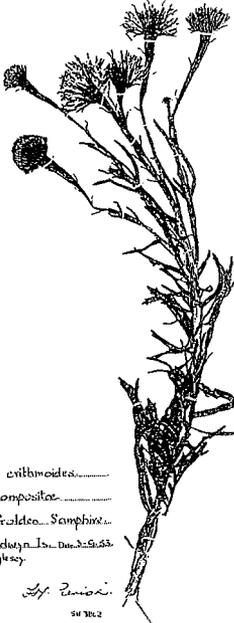


# WELSH BULLETIN

Editor: R.D.Pryce

No. 50, WINTER 1990



Name *Inula anthracoides*.....  
 Natural Order *Compositae*.....  
 Common Name *Gwaledon Sempfridi*.....  
 Haula *Lladolwyn* *Is.* *Dist. 329.633*  
*Anglesy*  
 v.c. 82. *St. Rianon*  
 94/302

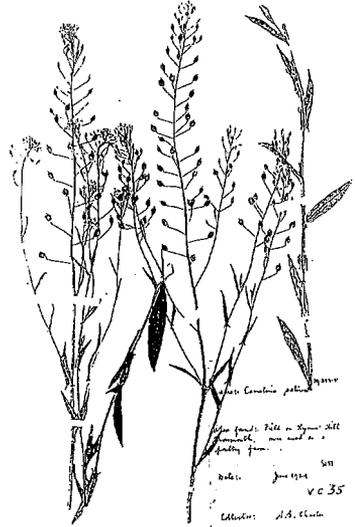


FIG. 70-3-1

WELSH NATIONAL HERBARIUM  
 THE FLORA OF THE BRITISH ISLES  
*Chrysanthemum alstrupifolium* L.  
 Locality *Barth-y-felch, Flintshire*  
 Collector *V. Gordon* Date *23-11-55*  
 National Grid *5125* Vicinity *51*  
 National Museum of Wales Department of Botany



WELSH NATIONAL HERBARIUM  
 THE FLORA OF THE BRITISH ISLES  
*Solidago virginica* L.  
 Locality *Hall wooded with birch, holly, hazel and  
 ash all trees. Forest Gate, Ffrwd (199, 7000),  
 between Ffrwd Church and house "Little Hillside"*  
 Collector *E. Cleary, Herp. 15*  
 Date *19/11/59*  
 National Grid *1088212* Vicinity *12*  
 National Museum of Wales Department of Botany



*Stachys cretica* *patula* *1919*  
*Stachys cretica* *patula* *1919*  
 Date *June 1956*  
 v.c. 35  
 Collector *A.B. Clark*



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## EDITORIAL

Congratulations are in order now that the Welsh Bulletin has reached its fiftieth number.

The cover depicts a montage of plants with a "golden" theme: Golden-Saxifrage, Golden-Rod, Golden-Samphire and Gold-Of-Pleasure. The first Bulletin appeared in January 1964 under the editorship of John Savidge and contained articles on the Welsh Lake Flora Survey (Operation Wellington) (Brian Seddon) and Carmarthenshire Roses (Mrs Irene Vaughan) as well as notices and meetings reports. Since that time the composition of the Committee for Wales has undergone complete change. In addition, most Welsh vice-counties have had new Recorders appointed but there are two exceptions: Peter Benoit (v.c. 48 Merioneth) and Dick Roberts (v.c. 52 Anglesey) who represent the "elder statesmen" of Welsh botany. The "young pretenders" installed in the other vice-counties (some of whom may not necessarily be quite so young!) are all very involved in the study of their local floras, often now employing the latest technology for data collection and storage.

As this issue is a milestone of the Society in Wales, it was thought appropriate that every v.c. recorder should contribute a short report outlining the state of local botanical knowledge. I am very grateful to them all for finding the time to write their copy at what amounted to very short notice.

The remainder of Bulletin No.50 is made up of the 1987 Welsh Plant Records, again contributed by the v.c. recorders but compiled by Gwynn Ellis. The BSBI both in Wales as well as nationally, owes Gwynn a very large debt of gratitude for all the long hours he devotes to society affairs. It is he who is largely responsible for keeping the cogs of the society running so smoothly (you might even say well oiled!).

I have received two other articles for this issue but as it is already rather fat, one has been poached, with the author's and editor's consent, by BSBI News as it is of interest to a wider readership and the latter publication was currently short of "meat". The other will be held over to the next issue.

Finally may I wish you hearty Season's Greetings. A full and varied programme of BSBI meetings for 1991 is printed below and I look forward to a rewarding field season and hope to see you during the year.

R.D. Pryce  
30 November 1990

All back issues of the BSBI Welsh Bulletin are still available on request (originals or photocopies). Please send cheque made payable to BSBI Committee for Wales at £1 per issue, which includes p & p, to G. Hutchinson, Department of Botany, National Museum of Wales, Cathays Park, Cardiff, CF1 3NP, specifying the issue number or year which would have to include the season or month. Large runs - price negotiable.

The v.c. is composed of 25 part or whole ten kilometre squares. Co-ordinators were obtained where possible, to collect the records for their ten kilometre squares at the end of the season and enter them on a minimap before sending it to me. I entered these onto 'master' minimaps and then transferred them to county maps. The co-ordinators have been Dr Paul Glading (1), Mrs Alison Jones (3), Mr Gordon Bristowe (2), Mr and Mrs E.D. Pollard (6), Mr Peter Jones (2), Mr R. Fraser (5), Mr David Price (2), Mrs Elsa Wood (6), Mr Colin Titcombe (6), Mr and Mrs P.C. Hall (6), Mr Nigel Smith (2), Mr Brian Gregory (4), Mr and Mrs Mark Kitchen (6), Mr T.G. Evans (6). The figures in brackets indicate the number of years served. Most of the recording of their ten kilometre squares were done by Mr and Mrs Pollard, Mrs Elsa Wood, Mr and Mrs Hall, Mr Brian Gregory, Mr T.G. Evans and Mr Bob Fraser, respectively. Over 120 people have contributed records though only 26 have continued through the six years. Apart from the co-ordinators Miss Joan Searle (80+ years) covered her four tetrads very thoroughly, Miss Heather Colls was an enthusiastic coverer of her tetrads, Mrs V.A Williams returns regularly from Salisbury to cover tetrads, Mrs Rippon walks some of the difficult upland tetrads. Mr Bob Hewitt drew our attention to 'The British' a superb wet heath in one of his four tetrads and Dr A. Jacks covered his tetrads well inspite of a busy medical practice. To these my special thanks but I'm grateful to every recorder. Some promising new volunteers have joined the scheme and I look forward to their results.

99,000 plus records have been processed and c.1270 species, microspecies etc. have resulted.

188 species are widespread and occur in many tetrads in all types of habitats. Of these 40 occur in nearly all tetrads (c.410).

Excluding the occasional casual, 37 species are uncommon. 40 are rare, consisting of few plants or occurring in very few tetrads.

Some plants are limited by habitat thus 31 species are coastal, 9m reens, 11 are upland, 7 are of western distribution though as the upland is western there is some overlap, 8 are eastern and 5 occur with their feet in water.

The target, I thought was attainable, was 250 species per tetrad. This has been achieved in 214 tetrads though 120 more have over 200 species. Ten ten-kilometre square results are still awaited for 1990. The other tetrads need more visits though some of the 42 of over 150 species seem to be reaching their limit. Surprisingly, some 1st VCR native species for 1990 occurring in quantity ought to have been picked up before as they have most probably existed there since the last Ice

Age. Bob Fraser found hundreds of plants of Crepis paludosa in a shady stream side north of Abergavenny in only the third post 1930 S. Wales ten kilometre square. He also found c.22cm<sup>2</sup> patch of Sibthorpia europaea in moss on a stream bank north of Cwmfelinfach. His hybrid? sedge from Cwm Merddog is being checked. John Wohlgemuth came across 30-40 plants of Carum verticillatum with masses of Scutellaria minor and Wahlenbergia hederacea in an open woodland flush near Blaena.

