BOTANICAL SOCIETY OF THE BRITISH ISLES

WELSH REGION BULLETIN

Editor: S. G. Harrison, B.Sc., F.L.S.

No. 22 JANUARY, 1975 Price: 5p

Contents

Cardiff, January, 1975

REGIONAL AND ANNUAL GENERAL MEETING, GREGYNOG, 1974.

SECRETARY'S REPORT.

On July 13th 1974 the Twelfth Annual General Meeting and Quadrennial Regional Meeting of the Welsh Region were held at Gregynog Hall near Newtown, Powys.

Mrs. I.M. Vaughan welcomed our visitors and introduced the first speaker, Dr. G.F. Peterken of Monks Wood, who gave an intriguing talk entitled 'Habitat Continuity as a Factor in Woodland Conservation and Assessment'. The historical research which he used to support his thesis relating the distribution of certain key woodland species to the former distribution of woods in a particular area of England was most illuminating.

During the business session which followed, the representatives, officers and committee members of the Welsh Region were elected, and the Secretary reported briefly on the events of the past year. The Editors of Welsh Region Bulletin were thanked for their valiant efforts in collating materials for another two fine editions of the Bulletin (Nos. 19 and 20).

It was reported that three Field meetings had been held since the last A.G.M. All had been reasonably well attended A very successful two-day meeting in Denbighshire in May included a visit to Bodnant Gardens. Our thanks were expressed to Lord Aberconway and his head gardener Mr. Puddle and to Mr.J.M.Brummitt who organised and led the meeting. In June a smaller band of members had explored the Pyrddin valley, on the borders of Glamorgan and Brecon, expertly led by Mr. A.E.Wade and Mr. R.G. Ellis. We are most grateful for their guidance.

The election of officers and Welsh Region Committee members for 1974-75 then followed and is detailed below :

Chairman: Mr. S.G. Harrison.

Vice-Chairman: Mr. G. Wynne.

Secretary: Mr. M. Porter.

Minutes Secretary: Mr. M.E. Massey.

Senior Committee Members: Mr. T.A.W. Davis (Representative on Records Committee)
Mrs. I.M. Vaughan.
Mrs. D.E.M. Paish.
Mrs. P.A. Parr.

Junior Committee Members : Dr. J.G. Duckett.
Mr. S.B. Evans (Representative on Conservation Committee)
Mrs. M.E.R. Perry.
Dr. J.P. Savidge.

Mr. S.G. Harrison was elected as Welsh Region Representative on Council for 1974 - 78.

After a short interlude for tea, Mr. Harrison introduced the second speaker, Dr. B. Seddon of the University of Reading. His illustrated talk on "Water plants in Wales: Their Distribution and History" was of special local interest.

During the evening session there was a useful discussion about the problems of conservation of aquatic habitats, specifically certain sections of the Shropshire Union Canal which had been surveyed by Dr. Seddon during the previous fortnight.

We were then treated to a lively and erudite discourse by Dr. W.T. Stearn, on the life and achievements of Edward Lloyd, Llwyd, Lhuyd, Lhwyd.... etc., perhaps our earliest and most famous Welsh Botanist. Dr. Stearn had so far emulated his illustrious subject that he had spent almost the entire day travelling around the Principality to be with us.

On Sunday we had the benefit of Dr. Seddon's expertise on a Field Meeting which included visits to various parts of the Shropshire Union Canal. It is very much to be hoped that some means will be found to conserve the considerable ecological interest of at least certain, selected, stretches of this habitat.

Later in the day Miss Pugh and Miss Hignett showed us some unusual aquatic species including Hottonia palustris and Scrophularia umbrosa, at nearby wetland sites. Our thanks to all concerned for a most interesting meeting.

ANNUAL GENERAL MEETING, 1975.

The 1975 Welsh Region A.G.M. will be held at Gregynog near Newtown, Powys, on Saturday July 12th.

PROGRAMME

13.30 Meeting of Welsh Region Committee.

14.30 "Sea-cliff Vegetation" an illustrated talk by Dr. A.J.C. Malloch, University of Lancaster.

15.30 A.G.M. Business session.

16.00 Tea.

16.30 "Cliff and Scree Plants in the Welsh Borderland" an illustrated talk by Mr. C.A.Sinker, Director of Preston Montford Field Studies Centre.

