

FIELD MEETINGS, 1956*

JANUARY 7th and 14th, 1956. SOUTH LONDON BOTANICAL INSTITUTE

Applications for this Junior Meeting exceeded actual attendances. Messrs. Lousley and Woodhead and Mrs. Welch showed us the library, herbarium and other facilities of the Institute. Coloured photographs of flowers, lent by Messrs. Miles and Andrews, were shown. Total attendances were 56 members and visitors from 12 schools.—A. W. WESTRUP.

APRIL 11th, 1956. CHIPSTEAD VALLEY

Leader: Miss B. M. C. MORGAN

In this Junior Field Meeting a large party of 68 was led by Miss Morgan with the assistance of Dr. Prime, Mrs. Welch and Miss Franks. Most of those present were from schools affiliated to the Society, 8 schools being present including a coach-load from the Ursuline High School, Ilford. The early date and the lateness of the season limited the number of plants seen in flower. Several species of violets, including a good display of *Viola hirta*, were most noteworthy.—A. W. WESTRUP.

MAY 19th to 21st, 1956. BUCKINGHAM

The meeting was intended to study the distribution of the British Flora in N.E. Oxfordshire, N. Buckinghamshire and S. Northamptonshire but initially, for the leader, it seemed to be a study of the distribution of British botanists. Buckingham is a small and quiet town and was quite unable, at Whitsuntide, to accommodate all the 24 people who wished to join the meeting. Not only were we divided between three hotels in the town but some stayed in Tring and another at Brackley. Yet a third group slept in their own beds in London or in Oxford and travelled to the centre daily. But a 'Maps' meeting can swallow such apparent inconveniences and turn them to advantage. We were amply supplied with vehicles and having made up our teams of three on the Friday night in the lounge of the 'Swan and Castle', squares were allotted convenient to the overnight roost. Only good weather was needed for all to run sweetly, and this we received in abundance—three fine hot days. Thus within the short span available we covered 23 squares, all at well over the 200 species mark.

*Field Meetings arranged by the Committee for the Scottish Flora are indicated by †.

It was perhaps early in the year to expect a very great number of species to be recorded but in fact about 550 were seen by one party or another. The failure to note one or two arable weeds like *Anagallis arvensis*, *Kickxia elatine*, *Kickxia spuria*, and *Stachys arvensis* would probably not have occurred a couple of months later, and though some of the earlier orchids such as *Orchis mascula*, *Orchis morio*, and *Platanthera chlorantha* were in flower neither *Anacamptis* nor *Gymnadenia* was seen.

The geology of the area gives rise to nothing which is particularly exciting and in certain parts, notably the Aylesbury Plain, produces territory which is downright dull. Nevertheless, we found ourselves, as indeed is always the case, at the limit of range of particular species. *Umbilicus rupestris* is probably extinct or introduced east of Northampton but was found in the Bugbrooke area S.W. of the town during the week-end. It was the same Northamptonshire square which produced *Equisetum sylvaticum*, a species either extremely rare or extinct in the neighbouring shires of Oxford, Buckingham, Bedford and Huntingdon. Pteridophytes in general were interesting.

Ophioglossum was vulgar in the extreme and *Ceterach* was noticed with surprising frequency and even, by the Hon. Gen. Sec., at speed. *Polypodium* too was seen in three separate localities, yet it is very rare now in Bedfordshire and almost extinct in Cambridgeshire.

Railway enthusiasts were rewarded with miles of disused track and *Cerastium semidecandrum* and *C. atrovirens* had obligingly responded to this ersatz environment.

Perhaps the most satisfying find of the meeting was *Carex vulpina* in a new Oxfordshire station, even though it was discovered by the home team: the most bizarre was certainly *Ribes alpinum* near Brackley to which a 'G' was hastily added; the most beautiful to me were the sheets of *Saxifraga granulata* in a sandy meadow by a lazy meandering stream—thick as daisies and twice as lovely. The lasting memory however is of the square in Buckingham at the day's end, studded with hot and cheerful botanists, clambering in and out of cars, clutching vacua and vascula in one hand, map and card in the other, and outbidding each other for the day's total across the sunlight.—F. H. PERRING.

†MAY 26th and 27th, 1956. DALMELLINGTON

Leader: R. MACKECHNIE

This meeting, held during the last week-end in May, was attended by Miss Biggar, Castle Douglas, and Miss North, Carnforth.

On Saturday morning we visited Bogton Loch, examining the vegetation on its south-eastern shore, and later moving along the River Doon to Bogton Plantation, which is in part deciduous. It soon became apparent that in a late spring such as this had been, the end of May was rather early for a mapping visit to this upland area. Nevertheless, 120 records were made, including the following:—

Trollius europaeus, *Nuphar lutea*, *Viola lutea*, *Salix phylicifolia*, *Menyanthes trifoliata*, *Carex caryophylla*, *C. aquatilis* and *Helictotrichon pubescens*.

In the afternoon we moved on to the southern end of Ness Glen, and walked through this attractive ravine by which the River Doon leaves Loch Doon. Despite flood damage, the valley provided 108 species, the most noteworthy being:—

Hymenophyllum wilsonii, *Asplenium adiantum-nigrum*, *A. viride*, *Thelypteris phegopteris*, *T. dryopteris*, *Ranunculus auricomus*, *Rubus saxatilis*, *Geum* × *intermedium*, *Aphanes microcarpa*, *Saxifraga hypnoides*, *S. umbrosa*, *Agropyron caninum* and *Melica uniflora*.

Saturday's recording had all been done within one 10 km. square, so on Sunday we thought it advisable to visit areas to the east and south. In the morning we marked our cards on Glenmuck Craig and by Loch Muck—both in the south-west corner of a square which is almost entirely moorland. 83 species were recorded, the following among them:—

Selaginella selaginoides, *Thelypteris dryopteris*, *Subularia aquatica*, *Polygala vulgaris*, *Saxifraga hypnoides*, *Veronica scutellata*, *Lobelia dortmanna*, *Orchis mascula* and *Carex dioica*.

