterraneum* and *T. striatum* were in evidence but *T. ornithopodioides* was noted in some quantity along with a few plants of *T. micranthum*. No trace was found of *T. arvense*, *T. glomeratum* or *T. scabrum* and it is suspected that recent dumping of soil at the site may be responsible for their absence. On waste ground nearby, *Barbarea intermedia* was found, this being only the second Wicklow record for the species.

Finally another site for *Trifolium subterraneum*, across the harbour, was visited but only two plants were noticed and none of the other species of *Trifolium* were in evidence. The results of the meeting were disappointing as few of the rarer species were in flower due to the lateness of the spring. This consequently made it difficult to assess the status of many of the species. However some interesting records were made, making the meeting worthwhile.

T. CURTIS

KINCASHLOUGH, CO. DONEGAL. 16–17TH JUNE

Six members and friends attended this week-end meeting centred in the Rosses. The morning of the first day was spent exploring the sand-hills, dune pasture and dune-slacks of the Kincashlough area, where much of interest was noted. The vegetation of the dunes is akin to the machair type found in the Hebrides and Scotland and consequently is rich in coastal variants. In the dune pasture a curious admixture of species occurs including *Arabis brownii*, *Ophioglossum vulgatum*, *Rumex hibernicus* and *Jasione montana*. Alongside these grow *Juniperus communis* subsp. *nana*, *Draba incana*, *Poa subcaerulea* and *Dactylorhiza fuchsii* subsp. *hebridensis*. *Empetrum nigrum* was found on boulders nearby. The sand-hills yielded the curious prostrate form of *Vicia sepium*.

In the afternoon the area around Lough Mullagher was visited, where *Hypericum elodes* was frequent and *Carex serotina* occurred commonly at the margin of the lake shore. *Trifolium medium* was noted on the heathy banks nearby, whilst in the dune pasture alongside the lake *Silene dioica* subsp. *zetlandica* was found, this being the first record for the subspecies in Ireland. The rest of the afternoon was taken up with an investigation of the flora of Cruit Island. The flora was similar to that at Kincashlough but not as rich in species. However, *Rumex hibernicus* was noted in some quantity whilst some very large fronds of *Asplenium marinum* were found growing on rocky bluffs near the sea.

The following day Aranmore Island was visited. The flora has been recorded at approximately 50 year intervals, first by Hart in 1899 and then by Praeger in 1931. It was thus the intention of the party to record as extensively as possible for the purposes of estimating whether any changes in the flora had taken place and if possible to add to the list. The Hart/Praeger list numbers 301 species and of these 173 were recorded on this visit. An additional nine new species were added. Most of the recording took place on our way from Leabgarrow on the eastern side to Rinrawros Point on the north-west coast. At Lough Shore *Carex pilulifera* and *Listera cordata* were added to the flora of the island. Along the road *Sagina subulata* proved to be frequent whilst *Pedicularis palustris* subsp. *hibernicus* was found occurring commonly in the bogs south-east of the lake. The precipitous cliffs east of the lighthouse at Rinrawros Point held *Juniperus communis*, *Salix repens* and *Empetrum nigrum*; *Rhodiola rosea* was particularly abundant here. This is also the only station for the supposed endemic *Saxifraga hartii*, and a good number of plants were noted growing on the cliffs. No trace was found however, of *Arctostaphylos uva-ursi*, which was said by Hart to be one of the more characteristic species of Aranmore.

Before the boat departed, the sand-hill at Leabgarrow was examined and here *Ranunculus bulbosus*, unrecorded by Praeger, was found in addition to *Dactylorhiza majalis* subsp. *purpurella*. Though only a day had been spent on the island over half the recorded flora had been noted and a few additions had been made to the list. This ended a very satisfactory meeting during which much systematic recording had taken place, all of which was duly recorded on cards.

