

Reports

ANNUAL GENERAL MEETING, 9TH MAY, 1981

The Annual General Meeting of the Society was held in the Jodrell Laboratory, Royal Botanic Gardens, Kew, at 12 noon, with 108 members present. Mr R. W. David, retiring President, took the Chair and opened the meeting.

The Minutes of the last Annual General Meeting, as published in *Watsonia*, 13: 250-252 (1981), were approved by the meeting and signed by the President.

REPORT OF COUNCIL

The adoption of the Report of Council for the calendar year 1980, which had been circulated to members, was proposed by Mr R. W. David, seconded by Mr G. P. Smith, and carried unanimously by the meeting.

TREASURER'S REPORT AND ACCOUNTS

The Treasurer proposed the adoption of the Accounts and his Report, which had been circulated to members; this was seconded by Professor J. P. M. Brenan, and carried unanimously.

ELECTION OF PRESIDENT

Professor J. P. M. Brenan had been nominated by Council. His election was proposed by Mr R. W. David, seconded by Miss M. E. Young, and carried unanimously with applause. Professor Brenan then took the Chair, and Mr M. Walpole welcomed him on behalf of the Society, warning him that the Society's affairs were at times rather complex but that it was our hope that he would nevertheless enjoy his term of office. Mr Walpole then warmly thanked the retiring President, proposing a vote of thanks for his concern and wise guidance during his Presidency. This was supported and acclaimed by the meeting.

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 J. Martin (Honorary Meetings Secretary) and Miss L. Farrell (Honorary Field Secretary), had been nominated for re-election. This was carried *en bloc*, and Professor Brenan thanked all the officers for the volume of work voluntarily undertaken by them for the Society.

It was unanimously agreed that with the membership administration satisfactorily re-organized and now computer-processed by Tern Data Ltd, Loughborough, the office of Honorary Membership Secretary would be held in abeyance. Mrs R. M. Hamilton was warmly thanked for her work as Honorary Membership Secretary since 1974, and in particular for her help with the transfer of the records to Loughborough.

ELECTION OF COUNCIL MEMBERS

Dr R. M. Harley, Mrs A. Lee and Mr R. T. Mabey had been nominated and were unanimously elected.

ELECTION OF HONORARY AUDITORS

The Honorary 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

Miss S. Gorton queried the high cost of publication and distribution of *Watsonia* in relation to the interests of some amateur members. A lively discussion followed in which the value of *Watsonia* to the Society was endorsed by a number of members present, both amateur and professional.

Mr E. Milne-Redhead proposed a vote of thanks to Mr E. D. Wiggins, Honorary Editor of *B.S.B.I. News*, a most valued publication of the Society. This was unanimously supported.

Thanks were expressed by the meeting to the President as Director, Royal Botanic Gardens, Kew, who gave permission for the use of the Jodrell Laboratory, and to members of his staff who had helped with the organization. The meeting closed at 12.58.

M. BRIGGS

PAPERS READ AT THE ANNUAL GENERAL MEETING

SEED PRODUCTION, MIXTURES AND RE-CREATING ATTRACTIVE GRASSLANDS

Native grasslands, with their wealth of wild plants and animals, are being destroyed or changed at an alarming rate, principally by agricultural activities. At the same time, new grasslands are being formed on land which has no agricultural use and where agricultural productivity is not the primary objective. Grasslands specifically for amenity purposes have been sown in newly-created Country Parks, and to rehabilitate derelict land. On motorway and other new roadside verges, and in new towns, the opportunity of sowing mixtures of native grasses and broad-leaved herbs exists, yet most areas are still sown with conventional mixtures of agricultural grasses and legumes.

A description was given of work being done at the Institute of Terrestrial Ecology, Monks Wood Experimental Station, where the objective is to create a range of grasslands suited to particular soil conditions by sowing mixtures of native grasses and herbs. Widely distributed species, like *Chrysanthemum leucanthemum*, *Lotus corniculatus*, *Prunella vulgaris*, and *Galium verum*, formed the main components of the mixtures and were sown with either various cultivars of *Festuca rubra*, or with mixtures of native grasses, such as *Trisetum flavescens*, *Hordeum secalinum*, *Alopecurus pratensis* and *Briza media*. All mixtures were sown with a nurse crop of Westerwolds Rye-Grass, which produces a green cover quickly, both to prevent soil erosion and also for aesthetic reasons. Results to date have shown that colourful grasslands can be created within eighteen months on chalk, clay and alluvial soils using various mixtures (described more fully in *Creating attractive grasslands using native plant species* published by the Nature Conservancy Council).

Attempts at growing and producing seed from more than 50 species of flowering plants were described and discussed. The object of this work is to encourage the use of native rather than imported seed. Most species tested are capable of producing considerable quantities of seed when grown as a horticultural crop, and these results have encouraged four seed firms to grow and market seed of native species.

T. C. E. WELLS

THE CONSERVATION, BY RESTOCKING, OF *SAXIFRAGA CESPITOSA* IN NORTH WALES

Saxifraga cespitosa, the tufted saxifrage, has been recorded from base-rich rocks in Cwm Idwal, North Wales, since 1796. It is a circumpolar arctic-subarctic species restricted to some thirteen small high-mountain sites in the British Isles. In the last century its abundance was greatly reduced in Cwm Idwal by botanists collecting for their herbaria. By 1975, the population had been reduced to four known plants on a single 15 cm ledge and was clearly in danger of extinction. In response to this, a small quantity of seed was collected and seven flowering plants raised in 1975–76 at the University of Liverpool Botanic Gardens. From these plants, kept in isolated insect-proofed enclosures, much seed was harvested. During the winter of 1977–78 plants were raised from some of this seed and, in May, 1978, 130 mature plants, 195 small seedlings and 1300 seeds were introduced into seven areas near the extant site in Cwm Idwal. 'Mature plants' are plants of sufficient size to flower and set seed.

Each site and the introduced plant was subsequently monitored—the site in terms of available microhabitats and the plants in terms of health and growth. The microhabitats are small moss covered ledges on large boulders and consist of living moss growing in small pockets of immature organic soil. It was found that the successful establishment of *S. cespitosa* depended on a sufficient depth of substrate under the plants, together with a full growing season for the development of a good root system to prevent winter frost lift. The monitoring of the plants, especially the study of

seed germination and the recruitment of plants from seed, has provided much information on the biology and phenology of this species in the wild.

In December 1980, after three growing seasons, there were 48 'mature plants' in Cwm Idwal. This number has been derived from the introduction as follows:

survival of mature plants	– 23
survival of seedlings	– 8
recruitment from seed	– 12
plants on native site	– 5
Total	48

Further seed germination in 1980 may result in further recruitment of plants to the total population, which occurs on several small sites. Further suitable microhabitats are available which may allow an increase in population size in the future.

The primary aim of this work was to restore the population of *S. cespitosa* in Cwm Idwal to somewhere near its level in 1796 when collecting and recording started. At present, this has been achieved, but future monitoring is required to confirm the long-term security of *S. cespitosa* in Cwm Idwal.

This work was performed whilst the author was in receipt of a N.E.R.C. Research Studentship.

D. M. PARKER

In addition to the above, G. L. Lucas read a paper entitled *Growing 'wild flowers'; the countryside and the B.S.B.I.*

EXCURSION HELD IN CONNECTION WITH THE ANNUAL GENERAL MEETING

THERFIELD HEATH, AND SCALES PARK. 10TH MAY, 1981.

This meeting was attended by about 90 members and their friends. The morning was spent on the chalk downland of Therfield Heath, a local nature reserve. The site is well known for *Pulsatilla vulgaris*, this year in great abundance but, as always, limited to a comparatively small area. Adjacent is Fox Covert, a small beech-wood and the first reserve acquired by the Hertfordshire & Middlesex Trust for Nature Conservation. This was as recently as 1966, so progress may be noted, as the Trust now has no fewer than 40 reserves. The party divided into groups and some were pleased to be greeted by Mr W. H. Darling, President of the Trust, and a Conservator of the Heath, who, with Mrs Darling, has added yet another reserve, an extension of Fox Covert. It was not to be expected that any additional species of vascular plants would be observed in a site so well documented, but Mr A. R. Outen found two fungi—*Sarcosphaera crassa* and *Paxina acetabulum*, probably neither previously recorded for Hertfordshire.