19.00 Dinner.

20.00 Discussion.

Sunday July 13th:

Field Meeting to visit various limestone sites.

Leader : Mr. C.A. Sinker.

Meet : Gregynog, 9.30.

Accomodation at Gregynog Hall for the night of July 12th should be booked through the Welsh Region Secretary, before March 1st. 1975.

PROGRAMME OF FIELD MEETINGS, 1975.

Saturday 7th June

Wye Valley.

Limestone woods in Wye Valley, Gwent.

Leader : T.G. Evans.

Meet : Wyndcliff Car Park (ST 524 973) 11.00 a.m.

Sunday 13th July

Welsh Borderland.

A.G.M. Field Meeting.

Breidden and Corndon Hills.

Leader : C.A. Sinker.

Meet : Gregynog, Powys, 9.30 a.m.

Saturday 19th July

Cader Idris.

Mountain Flora, including arctic-alpines.

Leader : P.M. Benoit.

Meet : Car Park 2½ miles S.W. of Dolgellau (SH 698 153) 11.00 a.m.

This meeting will involve some rough hill-walking : walking boots advised.

For further details of field meeting please apply to :
Michael Porter, Ynys Villa, Llangynidr, Crickhowell, Powys.

HABITAT CONTINUITY AS A FACTOR IN WOODLAND CONSERVATION.

Dr. G.F. Peterken
(a summary)

Two, among many, problems in woodland conservation concern site assessment and site management. What types of woodland are important for woodland conservation, and which examples of these types are the best ? Once identified, what are the types of management most appropriate for these sites ? Before answering these queries directly, Dr. Peterken discussed the importance of habitat continuity as an ecological factor.

In his study area of Central Lincolnshire, Dr. Peterken had identified primary and secondary woodlands using historical and archaeological evidence. Primary woods occupy sites which have been wooded throughout historical times. Some 50 vascular plant species ("primary woodland species") are more or less confined to these "ancient" woods, including Luzula pilosa, Lilium effusum, Tilia cordata and Melampyrum pratense. There is evidence in the literature which suggests that primary woodland is generally richer than secondary, and that in any region there are plant and animal species which are unable to colonise newly available woodland habitats.

Based on this kind of evidence, Dr. Peterken mentioned three non-recreatable features of woodlands, (i) the primary woodland condition, (ii) natural features in primary woods, such as undisturbed soil profiles and coppice communities, and (iii) features formed over a long period, such as the structural characteristics of New Forest Ancient and Ornamental woods. If conservation is concerned with retaining features which cannot be re-created, once destroyed, five types of woodland are most valuable (1) Primary, semi-natural coppice woods, (2) Medieval Park and Forest woodland, (3) Primary high forest, e.g. native pinewoods in Scotland, (4) Ancient secondary woods of at least medieval origin, and (5) woods formed by a long period of structural development. Other types such as recent afforestation or natural woodland of recent origin are fundamentally unimportant because they could be readily re-created. (see G.F. Peterken, Quart. J. For. 68(2), April 1974). Management of examples of the important type should ensure that the non-recreatable features were retained. Historical research into past management gave guidelines for future conservation management.

Finally, Dr. Peterken briefly showed how the "historical" approach to woodland conservation could be used to assess the impact of woodland changes (illustrated by work in Rockingham Forest shortly to be published in Forestry), and the value of primary woodland species in determining the relative value of different woods in a region (illustrated by some of the work in Central Lincolnshire, shortly to be published in Biological Conservation). He concluded by guessing that the importance of habitat continuity was likely to be much less in Western districts, such as Wales, than in Eastern England, where much of his research has been conducted.

WATER PLANTS IN WALES : THEIR DISTRIBUTION & HISTORY.

Dr. B. Seddon.

Following Dr. Peterken's talk I was immediately aware of a fundamental similarity of principle in the method we had both adopted in seeking to understand the reasons for observed distribution of woodland herbs and of water plants respectively. This common principle is revealed first by recognising consistent patterns in mapped species distributions, then relating these to features of the habitat and to distinctive history of the sites occupied by plants with similar range. For the mapped occurrence of plants must disclose in some way the requirements of the species and its tenure of the sites in which it is found.