T. CURTIS

MULLAGHANATTIN, GLENCAR, CO. KERRY. 21ST–23RD JULY

Eight members attended this joint meeting with the Irish Biogeographical Society centred at Glencar,

Co. Kerry. The object of the meeting was to record the flora of the north-facing cliffs of the Mullaghanattin range which Praeger never had an opportunity to visit. On the first day the cliffs above Eskabehy Lough were investigated. On the ascent the flora of the lake was examined and *Isoetes lacustris* and *Lobelia dortmanna* were found to be common. Along the stream bed above the lake, *Euphorbia hyberna*, *Saxifraga hirsuta*, *S. spathularis* and their hybrid were noted. In addition *Hymenophyllum wilsonii* and *Thelypteris phegopteris* proved to be frequent under many of the damp boulders in the area. In the surrounding bog all three species of *Pinguicula* were found whilst *P. grandiflora* was found in flower in several places on our ascent to the summit. At 1,000ft *Oxyria digyna* was encountered along with the ubiquitous *Epilobium nerterioides*. Throughout, *Hieracium anglicum* was common. Near the summit ridge *Cystopteris fragilis* was found, whilst a large rock outcrop on the ridge yielded an enormous colony of *Salix herbacea*, most of which was in fruit. On cliffs below the summit of Mullaghanattin, *Polystichum lonchitis* was noted, and lower down the cliff a single station for *Asplenium viride* was found.

On the second day the cliffs above Lough Reagh were examined. The flora was similar to that recorded the previous day though some of the rarer species were absent. *Thelypteris phegopteris* and *Hieracium anglicum* were again found to be frequent and *Sagina subulata* was found in many places along the stream leading from the lake, to the base of the cliffs. *Carex pallescens* proved to be quite a frequent member of the moor association in the area and *Taxus baccata* was noted growing by the river. The oak wood at the base of the cliffs was heavily grazed, though *Melampyrum pratense* was noted in some quantity. The cliffs yielded little of interest with the exception of *Hymenophyllum tunbrigense* and a small amount of *Polystichum lonchitis*.

Though no new records were made during the course of the meeting, two comprehensive lists were made of the flora and a gap in our knowledge of the Kerry flora has been filled.

T. CURTIS & C. MHC DAEID

FIELD MEETING TO PASSO PURA, AMPEZZO, CARNIAN ALPS, ITALY

31ST JULY–14TH AUGUST, 1979

High in the Carnian Alps at 1,400m on Passo Pura stands a mountain chalet, the Baita Torina, built by the Commune of Ampezzo as a "piccolo centro di botanica per lo studio della flora carnica". In particular it is for the study of the vegetation of the area in relation to devastation caused by recent earthquakes, and, in common with other mountain regions in Europe, the decline of agriculture and increase in tourism. We are indebted to Professors Sandro and Erika Pignatti of the Istituto ed Orto Botanico, University of Trieste, for making arrangements for the B.S.B.I. to stay in the Baita, and for assuring us that early August is the best time to see the rich alpine flora there. 20 members were able to take advantage of this exciting opportunity, and we were further assisted by Dr Pierluigi Nimis, from the Institute of Botany, Trieste. Dr Nimis was with us at the Baita for most of our stay, helping with botanical identifications, advising on the house-keeping, and taking us on two excursions further afield.

On foot from the Baita we could explore a range of habitats. The Carnian Alps, mainly limestone, lie between the Julian Alps to the east and the Dolomites to the west – the most easterly Dolomite ridges were on the skyline of views framed by our windows. On the doorstep was a very fine *Dryas* heath, with *Ajuga pyramidalis*, *Salix reticulata*, *S. alpina*, *S. glabra*, *S. retusa*, *S. serpyllifolia* and *Crepis praemorsosa* subsp. *dinarica*. Forests of *Pinus sylvestris*, *Abies alba*, *Picea abies* and *Larix decidua* covered the slopes of the valleys to Ampezzo to the east, and to the west to where the valley floor had been flooded for a reservoir. On the lower slopes *Campanula thyrsoides*, *C. spicata* and *C. caespitosa* were among the many interesting Campanulaceae seen. Abundant throughout the woodland were *Cyclamen purpurescens*, *Cicerbita alpina*, *Senecio nemorensis*, *S. fuchsii*, *Doronicum austriacum* and *Prenanthes purpureus*, all in full flower. Four species of *Lonicera*, but particularly *L. nigra*, were heavy with fruit. To the south, forestry tracks with beautiful stands of *Aquilegia einseleana*, *A. atrata*, *A. atrata* × *A. einseleana* and *Tozzia alpina* led to clearings with *Scorzonera purpurea* subsp. *rosea*, *Cirsium erisithales* and *Lamium orvala*, and on to scree, upper pastures and to the ridges of Mt. Bruto and Mt. Zauf. These higher slopes yielded *Avenula praeusta*, *A. versicolor*, *Chamaeorchis alpina* and many species of *Gentiana*, including *G. pumila*, and *Saxifraga* – in all 15 species of *Gentiana* and 15 species of *Saxifraga*