The hybrid sedge was confirmed as Carex x boeninghausiana by A.O. Chater. So far 18 Hieracium species have been determined with a number yet to be decided. 69 micro-species of dandelion are known to occur and a study of roses is revealing Rosa mollis, R. rubiginosa, R. sherardii, R. micrantha, R. glauca, Rosa x rufescens and many other hybrids determined by Rev. G.G. Graham. There is hope among the more common despair.

v.c. 41 GLAMORGAN

J.P. Curtis

In many ways the distribution of the Flora of Mid and South Glamorgan is well documented. Records received since 1960 have been recorded and mapped, forming part of a new Flora of Glamorgan that has been written and it is anticipated will be published in 1991. The preparation of this Flora entailed much practical field work and all areas of the two counties were visited. Many exciting discoveries were made - Atropa belladonna refound after a gap of 80 years, many new sites for Neottia nidus-avis and a first record for Frankenia laevis to name but a handful.

However the rapid expansion of urban areas, coupled with other forms of development has meant that many records are now of only historical interest. Another problem is that most records are only localised to a 5km square and this makes finding an exact site for a particular plant difficult when confronted by, say, a planning enquiry. New records do now have to have a 6 figure reference and this is to be applauded. For a heavily populated area there is a paucity of new records - the faithful few can always be relied on to produce new field records or as in the case of Dr G. Hutchinson also identification of Herbarium material collected in the past such as Rosa tomentosa Sm. x R. canina L. collected by Mr A.E. Wade in 1975 and identified as a first county record in 1990, when it was determined by A.L. Primavesi.

New records are there to be found as the recent BSBI selected 10km survey proved. But future recording, to be of value and to make the best use of slender resources, will need to be either site or specific species targetted, if it is to be of use to urgent needs of conservation.

BOTANICAL RECORDING IN GLAMORGAN: RETROSPECT AND PROSPECT.

Q.O.N. Kay

Although Glamorgan (v.c. 41) is the most densely populated vice-county in Wales, it is ecologically and topographically among the most varied, with a long coastline and a wide range of both natural and man-made habitats. NNRs protect plant communities of national and European importance at several sites in the west (Whiteford Burrows, South Gower Cliffs, Oxwich and Crymlyn Bog); the limestone and sand-dune flora of Gower is particularly rich. Man-made habitats in the vice-county are also unusually rich in plant species; in the industrial towns and cities of Glamorgan, the urban flora now includes many established aliens of diverse origin.

In terms of the total numbers of species listed in Flowering Plants of Wales (Ellis 1983), Glamorgan leads all other vice-counties, narrowly if only native, denizen and colonist species are included (924, compared with 909 in Caernarvon and 859 in Denbigh) but overwhelmingly if naturalized, alien and casual species are added to the total (1836, compared with 1277 in Caernarvon and 1255 in Monmouth). Plant recording in Glamorgan has tended to follow a cyclical pattern, with three main periods of activity. The first of these, almost entirely limited to the west of the county and associated with L.W. Dillwyn's influence, peaked from about 1830 to 1850 when several botanists worked in or near Swansea. A second cycle, centred on Cardiff and associated with the Cardiff Naturalists' Society, culminated after 1900 in the publication of A.H. Trow's Flora of Glamorgan (1906-1911); at the same time, H.J. Riddelsdell, a young curate in Aberdare, independently produced another good flora of the county (A Flora of Glamorgan, 1907). In retrospect both floras can be seen to rest on a rather limited basis of field records, perhaps reflecting the difficulties of travel and access to some sites, and the small number of botanists active in the county. During the 1920's and 1930's many new records of alien and casual species were made in the Cardiff and Barry areas, but there was less attention to native species. In the west of the county E.M. Thomas and J.A. Webb contributed new records, and Eleanor Vachell continued to work on the native flora. A third period of activity was stimulated by recording for the Atlas of the British Flora in the 1950's, and has continued with a systematic survey of the whole county on a 5km square basis during the Flora of Glamorgan project from 1969 onwards. In addition, several detailed surveys of particular habitats or groups of species have been conducted or supported by the NCC. The Flora of Glamorgan work and the NCC surveys have greatly increased our knowledge of the distribution and abundance of native plants in Glamorgan, emphasizing the richness and importance for conservation of many sites and habitats in the county, including several which were previously overlooked or underestimated. Amongst the most notable of these are Crymlyn Bog (now a National Nature Reserve) and the

Neath Estuary complex, threatened lowland heath sites like Portmead Heath and the Gower commons, and species-rich permanent grassland in the uplands. Discoveries of new native species (excluding apomictic microspecies or critical segregates) in the vice-county since 1960 include Dryopteris oreades (above Llyn Fach, 1974), Eriophorum gracile (Crymlyn Bog, 1977), Frankenia laevis (Merthyr Mawr, 1981), Potamogeton trichoides (Kenfig Pool, 1982) and Trifolium occidentale (Mewslade, 1988). Rediscoveries during the same period of native species not seen for over a hundred years and thought extinct, either in the whole vice-county or in its eastern or western halves, include Carex dioica and C. limosa (Crymlyn Bog, 1977; last recorded c.1840); Dianthus armeria (Gorseinon, 1980; last record in W. Glamorgan 1843); Equisetum hyemale (Jersey Marine, 1974; last seen in W. Glamorgan c.1840); Matthiola sinuata (Neath Estuary sand-dunes, 1964; last seen c.1840); and Vicia orobus (Portmead Heath near Penlleger, 1990; last recorded in the area c.1840). Aliens that have shown marked increases include Epilobium ciliatum, Hirschfeldia incana, and Senecio squalidus, but several attractive alien species associated with urban waste land have decreased because their habitat has been redeveloped or replaced by mown turf; examples include Buddleja davidii, Hutera cheiranthos, Linaria repens and Melilotus alba. The introduced aquatic Crassula helmsii, strongly invasive in southern England, appeared in Broad Pool, Gower, in 1988 but has apparently not increased or spread as yet. More introduced species, especially those that grow in artificially disturbed habitats, can be expected to appear in the future. On the other side of the coin, probable or possible extinctions during the period include Pilularia globulifera (last recorded 1971) and Thelypteris thelypteroides, several species of permanent grassland have drastically declined, and many cornfield weeds are now extremely scarce or grow only as casuals. Several rare native species now grow in precariously small populations, some of them in habitats that are increasingly stressed by human pressures and are also vulnerable to the effects of climatic change. Examples include Asparagus officinalis ssp. prostratus, Asplenium billotii, Aster linosyris, Cirsium tuberosum, Gentianella uliginosa, Mibora minima, Ononis reclinata and Ranunculus tripartitus. Active conservation measures may eventually become necessary; meanwhile, in Glamorgan as elsewhere, their surviving populations must be not only protected but also monitored and recorded.

v.c. 42 BRECON

M. Porter

With the production of a Flora of Breconshire its main target, a project was started in 1967 to collate the old records and map the distribution of vascular plants. For historical and organisational reasons the Watsonian vice-county was chosen as the study area and, at that time, its boundary

closely coincided with that of the administrative county and the Brecknock Wildlife Trust. This territory (v.c. 42) was subdivided into ninety nine 5 x 5 km recording units. During the following seven years a small band of Brecknock Trust members, concentrating mainly on their home 'squares', made steady progress in mapping the flora. Field meetings were organised to tackle the remote parts of the county. By 1975 the first phase of the recording scheme was nearing completion, except for the less accessible upland and border regions. The average number of species recorded per 'square' is now (1990) about 350.