The afternoon was spent in Scales Park, a boulder clay wood about five miles from Therfield Heath. This wood has a history of being ancient woodland, but it was clear-felled in the war as part of Nuthampstead Airfield. It was returned to its owner, Baron Dimsdale, a few years after the end of the war, having since been leased to the Forestry Commission. Much of the wood has been planted with conifers but belts of mainly regenerated hardwood have been left for nature conservation. About ten members, with the aid of record cards, led groups into the wood to list plant species. The result of such work has shown that almost all the plant species that one could expect to find in primary woodland in this part of Hertfordshire are still present. Considerable interest was also found in the flora of the margins of the previous airfield runways and in parts of the wood affected by the excavation of the subsoil during the wartime occupation. Some ponds so created had aquatic vegetation. Little was previously known of the floristics of this site, and it has apparently not fully recovered from its previous disturbance.

We are grateful to Mr B. Sawford and Mr T. James of the North Hertfordshire Museums Service and to Mr P. Oswald and Mr A. R. Outen for their assistance in the leadership of the party.

J. G. & C. M. DONY

FIELD MEETINGS, 1980

ENGLAND

AVON GORGE, BRISTOL. 7TH JUNE

The Avon Gorge continues to be popular with botanists and the meeting was fully booked before the end of March. A party of 30 met at the Observatory on Clifton Down (v.c. 34) where *Bromus madritensis* was abundant behind the railings. Moving around Observatory Hill we saw *Allium roseum* subsp. *bulbiferum*, *A. carinatum* (not in flower) and *Nectaroscordum siculum* (Ucria) Lindley. All had been planted there in 1897. *Rumex pulcher*, *Veronica spicata* subsp. *hybrida* and *Rumex sanguineus* var. *sanguineus* were also seen nearby. In a small area to the north, the party admired *Carex humilis*, *Trinia glauca* and leaves of *Allium sphaerocephalon*. Lunch was taken at Sea Walls, where *Senecio* × *albescens* was seen.

Reassembling in Leigh Woods N.N.R. (v.c. 6), and joined by the Warden, R. V. Russell, the aliens *Tellima grandiflora* and *Allium roseum* (again!) were seen. Some thistle leaves were puzzled over, the plant, when it flowered proved to be *Cirsium erisithales* (Jacq.) Scop., an escape from the nearby Botanic Gardens. The party was shown *Sorbus bristolensis* and the recently described *Rubus fuscicaulis* E. S. Edees, which was later confirmed *in situ* by E. S. Edees and A. Newton and found to be plentiful in the more open parts of Leigh Woods and not uncommon on the other side of the Gorge. Descending a steep path to the river, hundreds of plants of *Daphne laureola* were passed. The leaders were as surprised as the party to see *Arabis scabra* still in flower by the Towpath. Several *Sorbus* species were demonstrated and *Geranium purpureum* was seen, growing with *G. robertianum*.

While no new plants were added to the Avon Gorge flora, or 'lost' ones refound in this well-worked area, a pleasant day was had by all and those also in the Wild Flower Society were able to add some uncommon plants to their Diaries.

C. M. LOVATT & A. L. GRENFELL

HOLME-NEXT-THE-SEA, WEST NORFOLK. 5TH JULY

Twenty five members and friends met at this Nature Reserve, well-known for the richness of its fauna and flora. It has a range of habitats from fore dunes, older established dunes and dune ridges with slacks between to salt marsh subjected to submergence on spring tides.

Around the car park *Salix* × *calodendron*, introduced many years ago, was seen. On the fairways of the golf links *Poa bulbosa* was abundant. In 1914 this species was considered to be very rare but it is now widespread along the West Norfolk coast; unfortunately the mowing of the fairways does not allow it to flower. A few plants of *Vulpia fasciculata* (*V. membranacea* auct.) still persist in the sand, its only known Norfolk station. On the dunes the hybrid × *Ammocalamagrostis baltica*, introduced after the 1953 sea flood, occurred in plenty, proving to be as efficient a sand-binder as the common *Ammophila arenaria*. Along the foreshore *Agropyron junceiforme* grew in the loose sand and the hybrid *A. obtusiusculum* was seen in the dunes, the *A. pycnanthum* parent being abundant. Other grasses included *Festuca juncifolia* in the mobile dunes, *Puccinellia maritima*, *P. distans*, *Parapholis strigosa*, *P. incurva*, *Catapodium marinum* and *Corynephorus canescens*. *Suaeda vera* is here in one of its most northern limits in Britain. *Eryngium maritimum* and *Glaucium flavum* together with three species of *Limonium* added much appreciated colour to the Reserve.

Lunch was taken by the Warden's house and afterwards the orchid area was visited in company with the Warden. *Epipactis palustris* was seen with *Dactylorhiza praetermissa*, together with a magnificent display of the Indian-red flowers of *D. incarnata* var. *coccinea*. *Ophrys apifera*, a constant feature of the West Norfolk coast, and *Anacamptis pyramidalis* occurred in open places near the pine plantation.

A short halt was made on the return journey at Ringstead Downs, a glacial valley, to see a good chalk flora including *Helianthemum chamaecistus*, *Hippocrepis comosa*, *Rosa rubiginosa*, *Inula conyza* and *Euphrasia pseudokernerii*.

E. L. SWANN

PLYMOUTH, S. DEVON. 25TH–28TH JULY

A party of 13 members and two leaders attended this Bramble Foray based at Plymouth, in order to study the adjacent areas of South Devon and East Cornwall. This area has a distinctive bramble flora of its own, being situated between the main English bramble flora and that of the Cornubian peninsula. Much of the time was spent re-tracing the steps of two previous batologists, Archer Briggs and Francis Rilstone, who had spent much of their time studying the area's brambles and who had come to the conclusion that only in a few cases did the brambles of the area satisfactorily fit the names proposed by contemporary authorities, and that in all likelihood they were almost all distinct from those of other areas. For the meeting the participants split into two groups, one led by Mr E. S. Edees and the other by Mr A. Newton. Each group then covered one or two 10 km squares per day, and then met together again in the evening, using the facilities kindly provided by Plymouth Polytechnic and Dr Wigston, to discuss results and to endeavour to press (or in some cases cook!) the specimens gathered during the day. The meeting was made all the more enjoyable by good weather, except for a brief shower on the first day necessitating the emergence of one leader's umbrella, along with some puzzled faces from onlookers as they wondered what grown people were doing huddled round bramble bushes in the rain, armed with secateurs and carrier bags!

The first day saw the crossing of the Tamar Bridge into East Cornwall to look at the area south of Callington. After meeting the Cornish participants, a start was made at Cadson Bury where the members familiarized themselves with *Rubus nessensis*, *R. bertramii*, *R. briggsianus*, *R. rubritinctus*, *R. adscitus* and *R. peninsulae*. Of these, *R. rubritinctus* and *R. adscitus* were subsequently to be found in nearly all areas we were to visit during the meeting. Bramble Wood at nearby Clapper Bridge did not live up to its name, but as a compensation *Dryopteris aemula* and *Epipactis helleborine* were found; the fern being unfamiliar to some members, and the orchid being uncommon in Cornwall. The best site of the day was a lane to the south-east of Kit Hill which produced ten named species, including *R. nemoralis*, *R. pyramidalis*, *R. riddelsdellii*, *R. prolongatus*, *R. dumnoniensis*, *R. altiarcuatus*, *R. ulmifolius* and *R. botryeros* in addition to some seen earlier. *Agrostis setacea* and *Euphrasia vigursii* were found on an adjacent heathy area giving added interest, especially to one member who insisted on collecting samples of *Euphrasia* whenever possible. At the end of the day, when bramble fatigue had set in, several members who wished to see *Physospermum cornubiense* were pleased to hear that the leader had the same desire, so wishes were fulfilled at nearby Luckett, where in addition to *P. cornubiense*, *Melittis melissophyllum* and *Neottia nidus-avis* were seen, although the latter two were not in flower.