Later in the day we drove south to Loch Doon Castle—removed from its island site in the loch and now re-erected on the western shore. This large moorland loch has little in the way of shore vegetation, and the most interesting of the 70 species we saw were in the neighbourhood of the Castle itself. These were:—

Phyllitis scolopendrium, *Thelypteris oreopteris*, *Ranunculus lenormandii*, *Aphanes microcarpa*, *Myrica gale*, *Salix viminalis* and *Antennaria dioica*.

The thanks of the Committee are due to Miss Biggar and Miss North for their help; the latter in particular, in addition to making the long journey north from Carnforth, placed her car at the party's disposal during the meeting. We should also like to record our indebtedness to Mr. A. T. Bulkeley Gavin, of Craigengillan Estate, for readily-given permission to explore his property.—R. MACKECHNIE.

MAY 26th, 1956. WEST WITTERING

This Junior Field Meeting was attended by a party of 30 from 7 schools. They visited the saltmarsh and dunes under the guidance of Messrs. Buckle and Westrup with the assistance of Mr. Ounsted. There was a good display of sea-side plants including various sand-binding grasses such as *Elymus arenarius*. Drift-line plants including *Atriplex laciniata*, and saltmarsh plants, notably *Inula crithmoides*, *Spartina townsendii* and *Suaeda maritima* were seen. Also notable were the arable weeds *Myosurus minimus*, *Ranunculus sardous* and *R. parviflorus*, all within a few yards of the sea.—A. W. WESTRUP.

JUNE 2nd, 1956. KENFIG BURROWS

Leader: A. E. WADE

A party of 38 from 13 Grammar Schools attended this Junior Field Meeting which was held in collaboration with the Junior Section of the Cardiff Naturalists' Society. Interesting plants seen included *Dactylorhiza incarnata*, *Viola tricolor* subsp. *curtisii*, *Littorella uniflora*, *Rosa pimpinellifolia*, *Juncus acutus* and *Botrychium lunaria*.—A. W. WESTRUP.

†JUNE 15th to 17th, 1956. PEEBLES

Leader: P. S. GREEN

This week-end field meeting was arranged primarily to help with the recording of plants for the Distribution Maps Scheme in the relatively little botanised Peebles district. It was attended by eight people, of whom only five attended for the full week-end. These five assembled in the evening of Friday, 15th June, and rough plans for the days' excursions were discussed and explained together with the use of the cards used in the mapping scheme.

On Saturday morning the party proceeded to the grounds of Portmore House near Eddleston where recording was commenced in woodland and roadside habitats. Amongst other plants a very good hybrid swarm between *Geum rivale* and *G. urbanum* was observed with both parents and a full range of intermediates. A rather fine tree of *Acer campestre* was seen by the side of a field, a portion of which was extremely marshy and supported a good assemblage of carices:—*Carex curta*, *C. disticha*, *C. echinata*, *C. flacca*, *C. nigra*, *C. ovalis* and *C. rostrata* being found together with *Montia fontana* subsp. *fontana*. In the afternoon a visit was made to Portmore Loch which is used as a reservoir, and where the water surface was particularly low due to the prolonged drought. Considerable quantities of *Littorella uniflora* and *Alopecurus geniculatus* were found in flower, growing on the gravelly side of the loch, with occasional cushions of *Montia fontana* subsp. *fontana* and *Stellaria alsine*, those by flushes being particularly large and luxuriant. The latter species appeared to occur in two forms, one more or less straggling and the other in small rounded compact cushions. Heavy cold rain brought the afternoon's field work to an end and the party returned to Peebles for tea and to dry out. After tea a short, but profitable, visit was made to an area by the Leithen Water to the north of Innerleithen. Here in the marshy pools and flood banks, and by the roadside, the following interesting species were recorded:—*Aira caryophyllaea*, *A. praecox*, *Aphanes arvensis* sens. str., *A. microcarpa*, *Arenaria leptoclados*, *Carex demissa*, *C. ovalis*, *C. pulicaris*, *Epilobium pedunculare*, *Juncus kochii*, *Linum catharticum*, *Sedum villosum* and *Teesdalia nudicaulis*.

Whilst waiting for two members to join the party for the day on Sunday, a visit was made to the banks of the River Tweed near Inner-

leithen. The following were among the species observed:—*Cardamine amara*, *Montia sibirica* (*Claytonia alsinoides*), *Cochlearia officinalis* and *Mimulus guttatus*. The party then visited The Glen, halting on the way to examine an area of dry heath where *Aphanes arvensis* sens. str. and *Helianthemum chamaecistus* were recorded, the latter growing rather unexpectedly mixed with *Calluna vulgaris*, *Erica cinerea* and *Teucrium scorodonia*. Loch Eddy, at the head of The Glen, was then visited and after lunch the party followed the course of a hill burn running from the moorland and through a larch plantation. In the plantation were several fine stands of ferns, in particular *Dryopteris dilatata*, *D. borrieri* and *Thelypteris dryopteris*, whilst *Corydalis claviculata* was re-found where it was last recorded in 1858. Large groups of *Mimulus luteus* growing by the burn outside the plantation made a fine show and exhibited considerable variation in the extent of the red blotching on the corolla. Some meadows, a large pond and a small wood were then examined near the entrance to The Glen estate after which the party dispersed without returning to Peebles in order that those who had come from some distance could return home that day.

The week-end field meeting proved a most enjoyable one and although the party was so small and the general impression of the flora, despite the variety of habitats visited, was one of relative poverty in species representation, almost 600 records were made for the map scheme during the two days.—P. S. GREEN.

JUNE 16th and 17th, 1956. EXMOOR

The disappointing attendance (only 8 members) at Minehead made it impracticable to carry out the plan to cover six 10 kilometre grid squares for the Distribution Maps Scheme. The party was divided into two instead of three groups, and records were made in four squares, two of which were well covered with about 400 species in each. The leaders were able to do further work on all six squares later in the season.