New county records from this phase included a high proportion of 'native' species such as Alopecurus aequalis (Orange Foxtail), Carex strigosa (Thin-spiked wood-sedge), Cladium mariscus (Great Fen-Sedge), Mentha pulegium (Pennyroyal) and Sparganium minimum (Least Bur-reed). Many plants not recorded since the nineteenth Century were re-discovered, for example Andromeda polifolia (Bog Rosemary), Botrychium lunaria (Moonwort), Carex dioica (Dioecious Sedge), Carex montana (Soft-leaved Sedge) and Vicia sylvatica (Wood Vetch). A few of these, such as Botrychium lunaria and Carex dioica turned out to be widespread. The distribution of some plants, like Campanula trachelium (Nettle-leaved Bellflower), Thymus pulegioides (Large Thyme) and Silaum silaus (Pepper Saxifrage), reflects the borderline situation of Breconshire between the lowlands of Gwent and Herefordshire to the south-east and the uplands of central Wales to the north-west. The ecological factors moulding the distribution of others proved puzzling. Carex montana, for example, is most often found, sometimes in abundance, in rough grassland on exposed limestone hillsides. But it has also been recorded in beech and ash woods, in damp heathy fields associated with Narthecium ossifragum (Bog Asphodel) and Trichophorum cespitosum (Deergrass), and on mountain cliffs. In one cliff site it grows on ledges at an altitude of 750 metres in association with arctic-alpines like Sedum rosea (Roseroot) and Vaccinium vitis-idaea (Cowberry). Habitat studies in progress may perhaps throw more light on this and similar enigmas.

It was apparent by 1975 that several 'critical' genera were strongly represented in Breconshire. Probably at this stage the recorder should have taken the advice of his dwindling band of helpers and ignored such troublesome groups, or relegated them to an appendix in small type! Instead, for the past fifteen years, attention has focused on the microspecies of blackberries and dandelions and the bewildering roses and eyebrights where hybridisation is rife. Inevitably, mapping their distribution has been slow. In some old lanes undescribed or recently named taxa make up 30-40% of the dandelion population; some hedges bristle with hybrid roses. The scale of the problem can be gauged from the numbers of microspecies involved: 88 blackberries (40 in 1975) and 140 dandelions (18 in 1972) have now been recorded. However their

distribution patterns are providing further insights into the relationship of the local flora to that of other parts of Britain. This part of the project would have been impossible without the generous and invaluable assistance of many BSBI referees. Gratitude and thanks are due to all who have helped and in particular to Alan Newton, Chris Haworth and John Richards who have been a source of inspiration throughout.

The meandering approach to the preparation of a local Flora outlined here, together with the constraints of a very small band of fieldworkers and absence of most research facilities have conspired to reveal, or produce, plenty of problems. Much data analysis remains and further research on ecological factors will be needed to try to explain some of the puzzling distribution patterns which have emerged. A summary of the new taxa recorded from v.c. 42 during the mapping scheme is tabulated below. The categories are those used in Flowering Plants of Wales.

Natives	Naturalised aliens	Casuals	Microspecies	Subspecies	Hybrids
70	72	30	173	20	70

RECORDING IN RADNORSHIRE v.c. 43

D.R. Humphreys

There has never been a 'Flora of Radnorshire', and Carter, writing in 1950, says that Radnorshire may be considered to have been the Cinderella among the Welsh counties from the point of view of botanical exploration. Wade and Webb (1945) point out that Radnorshire has fewer species of plants than any other Welsh county, and attribute this to three factors. (a) The elevation of the inland areas, the average height being 650 feet, with the largest proportion of upland ground of any Welsh county. (b) The considerable area of the moorland and boggy areas. (c) The absence of any large masses of limestone. Even Edward Lhwyd, who did so much of the early exploration of the botany of Wales, had been to Radnorshire and had visited the waterfall at Rhayader but did not record any plants from the county. The first botanical record from the county was by Rev. Littleton Brown in the 1720's, who mentioned a lichen from Cefn-llys castle. Subsequent records during the 18th and 19th centuries were mainly by visitors from outside the county, and many were by visiting churchmen, among them Rev. Jonathan Williams, Rev. John Evans and Rev. William Lugden. Prominent among these was Rev. Augustin Ley from Herefordshire, the co-author with Rev. William Purchas in 1889 of the 'Flora of Herefordshire'. Ley, a botanist of the highest repute, recorded 303 species in 1874, and helped to put Radnorshire on the map in a botanical way. All the early botanists refer, of

course, to Stanner Rocks "on whose summit grows a profusion of wild flowers, hence called 'The Devil's Garden' " and Ley and others contributed further notes on this particularly rich area.

Since that time the emphasis has been on the particularly interesting sites rather than overall recording coverage, but Ann Powell as BSBI Recorder from 1965 to 1988 had maintained a valuable card-index of the less usual plants. Manuscript notes for a Flora were made by Webb in the 1950's but not published.

Systematic mapping has been undertaken in the last few years by Ray Woods, whose home, like that of so many of the previous botanists, is just over the county border. He has, almost single-handed, surveyed the county flora, but has had perforce to do this on a 5-km format instead of the now more customary tetrad basis. His survey has, however, included bryophytes, lichens and rusts as well as the higher plants.

Recording in v.c. 43 this year (1990) has been largely a matter of organising material for Ray Woods' contemplated Flora. Now the emphasis is more on getting these records on to a computer program, using Alan Morton's DMAP, and progressing to a form in which desk-top publication is possible. David Hargreaves at the Radnorshire Wildlife Trust has been actively and helpfully pursuing these DTP aspects.

One or two oddities of distribution have come to light. Parietaria judaica, common on the town walls in Leominster and Hereford, seems to meet a barrier at Offa's Dyke and cannot now be found in Presteigne, Knighton or Llandrindod. Euphorbia amygdaloides too, common in much of Herefordshire, jumps suddenly to occupy most of a small hill near Stanner, then fails to appear in the rest of the county. New findings included Hammarbya paludosa in the Elan Valley in 1989.

v.c. 44 RECORDING THE FLORA OF CARMARTHENSHIRE R.D. Pryce

If the thirteenth century writings of the Meddygon Myddfai are discounted, recording of the Carmarthenshire flora began in 1662 when John Ray on his second itinerary through Wales noted "at Kidwelly, on the sandy meadows near the town, I observed six sorts of rushes" and he went on to mention Juncus acutus and J. maritimus. About fifty years later Lhuyd passed through the county and, very significantly, recorded Sison verticillatum (Carum verticillatum), one of the species for which Carmarthenshire is still most noted. Several other visiting botanists subsequently contributed but no systematic floral list of the whole county was attempted until Barker's of 1905. Several contemporaries of Barker, notably Knight and Hamer published plant records but it was not until the BSBI Atlas project of the late 1950's that an ordered approach was made, the two principal contributors being Mrs I.M. Vaughan and

R.F. May. Shortly before his retirement from Carmarthenshire botany, May published "A List of Flowering Plants and Ferns of Carmarthenshire" in 1967. This remains the only comprehensive published work on the county's flora. Mrs Vaughan succeeded May as BSBI Recorder and made further major contributions, principally on a site basis.

The present recording scheme was started in 1982. Of the 698 tetrads which comprise the vice-county, 292 had one or more post 1970 records at the inception of the scheme: mostly Mrs Vaughan's site-based data. By the end of 1988 all tetrads had been visited with the exception of one periferal, remote, part-square and three wholly in the sea! The total number of individual records collected so far is in excess of 130000 and the greatest number of species recorded in one tetrad is 521. However, only 280 have more than 200 species and these are concentrated in the populated south-eastern third of the county. It is hoped to reach a target of 200 to 250 species for every tetrad in order that a reasonably comprehensive and even coverage is achieved, before contemplating publication. Whilst mapping the species distribution on a grid basis, encouragement has always been given to recording by sites with additional notes on, for example, habitat and species populations and associations. These data are invaluable when making an ecological assessment of the flora as well as essential for conservation purposes.

Several new taxa have been recorded since 1982 but also of significance is the number of rediscoveries of species thought to have become extinct. Critical taxa have not been neglected, for instance both Rubus and Hieracium referees have actively been involved in field work and have identified a significant number of first county records. There is a general decline in species confined to easily destroyed or altered habitats but one of the most pleasing aspects of the project has been the continuing frequency with which previously unknown, semi-natural, ecologically-rich sites have come to light.