On the Saturday the Tavistock area was visited, the first stop at Whitchurch Down producing the local *R. plymensis* along with another plant, frequent in the area but which could only be called 'Cornish *villicaulis*'*. A stop at Black Down near Lydford was most rewarding as *R. mollissimus* was re-found in the same spot where the Rev. Moyle Rogers had found it in 1910. The value of old records was proved, as his reference 'N. W. corner of Blackdown, by rocky stream and wood, very abundant and luxuriant' still held true, except perhaps the quantity had diminished. Other species here were *R. polyanthemus*, *R. adscitus*, *R. dentatifolius* and *R. longithyrsiger*. Lydford Station was to be the first of several productive stops at railway land, as 11 species were found including *R. orbis* and *R. vestitus*; the latter, although common in the rest of the country, was here at perhaps its western limit. Although the rough ground at the disused Wheal Josiah mines looked promising on the map, in reality it proved to be disappointing as the only plant of note was the only *R. fuscoviridis* of the meeting. The last stop at a lane near Hartshole Farm south-west of Tavistock gave a salutary lesson in the problems of *R. ulmifolius* and its hybrids, it being difficult to find a bush of the pure species.

Sunday saw a return to Cornwall, this time to the Liskeard area where we met a local member who guided us to interesting sites in the vicinity of his appropriately named Bramble Cottage, which, in view of the common bramble of the lane, should perhaps now be known as *Rubus peninsulae* Cottage. A walk up to the old mines on the side of Caradon Hill gave us ten species including the only *R. lindleianus* of the meeting, along with *R. lamburnensis*, but this total was exceeded by a visit to an old lane at Siblyback, where not less than 12 species were seen. This lane upheld the leader's theory that 'No Through Road' often heralds good bramble hunting ground. The attractive *R. briggsianus* was again seen, as well as *R. stanneus*, a plant of West Cornwall here at its eastern limit, and *R.*

*This is *R. villicauliformis* A. Newton, see pp. 76–77.

newbouldianus. Although people think of brambles as common, it is only when one finds places such as this lane that one realizes that there are both good and bad places to look for them! To round off the day, the party went on the track of *R. coombensis* in its type locality at Coombe Junction station on the Liskeard to Looe line, one which used to be traversed frequently by Rilstone. In idyllic surroundings for the railway enthusiasts in the party, one small plant, which had survived British Rail's weedkiller, was duly located and samples procured at great risk by our Belgian batologist, Mr H. Vannerom. Still by the railway, the main line station at Liskeard produced the only member of the Section *Triviales* seen, it being *R. tuberculatus*. Fittingly, the last plant of the day was *R. rilstonei*.

The final day saw numbers reduced to seven and so one party was formed which visited some of Briggs' favourite localities in the Plym Valley. At Plym Bridge, besides watching the activities of tree fellers, swimmers and trout, we were also treated to an erudite explanation of the nomenclature of *R. coombensis*, *R. longithyriger* and *R. botryeros*, all of which were growing here; it was easy to see why earlier batologists had had difficulty with them. En route to Bickleigh Vale a stop was made to see the Plymouth Pear, *Pyrus cordata*, looking somewhat sorry for itself (yet safe) amid builders rubble in the site to where it had been transplanted during road alterations. At Bickleigh one leader was treated to two species he had not seen before, in *R. ramosus* and *R. sagittarius*, along with more *R. coombensis*, again by the railway. A field which would have made most farmers hang their heads with shame caused us to rejoice as it provided us with well grown specimens of many plants we had seen during the meeting; it also caused much speculation as to the feasibility of having nature reserves for brambles!

After lunch the participants went away having seen 42 species in 11 10 km squares, producing a total of 151 records. They had also gained the knowledge that the brambles of the area were different from those of other places, an example being the fact that, of the common English brambles, *R. lindleianus* and *R. vestitus* were seen once each, and *R. dasyphyllus* was not seen at all. There is still much work to be done in the area, especially in the naming of several species which were constantly seen during the meeting, but which appear to be unnamed.

R. SMITH

WELLS, SOMERSET. 26TH JULY

Eight members attended this meeting, which concentrated mainly on grasses. A variety of sites were visited, starting with limestone grassland above Cheddar Gorge followed by marshland on the Somerset Levels and sand dunes at Berrow. The excursion ended at Brean where *Koeleria vallesiana* was seen in the limestone grassland on the Down and various maritime species in the salt-marsh behind.

The weather remained dry but cool and the total of 49 grass species seen provided ample reward for the rather lengthy drives between the sites.

S. A. RENVOIZE

WALES

ANGLESEY. 7TH JUNE

About 26 members and friends attended this meeting, which had been arranged to examine the marsh orchids, for which the Carboniferous limestone area of Anglesey is noted.

The morning was spent at the small calcareous mire at Rhos-y-gad, near Pentraeth. The main attraction here, *Dactylorhiza traunsteineri*, was in full flower, though in much smaller numbers than usual. There was, however, a sufficient number of plants to demonstrate how variable this species can be, particularly in flower characters: their colour sometimes a pale 'lilac' and the lip occasionally the same shape as that of *D. majalis*. *D. incarnata* was also in flower and a few plants of *D. purpurella* with flowers just opening. On surrounding, drier parts *D. fuschsii*, *D. maculata* subsp. *ericetorum*, *Platanthera bifolia* and *Orchis mascula* were found, but only the leaves of *Epipactis palustris* were to be seen at this early date. Here we also saw *Genista anglica*, *Serratula tinctoria* and a few plants of *Taraxacum palustre*. In hollows flushed by springs of calcareous water *Schoenus nigricans* grows in compact tussocks surrounded by bare peat; here *D. traunsteineri* was at its finest, and was seen to best advantage, a fact soon appreciated by those with cameras! In the swampy area further

south-west we found a small patch of *Cladium mariscus*. Near it were *Juncus subnodulosus*, *Berula erecta*, *Eleocharis uniglumis* and *E. quinqueflora*, the sedges *Carex diandra*, *C. lepidocarpa*, *C. dioica*, *C. lasiocarpa*, *C. hostiana* and *C. rostrata* and a large patch of *Equisetum* × *litorale* growing close to *E. palustre* and *E. fluviatile*.

In the afternoon the party moved to a second site, Cors Erddreiniog, part of which is now a National Nature Reserve. On our way down from Nant Isaf some highly calcareous spring mires were examined. These were found to carry a large number of marsh orchids and sedges. *D. traunsteineri*, *D. incarnata* and *D. purpurella* were again seen and a single plant of the rare hybrid *D. incarnata* × *D. traunsteineri* was found. Around the small lake, Llyn Wyth Eidion, we saw the more typical fen plants, with stands of *Cladium* and patches of *Schoenus*. In the lake itself *Schoenoplectus lacustris* was seen, but only the submerged leaves of *Sparganium minimum*, where it has been seen flowering in previous years, demonstrating its ability to grow on a highly alkaline substratum. Along the shore of the lake, we found large tussocks of *Carex elata*, but the fen plants are clearly being invaded by *Molinia* as a result of drainage and lowering of the water table. On disturbed soil near one of the drainage ditches there was a colourful display of *Aquilegia vulgaris*. This was much photographed, as were the few plants of *Ophrys insectifera* found by the keen eyes of the younger members of the party. On the *Schoenus* tussocks, with *O. insectifera*, we noted the abundance of *Parnassia palustris* and *Selaginella selaginoides*. Ditches nearby had *Baldellia ranunculoides*, *Samolus valerandi*, *Epilobium parviflorum* and much *Carex lepidocarpa*. Those of us with an interest in grasses noticed *Glyceria plicata* in a ditch below Nant Isaf and an extensive patch of *Calamagrostis epigejos* near the fen.

