

BOTANICAL SOCIETY OF THE BRITISH ISLES

WELSH BULLETIN

Editor: R.H.Roberts M.Sc.

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'Killarney Fern', *Trichomanes speciosum* Newman's British Ferns 1854

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Editorial

Our grateful thanks are due to the contributors who sent in articles for this issue.

ANNUAL GENERAL MEETING 1981

Report by Hon. Secretary.

The 19th A.G.M. of the B.S.B.I. Wales was held at Trinity College, Carmarthen on July 11th, 1981.

In the morning a small group of members and guests visited Llanllwch Bog under the leadership of Mr. R.D. Pryce. They saw many of the interesting bog communities that this Society, with many others, helped to save from being buried under an extended rubbish tip.

A short meeting of the Committee for Wales was held at 1.30 p.m. and at 2.30 p.m. Dr. Q.O.N. Kay delivered his talk on "The invisible surface; colour pattern and structure in petals". This was greatly enjoyed by all present and made us realize, perhaps for the first time, that the colours and patterns we see on petals are not necessarily the same as the insects see and are attracted by.

The formal part of the A.G.M. commenced at 3.30 p.m. The Chairman, Mr. Goronwy Wynne, opened the proceedings. He first thanked the Officers and Members of the Committee for Wales for their work on behalf of the Society in Wales. He then drew attention to the Records Conference which was to be held at Cartrefle College, Wrexham in September. This was intended mainly for vice-county recorders, but there were a few vacancies for ordinary members of the Society. The election of Officers and Committee Members then took place. Four members automatically retired from the Committee and three had indicated their willingness to stand for re-election. Dr. R. Elfyn Hughes did not wish to stand for re-election and was warmly thanked for his contribution to the work of the Committee over the past two years. Mr. N. Brown, Mr. R.D. Pryce and Mr. R. Woods were then nominated for re-election and duly elected. Mr. R.G. Ellis was nominated for re-election to the post of honorary Secretary and was duly elected. Mr. R.D. Pryce was nominated for the newly created post of Honorary Treasurer (a duty formerly undertaken by the Secretary) and was duly elected.

The Secretary, Mr. R.G. Ellis, then gave his report on the activities of the Society in Wales during the last year.

The Records Committee of the B.S.B.I. had confirmed the appointment of Mr. S.B. Evans as vc. recorder for Pems. The B.S.B.I. journals of Mr. T.A.W. Davis had been left to the Society and it was proposed to use these to form the basis of a Welsh Archive of B.S.B.I. literature. These will be held at The National Museum of Wales and will be available on loan to any member who wished to borrow them. They consist of Proceedings and Watsonia from 1958 onwards (with a few gaps).

Mr. S.B. Evans had looked after Welsh interests on the Conservation Committee for many years, but had resigned after the last meeting. Mr. R.G. Woods had agreed to take over this responsibility. Mr. Evans was warmly thanked for all the hard work he had put in on our behalf.

The management of Common land was presenting problems, one example was the proposed fencing of such land on Moelfre Hill nr Builth Wells which consists of superb tall heather and bilberry moor. A letter had been written to the Secretary of State for Wales outlining the objections of the Committee for Wales to this proposal.

It was hoped that the January issue of the Welsh Bulletin, edited by Mr. R.H. Roberts, could be produced in Bangor with the help of the N.C.C. Appearing in that issue would be a list of Welsh S.S.S.I's. that were in need of survey together with a short article on the procedure to be followed written by Mr. R. Meade.

Two field meetings had been held so far this year. To Llyn Llygad Rheidol led by Mr. A.O. Chater and to Llysfasi in Clwyd led by Mr. J. Brummitt. The Secretary, on behalf of the members, thanked these two leaders for all their hard work in arranging very successful meetings. He then drew attention to the field meetings still to be held, Mr. R.D. Pryce would lead a meeting to Pembrey dunes the following day and on July 19th Dr. Q.O.N.Kay would lead a meeting to Crymlyn Fen and Dunes. On August 22nd Miss D. Pugh would lead one to Llany-mynech Rocks and on September 6th the Secretary would himself lead a meeting to Craig-y-llyn.