Several years of field-work still remain before publication can be attempted. However, despite only very few recorders taking part, the achievement to date has been very encouraging in this, the largest Welsh vice-county. I look forward to continued progress and the appearance of the final work in the not too distant future.

I have now been BSBI recorder for the small but very diverse old county of Pembrokeshire for a decade so a brief review of what has and has not been achieved is timely. During the early 1980's much time was spent gaining familiarity with the voluminous and excellent records cards, diaries and correspondence inherited from my predecessor; the eminent local naturalist the late Tommie Warren Davis. His work on a 5 x 5km. square flora although advanced had unfortunately not reached the manuscript stage. He had, however, published a "Plant List" in 1970.

Highlights of the early 1980's were discoveries of new vice county records of species such as Aster linosyris on the limestone of the Castlemartin peninsula and Lathyrus palustris in upper saltmarsh of the Eastern Cleddau. Many of the rare species found at that time arose from pioneer habitat survey work promoted by the Nature Conservancy Council.

By the mid-1980's I was converted to the idea of a home computer storage and retrieval system as a successor to the manual card index system. The last four years have been dominated by hours spent entering earlier records as well as inputting new records. The "Biosecs" programme developed by Stephen Coker is exceptionally comprehensive and although aimed at detailed site recording presents and analyses data at a 1 km square level. It also operates at coarser levels so that the 5 x 5 km data set inherited will not be wasted.

Botanical recording in Pembs. in the 1980's was largely undertaken by myself with support from a few stalwarts and occasional visiting botanists. Bryophytes, lichens and similar lower plant groups have never been covered by resident botanists and are not being systematically dealt with today although Pat Wolseley, Peter James and Francis Rose have recorded lichens at many key habitats. I have concentrated on higher plants and ferns by defined site and habitats within 1 km squares. Others have adopted a variety of approaches often collecting mappable records more efficiently but omitting habitat details. Apart from the BSBI Monitoring Scheme special efforts have been made to complete rare species population forms (some 700 have been completed), to survey churchyards and chapelyards (all churchyards have been visited) and the Castlemartin peninsula is being mapped at 1 km square level by Peter Rhind and Steve May.

Roadside verges and the Pembrokeshire hedgebank deserve more attention and much is planned for 1991. Arable weeds and the plants of the many small offshore stacks and islands need particular efforts especially as Pembs. is rich in both. In addition I have to admit that the difficult groups have been neglected although historical aspects have not. A visit to

Cawdor Castle led to the donation of the 1st Countess Cawdor's Stackpole herbarium to the National Museum of Wales. The plant list and papers of the late Miss Cicely Howells covering the period before and after the 2nd World War were secured whilst Juliet Brodie provided for safe keeping a revised card index to the Dale flora.

It is now very easy to supply maps, site lists, sites for a species, etc. in a great variety of combinations. Over 120,000 species records are available from 930 visited 1 km squares although many others are awaiting their first botanist. A frightening quantity of old records have still to be incorporated during the winter months. Once this has been done and extra coverage of certain habitats and locations achieved it will be time to start drafting the text for a flora perhaps even leading to the offer of some of the information on floppy disk for the readers own analyses! To end on a more traditional note my botanical highlight of 1990 was undoubtedly a Sunday in June with David Lang and Jack Donovan. David confidently identified Dactylorhiza majalis subsp. traunsteinerioides in an Epipactis palustris/Carex lasiocarpa Flush at one of our best fens - Castlemartin Corse, during a day spent puzzling over those marsh orchids. Perhaps this compensates for the equally memorable day with R.W. David in June 1989 on the wet heaths and fens of St. Davids when Carex appropinquata was regrettably reduced to C. diandra and Pembrokeshire "lost" its most elusive plant.

v.c. 46 CARDIGANSHIRE

A.O. Chater

Plans are being made this winter for a county Flora which it is hoped to complete in about 10 years time. My present inclination is to aim for as thorough a coverage as possible of infraspecific variation, critical groups and hybrids, and to include a considerable element of ecological and phytosociological information, perhaps at the expense of completeness of tetrad mapping, although tetrad recording will be a major part of the project.

Most of the recording in the last 10 years or so by myself as v.c. recorder and by other botanists in the v.c., notably contract workers for N.C.C. and for the Common Land Survey, has been site-based for conservation purposes, and this situation is likely to continue. There have not been, and, on present showing, are perhaps unlikely to be, more than a very few other recorders in the v.c. in a position to do tetrad recording on a large scale, but the proportion of "good" sites already surveyed and listed is very high. It would seem sensible to continue with this style of recording and to capitalise on the site accounts that are available. It would perhaps be more useful, for example, to indicate the partial tetrad distribution and general ecology of the subspecies of Sparganium erectum, or the main occurrences of Festuca

ovina/Agrostis capillaris/Thymus praecox grassland as a recognised National Vegetation Classification community than to give ostensibly complete tetrad maps of Sparganium erectum s.l. and Thymus praecox. It would of course be best to do both, but that is unlikely to be possible. If corners have to be cut, I would prefer to fail to cover a number of probably dull tetrads than to fail to give information on these other topics. The Flora will probably aim to show the situation in the v.c. during the period 1980-2000, with 1950 and perhaps 1930 as other cut-off dates.

Because of the general thoroughness with which "good" sites such as wetlands, ancient woodland, rhos pastures or rich meadows have been hunted out and surveyed, the distribution of many of the indicator species of these sites, such as Carum verticillatum, Cirsium dissectum, Lamiastrum galeobdolon, Tilia cordata or Briza media, is probably fairly accurately known already. But the distribution of many species of less fashionable habitats, such as Cytisus scoparius or Hypericum humifusum, can only be guessed at present. A Ceredigion Rare Plant Register is currently produced every two years in collaboration with N.C.C., covering all species in less than 100 10 km squares nationally and all species in only three or fewer sites in the v.c., as well as many additional species of ecological or other interest. This has proved quite useful in a local conservation context and is a good way of keeping track of the cream of the local flora.

v.c. 47 BOTANICAL RECORDING IN MONTGOMERYSHIRE M. Wainwright

In the early 1980's, as recording for the Shropshire Flora was coming to an end, thoughts turned to Montgomeryshire, where botanical information had always been sparse. There were known sites like Breidden, but traditionally, botanists had passed through on the way to somewhere else. A few local surveys had been made based on parish boundaries, and Webb's unpublished Flora gave useful information around 1940. Plants of Montgomeryshire in 1977, based on the field records of Janet Macnair was a first, for a county "unjustly overlooked because no adequate account of its plant life existed" as the foreword said. Our aim was to build on this modest foundation so that present distribution could be assessed accurately on a grid-square system and future change monitored.

Since recording in Shropshire had "squared-off" that county, thereby including parts of its neighbours, we already had post 1970 records for the eastern perimeter of Mont. In our case the county boundary was the limit, but Shropshire's lead was followed in making a judgement on which species were common, uncommon or rare and devising lists for the county accordingly. It had become clear that this method was more "user friendly" than BSBI record-cards and enabled less experienced people to make a useful contribution. Names were

in English as well as Latin and since the commonest plants were only recorded on a 10 km basis, work was faster and less repetitive, while more information was gathered where needed, on less common species. These were to be published on a tetrad basis, but recording was actually done to a quarter tetrad or 1 km square, just as easy in the field, and giving us a valuable archive of information on plants which might be the rarities of the future. Very uncommon plants had a separate record sheet apiece with 6 figure grid references and all relevant information.

