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# WELSH REGION BULLETIN

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*Cardiff, August, 1973*



## EDITORIAL.

In Mid Wales, probably throughout Wales, between the hill farms proper with their high moorland sheepwalks and the more intensive lowland farms there are still many smaller steadings, largely stock rearing, still sheltered by hedges and remnants of deciduous woodland, and where ploughing and drainage have been little employed to alter the ecology. On many such farms a piece of old, generally wet, pasture which has not known the fertiliser bag may be found with a very interesting structure and plant community, not necessarily of rarities. A series of surveys and species lists for such pastures before they almost inevitably disappear would seem well worth while and would certainly grace the pages of the Bulletin.

## FLORA OF BRECONSHIRE RECORDING SCHEME.

Although no Flora of Breconshire has been published a considerable amount of information about the plants of the county has been amassed by past and present botanists. Early visitors like Edward Llwyd and Rev. John Lightfoot made a few notable records. Llwyd, while collecting plants for the Duchess of Beaufort in 1698 found Saxifraga oppositifolia and Sedum rosea on the Beacons and Potamogeton pellucidum at Llangorse Lake. Lightfoot noticed Campanula patula on the roadside between Brecon and Hay as he passed through the county in 1773. The Botanist's Guide by D. Turner and L.W. Dilwyn 1805 lists 20 plants for Breconshire including Vicia orobus found earlier by Thomas Willisel, Minuartia verna, Salix herbacea and several other mountain plants.

The first extensive, though somewhat unreliable, catalogue of about 250 plants, is given as an appendix to the History of Brecknockshire (1809) by Theophilous Jones. It is unlikely that Althaea officinalis was "frequent on roadsides" or Solanum nigrum "common in hedges", but many of the plants listed can still be seen growing in the original localities.

During the second half of the nineteenth century the Woolhope Naturalists' Field Club from the other side of the Black Mountains held several field meetings in Breconshire and colourful reports of these are to be found in their 'Transactions'. In 1866 it is recorded that after members had climbed Mynydd Troed they walked to Llangorse Lake through "several meadows refulgent with globe-flowers". At the Lake they were shown such plants as Butomus umbellatus by Edwin Lees before travelling on to Talgarth by stagecoach and carriages which left five gentlemen and a vasculum 'hors de combat'. Those that survived partook of a substantial dinner at the Ashburnham Arms soon after four o'clock. Perhaps field meetings are too sober nowadays !

A renowned botanist and leading figure in the Woolhope Club, Rev. Augustine Ley, vicar of Sellack and Kings Capel in Herefordshire, compiled the first reliable lists of Breconshire plants, which were published in the reports of the Botanical Locality Record Club between 1874 and 1886. In the Journal of Botany, Vol 23 (1885) under "A contribution towards the Flora of Breconshire". W. Bowles Barrett collated the records of Ley and his contemporaries, giving details of localities and comments on the frequency of many species.

Under the rather pretentious title "The First Flora of Breconshire" another lengthy list forms an appendix to "The Breconshire Border" edited by T.R. Phillips. Compiled by Professor R.W. Phillips, this list is of less value because recorders are not stated and localities often omitted. Several dubious records are included without qualification, for example, Saxifraga stellaris, Statice maritima, Glaux maritima and Carex arenaria.

Recently part of a typescript entitled "Materials for a Flora of Brecon" noted by A.E. Wade and J.A. Webb has been refound at Swansea. It includes many records made by members of the Swansea Scientific and Field Naturalists' Society between 1912 and 1950. D.P.M. Guile did considerable research into the flora of the southern half of the county for his Ph.D. thesis entitled "The Vegetation of the Brecon Beacons National Park" (1965). Records by the preceeding and many other botanists appear in Welsh Flowering Plants Ed.11 (1957) Hyde and Wade, and Welsh Ferns Ed.V (1969).

With the production of a Flora of Breconshire as a long term objective a mapping scheme was started in 1968 by the Botanical section of the Brecknock Naturalists' Trust. The initial aim is to map the distribution of vascular plants (Spermatophytes and Pteridophytes) in the administrative county of Breconshire, the boundary of which is almost identical with that of V.C. 42. The recording unit chosen for the survey was the 5 Km square, of which there are 99 in the county.