The Secretary then mentioned that the 1982 A.G.M. would be held at Glynllifon Hall near Caernarvon on July 17th and 18th, and thanked, on behalf of the Society, the Officers of Trinity College for allowing the use of their rooms and to Mr. R.D. Pryce for making the arrangements. He closed his report by inviting members to attend the exhibition and discussion which would be held that evening at 8.00 p.m.

After tea and biscuits, the Chairman introduced Mr. R.D. Pryce who gave a most enjoyable "informal look at Carmarthenshire plants".

Following the election of Officers and Members, the composition of the Committee for Wales for 1980-81 is as follows :

Chairman	- Mr. G. Wynne
Vice-Chairman	- Mr. M. Porter
Secretary	- Mr. R.G. Ellis
Treasurer	- Mr. R.D. Pryce

- 4.30 p.m. "Arctic-alpine species in Northern Snowdonia: their
relationship to the environment" Prof. R.E. Hughes
7.00 p.m. Dinner
8.00 p.m. Exhibition and Discussion

Members are invited to bring along a selection of
their colour slides or any interesting botanical
exhibit.

July 18th Field meeting to Fens of the Lleyn Peninsula

Accommodation is available at Glynllifon Hall at approx. £8.00
per night including meals. All B.S.B.I. members and their
guests are welcome. Further details can be obtained from the
Secretary to the Committee for Wales, Mr. R.G. Ellis, Dept. of
Botany, National Museum of Wales, Cardiff, CF1 3NP. Please
apply before June 1st 1982.

Nominations for membership to the Committee for Wales, or for
the post of Hon. Secretary should be made in writing, with the
signature of the nominee before the end of May, to the Hon. Secretary
at the above address.

FIELD MEETINGS, 1982.

Sunday 20th June : Llanelwedd Quarry & Aberedw Rocks,
Radnorshire (Powys)

Leaders : Mr. R.G. Woods and Miss A.C. Powell

The meeting will explore the south facing rocks of differing geolog-
ical formation and their interesting communities of spring annuals.

Sunday 4th July : Laugharne, Carmarthenshire (Dyfed)

Leader : Mr. R.D. Pryce

This meeting will explore the rich maritime flora of this area and
a visit to Dylan Thomas's 'Boathouse' is also possible.

Saturday 17th July : B.S.B.I. Wales A.G.M. & Quadrennial Regional
meeting at Glynllifon Hall near Caernarvon, Caernarvonshire (Gwynedd)

Sunday 18th July : Fens of the Lleyn Peninsula, Caernarvonshire
(Gwynedd)

Leader : Miss A.P. Conolly

The Fens between Morfa Nefyn and Pwllheli are of great botanical
interest and it is hoped to visit several of these during the course
of the meeting.

Saturday 31st July : Tenby, Pembrokeshire (Dyfed)

Leader : Mr. S.B. Evans

The meeting will explore the very rich fen on limestone behind Tenby dunes,

Saturday 14th August : Tal-y-llyn, Merionethshire (Gwynedd)

Leader ; Mr. P.M. Benoit

The meeting will explore the flora of this fairly oligotrophic lake and some of the surrounding countryside.

Sorbus weekend : Saturday 18th September : Wye Valley Woods,
Monmouthshire (Gwent) : Leader : Mr. T.G. Evans
: Sunday 19th September : Craig y Cilau,
Breconshire (Powys) : Leader : Mr. M. Porter

This weekend meeting will concentrate on the population of Sorbus, including several of the endemic species, to be found in these areas.

For further information about any of these meetings please write to the Secretary at the address given on the previous page.

B.S.B.I. FIELD MEETING:

CRYMLYN BURROWS AND CRYMLYN FEN, GLAMORGAN, 19TH JULY, 1981

Q.O.N. Kay

32 members and friends from a wide area of Wales and England met at Jersey Marine at 11 a.m. and were rewarded by a fine sunny morning, despite a depressing 8 a.m. forecast that had been convincingly backed by early morning rain. The sand-dunes and salt-marsh south of Jersey Marine were visited during the morning. In a dune-slack close to the road, Pinguicula vulgaris was seen amongst Salix repens with Equisetum variegatum, Epipactis palustris, E. helleborine and Dactylorhiza spp., defended from trampling feet by a barrier of Juncus acutus. Not far away Liparis loeselii has been seen in previous years, but could not be found this year; the site is now rather overgrown. An interesting transition from the dune-slack to sandy upper salt-marsh with abundant Parapholis strigosa, Limonium binervosum and Centaureum pulchellum was crossed on the way to the outer dunes; suspected Atriplex longipes was seen growing under the protection of Juncus acutus on a nearby drift-line. Ononis repens, Eryngium maritimum and Hypochoeris radicata were in full flower on the dunes, all three species acting as hosts plants for a particularly fine and abundant population of Orobanche minor. Phleum arenarium, Vulpia fasciculata and several other annuals were seeding. Matthiola sinuata, which was rediscovered in the area in 1964 after being unrecorded since 1840, is fairly abundant here and was seen in flower in several places, especially on the newer lines of dunes forming on the seaward side of the system. Several other rare species growing in the same general area show a similar absence of records between the early nineteenth century and recent years; Equisetum hyemale, for example, was unrecorded between 1840 and 1974 despite its occurrence in dense stands on the verges of the main Jersey Marine road and in adjacent dune-slacks for a distance of almost a kilometre.

After lunch, enjoyed in warm sunshine at a pleasant inn near the camera obscura tower south of Jersey Marine village, a series of damper dune-slacks on the western part of Crymlyn Burrows were visited.

Ophioglossum vulgatum, Scirpus cernuus and Triglochin palustre were particularly abundant, with Dactylorhiza praetermissa, D. incarnata (in fruit), and Epipactis palustris. Bombus terrestris was visiting the flowers of E. palustris. As some compensation for the non-appearance of other orchids, a fine patch of Pyrola rotundifolia was found. Well-established stands of Lathyrus tuberosus, in full flower, and Artemisia campestris were seen in disturbed dune grassland between the slacks and the road, and Equisetum hyemale formed a deep sward extending for almost a hectare.

The main part of the afternoon's programme was a tour of Crymlyn Fen (Crymlyn Bog) soon to be designated as a National Nature Reserve. The party started in the south-eastern part of the fen, where a short circuit was made through a species-rich stand of Phragmites australis mixed with Osmunda regalis, Ranunculus lingua, Rumex hydrolapathum, Cladium mariscus, Lysimachia vulgaris, Lythrum salicaria, Carex elata and other fen plants. Carex elata grew best at the edges of the P. australis stand where it was associated with C. paniculata, C. pseudocyperus, Sparganium simplex and Typha angustifolia. Sparganium minimum was seen with Scirpus fluitans, covering a pool to the south of the embankment near Gelli'r-allor. Epipactis palustris was in flower in several places in this area. Sphagnum bog forms a belt on the eastern margin of the fen where acid water drains from the hillside, with Drosera rotundifolia and Eriophorum angustifolium, and there is a zone of carr-like vegetation with Salix cinerea, Viburnum opulus, Osmunda regalis and Dryopteris carthusiana between this and the Phragmites fen.

Baldellia ranunculoides was abundant in the shallow water fringing the grassy area to the north of the embankment, with Scirpus tabernaemontani and locally S. maritimus forming swards in deeper water; taller, rapidly-spreading clumps of Cladium mariscus and Schoenus nigricans suggested that a succession to tall fen was taking place here. After examining this area the party divided, with a determined group setting off on an arduous journey along the western edge of the fen towards the main sites of Carex limosa, C. dioica and Eriophorum gracile, while the rest of the party remained in the southern Phragmites fen.

The western margins show a variety of more acidic types of mire vegetation where acid water drains from the eastern side of Kilvey Hill and the warren of old mine workings beneath its slopes; the high iron content of some of the streams above a tongue of Molinia/Schoenus mire extending into the Phragmites fen was shown by the rusty colour of the mud through which the party trudged. Carex rostrata, C. echinata, C. nigra and C. paniculata were the most abundant sedges; C. curta was seen in several places to the south of the C. limosa site, growing on the sides of tussocks (mainly Molinia) with Menyanthes trifoliata and Potamogeton polygonifolius growing between the tussocks. As the party returned, several plants of Bidens frondosa were found near the canal to the north of the half-demolished Tir John power station.

THE ROLE OF BIOLOGICAL RECORDING IN THE
SELECTION OF SITES OF SPECIAL SCIENTIFIC INTEREST

Roger Meade

It is unlikely that 1981 will pass without the majority of the British public being faced with the term "Site of Special Scientific Interest" (SSSI) either in the news, or in BBC Television's Wildlife programmes. The status of the SSSI has been a major subject of debate in connection with the impending Wildlife and Countryside Bill. This short note briefly describes how SSSI are chosen, and points out how the BSBI member can be instrumental in the process.