Our thanks are due to all who made the day a happy one: Tom Richards for his ready permission to visit Rhos-y-gad, Mr Williams of Nant Isaf for allowing us to cross his land, the Regional Officer of N.C.C. for permission to visit Cors Erddreiniog N.N.R. and Mr Tim Blackstock for his invaluable help on the day.

R. H. ROBERTS

SEVERN ESTUARY, GWENT, 6TH JULY

Twenty members gathered with the leader, T. G. Evans, on an overcast day. To the west were the Llanwern Steelworks, to the north the hills of Wentwood and to the south and east stretched the Caldicot Levels down to the River Severn, with the Cotswolds rising beyond the far shore. A County Trust reserve was visited, a remnant of fen, to see *Hippuris vulgaris*, *Cirsium dissectum*, *Senecio aquaticus*, *Carex disticha*, *C. riparia* and *C. acutiformis*, etc. At Undy Pool a ditch was full of *Rumex palustris*; this rare dock has survived here for at least 40–50 years. Nearby, Noah's Ark, flat land dissected by reens, provided *Ranunculus circinatus*, *R. aquatilis*, *R. trichophyllus*, *Rorippa amphibia*, *Ceratophyllum demersum*, *Bromus racemosus*, *B. hordeaceus* subsp. *thomii*, *Catabrosa aquatica* and *Populus nigra*. Four juvenile kestrels had just left a nest in the poplar tree and were seated in line on a horizontally inclined upper branch. As the party approached all four sidled sideways into the foliage and out of sight. An exciting discovery was the leaves of *Petroselinum segetum* on the steep bank of a reen. This decreasing Gwent plant is difficult to find in flower in August, because all the vegetation is cropped short by sheep, almost to the water's edge.

Lunch was taken on the river bank on the upper salt-marsh. As well as the more usual plants there were also numerous plants of *Alopecurus bulbosus* and *Festuca rubra* subsp. *litoralis*. In a reen near the sea bank, *Zannichellia palustris* var. *pedicellata* still flourished despite periodic spraying by the drainage board. Magor Pill was bordered by another salt marsh; here occurred *Carex extensa* and *Armeria maritima*. On the sea bank was *Silaum silaus* and *Sison amomum*, but it was the thick covering of a reen by *Azolla filiculoides* which received the greatest acclamation. Equally striking was a reen covered by *Lemna polyrrhiza* and *L. gibba*, and this was shaded by a white poplar bearing *Viscum album*.

The meeting concluded with a view along a reen packed by flowering *Sagittaria sagittifolia*. It had been most pleasant having the company of the author of Gwent's Flora, Arthur Wade, now in his 85th year, and also that of an enthusiastic Bristol couple, who were shown Sudbrook's *Asplenium marinum*, *Trifolium subterraneum*, *Rapistrum rugosum* and *Lavatera arborea*, after the rest had called it a day.

T. G. EVANS

LAKE OF MENTEITH, WEST PERTH. 14TH JUNE

This meeting, which was held jointly with the Glasgow Natural History Society, was attended by 17 members and friends. The object was to examine the vegetation of the north-western shore of the lake, together with that of the neighbouring Loch Macanrie and of the intervening ground.

A start was made from a point just east of Malling where the main road closely approaches the lake shore, and the party then followed the shore to the south for some distance. A good variety of marsh and aquatic species was noted along the margin, including *Isoetes lacustris*, *Lysimachia vulgaris*, *Lycopus europaeus*, *Callitriche hermaphroditica*, *Potamogeton perfoliatus*, *P. gramineus*, *Scirpus lacustris*, *Carex vesicaria* and *C. hirta*. Nearby, rough damp pasture produced *Carex curta* and a good variety of other *Carex* species, together with *Dactylorhiza purpurella*, *D. ericetorum*, and their hybrid *D. × formosa*. A drier bank had a colony of *Meum athamanticum*, and a good stand of *Dryopteris spinulosa* grew in a scattered birch wood with *D. dilatata* and the putative hybrid *D. × deweveri*. A barley field close to the lake shore had *Viola arvensis* in quantity and some *Lycopsis arvensis*, the latter apparently a scarce plant in the area.

During the walk across the 'moss' to Loch Macanrie we were fortunate to find *Carex paupercula* in very small quantity, growing in unusually dry conditions, with *Vaccinium oxycoccus* nearby. A damp track produced *Ranunculus hederaceus* and *Lythrum portula*. Loch Macanrie, though of limited extent, is of more than ordinary interest, having a marginal flora which includes two beds of *Cladium mariscus*, a very local plant in Central Scotland, and *Nymphaea alba* mixed with some *Nuphar lutea*. An area of poor fen carr, on the north side of the loch, had *Callitriche intermedia* and *Dryopteris spinulosa*, while an open *Sphagnum* lawn had abundant *Vaccinium oxycoccus* and *Carex paupercula* in greater quantity and in a much more typical habitat than that noted earlier.

The return to the cars was uneventful save for the sight of a quantity of *Viola lutea* in rough pasture. The onset of heavy rain, which had threatened all day, brought the day's proceedings to a hurried end as far as the main party was concerned, but two members elected to continue round the west and south sides of the Lake. They reported no further finds of particular note. Although not strictly relevant to the meeting report, it is of interest to mention that one member, while travelling to join the party, collected a species of *Amsinckia* which at present awaits determination. Another member independently found *Baldellia ranunculoides*.

Our thanks are due to Dr R. Keymer, local A.R.O. of the N.C.C., who kindly made arrangements regarding access and also provided useful information about the flora of the area.

A. MCG. STIRLING

MARLEE AND STORMONT LOCHS, E. PERTH. 21ST JUNE

A total of 16 members and friends attended this joint meeting with the Perthshire Society of Natural Science. Unfortunately one of the leaders, Mr Robson, was not able to attend, due to ill health. We were particularly pleased that the owners of Loch Marlee area were able to come with us. The aim of the meeting was to explore contrasting areas of fen at these two lowland lochs, and this aim was successfully achieved.

The somewhat calcareous Marlee fen was particularly noteworthy for its range of *Carices*, with *Carex aquatilis*, *C. curta*, *C. diandra*, *C. disticha*, *C. echinata*, *C. flacca*, *C. nigra*, *C. panicea* and *C. rostrata*. It was also nice to find *Dactylorhiza incarnata* subsp. *incarnata* and *D. purpurella*. We managed to walk round virtually the entire shoreline of Stormont Loch, exploring the fen where we could. Even the normally inaccessible north-western fen was reached by means of a convenient fallen tree. The fen at Stormont was rather eutrophic in status and was outstanding for its huge population of *Lysimachia thysiflora*, flowering freely. Other plants of special interest were *Bidens cernua*, *B. tripartita* and a *Calamagrostis*, of which Nicky Stewart collected a specimen for his mother to determine its taxonomic status. Even the pinewoods fringing the loch were not without interest, with two fine stands of *Goodyera repens*.

F. FRENCH & R. SMITH

TWEED VALLEY, SELKIRKSHIRE. 28TH-29TH JUNE

Ten members met at Melrose and the first day was spent by the River Tweed at Yair and at Sunderland Hall. On the second day the Caddon Water at Caddon Head was explored and Windlestraw Law (2163') climbed. There were some interesting old records to be followed up at Yair and the Upper Caddon Water is a remote area of v.c. 79, previously unworked by the recorder, although part of a grade-one S.S.S.I. Many new records were made for the relevant squares.