The area provides a great variety of habitat, with an altitude range from sea level to 1700 feet on Dunkery Beacon. The rocks of the highland zone are Devonian grits and slates, while those of the lowland zone include Triassic sandstones, conglomerates and marls, Rhaetic and Lower Lias clays and limestones, as well as superficial deposits derived from the older rocks. The poor soil on the grits supports heather moor, bog and dry oakwood, while the slate country is mainly hill pasture with some arable and State forests. The Mesozoic rocks give rise to soils which are, locally, highly calcareous. Pasture and woods occupy the heavier soils, and there is a fair proportion of arable on the lighter ones. The maritime habitats include cliffs, shingle, salt-marsh, fixed dunes, grassland and scrub.

The district having been well worked in the past, notably by Mr. N. G. Hadden, who assisted the leaders on this occasion, the only vice-comital records appear to be *Bromus lepidus* and three garden escapes:

Cotoneaster simonsii, *Leycesteria formosa* (abundantly naturalised near West Porlock) and *Polygonum polystachyum* (established near a hill farmhouse).

Among other interesting species noted were:—

HIGHLAND ZONE:

Corydalis claviculata, *Empetrum nigrum*, *Geum rivale* with *G. × intermedium*, *Lycopodium clavatum*. *Meconopsis cambrica*, *Melittis melissophyllum*, *Sibthorpia europaea*.

LOWLAND ZONE:

Inland—*Alchemilla vestita*, *Berberis glaucocarpa* (well established, but erroneously recorded as *B. aristata* in Herb. Druce), *Geranium versicolor*, *Inula helenium*, *Lathyrus nissolia*, *Melissa officinalis*, *Platanthera chlorantha*, *Vicia sylvatica*.

Maritime—*Alopecurus bulbosus*, *Anthemis nobilis*, *Artemisia absinthium*, *Catabrosa aquatica*, *Elymus arenarius*, *Hippophae rhamnoides*, *Hypochoeris glabra*, *Lavatera arborea*, *Moenchia erecta*, *Parapholis strigosa*, *Rosa pimpinellifolia*, *Senecio cineraria*, *Silene conica*, *Trifolium scabrum*, *T. striatum*, *Triglochin maritima*, *Trigonella ornithopodioides*, *Zannichellia palustris*.—A. D. & O. M. HALLAM.

†JUNE 30th to JULY 7th, 1956. CROMARTY

Leader: Miss U. K. DUNCAN

The party was a small one, only six members attending. On Sunday, July 1st, they were joined by Miss A. Cameron, a local botanist from Fortrose, and proceeded to Lochluichart and the valley of the Black Water near Garve, where the record-cards for the 10-km. squares 28/36 and 28/46 were completed as far as possible in the short time at their disposal. The day was overcast with frequent showers and members were glad to take the opportunity of tea at Garve Hotel after six hours of mapping. No notable finds were made, and experience was to show that the mountain squares were botanically poor in comparison with the coast ones. It was regretted that members did not have time to see *Betula nana* which grows on the south side of Lochluichart.

The following day, Monday, July 2nd, was that arranged for the joint meeting with the Inverness botanists, and our party proceeded to the meeting place (the lochs above Milton near Drumnadrochit) to find only two people from Inverness could join us. These explained that the day chosen, an Inverness holiday, had proved unfortunate because most people had made other plans for this day long beforehand. The eight botanists present split up into two parties to work the 10-km. squares 28/43 and 28/53. The party proceeding to Loch nam Faoileag, Lochan an Torre Buidhe, etc., paid particular attention to an outcrop of carboniferous limestone in the vicinity. The

most interesting finds were a quantity of *Carex lasiocarpa* and *C. serotina*, and members admired a small form of *Nymphaea alba* which was just coming into flower. The other party contributed *Carex laevigata* from the woods to the south of the area, as their most notable find. Eventually the members attending had tea at a restaurant in Beaulieu on their way home.

On Tuesday, July 3rd, the party drove to Fortrose, where they were joined by Miss A. Cameron, whose knowledge of the Black Isle was to be invaluable to us on this occasion. A start was made to squares 28/65, 28/75 and 28/76. *Corallorhiza trifida* was visited at Munlochy, and *Oxytropis halleri* high up on the cliffs near Cromarty. The flora of the Black Isle was found to be so varied and interesting that it was unanimously agreed to return there on Friday, the day for which no arrangements had previously been made.

The next day, Wednesday, July 4th, members (joined by three local botanists) went first to Evanton, where a walk up the river Skiack gave data for squares 28/56 and 28/66. Here everyone was interested in a species of *Geranium* (not yet identified) which had escaped from a cottage garden. This was the day on which Mrs. Munro Ferguson had invited all nine of us to lunch, and members much appreciated the large meal she provided and the walk through her garden afterwards. A species of *Omphalodes* was found to have taken root by the roadside near by, where it was beginning to spread. Having been given permission to drive up to Loch Glass, four car-loads proceeded in this direction (we had been joined by some friends of Mrs. Munro Ferguson) until the state of the road obliged us to continue the rest of the way on foot. Here we continued our work on square 28/56. The shore of Loch Glass itself proved uninteresting, but members of the party were delighted to find a colony of *Listera cordata* in a wood by the river Glass. Up till now the weather had been broken, with frequent showers which kept the grass wet, but on Thursday, July 5th, it broke down entirely and it was found to be impossible to carry out the programme for the day, which had consisted of an exploration of the upper part of Strathconon. A profitable day was, however, spent in the comparative shelter of the woods in the lower part of the glen, and visits were made to the Falls of Rogie, Loch Achilty (where *Lobelia dortmanna* was seen) and the woods of Brahan, ending with tea at Brahan with Mrs. Stewart Mackenzie, who had very kindly invited four of us. Brahan woods were especially interesting botanically, and *Acorus calamus*, *Doronicum pardalianches* and a shrub believed to be *Lonicera xylosteum* had become well established. Also worthy of note was the abundant *Carex vesicaria* in boggy parts of the wood. On this day we had Miss McCallum Webster as one of our party and her experience in mapping was a great help to us. Our squares were 28/45 and 28/55. Friday, July 6th, in contrast to the previous day, was warm and sunny, and our return visit to the Black Isle was a pleasant one. Our party was augmented by Miss A. Cameron and a friend who served as our guides in a long walk by the cliffs at Rose-

markie where *Saxifraga hypnoides* was seen at sea level and many plants were added to square 28/75. Meanwhile two of the party had proceeded to Munlochy and the region of North Kessock for additions to squares 28/65 and 28/64. Unfortunately, they missed *Saxifraga hirsuta* which is naturalised in woods in that area, and also *Goodyera repens* which grows in the pine-woods, but were able to report an increase in plants of *Artemisia absinthium* along the coast.