The Flora Project was sponsored by the Montgomeryshire Field Society and launched early in 1984, after several years of preparation by BSBI recorder Doris Pugh and others. Since then we have maintained a list of 60+ helpers, of whom over half recorded on a regular basis. There was a co-ordinator for each 10 km square (or part square), field meetings were organised and results computed annually. The status of some plants was changed as they were found to be more or less common than expected. Over 40 people attended each annual Recorders' Meeting. It has been a happy and successful project and at our final meeting recently, we were able to announce 42,000+ records so far for less common plants and 400+ for those uncommon or rare in Montgomeryshire.

Botanical recording has its particular difficulties in mid-Wales. Access is not always easy and in remoter areas, the recorder is very visible in the landscape. His purpose is sometimes misunderstood and occasionally he is viewed with deep suspicion. Lack of expert help is another difficulty. Obvious sources of academic expertise in north, south and west Wales are too far away, while botanists are notably thin on the ground in Mont. The BSBI Atlas scheme came in the midst and often involved re-recording places already done, but not in the two years specified. However, this had a bonus, with the welcome input of help from BSBI members on joint outings. Some gallant souls returned to assist us again, despite unfamiliar record cards and unpredictable weather. On one memorable June outing, a compass was needed to return to base in thick mist and pouring rain!

So far, we have few Welsh recorders, but we hope that publication, probably in 1992, will stimulate interest in Montgomeryshire's botanical heritage. Meanwhile work will continue. We are already planning for the next 10 years!

Since the publication of A Contribution to a Flora (Benoit & Richards, 1963) a vast amount of recording has been done in vice-county 48, Merioneth. Mary Richards died at the age of 92 in 1977 (Milne-Redhead, 1978) but the botanical exploration of Merioneth has continued. New discoveries and rediscoveries amount to about 89 species, 9 subspecies and 24 hybrids, plus numerous microspecies of Rubus, Hieracium and Taraxacum. There were probably a few losses over this period too, but it is impossible to be sure.

Detailed recording of about 386 of the rarer and the maritime species is almost complete. About 258 of the species in the middle range of frequency are being mapped on the 1km grid. This is the group that is getting most attention at present. About 275 of the commonest species are mapped on the 10km grid. Most of the records of them were included in Flowering Plants of Wales (Ellis, 1983). The main activity with the commonest species is in updating existing records since many of these date back to the period 1954-61 when recording was being done for the Atlas (Perring & Walters, 1962).

Several native-type species that were probably correctly recorded by the early botanists have still not been seen in this century and must be presumed extinct. They are Lycopodiella inundata, Matthiola sinuata, Mertensia maritima, Ononis spinosa, Otanthus maritimus, Pilularia globulifera and Woodsia ilvensis. It is still hoped that the Woodsia may survive on one of the remote cliffs of Cadair Idris.

On the negative side the botanical interest of Merioneth has been greatly diminished by the ploughing and seeding of ancient grasslands, the draining of wetlands, the planting of conifer forests, the dedication of more and more of the coastal strip to caravan and tent sites with their access roads, ancillary buildings and the inevitable public pressure, and the removal of roadside walls. Alas, A Contribution to a Flora is all too quickly becoming an historical record rather than a current guide.

#### REFERENCES

- Benoit, P. & Richards, M. (1963). A Contribution to a Flora of Merioneth, ed. 2. Haverfordwest.
- Ellis, R.G. (1983). Flowering Plants of Wales. Cardiff.
- Perring, F.H. & Walters, S.M. (1962). Atlas of the British Flora. London.
- Milne-Redhead, E. (1978). Mary Alice Eleanor Richards (1885-1977). Watsonia, 12: 187-190.

1990 saw the organised start of a new Flora Project for Caernarvonshire - not before time - it is almost 100 years since J.E. Griffith published the Flora of Anglesey and Caernarvonshire and no comprehensive update has been attempted since then.

The new Flora aims to list all the flowering plants and ferns currently growing in Caernarvonshire and to illustrate their distribution within the vice-county at the tetrad level. The present day status of each species will be compared with the 19th century distribution indicated by Griffith's Flora and with two more date categories in the 20th century.

Ecological information about each species will be brought together in the flora which will also show habitat distribution in the county based upon the National Vegetation Classification. A site register will list and describe the finest botanical habitats and in conclusion there will be a review of the conservation of the county's flora.

This project will run for 10 years during which time both resident and visiting botanists are urged to help with field work. Supplies of record cards are available from the vice county recorder, N.H. Brown, Treborth Botanic Garden, University College of North Wales, Bangor, Gwynedd, LL57 2RQ. Plant records will be handled at the botanic garden using the BIORECS system already employed successfully in several other Welsh vice-counties.

## RECORDING IN DENBIGHSHIRE v.c. 50

J.A. Green

There has been no published Flora of Denbighshire. In 1911 A.A. Dallman published "Notes on the Flora of Denbighshire" in the Journal of Botany. He states in his introduction "book records and the commoner species are purposely excluded". It was not until the Atlas of the British Flora was produced by the BSBI between 1950-60 that any systematic recording of all plants on a square basis was attempted. With the death of local field botanists however, v.c. 50 remained under-recorded.

In 1964 John Brummitt became Recorder for the county, and started systematic recording on a 10km square basis. Each 10km square had a record card, in addition there was a record card for each species, with date and map reference for uncommon species. It became possible to see at a glance how commonly a plant was found in the county.

In 1986-87 the BSBI Monitoring Scheme gave fresh impetus to recording, and five squares (77.07.74.04.34) were explored in detail. With the possibility of a new BSBI Atlas under discussion, the decision was made to start new record cards for all squares in 1987.

Using A4 size cards, each 10km square was given a Master card and a series of habitat cards. These record species in a limited area such as a nature reserve, an SSSI, a stretch of river bank. It is not practicable in v.c. 50 to record on a tetrad basis. It is a large county with relatively few field botanists. The keeping of separate site cards together with individual species record cards should be sufficient to relocate uncommon species.

The number of species in each 10km square is updated after each visit, and recording meetings are targeted on under-recorded squares.

Several squares have been adopted by an individual, and in these recording is progressing well. Records are sent in to me in November each year, and lists of uncommon species finds are sent in to the National Museum of Wales. I have a mailing list of about 25 people, and I circulate details of recording meetings which are held about once a month during the season. We visit under recorded squares and between 0-10 people attend, depending on weather and site. Help is needed. Any botanist passing through the county can send me a plant list - please keep within a 10km square, and make a note of unusual species with 6-figure map reference, and date of finding. Anyone wishing to adopt a square is welcome - please send in records in November of each year.

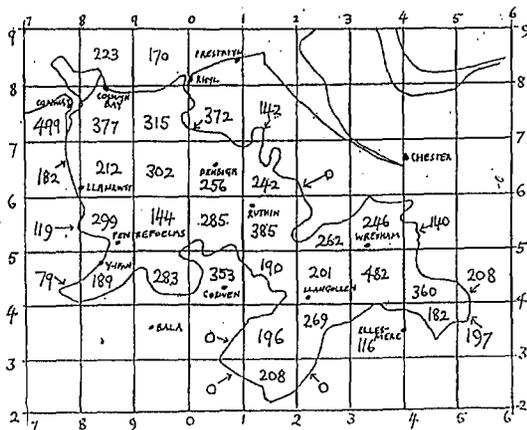
The map shows the present numbers in each square and it is noticed that the Monitoring Scheme squares have the highest number of species.

The target recording figure is 500 species in each 10km square. When this target is approached then the writing of a Flora becomes a possibility.

V.C. 50 DENBIGHSHIRE at end of 1990.

NEW RECORD CARDS WERE STARTED FOR ALL SQUARES IN 1987 with the MONITORING SCHEME

(MONITORING SCHEME SQUARES 77.07.74.04.34)



During the early years of this century, A.A. Dallman carried out a great deal of work in recording the plants of Flintshire. His results were summarised in a series of papers in the *Journal of Botany*, 1907-11, but his proposed Flora was never published.