A smaller unit would have been desirable but was considered impracticable because of the small number of recorders. Each local recorder is asked to collect records and details of habitats from one square, or more if they are able. Ten Trust members, with little or no previous experience of recording, have already made extensive lists from hone squares and some are now travelling afield to tackle new squares. When the project started some evening meetings were devoted to identification and use of Floras. During European Conservation Year (1970) many local schools helped in the project using specially devised recording cards giving English names of 100 reasonably common species which were considered unmistakable. The Breconshire Education Committee generously provided schools with copies of the Concise British Flora by Keble Martin and the appropriate O/S Maps. Some field meetings are arranged each year to record underworked squares.

Notes on the progress of the mapping scheme appear regularly in the Breconshire Naturalist, Journal of the Brecknock County Naturalists' Trust.

As Gwynn Ellis comments in his account of the Flora of Glamorgan project (Welsh Region Bulletin No. 18), it is difficult to forecast the number of taxa to be expected from a 5Km square. However, the figures he gives of 400 - 450 for lowland squares and 250 - 300 for upland squares appear fairly accurate for Breconshire. Only two squares in the south-east near Crickhowell have so far amassed over 450 records. 30 squares have passed the 300 mark but some squares on the older rocks where all of the land is above 1,000 ft. may not support 200 taxa. At present there is a noticeable recorder bias to the east of the county.

During the survey 45 new county records have been made. The more interesting new species include :  
Equisetum hyemale, Ranunculus sardous, Mentha pulegium,  
Alopecurus aequalis, Baldellia ranunculoides, Sparganium minima, Cladium mariscus.

The last three were all discovered in the same upland mire, at over 1,000 ft. Many of these were quite unexpected discoveries but other new records have been the result of systematic searches for species which might be expected to occur; Carex strigosa, Viola reichenbachiana, Salix purpurea, Thymus pulegioides, and most recently Luzula fosteri, fall into the latter category. Several species recorded last century have been re-found, including; Botrychium lunaria, Vicia sylvatica, Dactylorhiza praetermissa and Carex dioica. Recently Maurice Massey discovered Andromeda polifolia on damp moorland in the south of the county. The only previous record, from another locality, is given in the History of Brecknockshire list (1809).

It is already becoming clear that several species regarded previously as rare in the county are in fact more frequent and widespread. Chrysosplenium alternifolium with only one post 1930 record in the Atlas, has now been recorded in 45 squares. Carex montana, which has been recorded twice in the nineteenth century, has been found recently in 15 squares, in a wide range of habitats.

This year the mapping project enters its second phase and recorders have been asked to estimate the frequency and check the habitat range of the uncommon and rare species in their squares. Also a start is being made on selected habitat studies. In some cases the correlation of the distribution of species with particular factors, is becoming clearer; in others, the situation has become more puzzling with the advent of fresh information.

Instructions for collecting material to identify difficult taxa have been circulated to recorders, but several critical genera like Hieracium (well represented in Breconshire), Rubus and Taraxacum have scarcely been investigated. Herbarium material is being carefully collected and it is hoped that referees will find time to examine it at a later stage. Voucher specimens of new county records are sent to the National Museum of Wales.

With such a small band of fieldworkers the project is bound to take several years, but a useful start has been made. We would welcome help from anyone who is interested and recording cards, etc. are available from Michael Porter.

#### SUCCESSION IN A RESERVOIR.

T.A.W. Davis.

Since about 1960 many irrigation reservoirs have been made in Pembrokeshire by growers of early potatoes. One on a farm at St. Ishmael's, roughly triangular with sides of about 70 and base about 30 yards, was filled in late September 1965. It is in the valley of a small stream on boulder clay within 200 yards of a tidal estuary. To protect the banks from erosion a few plants of Iris pseudacorus, Sparganium erectum, Glyceria fluitans and Phalaris arundinacea and some seed of the grasses were introduced that autumn. All became established and Glyceria spread very quickly to form an almost unbroken fringe on the sides built with spoil from the excavation into a dan. Glyceria persisted until 1970 but declined rapidly thereafter and is now extinct. The other species are firmly established and now line the banks with riparian species which have come in naturally, notably Oenanthe crocata, Epilobium hirsutum, Mentha aquatica, Galium palustre, Scrophularia aquatica, Juncus effusus, J. acutiflorus and Eleocharis palustris.