Members met at the W.R.I. hut in Muir of Ord each evening during the week, when they compared record-cards and specimens.

A number of plants were collected during the meeting, including some belonging to critical genera (*Alchemilla*, *Euphrasia*, etc.), and it is hoped that when these have been checked up further records may be added to the lists for East Ross.—U. K. DUNCAN.

JULY 7th to 9th, 1956. WEST CUMBERLAND

Leader: Dr. D. RATCLIFFE

This was a 'Mapping Meeting'. On Friday evening a party of nine met at the Tullie House Museum, Carlisle, by the kindness of Mr. E. Blezard, the Curator, who had put out the *Flora of Cumberland* (1898), C.T.W., etc., for our use, and showed us the Herbarium in the next room. Unfortunately Dr. Ratcliffe could not be present until later, but he had sent a list of under-botanised areas and places where old records needed checking.

On Saturday morning four cars set out independently and one party visited limestone pavement at Blindcrake Clints, where *Coeloglossum viride* and *Gymnadenia conopsea* were seen. Dr. Ratcliffe and another party were in the same 10 km. square (35/13) working Ward Hall Common and Tallentire Hill, also on limestone but largely rough pasture showing few calcicoles. The day's total for this square was 293. The old records of *Primula farinosa* and *Actaea spicata* were not confirmed, but *Plantago maritima* was seen on an inland roadside near Moota Hill. Meanwhile another party was in square 35/02 listing 171 on limestone crags and grassy moorland. In the afternoon all the parties visited the coast at various points in 35/03 and a total of 170 was recorded, including *Rhynchosinapis monensis* and *Crambe maritima*, but no *Mertensia*.

On Sunday three cars set off for Ennerdale Water and though the clouds were low among the hills, the rain was not heavy. One party listed at the west end of the lake and found *Rumex alpinus*, another along the northern shore and the third in the swamp at the east end where *Utricularia intermedia* and *Vaccinium oxycoccos* were seen, and in the wood along the south shore where *Hymenophyllum wilsonii* abounded on the block scree, but no calcareous outcrop was discovered. *Ceterach* was noted on a roadside wall near Mockerkin Tarn (35/02). Later, Dr. Ratcliffe's party visited fens, woods and the sea shore at Beckermest and Braystones in 35/00 and listed 173 for that square.

On Monday the cars had to begin their journey home, leaving two members who visited the coast by bus. The amount of country sampled seemed lamentably small, mainly owing to lack of time, as the squares worked were a long way from Carlisle. However, each party recorded some plants not seen by either of the others.—B. WELCH.

JULY 13th, 1956. EPPING FOREST.

Leader: Miss H. FRANKS

For this Junior Field Meeting, Miss Franks, greatly assisted by Mrs. Boardman, led a party of 51 from 7 schools to compare the varied types of woodland in the forest. Apart from a large variety of woodland plants the most notable species found were the pond plants *Ranunculus lingua* and *Hottonia palustris*.—A. W. WESTRUP.

JULY 14th, 1956. MILLERSDALE

Leader: Miss L. W. FROST

This Junior Field Meeting was led by Miss Frost, assisted by Mrs. West and Messrs. Minns and Westrup. 50 students from 12 schools ranging from Newcastle-under-Lyme to Doncaster attended. Magnificent displays of *Geranium sanguineum* and *Silene nutans* marked the slope below the cliffs, while *Aquilegia vulgaris*, *Thalictrum minus*, *Arenaria verna* and *Alchemilla vestita* were perhaps the most notable plants on the hillside to the south. A fine show of *Hieracium* spp. and *Gymnadenia conopsea* was seen in the quarry and *Botrychium lunaria* was noted as we descended to the station.—A. W. WESTRUP.

JULY 17th, 1956. RUNNYMEDE

Leader: A. W. WESTRUP

Dr. Prime and Mrs. Welch assisted Mr. Westrup in leading a party of 76 from 11 schools in this Junior Field Meeting. Unfortunately the meadows had been cut for hay, but most of the characteristic plants were still to be found round the hedges. Apart from various grasses such meadow species as *Silau silaus*, *Succisa pratensis*, *Tragopogon pratensis* subsp. *minor* and *Allium vineale* (with good bulbils and flowers) were seen, while the hedgerow gave a display of masses of *Cuscuta europaea* on hops and nettles. Pond flowers, in very good show, included *Oenanthe aquatica*, *O. fistulosa*, *Sium latifolium*, *Stellaria palustris*, *Butomus umbellatus*, *Alisma lanceolatum*, *A. plantago-aquatica*, *Sagittaria sagittifolia* and *Mimulus guttatus*.—A. W. WESTRUP.

JULY 20th to 23rd, 1956. SOUTH WALES

Leaders: GORDON T. GOODMAN and JOHN HAYWARD

The meeting was arranged in order to give members an opportunity to visit some of the well-known sand dunes of South Wales. It was also hoped to make a series of plant-lists for the Distribution Maps Scheme in order to bring existing records up to date.

On Friday evening, July 20th, thirty-five members and several guests gathered at the Assembly Room of the University College of Swansea and were welcomed by Professor H. E. Street. The Council of the College very kindly provided coffee and biscuits. During the evening several members showed interest in the Maps Scheme exhibit—"Some Maps and their Meaning," and there were a number of offers to help make species-lists for the grid-squares of the areas to be visited. The leaders briefly outlined the programme for the next three days and copies of maps of the various dune systems, together with brief floristic notes, were distributed.

SATURDAY, JULY 21st, WHITEFORD BURROWS, GOWER PENINSULA

This is a small sandy peninsula about a mile long, jutting out northwards into the Burry Estuary, with its westerly flank exposed to the prevailing winds off the Bristol Channel and its easterly side bordered by a salt marsh. Permission to visit the Burrows had been very kindly given by Capt. N. S. Kinnersley, and the party left Swansea by motor coach at 10 a.m.