The records used in preparing maps of distribution for this account were largely contributed in the course of the Lake Flora Survey of Wales conducted during the period 1961 - 1966 while the author was Assistant Keeper of Botany at the National Museum of Wales in Cardiff. I take this opportunity of acknowledging all the help and enthusiam of many members of the B.S.B.I. Welsh Region who were involved at that time.

The first distinctive pattern of occurrence found in water plants growing in lakes is described as widespread or ubiquitous. Species such as Carex rostrata, Littorella uniflora, Myriophyllum alterniflorum and Eleocharis palustris belong to this category. These four species serve to show that various habits of growth are represented in this group and therefore the only feature they share in common is an ability to thrive in waters of widely differing quality, situation, size, exposure and altitude. It is this very tolerance that enables them to establish themselves in almost any aquatic habitat and site that they chance to reach.

Next were considered species whose distribution maps show a clear tendency for their occurrence to be restricted to the lowland areas of Wales. Their localities are concentrated for example in Anglesey, Flintshire and the eastern borders of Wales, the Vale of Glamorgan and the lower and middle reaches of major river valleys such as the Severn below Caersws and the Towy below Llandovery. Here were included Typha latifolia, Sparganium erectum, Elodea canadensis (though this plant does turn up in some upland lakes also), Lemna minor, Potamogeton crispus and Myriophyllum spicatum. To judge the truth of this statement one has only to think what is the highest in altitude of the sites one knows for these species. Maps were shown to illustrate the similarity of their geographical distribution which in all cases leaves blank the central highlands of Wales, though of course some are more frequent than others even in the lowlands. A preference for relatively hard waters and absence from the pure soft waters of the uplands characterizes their occurrence.

Thirdly maps were shown for a number of species with highland distributions, their localities being concentrated in the Snowdonia National Park area and on the Cardiganshire plateau and its continuation into adjoining parts of Montgomeryshire, Carmarthenshire and Breconshire. Examples included Sparganium angustifolium, Isoetes lacustris, Lobelia dortmanna and a distinctive sub-aquatic variety of Juncus bulbosus named var. confervaceus (St. Lager) Buch. Indeed one would say these were actually confined to the uplands were it not for scattered records of extinctions in a few former localities in the surrounding lowlands. These give the impression that these plants have changed their distribution in the last two centuries and seem to have retreated from the lower situations.

The question of change in distribution must now be examined. Subularia aquatica, Isoetes echinospora and Luronium natans are three aquatics whose distribution in Wales strongly resembles the pattern of the third group described above. On close inspection of the maps they are distinguished in only one respect: while most of their occurrences are in highland lakes and pools each of these species retains one or two localities within the lowland domain, e.g. Subularia in Anglesey and Lleyn, Isoetes echinospora in Anglesey, Lleyn and Flints., and Luronium in certain reaches of the Shropshire Union Canal besides earlier extinctions in Anglesey and Glamorgan. It may be that their tolerance of hard water allows them to grow in such areas providing that competition from more vigorously growing species is not too severe.

Looking further back into plant history than documented records allow brings out further information about changes in distribution. The only means of doing this is by study of long-dead fruits and seeds preserved deep in the bottom mud of lakes and hence this is a rather specialised but rewarding method. For illustration some results from Llyn Creiniog, Denbighshire were mentioned where, at depths of about 2.5 metres in the lake-side peat, seeds and fruits estimated to be nine-to-ten thousand years old were recovered. Among those identified were Carex pseudocyperus, Cicuta virosa, Hippuris vulgaris, Potamogeton praelongus, P. perfoliatus, P. crispus, P. obtusifolius and possibly Sparganium minimum. None of these grow at Llyn Creiniog today and all now have distributions of the lowland type. The lake itself lies at 700 ft. above sea-level in the fringe of the upland zone. These records are clearly beyond inclusion in the Flora as historical records in the normal sense since they pre-date even Neolithic man. However, they vividly reinforce the notion that in the natural order of things distribution of water plants has changed continually but slowly as conditions in the lakes they inhabit have altered.

The enclosed postcard is one of a series of 6 differnt pictures selected from the 50 plates in the National Museum of Wales publication 'Welsh Wild Flowers' by A.R. Perry (1973) price 40p. p.&p. 7p. Postcards : Price 3p. each.