In 1972 it was decided to begin work on mapping the distribution of flowering plants and ferns in the county, based on the tetrad (2km x 2km) as a recording unit. With the help of a small group of enthusiastic volunteers, work began in 1973 and continued for 15 years, by which time a reasonably complete survey had been achieved. Over 1,400 taxa have been recorded with an average of over 225 records per tetrad.

A considerable herbarium of several thousand specimens, many of which have been named by specialist referees, has been built up over the years as a voucher collection and as an aid to identification of new specimens. Dot maps showing the distribution of all the species have also been prepared.

In addition to the plant recording, work has been done on recording the environmental factors which are potentially relevant to plant distribution. These have been obtained from maps, also on a tetrad basis. In addition to the O.S. 1:25,000 series, data have been obtained from soil, geological and climatological maps. In all, 209 environmental attributes have been identified and plotted for each tetrad.

Thus two parallel sets of data have been obtained, floristic distribution based on field-work and environmental factors from maps. Both these sets have been subjected to computer analysis, using the TWINSPLAN and DECORANA ordination programs supplied by the University of Lancaster. The work was carried out at the University of Salford, and I am extremely grateful to the members of the Biology Department for their unfailing help.

Arising out of this work, the Flintshire tetrads have been arranged into a series of Land Classes and Floristic Classes, along the lines of the work of the Institute of Terrestrial Ecology in Cumbria. These two ordinations shows a very high correlation ( $r = 0.92$ ), and an interesting similarity of pattern when mapped over the county. Altitude emerges as being much the most important environmental factor in the plant distribution patterns.

In addition, some 50 Habitat Studies have been carried out, giving details of the plants and the environmental factors in representative samples of all the Land Classes. Also, the flora of the county has been analysed on the basis of the Geographical Elements proposed by J.R. Matthews in 1955 in his Origin and Distribution of the British Flora.

Following nearly two years of frustration and disappointment, a publisher for this work has finally been found, and the MS is now being prepared.

v.c. BOTANICAL RECORDING IN ANGLESEY 1982-1990

R.H. Roberts

Since the publication of the check-list of Anglesey plants in 1982, records for the island have accrued on a considerable scale. The North Wales Naturalists Trust's Biological Survey Team (Ynys Mon), 1983-1984, produced a valuable mass of records, many of them from parts of the island which previously had not been readily accessible, especially on some of the larger estates.

The publication of 'The flowering plants and ferns of Anglesey' in itself provided an incentive for both local botanists and visitors to send in records. This was particularly noticeable during the first three or four years after its publication. Subsequently the BSBI Monitoring Scheme (1987-1988) supplied a further impetus by concentrating attention on a single 10km square and by once again emphasising the value of collecting data on a tetrad basis (a 2 x 2 km square of the National Grid). During the course of the scheme two recording meetings were held, both led by Nigel Brown: the first at Henblas, Llangristiolus, and the second at Talwrn. While these produced a number of interesting local records, it is not surprising that in such a well-botanised area, the only noteworthy records were of Selaginella kraussiana (Mossy Clubmoss), Oxalis europaea (Upright Oxalis) and Verbasicum virgatum (Twiggy Mullein), all of them introductions and found in the gardens and grounds of the old mansion of Henblas, long noted for its extensive greenhouses and well-tended gardens (see Helen Ramage: 'Portraits of an Island', 1987).

However, a number of new v.c. records have been made since 1982: Lycopodium clavatum (Stag's-horn Clubmoss) on Parys Mountain, Equisetum sylvaticum (Wood Horsetail) on the recent extension to Cors Erddreiniog NNR, Ruppia cirrhosa (Spiral Tasselweed) on the Cefni estuary, Listera cordata (Lesser Twayblade) in the Forestry Commission plantations at Newborough, and Allium ampeloprasum (Wild Leek) near South Stack. Other finds such as Salvia verbenaca (Wild Clary) from Penmon Priory and Vicia sylvatica (Wood Vetch) at Porth-y-gwichiad, confirm the continued survival of Anglesey's scarcer species.

Perhaps the most surprising source of new records is the collection of paintings of Anglesey wild flowers by the Massey sisters, who in the early years of this century lived in Cornelyn Manor near Llangoed. This collection has been acquired by Anglesey Borough Council and is kept at Plas Arthur, Llangefni. Some of these paintings attest the occurrence of unusual casuals such as Centaurea calcitrapa (Red Star-thistle) and Lepidium ruderales (Narrow-leaved Pepperwort),

records of which are not found elsewhere as far as I am aware. Another is of a specimen of Mertensia maritima (Oyster Plant) gathered from Red Wharf by "Frank Massey, 1903", which supports the annotation in J.E. Griffith's personal copy of his Flora of Anglesey and Carnarvonshire (1895), now in Bangor City Library (see note in Welsh Bulletin No. 39, Feb. 1984, p.13). Griffith, however, does not give the name of the recorder, but it is clear that he was in touch with the Massey family and must have learnt of the Mertensia from them.

All records from the various sources have been entered on cards and assigned to the appropriate tetrads. This is greatly facilitated nowadays because most recorders give the six figure grid reference for their finds. Dot maps for all except the commonest species have already been prepared and it would need very little further work to have them ready for publication.

I wish to thank all those who have sent in records over the last eight years. They are all appreciated and I hope this trend will continue.

WELSH PLANT RECORDS - 1987

Welsh Plant Records are compiled by R. Gwynn Ellis, Dept. of Botany, National Museum of Wales, CARDIFF CF1 3NP, from reports of BSBI vice-county Recorders to whom records should preferably be sent. Plants are listed for each county in the order of Dandy's *List of British Vascular Plants* (1958), the number in that list preceding the name, so that names recently changed can be used without giving the former name. However, for the critical genera *Rubus*, *Hieracium* and *Taraxacum*, the species numbers follow more recent works viz: *Rubus* - *Brambles of the British Isles*, Edees & Newton, 1988, *Hieracium* - Sell & West in *Critical Supplement to the Atlas of the British Flora*, F.H. Perring, 1968, and *Taraxacum* - C.C. Haworth's typescript, *An Annotated List of British and Irish Dandelions*, 1988. English names are those in *English Names of Wild Flowers* ed. 2 (1986) by Dony *et. al.*

The following symbols are used:

\* to indicate a new v.c. record.

+ to indicate a new 10km square record.

! to indicate that the species is not native to Wales.

\$ to indicate a species which, though native in some parts of Wales, is not so in the locality recorded.

[] to indicate that the record, previously published in error, should be deleted.

Where entries consist of one record only, the symbols appear before the species number: where entries consist of more than one record, the symbols appear before each record, except for the ! sign which, if required, is always placed before the species number.

In general only those records which are additional to those given in *Flowering Plants of Wales* by R.G. Ellis (1983) are included. Other records are included at the discretion of the vice-county Recorder.

*The Vice-County Recorders from 1/1/1990 are:*

**MONMOUTH**, v.c. 35; T.G. Evans, La Cuesta, Mounon Road, Chepstow, Gwent NP6 5BS.

**GLAMORGAN** (West), v.c. 41; Dr Q.O.N. Kay, Dept. of Botany, University College, Singleton Park, Swansea, West Glamorgan SA2 8PP.