Skirting the western edge of the salt-marsh, the party stopped to look at *Althaea officinalis* which is spreading along the upper reaches of small creeks. The first large sandy slack to be reached was surrounded by well-developed hillocks of *Salix repens*, and here *Bromus ferronii*, *Carex flacca*, *C. serotina*, *Juncus acutus*, *Marrubium vulgare*, *Viola tricolor* subsp. *curtisii* and *Vulpia membranacea* were seen growing between patches of *Sagina nodosa* and *Anagallis tenella*. Moving on to a larger, grassy slack, the party spread out to look at the various features of interest before lunch. *Dactylorhiza fuchsii* and *D. incarnata* subsp. *coccinea* had finished flowering, but carpets of *Epipactis palustris* in full bloom gave the floor of the slack a whitish appearance. The genus *Juncus* was well represented, *J. acutus*, *J. articulatus*, *J. bufonius*, *J. effusus*, *J. inflexus*, *J. maritimus* and *J. subnodulosus* being present. *Moerckia flotowiana* and *Petalophyllum ralfsii* were plentiful, growing with *Aneura* spp. near the clumps of rushes. The dunes surrounding the slack were colonised by *Ligustrum vulgare*, *Clematis vitalba* and *Oenothera ammophila*.

A small dune hollow, with a curiously mixed vegetation of *Alisma plantago-aquatica*, *Anagallis arvensis*, *Cerastium atrovirens*, *Scirpus maritimus* and *Typha latifolia*, was crossed in cutting eastwards across the peninsula to a pathway bordering the salt-marsh. A number of marsh and dune species grew at this spot, including *Gentianella amar-*

ella, *Geranium sanguineum*, *Scirpus cernuus*, *S. setaceus*, and *Rosa pimpinellifolia*, and a few plants of *Liparis loeselii* var. *ovata* were discovered. Some of the more energetic members went across to the seaward edge of the marsh to see various edaphic habitats of *Spartina townsendii*, whilst others walked westwards through the dunes to look at the young pines planted in the sand. On the way back to the coach, the well-marked strand zone and foredunes along the western edge of the Point were examined and the party returned via Cwm Ivy Tor (Limestone cliff) where *Anacamptis pyramidalis*, *Silene gallica* and *Thalictrum minus* were seen.

In the evening, the record collectors met at the laboratories of the Botany Department to check material. Tea was provided by the Department. A total of 338 species was recorded from the day's excursion.

SUNDAY, JULY 22nd, PENDINE AND LAUGHARNE BURROWS

Access to the Burrows was readily given by the Ministry of Supply who spared no effort to be of help at all times in making arrangements for the visit. At Pendine the coach party met members and friends who had travelled by private car, and examined the western edge of a large pool about half a mile long, set in the centre of the Burrows; after lunch, they moved eastwards along the southern shore of the pool. A very varied and luxuriant flora of hygrophilous and aquatic species was seen, including *Carex distans*, *C. extensa*, *C. hirta*, *C. otrubae*, *C. panicea*, *Eleocharis palustris*, *Hippuris vulgaris*, *Myriophyllum spicatum*, *Oenanthe lachenalii*, *Ophioglossum vulgatum*, *Ranunculus baudotii*, *Scirpus tabernaemontani*, *S. lacustris* and *Rumex hydrolapathum*. In some places *Scutellaria galericulata* and *Lysimachia nummularia*, in great luxuriance, formed what was almost a sward. The easternmost fringe of the pool was surrounded by a dense, severely wind-cut Alder scrub which gradually thinned out into low sandy hillocks where *Erigeron acer*, *E. canadensis*, *Filago germanica* and *Malva sylvestris* were found.

Continuing eastwards along the seaward side of the burrows, the party examined a mixed salt-marsh community. *Limonium binervosum* and *Ranunculus sceleratus* were common on or near the marsh whilst *Triglochin maritima* and *T. palustris* grew close together in many places. On its seaward side, the marsh was largely composed of unusual, low sandy hummocks of *Puccinellia maritima* which were coalescing as they gathered blown sand. *Parapholis strigosa* was also abundant. Shortage of time prevented the party from examining in detail a very large, sheltered dune slack, and the *Botrychium lunaria* which grew in it was not seen on this occasion. In the evening, records and material were checked and sorted and the western grid square at Laugharne was allocated 272 species, but shortage of time had prevented more than 113 records being collected in the eastern square.

MONDAY, JULY 23rd, KENFIG BURROWS

Several members and friends—from the Botany Department, University College of Wales and Monmouthshire, Cardiff; National Museum of Wales; and the Swansea Scientific and Field Naturalists' Society—joined the group on its last day.

The party spent most of the morning investigating the flora around Kenfig Pool where *Baldellia ranunculoides*, *Littorella uniflora*, *Lotus uliginosus*, *Oenanthe fistulosa*, *Ophioglossum vulgatum* and *Trifolium fragiferum* were seen in abundance. Westwards, towards the sea, the abundance of *Liparis loeselii* var. *ovata* in most slacks was very striking. After lunch, exploration of the large slacks yielded *Epipactis palustris* var. *ochroleuca* growing in patches and readily distinguishable from the surrounding carpet of *E. palustris*. A few plants of *Epipactis helleborine* and, in another spot, *E. phyllanthes*, were seen on dry sandhills. Two large hummocks were covered with a luxuriant growth of *Anaphalis margaritacea*. After some search, fairly large quantities of *Monotropa hypophaea* were discovered growing on eroding *Salix repens* hummocks. *Moerckia flotowiana* and *Petalophyllum ralfsii* were again common, together with *Riccia* spp. and *Preissia quadrata*.

Near the site of the ancient borough of Kenfig (now inundated by sand) a very fine stand of *Gymnadenia conopsea* was seen. Passing a small Willow-Alder thicket alongside the Afon Kenfig, where *Stachys palustris* was recorded, the party spent some time examining the banks of the stream and the aquatic flora. *Callitriche platycarpa* and *C. obtusangula* were found. The day's records yielded 217 species from the western and 153 species from the eastern grid squares.