Under threatening skies the party arrived at Ashiesteel Bridge to follow down the west bank of the River Tweed to Yair Bridge. *Scirpus sylvaticus* was soon found and a small colony of *Lysimachia vulgaris* provided the first localized record for v.c. 79. The finding of *Carex aquatilis* by the rivers edge and again on a small island caused excitement, as this was one of the Berwickshire Naturalists' records of 1877 which we had hoped to refind. This is the second extant site in the county for this local sedge. *Salix triandra*, checked by the Howitts, was a new v.c. record. Steep flushed banks produced a luxuriant *Carex* community of *C. laevigata*, *C. sylvatica* and *C. pallescens*. Other species of note seen in the course of the morning were *Carex remota*, *Chrysosplenium alternifolium*, *Circaea intermedia*, *Cochlearia officinalis*, *Hypericum humifusum*, *Poa chaixii*, *Polygonum bistorta*, and *Valeriana pyrenaica*.

The riverside banks of the Tweed and Ettrick at Sunderland Hall failed to produce any notable records. *Symphytum tuberosum* interested those from south of the Border. Hopes were raised for possible *Polystichum setiferum* but closer examination revealed flaccid *P. aculeatum* in deep shade. However *Hieracium grandidens* provided a second v.c. record. We were fortunate that the day had remained dry.

The following day dawned bright and clear and boded well for the visit to the higher ground of the Moorfoots. At Caddon Head *Populus tremula*, a decidedly local species in the area, was present and several bushes of *Juniperus communis*, another local species, were seen across the valley on scree. The rough drive towards Scroof left the cars, including the Howitts' venerable Rolls, strung out and abandoned along the verge as the track steadily deteriorated. However all were safely retrieved later in the day. On ascending the Birehope Burn, *Listera cordata* was local on *Sphagnum* under *Calluna* and in Merlins Cleuch *Myosotis brevifolia* was seen. The party split up here, some members ascending the monotonous slopes of Windlestraw Law where the blanket bog at the summit produced abundant *Rubus chamaemorus*, although *Carex bigelowii*, recently found on the v.c. 78 side, was absent. Those who did not reach the highest ground were rewarded with the only record of the day for *Sedum villosum*. This area had been disappointing with a poor variety of species, partly due to the lack of basic habitats. To end the day a quick visit to Hare Cleuch, a densely wooded section of a nearby burn with *Betula* and *Salix aurita*, failed to live up to expectations, with no species of note.

R. W. M. CORNER

LOCHMABEN, DUMFRIESSHIRE. 4TH-6TH JULY

Ten members took part in the meeting, the object of which was to visit under-recorded places in the eastern part of the vice-county. Five areas were chosen which had not been visited recently.

During the three days, white forms of *Cirsium palustre*, *Prunella vulgaris*, *Valeriana officinalis* and *Erica tetralix* were commented on. *Euphrasia*s and subspecies of *Agrostis canina* and *Myosotis arvensis* were examined. A few specimens were collected for identification. New county records were not numerous, but it was a successful and enjoyable week-end, and, as recorder of v.c. 72, I feel greatly rewarded by the interest and hard work of all those who took part.

On the first day we visited an S.S.S.I. on the Dryfe Water. This is in a narrow valley, whose steep banks are clothed with native woodland of predominantly hazel, elm (*Ulmus glabra*), ash and willow. *Salix nigricans*, *S. × strepida* and *S. × multinervis* were noted here. Other interesting additions were *Arabis hirsuta*, *Carex hirta*, *C. lepidocarpa*, *C. disticha* and *C. acutiformis*. Common constituents of the ground flora of the area were *Filipendula ulmaria*, *Mercurialis perennis* and *Circaea lutetiana*, together with *Valeriana dioica* and *V. officinalis*.

On the second day we visited a moss on Cleuchfoot Farm, behind Wauchope Old Schoolhouse, which might have a claim to fame for its still large population of *Andromeda polifolia*. Here there was much *Sphagnum* with *Vaccinium oxycoccus*, frequent *Drosera rotundifolia*, patches of *Dactylorhiza*

fuchsii and *D. ericetorum*, a spread of *Narthecium ossifragum* and some sedges. Nearby, beside the B7068, we found a much more varied roadside bank. In a wet area we found a small stand of *Phragmites australis*, *Carex acutiformis*, *C. disticha*, *C. pallescens*, *Filipendula ulmaria*, *Valeriana officinalis* and *Viola palustris*.

Further north up the Esk valley we paused a Bentpath, where there is a good width of fixed river shingle. A few of the 23 additions made here were *Symphytum officinale* var. *purpureum*, *Chenopodium bonus-henricus*, *Agropyron caninum*, *Prunus padus* (a common Dumfriesshire tree), *Salix nigricans* and *S. purpurea*. At Enzieholm Bridge on the Esk *Mimulus guttatus* was found, while at three other sites *Mimulus guttatus* × *M. luteus* was noted. At the confluence of the Black and White Esks much joy was expressed by all at seeing such a spectacular rocky scene and finding *Salix phylicifolia*, *Galium boreale*, *G. sternerii*, *Anthyllis vulneraria*, *Solidago virgaurea*, *Antennaria dioica*, *Pinguicula vulgaris*, *Selaginella selaginoides* and *Dactylorhiza purpurella*. By the Bailiehill Mill Burn there was a good flush with orchids, *Trollius europaeus* and *Valeriana officinalis*.

On the last day we found that the banks of the Black Linn, covered in alder, beech and ash, were rich in ferns, with a specially beautiful stand of *Phegopteris connectilis*. There were lingering *Adoxa moschatellina* leaves and leaves of *Chrysosplenium alternifolium*. Two interesting plants in flower were *Jasione montana* and *Vicia angustifolia* subsp. *bobartii* (a new v.c. record). Lower down, where the Glenkill Burn reached level ground, an interesting grass/sedge pasture spread on either side of its banks.

A final bonus was added to this successful field meeting, after the farewells had been said, when a member of the party refound a colony of *Carex paupercula* in a moss near Lochmaben. The predominant sedge in closest proximity was *C. curta*.

M. E. R. MARTIN

KINLOCH RANNOCH, PERTSHIRE. 12TH JULY

The aim of this meeting was to visit two sites of botanical interest in the vicinity of Kinloch Rannoch. The party consisted of some 25 members and friends of the Society. In the morning the numbers were augmented by some 20 members of a Mountain Flowers course from Kindrogan Field Centre, led by J. Grant Roger.

The first site was a small area of limestone pavement near the road on the north side of Schiehallion, a type of habitat rarely encountered in the Highlands. Amongst the principal plants of interest were several which are typical of a woodland habitat rather than an exposed mountain side, but surviving due to the shelter and nutrients provided by the limestone pavement. Encountered were *Convallaria majalis*, *Hedera helix*, *Thalictrum minus*, *Arabis hirsuta*, *Coeloglossum viride*, *Saxifraga aizoides*, tiny *Carex capillaris*, *Asplenium viride* and *Thelypteris robertiana*. Near-by a wet flush had lush specimens of *Carex capillaris*, *Eriophorum latifolium* and *Juncus alpinoarticulatus*.

The party, now reduced to 20, climbed the south slopes of Beinn a' Chuallaich in the afternoon. Wet flushes on the lower slopes had fine stands of *Kobresia simpliciuscula*, *Carex capillaris*, *Juncus triglumis*, *Eleocharis quinqueflora* and *Saxifraga aizoides*. Higher, on small limestone outcrops protruding through the heather, *Potentilla crantzii*, *Thlaspi alpestre* and *Carex rupestris* were in small numbers, the latter probably a new record for this mountain. The day was concluded in the descending mist, with the discovery of *Betula nana* in the high level wet peat moor.

I would like to thank the landowner for his co-operation and interest and Dr R. A. H. Smith for acting as deputy leader.