The SSSI is an area of land notified by the Nature Conservancy Council (NCC) to the local planning authority and the relevant water authority for its special interest by reason of its flora, fauna or geological or physiographic features. Once notified, local planning authorities are obliged to consult the NCC and take into account its representation before granting planning permission for development of the land. The passing of the Wildlife and Countryside Bill, imminent at the time of writing, will considerably change the framework for consultations between landowners and the NCC, so that it would be inappropriate to consider this aspect in detail at the present time.

It is obviously very important that the standing of the SSSI designation should be protected. SSSI status would be devalued if sites were scheduled on the basis of the "gut reaction." This undesirable situation is avoided by asking a standard set of questions about each likely candidate, the eventual aim being to afford protection to the best sites in local, regional, and national contexts.

The selector may be faced with a situation where choices have to be made between several examples of a particular habitat type. Armed with a concept of what constitutes the ideal, he (or she) will choose that which most nearly attains it. This particular attribute is referred to as "typicalness." Naturalness is another useful and important consideration. As an extreme example, given two water-bodies as candidates for selection, both equally rich in wildlife, a post-glacial lake would take precedence over a reservoir, being the more natural of the two.

Biological recording on sites provides important data for assessment of diversity and rarity. The preceding criteria have been concerned with overall site-attributes, but these two are heavily dependent on careful field-work. Given two otherwise similar sites, that with the greater number of recorded species would be favoured. The use of species-diversity is not always restricted to higher plants and birds, but this often has to be the case because records for other groups rarely exist.

The use of rarity as a means for comparing sites draws very heavily upon records contributed by many naturalists over the years. The "Atlas of the British Flora" makes it possible to consult the distribution of a plant species in the British Isles, and decide whether the occurrence of that species at a particular location constitutes a case of special interest. To quote an example, Vaccinium myrtillus is commonplace in much of the country, but is of interest if found in East Anglia, where suitable habitats are scarce. This facility is the product of hard work by field botanists over many years. It is to be hoped that workers will continue to send records in to BRC, so that changes in distribution-pattern can be

monitored in the future, and concepts of rarity kept under constant revision. It is one way in which BSBI members have helped, and are continuing to help, in SSSI selection.

Choices can only be made between known sites, and it is certain that many remain unknown. New areas continue to come to light as a result of NCC survey, or as the result of activities of individual naturalists. Members of the BSBI, as field-botanists, cover most of the country, and collect information which is extremely valuable in helping NCC staff, as SSSI selectors, to make the right choices.

It was suggested at a recent meeting of the BSBI Committee for Wales that the NCC should supply a list of sites for which botanical records would be useful, and, as the NCC observer on the Committee, I passed the request on to our three Regions in Wales. As a result, a number of sites were put forward, and these will be passed on to the appropriate vice-county recorder. Your participation either as a contributor to revisions of the Atlas, or in notifying NCC of botanical interest on individual sites, can help to afford a degree of protection to important nature conservation sites through designation as Sites of Special Scientific Interest.

THE FLORA OF A WELSH HILL FARM

— transition from traditional, extensive to modern intensive farming
Sarah Bovey

Five years ago I moved from Gloucestershire to a 170 acre farm in the beautiful county of Radnorshire (v.c. 43), now a part of Powys. It is classified as a hill farm, the height above sea level ranging from just over 1,000 feet at the point where the house and farm buildings are, to 1,300 feet at the highest point. The hill above the house was once one of the finest grouse shoots in the area until it was all reclaimed and put down to grass after the war.

Until 1976 the farm had been used in a traditional way; the land was grossly understocked by modern farming standards. The hedges were pleached and laid, and the many springs were allowed to meander down across the meadows. The rainfall is fairly high in this area, being approximately 30 inches annually.

In 1976 the farm changed hands and was taken on by a lowland farmer who wished to rear the young stock from his dairy farm 15 miles away on this hill farm. It was at this time that changes began. Whilst living there I kept a record of the flora and after five years not only had the farm itself changed almost to become unrecognisable, but the flora was changing also.