Dr. Young thanked the leaders on behalf of the Society. Special thanks are due to Mr. R. W. David, Miss E. J. Gibbons and Dr. D. P. Young for help in checking specimens during the evening sessions in the laboratories.—GORDON T. GOODMAN.

AUGUST 4th to 11th, 1956. LLANDRINDOD WELLS

Leader: F. PERRING

The party met, eighteen strong, at the Mostyn Hotel, Llandrindod Wells, on Friday evening, the 3rd August, 1956. Though numbers dropped to fourteen after the week-end, we were able to send groups into thirty 10-kilometre squares during the week and many useful records were made for the Distribution Maps Scheme. Besides this we concentrated our efforts on Radnorshire (v.c. 43) and were able to make 33 new records for the county; we also made 5 new records for the adjacent counties of Brecon, Carmarthen and Cardigan. Some other records made were N.C.Rs. but neither specimens nor exact localities are available so they will not be published. However, because of the possibility that the species do occur, a list is given at the end of this

report with the 10-kilometre grid reference as a guide to those who may have time to search in the future.

The topography of the area is sufficiently variable to provide an interesting range of habitats. Llandrindod Wells is a red brick spa which rises from a flat upland plain through which the River Ithan flows to join the Wye at Newbridge-on-Wye. On all sides the hills rise to a height of about 1,500 feet though reaching over 2,000 feet in the Radnor Forest to the east. Westwards lies a remarkable upland plateau dissected only by the lovely Elan Valley and many small streams. It is notable for its extreme loneliness; several hundred square miles of green sheepwalks unbroken by houses, trees or prominent hills, except on rare occasions, and almost completely without passable roads. Thus, to reach Tregaron, under 25 miles away in a direct line, meant a two hour drive either via Llandovery or the Devil's Bridge. Some of the cars covered 600 miles during the week. South and east runs the Wye Valley: the Wye flows rapidly between tree-decked banks — always picturesque, spanned by some fascinating and fearsome bridges.

The geology was more exciting in theory than in practice. Little could be hoped for from the Ordovician and Silurian slates but a number of Dolerite intrusions occur in the immediate neighbourhood of Llandrindod Wells; none however appeared to be very base-rich except of course for Stanner Rocks. Some silurian limestone occurred near Stanner—at Dolyhir, a mile or two to the west of the *locus classicus*, and this did produce a number of calcicolous species undiscovered elsewhere. However, the absence from the total list of species recorded of *Anthyllis vulneraria*, *Blackstonia perfoliata*, *Centaurea scabiosa*, *Euonymus europaeus*, *Helictotrichon* spp., *Koeleria gracilis*, *Pastinaca sativa*, *Plantago media* and *Scabiosa columbaria*, emphasises the generally acidic character of the terrain.

The plan of activity followed that now familiar to those who attend 'Map Meetings'. We had an average of five or six cars out each day —each with a different square to patrol and three pairs of eyes for spotting. However, to break up the week, we took time off to visit some localities of particular interest—en masse. The first such joint excursion was to Boughrood to look for *Potentilla rupestris* and *Allium schoenoprasum* on the rocky banks of the Wye. Though some doubt has been cast on the status of the former at this locality it must be stated that we found a flourishing colony on what appears to be a permanently open habitat from which it seems just as likely to have spread onto the adjacent railway line as vice versa. This species was also the object of special search on 'rocks of the Llandeilo series' from which it was reported by Ley many years ago. The search was fruitless, though the discovery of *Dianthus deltoides* set the heart thumping. The area is full of possible places and further searching is justified.

A second excursion was made to Stanner. Nearly all the specialities were rediscovered though the *Scleranthus perennis* colony was seen in very small quantity. It is to be hoped that no collections are made in that spot for years to come.

Lastly a small party joined Mrs. Vaughan for a magnificent walk through the 'Kite country' in north east Carmarthen. Here relict sessile oak woods of great magnificence and upland grasslands decked with *Vicia orobus*, *Trollius europaeus*, *Genista tinctoria* and *Viola lutea* occur.

From the week in general it is difficult to select outstanding finds without mentioning each of the 38 new county records. Some species were remarkably abundant, the lovely large-flowered Eyebright *Euphrasia rostkoviana* for example, and *Circaea intermedia* in many woods; *Veronica agrestis* was more frequent than *V. persica*, and the majority of the Watercress was the hybrid *Nasturtium officinale* × *microphyllum*: *N. microphyllum* was not recorded and *N. officinale* only in the extreme east around Stanner and Boughrood.

It was not only in the critical genera that new records occurred and many must emphasise that the area has been underworked in the past. The following native species have probably been growing at their present localities for centuries: *Frangula alnus*, *Anagallis tenella*, *Hordeum secalinum*, *Ranunculus fluitans*, *Rhynchospora alba*, *Cynoglossum officinale*, *Catapodium rigidum*, *Erigeron acer*, *Cirsium eriophorum*. There were of course other species which are known to be spreading and which may have reached the area only recently: under this heading we may include *Veronica filiformis* (v.cc. 42 and 43) *Impatiens parviflora* (v.c. 43) and *Montia sibirica* (*Claytonia alsinoides*) (v.c. 44).

Outside the realms of N.C.Rs. there were also excitements—both presences and absences. The discovery of *Lilium martagon* in a damp wood near Llangwyrfon, and *Pilularia globulifera* covering the bottom of a pond near Boughrood, come high on the list. Some of the absentees have already been mentioned, but other notable omissions include *Ballota nigra*, *Galium mollugo*, *Glyceria maxima*, *Myrica gale*, *Ononis repens*, *O. spinosa*, *Parietaria diffusa*, *Picris echioides*, *Silaum silaus*, *Sison amomum*, *Solanum nigrum*, *Thalictrum flavum*, *Typha angustifolia*, *Verbena officinalis* and *Veronica anagallis-aquatica* agg.

I would like to record my thanks, on behalf of the Maps Scheme, to all those who took part and worked so hard during the week. The weather was not at its kindest and with less strong determination such a fine total of new records could not have been attained. In particular I wish to acknowledge the help which it has been to me in writing this report to have had the comments of Mr. A. E. Wade, who scrutinised our records with such care, and the detailed notes of those who collected specimens and exact localities for so many interesting plants.