were seen during the meeting. We were mystified here by *Tofieldia calyculata* which had widely branched inflorescences, until we noted '*T. calyculata lusus ramosa*' described on the local list and Dr Nimis translated 'lusus' for us as 'a joke of nature'. To the north and higher than the Baita was limestone pavement overgrown and partially concealed by alpine meadow vegetation, which included *Sibbaldia procumbens*, *Phyteuma sieberi* and *Traunsteineria globosa*. To the south-east, amongst *Pinus montana* scrub on scree slopes, grew both subspecies of *Spiraea decumbens* (subsp. *decumbens* and subsp. *tomentosa*), *Dianthus sternbergii* subsp. *monspeulanus*, *Scabiosa graminifolia* and *Cytisanthus radiatus*, the latter being an example of the thermophile, southern elements of the flora. Here, on our first day, Dr Nimis led us to *Physoplexis comosa* in perfect condition amongst rocks above scree on Mt. Tinisa. On almost our last day the discovery of *Epipogium aphyllum* in perfect flower in woods below the Baita, and nearby, leaves of *Cypripedium calceolus* past flowering, and *Gentiana asclepiadea*, just come to flower, set the seal on a meeting filled with botanical interest.

An excellent working library is provided at the Baita, and also a plant list for part of the surrounding area which had been studied by students from the University of Trieste. We took additional reference books including the proofs for the then unpublished *Flora Europaea* volume 5, from which we were able to establish that *Hemerocallis lilio-asphodelus*, growing in a wooded rocky ravine, is native in the south-east alps, and not as we had first assumed (with true British orientation) to be a garden escape – in spite of the remoteness and distance from any garden! In evening identification sessions considerable time was spent on separating the many white (or very pale pink) flowered mat-forming plants around the Baita – *Moehringia muscosa*, *M. ciliata*, *M. ciliata* × *muscosa*, *Silene saxifraga*, *S. alpina*, *S. rupestris*, *Minuartia capillacea*, *M. rupestris*, *Gypsophila repens* – and more. The large-flowered *Cerastium* species were particularly puzzling (possibly not all the North Italian species are included in *Flora Europaea*?) but finally *Cerastium carinthiacum* subsp. *austro-alpinum* was confirmed for all gatherings of this mystery plant.

One excursion was to Mt. Canin by cable car, where a landscape of white limestone rock was at first glance apparently barren, but on closer inspection soon revealing treasures in every crevice, e.g. *Linum perenne* subsp. *alpinum*, *Campanula zoysii*, *Ranunculus hybridus* and *Potentilla brauniana*. An almighty thunderstorm disconnected the electricity and, with the cable car out of action, an unexpected and adventurous walk down the precipitous and trackless mountain side was successfully negotiated. On the second excursion, to Mt. Coglians, we walked from Collina over the pass to Lago Volaja in Austria, finding good colonies of *Papaver kernerii*, *Doronicum grandiflorum*, *Saussurea alpina*, *Paederota bonarota* and *Primula minima*.

Our party included enthusiasts of Pteridophyta, Cyperaceae and Fungi. *Carex norvegica* on dry rocky slopes and *C. flava* on damp edges of forest streams with intermediate plants between were confirmed on our return; *Asplenium fissum* was frequent, *Cystopteris regia* occasional, with *Polystichum braunii* and *P. aculeatum* × *braunii* among the many exciting records. Our total number of species identified was 724, and we were able to add a number of species to the local lists. All were agreed that it had been botanically very rewarding as well as very enjoyable, and we would particularly record our thanks to Signor Troiero, Sindaco, and the Commune D'Ampezzo for their generous loan of the Baita Torino to this Society for the meeting, and to the Institute of Botany, University of Trieste, and to all who welcomed us and helped with local arrangements for this mountain meeting.

M. BRIGGS