It is now a highly stocked farm run along modern lines. One of the first changes to occur was that all the hedges were cut hard back and they are now trimmed mechanically each year. Fences have been put up to keep the stock in and year by year the old permanent pastures are being ploughed up and reseeded. Several of the fields are also being drained. The rough ground and woodland, only amounting to a small acreage, has been left as it was. Of course, following farming trends of today the use of artificial fertiliser and herbicides are essential in order to keep the high numbers of cattle and sheep on this comparatively low acreage.

The plant life is not out of the ordinary. One of the first plants I found was Lathraea squamaria (Toothwort) growing by the spring which

supplies the house and farm buildings with water. To my surprise it has survived much disturbance not more than a yard from its site when a large reservoir was sunk 30 feet into the ground. In fact, this April (1981) it appeared to be growing more strongly than ever on its host plant, Corylus avellana (Hazel).

There were several wet flushes on the farm, but only one remains now, the others having been drained. This is damp throughout the year and is very wet during the winter months. It contains the more common sedges, Carex nigra, C. panicea and C. ovalis. However, the once large patches of Pedicularis sylvatica (Lousewort) are diminishing rapidly and Lychnis flos-cuculi (Ragged Robin) has now gone altogether. Dactylorhiza maculata (Heath Spotted Orchid) appears to have gone, but orchids are erratic in their flowering. The wet flush itself has not been fertilised though the ground nearby has been. However, at times it has been heavily grazed and in the early spring when the flush is still very wet the ground has been badly poached by the cattle. Most of the plants found there in the early years are still there but in lesser quantities. Briza media (Quaking Grass) on the other hand appears to be increasing and widening its territory.

The fields were once a magnificent sight in the early summer, a mass of flowers, but now with many of the fields reseeded the colour has gone. As well as fertiliser being put on several times each year, the fields have been heavily slagged and limed after soil samples have been taken. This has been done to make the soil less acid and therefore to improve it for growing better grass. However, the hedgerows seem to provide a refuge for many of the plants, especially as there are now fences down either side of most hedges through which neither the stock nor much fertiliser penetrate. So although the hay fields (now silage grounds) are not so pretty to look at during the spring and summer months, for the most part the flora is still there, it has just receded to the perimeters of the fields. The main loss that I have recorded was a clump of Viola tricolor (Wild Pansy) which grew in one of the first fields to be reseeded.

The ponds on the farm, of which there are three, have all been left unchanged. Before 1976 there were no water tanks for the stock to drink

from in any of the fields, so the previous owner relied totally on the ponds to quench the thirst of his stock in the summer. However, he had a minimal amount of stock and the flora in and around the ponds appeared to flourish. For several years after 1976 the much greater numbers of stock also relied totally on the ponds for water and as a result the flora virually ceased to exist at all in these areas. There are now water tanks in all the fields and the cattle and sheep are discouraged from using the ponds since with use they become stagnant and very dirty thus creating a health hazard. Within a short time the flora has returned to the ponds. We boast of four species of Crowfoot growing in and around the ponds, Ranunculus aquatilis, R. hederaceus, R. omiophyllus and R. peltatus. This year there is a large clump of Sparganium erectum (Branched Bur-Reed) in one pond and on the edge of another grows Veronica scutellata (Marsh Speedwell) and Apium inundatum (Lesser Marshwort).

The few acres of rough woodland have not been much affected as it is fenced off from the stock. The carpet of blue flowers in the spring from Hyacinthoides non-scriptus (Bluebell) remains a wonderful sight in the main part of the wood. It was interesting to note that even the clear air up there was polluted; on the particular side of the tree trunks that faced Birmingham, some 70 miles from the farm, the lichens did not grow.

A small area of scrub, grazed by stock, was mainly made up of brambles and Prunus spinosa (Blackthorn). These protected many varied species including Anemone nemorosa (Wood Anemone) and a patch of Orchis mascula (Early Purple Orchid). But it is now very apparent that scrub is disappearing fast and the thistles and nettles are taking over, which in turn are destroying the rest of the flora in the area.

In conclusion to my plant records from 1976 to 1981 (of which I have mentioned here only a fraction of the number of species that I have found growing on the farm) it seems that in spite of the great changes that have occurred, both to the farm itself and in the technique of farming the land, on the whole the plant life, although diminished, is still there. One now has to look a little harder to find it. But whether it can continue to survive in future years is another question.