NEW COUNTY RECORDS—UNVERIFIED

- v.c. 42. Brecon—*Phleum nodosum* (22/83).
 v.c. 43. Radnor—*Bromus thominii* (32/17), *Lamium hybridum* (32/26),
Melilotus alba (32/05), *Ranunculus* "sphaerospermus"
 (32/15), *Salix triandra* (32/07), *Symphytum* ×
uplandicum (32/26), *Viola reichenbachiana* (32/04).
 v.c. 46. Cardigan—*Bromus lepidus* (22/76).

AUGUST 7th to 20th, 1956. OBERGURGL, AUSTRIA

Joint Leaders: JOHN OUNSTED and Dr. C. T. PRIME

The Junior Residential Meeting for 1956 took place at Obergurgl, Austria, 29 members being present. Apparently this is the first time that an official Field Meeting of the Society, whose purpose is the study of the British Flora, has actually taken place outside Britain. The choice of a site so far away nevertheless proved itself justified. About 500 species were seen and about a third of these are on the British List. It was particularly helpful for students to be able to see and collect a large number of plants too rare in this country to be shown to such large gatherings, and too scattered to be found at all in such a short time. All those listed below were in sufficient abundance for us to come across them without specific directions. In addition to this it was possible to study many interesting ecological problems, including, in this glaciated region, many relevant to the history of our own Flora but no longer to be seen in Britain, such as succession on young glacial moraines. Again, it was valuable to members to be able to study species closely related to well-known British plants, but recognised as specifically distinct, such as *Tragopogon orientalis*, *Taraxacum alpinum*, *Scleranthus polycarpus*, *Galium anisophyllum*, *Prunella grandiflora*, *Campanula scheuchzeri* and *Cerastium strictum*.

The party was comfortably accommodated at the Bundessportheim und Alpine Forschungsstelle of Innsbruck University. This inexpensive and comfortable Field Research Station lying 6,000 ft. above sea level at Obergurgl in the Tirol provides the amenities of library, laboratory, lecture room and bedrooms for staff as well as the normal hostel type accommodation. Surrounding mountains rise above 10,000 ft., with perpetual snow fields above the upper limits of vegetation. We had readily obtained permission to hold our own course there independent of the official courses appearing in the University's annual programme. It is appropriate to say, however, at this point, that we had one stroke of exceptional good fortune which guaranteed the success of the Meeting. There happened to be also staying at the Heim Dr. Helmuth Gams, Professor of Botany at the University of Innsbruck, a man of immense erudition who knows the Tirolean mountains as if they were his own back garden. With the greatest kindness he joined us on most of our expeditions, suggesting the best spots to visit, helping us with the identification of non-British species, drawing our attention to matters of interest in every field of natural history and folk lore, and generally enriching our minds from the rare treasury of his own. Our gratitude to him and to Frau Gams, who also accompanied us on our outings, cannot be too strongly expressed.

We were lucky again in that Obergurgl must have been one of the few places to enjoy a fortnight of continuously perfect weather in the August of 1956. We were thus enabled to make full day excursions whenever we chose and we did in fact do so almost every day. Our

botanical searches were conducted at three different levels with quite different results: around and above the village itself at 6,000 to 10,000 ft.; in the pine woods lower down the valley near Sölden at 3,000 ft., to which we made a day excursion by bus; and at Oetzthal where the valley joins the Inn valley at about 1,500 ft., where we simply had an hour's botanising while waiting for the train. We had about nine day excursions on foot from the village and in them covered all the main valleys and their branches, and the more accessible cols and summits of the district as well as going up to three different glaciers. At this height the higher meadows had not yet been mown, so we were able to study a full range of the alpine flora proper, and we found we were by no means too late in the season provided we went sufficiently high. The pinewoods at Sölden were characterised by a more northern type of flora with *Linnaea borealis* and *Moneses uniflora*. To our surprise in the lowest region visited, round the station, the first plants we found were Breckland species such as *Medicago falcata* and *Descurainia sophia*. We later learned, however, that this is officially recognised and described as the Steppic element in the Austrian flora, characterising a region where there is a dry climate, as the high mountains on the south and west protect it from rain.

Among interesting ecological studies we were able to make with the help of Professor Gams and of his assistants were observations on the effect of grazing by different species of animals and on the effect of wind exposure and snow cover, as well as upon the more obvious effects of the nature of the sub-soil. It seemed curious that the effect of this last appeared not to be in these Alps always the same as we should have expected in Britain. *Arctous alpinus*, for example, appeared in a calcareous valley and *Silene vulgaris* was a curiously conspicuous feature of the *Vaccinietum*.

All members of the group considered that the expedition had been most successful in its aim to enhance their knowledge of the British flora by studying the flora of an alpine region. The facilities provided by the Bundessportheim were admirable for the purposes of a junior meeting, the scenery was beautiful, and quite apart from the botany there were good opportunities for friendly contact with people of other nations, and for a certain amount of sight-seeing, including a day in Innsbruck on the way home.

As well as repeating their thanks to Professor Gams, the joint leaders would like to thank Miss H. Franks for looking after the ladies of the party, Mr. A. W. Westrup who, as Secretary of the Junior Membership Committee, undertook the whole burden of organising the administration of the meeting, including travel, bookings, etcetera, and Mr. J. Beetham for much help on the mountaineering side and for the excellent photographs which he took. Some of these photographs illustrated a full-page article which was published in *The Times Educational Supplement* of October 12th, 1956.

LIST OF SOME BRITISH SPECIES SEEN NEAR THE VILLAGE OF OBERGURGL,
6,000-10,000 ft.