R. J. D. McBEATH

KINDROGAN, PERTSHIRE. 20TH–27TH AUGUST

Recent years have seen a succession of residential B.S.B.I. meetings at the Kindrogan Field Centre of the Scottish Field Studies Association, each meeting designed to deal with a critical group of plants. Thus recent courses have included major genera such as *Salix*, *Rubus*, *Rosa* and *Potamogeton*. However, many smaller groups, notably those given as aggregates on field recording cards, lacked coverage. This meeting was designed to redress this. Inevitably some groups received more attention than others and the interests of both leader and participants decreed that *Euphrasia* was to become the central theme of the meeting. This report also concentrates on those groups not previously given coverage.

The vicinity of Kindrogan itself (v.c. 89), including the grassy banks and arable land along the River Ardlie, were enough for the opening day. Indeed, the range of interests possessed by the party meant that we could hardly pass a single species without critical comment. The Centre grounds contained a number of plants of *Rumex longifolius* × *R. obtusifolius*, with the suspicion of back-crosses to the parents. Woodland edges had *Myosotis arvensis* subsp. *umbrata*, a frequent plant of disturbed woodland sites and apt to be confused with *M. sylvatica*. Here we had *M. sylvatica* as a garden escape, for comparison. The forestry road produced various *Epilobium* species, *Polygonum aviculare* and *P. arenastrum*. *Dryopteris* × *tavelii* and, on the public roadside, a convincing bush of *Salix* × *ambigua*.

Euphrasia arctica subsp. *borealis*, in its glandular form, had been seen along the forestry road, but the walk along the river-bank was designed to give the party a clear concept of the species in pure state, in preparation for problems to come on later days. Isolated from other species, *E. arctica* was a uniform and distinctive plant. *Rhinanthus* was not so easy, the variable Strath Ardlie plant tended towards subsp. *minor*, the predictable plant for the habitat, but had undoubted 'stenophyllus' characters. *Mentha* × *verticillata* and *M.* × *piperita* also occurred along the river, as did *Hieracium subumbellatiforme* and *H. reticulatum*. Turnip fields produced *Galeopsis speciosa*, *G. bifida* and *G. tetrahit*, the last as the tall, yellow var. *sulphureum*.

Friday was to be the 'hybrid day', with a visit to shingle systems of the River Tay at Ballinluig and Caputh (v.c. 88). The extensive, long-stabilized shingles of Ballinluig form a mosaic of base-rich and base-poor areas and, while *Euphrasia arctica* again occupied the grassier sites, *E. micrantha* occupied the open, heathy areas. The two species are so different that *Euphrasia* still remained 'easy', but hybrids were frequent and much of the *E. arctica* showed signs of introgression. *E. arctica* was here as its long-glandular-haired 'Perthshire form' (*E. brevipila* var. *notata* sensu C.T.W.), but it became clear during the week that the length and abundance of glandular hairs varies considerably within single populations.

Rhinanthus minor subsp. *stenophyllus* was typical and convincing at Ballinluig. *Rumex tenuifolius* occurred on the most acidic, sandy areas and was compared with starved individuals of *R. acetosella*. An open shingle island visited the previous year for its complex of hybrid willows was again a target, this year for a hybrid swarm of *Senecio* × *viscidulus*. A patch of *Silene maritima* × *S. vulgaris* was a bonus, repeating an old record for the site.

Caputh had a distinctly horticultural component in its reed-swamp and woodland flora, with such established plants as *Astrantia major*, *Physocarpus opulifolius* and *Salvia glutinosa*. Another critical pair were *Aster novi-belgii* and *A.* × *versicolor*, while the native flora included *Thalictrum minus* subsp. *majus*, *Potentilla* × *mixta*, *Senecio* × *ostenfeldii*, *Hieracium reticulatum* and *H. subcrocatum*. The adventurous waded to see *Lupinus nootkatensis* and its hybrid with *L. polyphyllus* (account in preparation), and also saw a convincing bush of *Rosa afzeliana* × *R. mollis*.

On the Saturday we headed west to some fine mountain cliffs near Ben Lawers (v.c. 88). The now familiar *Euphrasia arctica* ('Perthshire form') was along the roadside, while wet ditch-banks produced the first *E. scottica*. However, as we ascended from the roadside, the genus was no longer so easy. A zone of *E. arctica* × *E. scottica*, largely replacing both parents, occupied the lower slopes, while as we reached the base of the cliffs, a zone of *E. frigida* × *E. scottica* was in evidence. On the wet, turfy ledges of the cliffs themselves occurred the pure *E. frigida* needed for interpretation of the plants below. *Rhinanthus* also showed some zonation, with subspp. *stenophyllus* and *lintonii* occurring at the base of the cliffs and subsp. *borealis* on ledges at the higher levels, as part of the rich alpine flora of the site. Also seen were *Carex demissa* × *C. hostiana*, *C. demissa* × *C. lepidocarpa*, *Hieracium anglicum*, *H. pseudanglicum* and *Alchemilla filicaulis* (sensu stricto). During the descent, a few depauperate *Euphrasia* plants, apparently without hosts, were seen in lochside gravel.

On the road north to Glen Lyon we found a typical *Euphrasia* situation. *E. micrantha* was the natural plant of the moorland site but *E. scottica* was again associated with the ditches and *E. arctica* had spread along the grassy roadside. Disturbance had broken down ecological breeding barriers and *E. micrantha* was crossing with each of the other species.

On Sunday, with several participants present and willing to take a series of measurements, simple biometric analyses become possible, as successfully performed on a previous *Salix* meeting. Thus the Straloch moraine, close to the field-centre, was the venue for a more careful look at the now familiar hybridization of *E. arctica* with *E. micrantha*. The vegetation was a mosaic of heather and more base-rich grassland and a large hybrid swarm appeared to have formed. 54 plants were collected and

subsequently each was scored for 11 characters. Resulting scatter diagrams confirmed the subjective impression that though two very different species were involved, there was continuous intergradation from one species to the other.

A leisurely afternoon inspection of other sites around Enochdhu produced *Hieracium umbellatum*, *H. subumbellatiforme* and a complex variety of roses, while *E. scottica* in a base-rich *Tofieldia*-flush showed clear signs of introgression.

Monday was an upland limestone day, with visits to Tomphubil and Schiehallion (v.c. 88). The small limestone outcrop at Tomphubil supports limestone turf with *Gentianella amarella* subsp. *druceana* as a notable plant. Ignoring nasty-looking *Euphrasiae* by the roadside we headed for the "good" turf and were rewarded by the hoped-for *E. confusa*, growing with the *Gentianella*. *E. micrantha* was in the surrounding heather and *E. arctica* was on the roadside. The fringe habitats could now be explored and, predictably, hybrids of *E. confusa* with each of these species were found. In rough turf was a population with characters of both *E. confusa* and *E. nemorosa*; such stabilized hybrid populations are more common in central Scotland than pure *E. nemorosa*, which becomes largely coastal. This probable hybrid population was crossing further with both *E. arctica* and *E. micrantha*, illustrating the problems of attempting to name specimens from roadsides and other heterogeneous habitats.

Loch Kinardochoy lies close to the outcrop and its peaty flushes receive some calcareous water. Typical *E. scottica* was seen in these flushes but, where the flushes become grassier and more basic, *E. confusa* × *E. scottica* formed stabilized populations. The final *Rhinanthus* of the week, subsp. *monticola*, was also here. On the limestone pavements of Schiehallion the *Euphrasia* approaches *E. nemorosa* but shows some *confusa* influence, a situation further complicated near the road by hybridization with *E. arctica*. *Thalictrum minus* subsp. *minus* was seen in the pavement, while the complex of flushes, some acidic, some highly basic, below the outcrop and bordering Lochan-an-Daim had *Juncus alpinoarticulatus*, *Eriophorum latifolium* and a large colony of *Sparganium minimum*.