**GLAMORGAN** (East), v.c. 41; J.P. Curtis, 12 St Lythan Close, Dinas Powys, South Glamorgan CF6 4UB.

**BRECON**, v.c. 42; M. Porter, Aberhoywy Farm, Cyffredyn Lane, Llangynidr, nr Crickhowell, Powys NP8 1LR.

**RADNOR**, v.c. 43; Dr D.R. Humphreys, Knill Court, Knill, nr Presteigne, Powys LD8 2PR.

**CARMARTHEN**, v.c. 44; R.D. Pryce, Trevethin, School Road, Pwll, Llanelli, Dyfed SA15 4AL.

**PENBROKE**, v.c. 45; S.B. Evans, Glan-y-Mor, Dinas Cross, Newport, Dyfed SA42 0UQ.

**CARDIGAN**, v.c. 46; A.O. Chater, Windover, Penyrangor, Aberystwyth, Dyfed SY23 1BJ.

**MONTGOMERY**, v.c. 47; Mrs M. Wainwright, 'Troy', 1 Green End, Oswestry, Shropshire SY11 1BT.

**MERIONETH**, v.c. 48; P.M. Benoit, Pencarreg, Barmouth, Gwynedd LL42 1BL.

**CAERNARFON**, v.c. 49; N.H. Brown, Treborth Botanic Garden, University College of North Wales, Bangor, Gwynedd.

**DENBIGH**, v.c. 50; Mrs J.A. Green, Coed Duon, Tremerechion, St Asaph, Clwyd LL17 0UH.

**FLINT**, v.c. 51; G. Wynne, Gwylfa, Lixwm, Holywell, Clwyd.

**ANGLESEY**, v.c. 52; R.H. Roberts, Quinton, 51 Belmont Road, Bangor, Gwynedd LL57 2HY.

MONMOUTH, v.c. 35 (comm. T.G.Evans)

+46/7. *Ranunculus sardous* Crantz (Hairy Buttercup). Single plant in waste ground near Raglan Service Station, SO4208, A.Wood, 1987. First recent record. Raglan appears to be stronghold for the Hairy Buttercup, it occurs on verges and farm entrances in several sites.

+46/11. *Ranunculus lingua* L. (Greater Spearwort). In marsh SE St Pierre lake, ST5190, Dr A.Jacks, 1987.

+55/1. *Nymphaea alba* L. (White Water-lily). In South Row Reen, near Redwick, ST4083, W.Sandison, 1987.

56/1. *Nuphar lutea* (L.) Sm. (Yellow Water-lily). Numerous plants in canal, Five Locks, Pontnewydd, ST2896, T.D. & E.D.Pollard, 1987. The only extant site in the v.c.

+65/3. *Corydalis claviculata* (L.) DC. (Climbing Corydalis). Hedgebank along edge of wood, 1km NE of Michaelston-y-Fedw, ST2485, G.Hutchinson, 1987.

!79/6. *Lepidium latifolium* L. (Dittander). A patch in gateway to field, S of Llanwern Steelworks, ST3685, W.Sandison, 1987. Unusual outside Newport Docks/Rubbish Tip.

+!81/1. *Cardaria draba* (L.) Desv. (Hoary Cress). Waste ground near Abergavenny, SO21, R.Fraser, 1987.

+!71/1. *Hirschfeldia incana* (L.) Lagreze-Fossat (Hoary Mustard). Recorded in six new 10km squares - ST28, 39, 58, SO10, 20, 31 - by various recorders for the Gwent Flora project, 1986-87. An increasing species in the county.

115/14. *Hypericum elodes* L. (Marsh St John's-wort). Garden Festival site, Ebbw Vale, SO10T, A. & E.Wood, 1987. An uncommon v.c. plant.

\*!123/coe. *Silene coeli-rosa* (L.) Godron (a catchfly). One plant on gravelly island in Afon Llwyd by Graig-y-felin Wood, ST3097, T.D.Pollard & T.G.Evans, 1987, det. E.J.Clement. Second Welsh record.

+!131/3. *Cerastium tomentosum* L. (Snow-in-summer). Cliff top near Sudbrook, ST5087, C.Titcombe & T.G.Evans, 1974 (dumped with other garden refuse on edge of cliff); still there in 1987.

+!149/3. *Montia sibirica* (L.) Howell (Pink Purslane). Near edge of River Rhymney, Maes-y-Cwmmr, ST1594, T.G. & U.T.Evans.

+!154/9. *Chenopodium ficifolium* Sm. (Fig-leaved Goosefoot). Recorded in nine new 10km squares - ST28, 29, 39, 49, 58, SO30, 31, 41, 51 - by various recorders for the Gwent Flora project, 1985-1987.

163/4. *Malva neglecta* Wallr. (Dwarf Mallow). + Wayside near Abergavenny, SO21X, R.Fraser, 1987; + and near farm, Cwmyoy, SO32B, M.Marples, 1985.

Monmouth

166/1. *Linum bienne* Miller (Pale Flax). + Waste ground on cliff edge, Sudbrook, ST58D, T.G.Evans, 1985; + and waste ground on Wentlooge Level, ST28K, Sue Bellamy, 1987.

+185/1. *Genista tinctoria* L. (Dyer's Greenweed). Marsh, St Brides Wentlooge, ST28W, P.R.Glading, 1985; and Wentlooge Levels, ST28K, Sue Bellamy, 1987.

+192/9. *Trifolium arvense* L. (Hare's-foot Clover). On dismantled railway track, Cwm Ffrwd-oer, SO2601, I.B. & D.Harts and P.C.& J.Hall, 1987.

+!203/1. *Coronilla varia* L. (Crown Vetch). A roadside bank covered with large patches, Mount Pleasant, Llanhilleth, SO2101, R.Fraser, 1987.

+207/2. *Lathyrus nissolia* L. (Grass Vetchling). About 20 plants near dismantled railway, Mount Pleasant, SO2601, I.B.& D.Harts and P.C.& J.Hall, 1987.

218/2. *Agrimonia procera* Wallr. (Fragrant Agrimony). + Cwrt y Brychan, SO40K, B.Burt, 1985; + laneside between Caerleon and Ponthir, ST39G; + and roadside, Gwehelog, SO30X, both T.G.& U.T.Evans, 1987.

!229/5. *Crataegus crus-galli* L. (Cockspur Thorn). One tree in roadside/field hedge at top of hill, Ysguborwen, ST4195, T.G.& U.T.Evans, 1987.

+254/4. *Epilobium lanceolatum* Sebastiani & Mauri (Spear-leaved Willowherb). Dry roadside bank, Llanccayo, SO30R, T.G.& U.T.Evans, 1987.

+!256/1. *Oenothera biennis* L. (Common Evening Primrose). Plants in a deserted and neglected garden, near River Rhymney, Pengam, ST1597, T.G.Evans, 1987.

+258/2. *Circaea x intermedia* Ehrh (*C. alpina* x *C. lutetiana*) (Upland Enchanter's-nightshade). Wood near Pontypool, SO20V, R.Fraser, 1987.

262/04ham. *Callitriche hamulata* Kutz. ex Koch (Intermediate Water-starwort). + In wet ditch, Wentlooge Levels, ST28K, Sue Bellamy, 1987; + in a ree east of Duffryn, Newport, ST3084, M.Edwards. A rare plant in the county.

+276/1. *Myrrhis odorata* (L.) Scop. (Sweet Cicely). Laneside N of Abergavenny, SO21, R.Fraser, 1987.

+311/2. *Heracleum mantegazzianum* Sommier & Levier (Giant Hogweed). Spreading along rivers, streams and roadsides, and recorded from five new 10km squares - ST28, 38, 39, SO20, 41 - by various recorders for the Gwent Flora project, 1985-87.

\*!319/16. *Euphorbia cyparissias* L. (Cypress Spurge). Tight group of plants on bank of River Ebbw, Beaufort, SO11Q, R.Fraser, 1987.

Monmouth

\*!331/1. *Ficus carica* L. (Fig). One large tree growing out of wall over the River Ebbw, Aberbeeg, SO2705, R.Fraser, 1987.

!370/5. *Lysimachia punctata* (Dotted Loosestrife). + Old quarry, Blaenavon, SO20U, 1986; roadside Beaufort, SO20U, 1988; + and Roadside Llanellen, SO31A, 1987, all R.Fraser.

\*!387/1. *Nymphoides peltata* (S.G.Gmel.) Kuntze (Fringed Water-lily). In a reed with *Nymphaea alba*, SW of Redwick, ST4083, W.Sandison, 1987. It's sudden occurrence here suggests man's discard.

+!425/3. *Mimulus moschatus* Dougl. ex Lindl. (Musk) A large colony in wet area, The British, Abersychan, SO2504, R.Hewitt, 1985. This was the first sighting of this species and introduced the Gwent Flora Recording Group to it, leading to many discoveries in following years.