Sibbaldia procumbens, *Saxifraga aizoides*, *S. stellaris*, *Peucedanum ostruthium*, *Silene nutans*, *Veronica fruticans*, *Gentiana nivalis*, *G. verna*, *Salix herbacea*, *Lycopodium alpinum*, *Phleum alpinum*, *Homogyne alpina*, *Melampyrum sylvaticum*, *Bartsia alpina*, *Polygonum viviparum*, *Rumex arifolius*, *R. alpinus*, *Juniperus communis* subsp. *nana*, *Cerastium alpinum*, *C. cerastoides*, *Loiseleuria procumbens*, *Potentilla crantzii*, *Erigeron borealis*, *Ribes spicatum*, *Stellaria nemorum*, *Leucorchis albida*, *Ajuga pyramidalis*, *Botrychium lunaria*, *Juncus alpinarticulatus*, *J. trifidus*, *J. filiformis*, *Carex lepidocarpa*, *Dactylorhiza incarnata*, *Cardamine amara*, *Epilobium alsinifolium*, *Polygonatum verticillatum*, *Cryptogramma crispa*, *Polystichum lonchitis*, *Athyrium alpestre*, *Luzula spicata*, *Pinguicula alpina*, *Lycopodium selago*, *Convallaria majalis*, *Dryas octopetala*, *Astragalus alpinus*, *Arabis alpina*, *Oxytropis halleri*, *O. campestris*, *Minuartia verna*, *Poa laza*, *P. alpina*, *Carex capillaris*, *Selaginella selaginoides*, *Maianthemum bifolium*, *Cotoneaster integerrimus*, *Gnaphalium norvegicum*, *Lloydia serotina* and *Draba aizoides*

LIST OF SOME BRITISH SPECIES SEEN IN THE NEIGHBOURHOOD OF SÖLDEN
c. 3,000 ft.

Pyrola minor, *Asplenium septentrionale*, *Sedum album*, *S. dasyphyllum*, *Moneses uniflora*, *Orthilia secunda*, *Linnæa borealis*, *Cicerbita alpina* and *Listera cordata*.

LIST OF SOME BRITISH SPECIES SEEN IN THE NEIGHBOURHOOD OF OETZTAL,
c. 1,500 ft.

Setaria viridis, *Medicago falcata*, *Nepeta cataria*, *Pimpinella major* and *Descurainia sophia*.—J. OUNSTED.

AUGUST 25th, 1956. GUILDFORD

Leader: P. F. YEO.

A party of thirteen met at 11 a.m. at Guildford Station for this meeting intended for the study of *Euphrasia*. Unfortunately, Mr. Buckle, who earlier had kindly helped to survey the ground to be visited, was unable to be present.

The first spot to be visited was Farley Heath, five miles South-east of Guildford. This is an extensive heath, mostly bracken-dominated, with grassy paths. A small but numerous colony of *Euphrasia anglica* was seen here. This species is the only one in southern England with a dense covering of long glandular hairs on the leaves and calyx, and therefore its recognition presents no difficulty in that area. The other characters of the species were pointed out, as also were those normally common to all British species, such as the crisped deflexed hairs of the stem and the purple lines and yellow spots on the corolla. At this

locality the plants tended to have wiry purplish stems and narrow leaf- and calyx-teeth, suggestive of introgression from another species, though no other species was seen. More convincing evidence of this process, which takes place from tetraploid into diploid species, was mentioned. Attention was drawn to the short-grass habitat which is favoured by *E. anglica*, and to which it is adapted by its very short lower internodes; if the main stem is damaged by grazing few axillary buds will be lost. *E. anglica* starts flowering early and this was seen to be the case from the number of fruiting nodes below the flowers open at the time. This particular colony also demonstrated another feature of *Euphrasia* biology, namely the gregariousness of the plants; here they covered only a few square yards, in which they were quite dense, and outside which they abruptly disappeared; being annuals growing in a more or less closed community, the plants apparently require to grow with a high density in order to survive from year to year. Small isolated colonies are normally dense; larger populations may produce zones of scattered individuals. Members had several questions on the biology of the species, and in answer to these the life cycle was described, and what is known of the breeding system was outlined. The party then moved on to Winterfold Heath, two miles to the south. Here the late-flowering *E. nemorosa* was seen in rather long grass on a disused ride in felled woodland, again on acid soil. The population was much larger than that at Farley Heath and did not give the impression of being a precarious relic on the verge of extinction. The variation in appearance due to different degrees of luxuriance, which is in turn much affected by the hosts to which the plant is attached, was pointed out. At this locality there was a rather rich flora which prompted the question, "I wonder who is doing this square?"

After lunch we proceeded to Friday Street, where, on a piece of rough grassland, there was an abundant population of *E. nemorosa* and a very minute (and again dense) one of *E. anglica*. The former had larger flowers and coarser, sharper, leaf teeth than at Winterfold Heath, and the latter had curiously untypical ovate leaves which were possibly the result of introgression from *E. nemorosa*. As the ground is now planted with conifers the *E. anglica*, at least, will probably disappear in due course.

Finally, the Juniper Bottom area of Box Hill was visited. Here, on the chalk slope, the large-flowered, small-leaved *E. pseudokerneri* was seen. This is the latest species to start flowering. By following a path round the foot of the chalk hill, where the chalk appears to give way to clay, *E. anglica*, the less calcicole species, was seen growing with *E. pseudokerneri*, which is confined to chalk and oolitic grassland. *E. anglica* here appears to be more typical than at the other two places visited. In the valley east of Juniper Top there is a field where *E. anglica* and *E. nemorosa* were seen growing together. It was hoped that a little further on hybrids between *E. nemorosa* and

E. pseudokernerii would be found, but at this point a thunderstorm drove us to shelter, and when it abated the meeting dispersed, after passing a fine population of *Epipactis helleborine* in the woods.—P. F. YEO.

†SEPTEMBER 7th to 9th, 1956. HAWICK

Leader: J. GRANT ROGER

Eight of us took part in the field work—Mr. and Mrs. Howitt, Mrs. Mallinson, Miss Biggar, Miss Read, Mrs. Littlewood, Miss Beattie and myself. We marked cards in eight squares in the region about Hawick but mainly south of the town as far as Hermitage in Liddisdale. To the north-east we went as far as Jedburgh. We spent the whole of Saturday in the field and most of Sunday—Miss Beattie and I returning to Edinburgh in the evening. I consider that a good deal of useful work was done and that it was useful for us to meet in an area where there has not been much botanical activity in the past.—J. GRANT ROGER.