The final day was spent on the limestone hill of Ardtulichan, near Killiekrankie (v.c. 88). The now predictable *Euphrasia* taxa were seen in appropriate habitats: *E. arctica*, *E. confusa*, *E. scottica*, *E. micrantha*, *E. arctica* × *E. confusa* and *E. confusa* × *E. scottica*, the last in great quantity in the more calcareous flushes, again with *Rhinanthus minor* subsp. *monticola*. At least one plant was demonstrably *E. arctica* × *E. confusa* × *E. micrantha*; such triple hybrids are probably quite frequent, though their identification from herbarium material would be difficult and highly speculative. The flushes also contained *Juncus alpinoarticulatus* and the upland form of *Equisetum hiemale*, while *Listera cordata* amongst the heather pleased visitors from the south. In the meadows below were *Bromus hordeaceus* and *B. × pseudothominii* growing conveniently together. During the descent, a large mushroom the size of a dinner-plate, *Agaricus macrosporus*, enticed the photographers away from flowering-plants.

A final evening stroll at Kindrogan was to look at thistles. The clump of *Cirsium* × *wankelii* had not, unfortunately, chosen to flower this year, so a more dramatic sight was the colony of the conspicuously white-tomentose *C. arvense* var. *incanum*. Ironically, the one *Euphrasia* that had eluded us during the meeting, *E. rostkoviana*, was also found by the leader at Kindrogan, a day later.

This was a meeting on which we all pooled our knowledge and I would like to express my thanks to all who took part. Allan McG. Stirling gave valuable help with *Hieracium* and *Rosa* and Brian Brookes provided the essential organization and local knowledge.

A. J. SILVERSIDE

IRELAND

KINGSCOURT, CO. CAVAN. 26TH–29TH JUNE

The object of the meeting was to explore further the area in which four counties, Monaghan, Cavan, Meath and Louth, meet in a very small radius, and from which few, if any, recent botanical records had been made, apart from those in the course of quick forays by botanists in the early years of the century and during the field work for the *Atlas of the British flora*. While the attendance was very poor—only one other member in addition to the leaders participated—the results were most

rewarding. A wide variety of habitats was visited and 23 species were added to the flora of County Monaghan (v.c. H 32), while the number of species recorded for the grid squares H 70, H 80 and N 89 visited was 216, 217 and 260 respectively. A preliminary reconnaissance by the resident co-leader in the Kingscourt area produced such adventures as *Campanula rapunculoides*, *Sisymbrium orientale* and *Symphytum* × *uplandicum*, while *Ficus carica* was found on a wall in Kingscourt.

Because of the small attendance the party concentrated all its efforts on County Monaghan. The first day was spent in an area of lake and limestone outcrop north-west of Carrickmacross (H 840038). At a cave area known as Finn Macool's Cave (H 841058), limestone outcrop and associated woodland held species including *Fraxinus excelsior*, *Prunus spinosa*, *Crataegus monogyna* and *Euonymus europaeus*. *Geum urbanum*, *Hyacinthoides non-scripta*, *Listera ovata* and *Anacamptis pyramidalis* occupied the woodland floor, with *Dryopteris filix-mas* and *D. borrieri* in strength. *Polypodium australe* on the outcrops and *Rosa rubiginosa* on the limestone grassland were noted as additions to the county flora. Across the road Lough A'Phuca was next visited. Here the surrounding marsh yielded *Scutellaria galericulata*, *Veronica anagallis-aquatica* (new to H 32), *Crepis paludosa* and twelve *Carex* species including *C. pallescens* and *C. acutiformis* (new to H 32). A further addition to the county flora was *Bromus commutatus*. The party next visited a quarry and wooded rock outcrops in Tirgaravan townland (H 812050), where further limestone caves were noted. Species added to the county flora included *Carduus tenuiflorus*, *Geranium lucidum*, *Sanguisorba minor*, *Verbascum thapsus* and *Cotoneaster microphyllus*. In addition, *Orobanche minor*, *Geranium columbinum*, *Lamium album*, *Melica uniflora*, *Moehringia trinervia*, *Coeloglossum viride* and *Orchis mascula* were noted.

Day two was spent exploring areas of lake and limestone outcrop to the south of Carrickmacross. The edge of Rahans lake (N 832981), fringed with *Phragmites australis*, *Scirpus lacustris* and abundant *Carex vesicaria*, backed by *Alnus glutinosa* and Carices including *C. acutiformis*, *C. remota*, *C. paniculata*, *C. lepidocarpa* (first confirmation of this record for H 32) and *C. disticha*, also held *Scutellaria galericulata* and *Veronica catenata*. A parking area by the lake produced *Coronopus squamatus*, an addition to the county flora. Roadsides nearby were notable for *Chaerophyllum temulentum* and *Geranium pyrenaicum* not previously recorded in H 32. The abundance of *Prunus domestica* subsp. *insititia* planted in hedgerows in the area was notable, being as common as other species normally found in such habitats. At Carrickshedoge (N 843990) limestone rocks and pavement produced *Geranium columbinum*, *Anthyllis vulneraria*, *Antennaria dioica*, *Thymus drucei*, *Pilosella officinarum* and *Carex caryophyllea*, while *Sieglingia decumbens* suggested leaching. *Orchis morio* found by Donal Synnott on a previous visit (new to H 32) appeared to have been severely grazed. *Acinus arvensis* and *Papaver dubium* by the roadside were noted as additions to the county flora. A wooded outcrop nearby held a very rich ground flora on a rocky floor. As before, *Polypodium australe* occupied an outcrop. *Rubus saxatilis*, new to the county flora, and *Mercurialis perennis* were the most notable among others including *Ranunculus auricomus*, *Allium ursinum*, *Sanicula europaea* and *Melica uniflora*. The roadside by the school yielded *Lolium italicum* and *Agropyron caninum*, also new to the county flora. The day's programme concluded with a visit to a cut-away peat bog at Corcreeghagh, Co. Louth, v.c. H 31 (H 908023), where Donal Synnott showed us the station for *Salix nigricans*. On the return to base two of the party paid brief visits to two small lakes at Killark (N 868981), where additions to the county flora were *Hydrocharis morsus-ranae* and *Epipactis palustris*. Other species noted here were *Ranunculus lingua*, *Parnassia palustris*, *Carex lepidocarpa*, *C. diandra*, *Gymnadenia conopsea*, *Nymphaea alba*, *Nuphar lutea* and *Utricularia minor*. *Carex riparia* at Descart Lough (N 822975) was a further addition to the county list.

The third day was spent in the vicinity of Carrickmacross, where acid Silurian rocks underlie the area to the west of the limestone. Greaghlonge Lough and nearby woodland (H 754028) were first visited. Lakeshore species included *Veronica catenata*, *Bidens cernua*, *Montia fontana*, *Littorella uniflora*, *Peplis portula*, *Lycopus europaeus*, *Menyanthes trifoliata* and *Potamogeton polygonifolius*. *Vaccinium myrtillus* was found in the nearby wood. Lough Bane (H 712095) north-north-west of Shercock was fringed with *Cicuta virosa*, *Typha latifolia* and *Carex curta*, while the lakelet to the south-west provided a classic example of transition from open water to acid bog with active *Sphagnum* development. *Calluna vulgaris* was already present with *Drosera rotundifolia*. *Viola palustris* was also noted. Other species seen on the acid ground nearby were *Erica cinerea*, *Calluna vulgaris*, *Salix* × *smithiana*, *Carex binervis*, *C. demissa*, *C. ovalis*, *C. pilulifera*, *Nardus stricta* and

Platanthera chlorantha. An addition to the county list was *Polypodium vulgare*. En route to Bocks Lake (H 778108), *Salix triandra*, *S. pentandra*, *Spiraea salicifolia* and *Osmunda regalis* were noted. The stony shore of Rocks Lake were not very rewarding. *Nymphaea alba* and *Nuphar lutea* were seen in the lake. *Baldellia ranunculoides* and *Littorella uniflora* were noted. Hedgerows nearby held a rose which had white flowers tipped with pink in bud and appeared referable to *Rosa mollis*. This rose was frequent in many habitats visited by the party. Thus concluded a very successful meeting.