There has been a succession of aquatic species which were first noted in 1967.

1967. At least 16 Potamogeton berchtoldii and one P. natans with about 24 leaves and one spike.

1968-70 P. berchtoldii dominant all over and P. natans grown into a large dense patch. Ranunculus aquatilis was noted in 1968 and is still present.

1970. Myriophyllum alterniflorum was first seen.

1971. Myriophyllum dominant, P. berchtoldii scarce. Several young plants of P. natans were widely dispersed but the original plant was reduced to a few scattered leaves. A coot resident at the reservoir during the winter of 1970-71 was watched when diving in the patch of pondweed and was seen to bring up, long stens. Later these had accumulated at the outfall to a considerable mass.

1972. Myriophyllum even more abundant but only one small patch of P. berchtoldii was seen.

1973. A little Myriophyllum in one place was not in flower by early July and no P. berchtoldii has been seen.

The changes in the aquatic flora and its deterioration may be caused by a green alga, Cladophora sp. which first developed in abundance and formed a dense scum over the surface of the water in the summer of 1969. In September 1971 a little Elodea canadensis, reputed to help aeration, was introduced and several small patches are established. It is hoped that when it spreads it may control, at least to some extent, the excessive growth of Cladophora.

## WELSH FLOWERING PLANTS.

A new edition of the book 'Welsh Flowering Plants' is under preparation at the National Museum of Wales. The last (2nd) edition was published in 1957 and in the 16 years which have passed since then, much new information on the distribution of flowering plants within the Principality has accumulated. In recent years the emphasis has switched from the vice county to the 10 Km square as recording units and because of this it is planned to include distribution maps of all but the very common or very rare species.

These maps will be produced by the Biological Records Centre and it is hoped that they will be as up to date as possible. A search is being made through the Welsh National Herbarium and recently published Welsh Floras and check lists, for new 10 Km square records, and it is hoped that as many members of the B.S.B.I. Welsh Region, as possible will help by sending new records to the National Museum of Wales. All records, no matter how few will be much appreciated. Only with your help will the maps be as complete as they should be.

It is also intended to treat in full, critical genera such as the Hieracia, Rubi and Taraxaca, as well as hybrids and more introduced species than before. A list has been compiled of all these additional taxa giving their vice county distribution and this list has been circulated to all county recorders and other interested parties for their comments and additions. A few copies are still available for those who would like to receive them.

The introductory chapters are to be expanded to include details of the Geology, climate etc. as they affect plant growth and distribution.

If you have any comments on previous editions of Welsh Flowering Plants or would like to suggest improvements or innovations for the third edition, please write to Gwynn Ellis, Department of Botany, National Museum of Wales, Cardiff, CF1 3NP.

It may be of interest to members to know that the Rose Herbarium of the late A.H. Wolley-Dod is now deposited in the Welsh National Herbarium on loan from the British Museum (Nat. Hist). The first of several boxes arrived early in 1973 and it is hoped that the whole collection will be transferred before the end of the year.

Wolley-Dod was Britain's foremost expert on the genus Rosa and his herbarium has been obtained on loan to help the author with his researches into the Taxonomy of British Roses.

C.P.R.W. CONFERENCE EXHIBIT 1973.

At Aberystwyth on April 13 and 14 1973 the Welsh Regional Committee B.S.B.I. put on an exhibit to illustrate the theme of the annual Conference of the Council for the Protection of Rural Wales, namely, "The Rivers, Lakes and Waterways of Wales".

A sequence of posters with some living material showed typical riverside plants, from mountain springhead to estuarine saltmarsh. To display the Waterways habitat a painting of the species rich Montgomery Canal was grouped with a number of Sowerby's colour plates of some of the rarities of this rich habitat. The Lake theme had a further selection of Sowerby's plates with photographs of Llangorse Lake, the classic site in Brecon which it has not been possible to save from over-exploitation for amusement and the consequent disturbance and pollution.

Living material of 11 species of Salix was shown and herbarium specimens of various Juncus species were skillfully employed to integrate the groups into an exhibit which attracted as much attention and interest as any other in the hall.