D. SYNNOTT & C. BREEN

LOUGH CARRA, CO. MAYO. 25TH–27TH JULY

Though this meeting received ample advance publicity the attendance was little short of disastrous. Despite an article on the meeting appearing in the Newsletter of the Society and several pleas to British members to attend, four persons attended the meeting, one of whom travelled from England. Two other British botanists paid a flying visit.

Though a visit to the shores of Lough Carra was planned for Friday 25th, it was decided that a more fruitful course would be to liaise with members of the International Botanical Excursion to Ireland, who were in the area at the same time. Consequently the party joined the larger group and visited several areas of blanket-bog in the vicinity of Malranny, ending off the day with a visit to the summit of Minnaun on Achill Island. We could just about see the shores of Lough Carra from here!

On Saturday our first stopping point was at the geological junction between the acid and limestone rocks at Partry, west of Lough Carra. Here we encountered our first critical groups, *Carex flava* agg. and *Dactylorhiza* hybrids. A visit to the west side of Lough Mask was next made, where *Hypericum canadense* flourishes along with *Lycopodium inundatum*. The sandy heath in the vicinity yielded *Filago minima*, *Radiola linoides* and *Anagallis minima*. Our next stop was Keel Bridge on the western shores of Lough Carra (we had finally made it!), where an interesting fen community occurs alongside some good limestone pavement. The interesting fen plants include *Ophrys insectifera* and spotted forms of *Dactylorhiza incarnata*. *Carex serotina* was found to be plentiful along the lake shore. The final stop of the day was at the northern shore of Lough Corrib to pay homage to *Spiranthes romanzoffiana*, and at a small lake at Maum where *Eriophorum gracile* was noted.

Sunday the 27th was the final day of the meeting and the B.S.B.I. contingent left the larger group and headed for the karst areas of Lough Mask at Dringeen. Here *Allium schoenoprasum* was found in some quantity. A visit to the north eastern shore of Lough Corrib yielded little of interest, so the party moved on to investigate a hill of limestone north-west of Headford. *Gymnocarpium robertianum* has been recorded from here but it was not located, but *Vicia orobus* and *Epipactis atrorubens* were noted in some quantity. The meeting ended with a visit to the south-western shores of Lough Mask where the interesting woodland on the Hill of Doon was examined.

Though the attendance was small much useful work was done in the area, as many specimens of critical taxa were collected along with detailed species lists from the visited sites.

T. CURTIS

S.W. CLARE. 23RD–24TH AUGUST

This weekend meeting, attended by twelve members and friends, including three children, was favoured by one of the all too few spells of fine weather experienced this summer. The aim of the meeting was to investigate a part of the County which is under-recorded, despite records for a number of rarities, some of which date from the last century.

Saturday was devoted mainly to investigating the remnants of that once large expanse of bog which occupied much of the triangular area defined by Kilrush, Kilkee and Doonbeg. Our first stop at Moanmore Lough provided the best example of the bog flora of the area before a century and a half of turf cutting had taken its toll. *Sphagnum* species, including *S. imbricatum*, *S. capillifolium* and *S. magellanicum*, dominated. *Rhynchospora alba* was present in the wetter parts and *Drosera rotundifolia*, *Erica tetralix*, *Scirpus cespitosus* and *Vaccinium oxycoccus* were frequent. A feature of the area were the *Sphagnum cuspidatum*-dominated bog pools, occupying in many cases what appeared to be former peat cuttings. These pools supported populations of either *Drosera iniermedia* or *D. anglica*; mixed populations were not seen. From a single pool where *Eleocharis*

multicaulis was noted specimens of *S. cuspidatum* 35 cm in length were collected. Species associated with the lake itself and its margins included *Typha latifolia*, *Sparganium minimum*, *Littorella uniflora*, *Bidens tripartita*, *Lotus uliginosus*, *Lycopus europaeus* and *Achillea ptarmica*. Young specimens of *Osmunda regalis* were abundant on the peaty lake margins, while mature plants were noted on islets which were not subject to grazing and along the surrounding field boundaries.

In the afternoon the party proceeded to Tullagher Lough, stopping *en route* at Moyasta, where the salt marsh on an inlet of Poulmarsherry Bay yielded a species list which included *Carex extensa*, *Limonium humile*, *Parapholis strigosa*, *Salicornia europaea* and *Spartina anglica*. At Tullagher Lough extensive beds of fruiting *Vaccinium oxycoccus*, in parts providing almost 100% cover on low *Aulacomnium palustre* hummocks, created a most attractive display at the north-eastern side. *Carex echinata*, *C. limosa* and *C. lasiocarpa*, which was sterile (determination by A. C. Jermy), were the principal sedges associated with this community. Prior to the meeting, *Bidens cernua*, *Lycopus europaeus* and *Veronica scutellata* had been recorded from elsewhere on the lake margin. In water-filled peat cuttings a short distance from the lake, flowering *Utricularia minor* was abundant, while *Hypericum elodes* was noted by the edge of a small pond. Old records for *Eriocaulon aquatica* and *Lobelia dortmanna* as well as a record for *Erica ciliaris* in *Cybele Hibernica* were not, however, confirmed, and it is probable that these species are now extinct at their stations in S.W. Clare. At the end of the day the party drove along the windswept and treeless Atlantic coast road to Goleen Bay west of Kilkee, where *Asplenium marinum*, *Juncus ranarius*, *Pulicaria dysenterica*, *Oenanthe crocata*, *Scirpus cernuus* and *Samolus valerandi* were recorded. Here, and also in several places along the inland return route to Kilkee, *Montbretia* appeared to be perfectly naturalized and spreading.

Sunday morning was spent at St Senan's Lough, east of Kilrush, which was briefly visited in 1978 by Maura Scannell, when *Carex curta*, *Catabrosa aquatica* and *Sencio × ostensfeldii* were recorded. Today, the greater part of the 18 ha of open water recorded in the 1841 Ordnance Survey supports a surface covering of species such as *Carex diandra*, *C. rostrata*, *Eriophorum angustifolium*, *Menyanthes trifoliata*, *Potamogeton polygonifolius*, *Potentilla palustris* and *Veronica scutellata*. In the much constricted bodies of open water *Potamogeton natans* and *Typha latifolia* were the principal species, with *Hypericum elodes* common at the water's edge. Bare mud at the northern margin of the Lough provided the habitat for *Catabrosa aquatica*; here also a single patch of *Ranunculus sceleratus* was noted, which served to up-date an 1890 record by Stewart. At the southern side, where the water table was lower, a very tall growth-form of *Polytrichum commune* occupied an extensive area. The lowering of the water table, particularly between 1839 and 1895, when a drop of almost 2 m was recorded, has been the most important factor in the development of this interesting and varied vegetation cover.

On Sunday afternoon the first of two stops was west of Knock village at a regenerating woodland which was felled for its oak timber at the turn of the century. *Fraxinus* is now the most common species but some mature *Quercus petraea* and *Ulmus glabra* are also present. Species of the herb layer included *Athyrium filix-femina*, *Carex remota*, *C. sylvatica*, *Danthonia procumbens*, *Dryopteris carthusiana* and *Geum urbanum*. From here the party travelled north to Knockerry Lough, a small mesotrophic lake where *Apium inundatum* and *Isoetes setacea* were recorded in 1978 by Maura Scannell. Addition species noted on this occasion included *Alisma plantago-aquatica*, *Elodea canadensis*, *Hypericum elodes*, *Littorella uniflora*, *Lycopus europaeus* and *Sparganium erectum*. Rather surprisingly, there appear to be no records of *E. canadensis* for South Clare. In this context the presence of the species in some abundance in Knocka Lough and its surrounding drains, which were investigated prior to the meeting, is of interest and suggests that, as in the case of many other species, the distribution maps at present available for the area poorly reflect actual distribution patterns.