+!430/24. *Veronica filiformis* Sm (Slender Speedwell). Recorded in 12 new 10km squares - ST 28, 29, 38, 39, 49, SO20, 30, 31, 32, 40, 41 - by various recorders for the Gwent Flora project, 1985-1987.

\*435/17x13. *Euphrasia arctica* subsp. *borealis* (Towns.) Yeo x E. *nemorosa* (Pers.) Wallr. (a hybrid eyebright). Hillside, W of Pontypool, near old colliery, SO2600, T.G.& U.T.Evans, 1986, det. A.J.Silverside.

\*435/2. *Euphrasia scottica* Wettst. (Slender Scottish Eyebright). NW slopes of Twmbarlwm, ST2492, T.G.Evans, 1986.

\*439/2. *Lathraea clandestina* L. (Purple Toothwort). Green lane, Lydart, SO5009, S.Harper, 1987. First Welsh record.

432/1. *Pedicularis palustris* L. (Marsh Lousewort). + Wet field, Goetre, SO30H, V.A.Williams, 1987; + wet meadows near MLP Underwood, ST38Z, T.G.Evans, C.Titcombe et al., 1987. An uncommon plant in the county.

445/3x4. *Mentha x gentilis* L. (*M. arvensis* x *M. spicata*) (Bushy Mint). + Waste ground exposed by new by-pass, Chepstow, ST59G, T.G.Evans, 1987; + and W of Lower Redbrook, SO50J, Shealagh Kerry, 1987. An uncommon mint.

465/4/2. *Galeopsis bifida* Boenn. (Lesser Hemp-nettle). + Field margin, Gwehelog, SO30X; + and Cefn Mawr Wood, SO30L, both T.G.& U.T.Evans, 1987; + wood margin, Llandegfedd Reservoir, ST39J, T.G.Evans & recorder group, 1987; + and wood margin, Llanllywel, SO49E, T.G.& U.T.Evans, 1987.

468/1. *Marrubium vulgare* L. (White Horehound). + Rough grassland near Griffithstown, ST29Z, T.G.& U.T.Evans, 1986; trackside on landscaped coal waste W of Abersychan, SO20M, R.Hewitt, 1987; landscaped coal waste below Mynydd Farteg Fawr, SO20N, R.Fraser, 1987. A rare plant in the county.

475/8. *Campanula patula* L. (Spreading Bellflower). + Several plants on woodland path, Gwern-ddu Wood, Llantrisant, ST4097, J.D.& E.D.Pollard, 1987; + woodland, Penrhos, SO41A, Liz Powell, 1987. A very uncommon plant in the county.

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+!491/nit. *Lonicera nitida* E.H.Wilson (Chinese Honeysuckle). Recorded from ten new 10km squares, most records due to infilling of hedge gaps in farm fields bordering roads or lanes - ST28, 29, 39, 49, 58, SO20, 22, 20, 31, 50 - by various recorders for the Gwent Flora project, 1985-87.

502/1. *Bidens cernua* L. (Nodding Bur-marigold). Canal edge in all cases. Griffithstown, ST29Z, T.G.& U.T.Evans, 1986; + Mamhilad, SO30B, T.G.& U.T.Evans, 1987; + Pontypool, SO20V, A.J.& M.Iles & R.Fraser, 1987; + W of Llanellen, SO21V, R.Fraser, 1987.

+!522/1. *Erigeron canadensis* L. (Canadian Fleabane). Waste ground, Ridgeway, Newport, ST28Z, Joan Searle, 1985 (now recorded from 6 tetrads in the square).

+!526/1. *Anthemis tinctoria* L. (Yellow Chamomile). Waste ground near houses S of Aberbeeg, SO2101, R.Fraser, 1987. A plant rarely recorded in the county.

\*!539/2. *Carduus pycnocephalus* L. (Plymouth Thistle). Waste ground, Ebbw Vale Garden Festival site, SO1707, A.Wood, 1987.

+545/1. *Serratula tinctoria* L. (Saw-wort). Laneside, Pen-yr-heol, SO41F, P.C.& J.Hall, 1987.

+554/1. *Lactuca serriola* L. (Prickly Lettuce). Recorded in eight new 10km squares - ST28, 38, 39, 49, 59, SO21, 41, 51 - by various recorders for the Gwent Flora project, 1985-87.

+558/1/169. *Hieracium submutabile* (Zahn) Pugsley (a hawkweed). Grassy bank, Hafodyrynys, ST2299, T.G.Evans, 1987, det. J.Bevan.

\*558/1/181. *Hieracium lepidulum* (Stenstrom) Omang (a hawkweed). Roadside bank SW of Bettws, ST29Q, T.G.Evans, 1985, det. J.Bevan. First county and third Welsh record.

+558/1/184. *Hieracium vulgatum* Fries (Common Hawkweed). Railside, Newport Docks, ST3186, T.G.Evans, 1985, det. J.Bevan. Second record.

+558/1/222. *Hieracium scabrisetum* (Zahn) Roffey (a hawkweed). Roadside banks, Little Oak, Park Seymour, ST49B, T.G.Evans, 1982-87, det. J.Bevan. Second record.

+558/1/240a. *Hieracium umbellatum* subsp. *umbellatum* (a hawkweed). Recorded in six new 10km squares - ST19, 28, 39, SO10, 20, 51 - by T.G.& U.T.Evans, 1985-1987.

+558/1/240b. *Hieracium umbellatum* subsp. *bichlorophyllum* (Druce & Zahn) P.D.Sell & C.West (a hawkweed). Lane bank N of Parc Seymour, ST4092, 1984-87; roadside bank, Newchurch West ST4597, 1984, both T.G.Evans, det. J.Bevan.

+558/1/241. *Hieracium vagum* Jord. (a hawkweed). Roadside, Itton - Devauden, ST49Y, T.G.Evans, 1984, conf. J.Bevan. First post-1930 record.

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+558/1/245. *Hieracium perpropinquum* (Zahn) Druce (a hawkweed). Recorded from eight new 10km squares - ST49; SO20, 21, 30, 31, 41, 42, 50 - by T.G. & U.T. Evans, 1985-1987.

+563/2. *Alisma lanceolatum* With. (Narrow-leaved Water-plantain). Canal, Llanfoist, SO21, R. Fraser, 1987.

1570/3. *Elodea nuttallii* (Planch.) St John (Nuttall's Waterweed). + Reens, St Bride's-Wentlooge, ST28W, P.R. Glading, 1985; + reens, Goldcliff, ST98R, T.G. & U.T. Evans, 1986; + Monmouthshire-Breconshire canal, Mamhilad, SO3003, T.G. & U.T. Evans, 1987.

580/1. *Zannichellia palustris* L. (Horned Pondweed). In shallows of River Usk, Newbridge-on-Usk, ST3894, T.G. Evans, 1987.

584/1. *Narthecium ossifragum* (L.) Huds. (Bog Asphodel). Pont-y-Spig Bog, SO22V, T.G. Evans & M. Porter, 1987; + Cwm Merddog, SO10Y, A. & E. Wood, 1987.

+1594/1. *Fritillaria meleagris* L. (Fritillary). Naturalised in wood, Ty Mawr Convent, SO50D, E. Wood, 1987.

+605/5. *Juncus gerardi* Lois (Saltmarsh Rush). One plant on roadside, British, Abersychan, SO20M, BSBI Welsh AGM, 1987.

1607/9. *Allium roseum* L. (Rosy Garlic). Minor roadside, Llanover, SO3208, Jilly Jones, 1987. First recorded 1951.

+640/1. *Ophrys apifera* Huds. (Bee Orchid). Cliff top, Sudbrook east end, ST58D; and grassy bank near bus stop, east end. Portskewett, ST58E, both T.G. Evans, 1986.

+642/5. *Orchis morio* L. (Green-winged Orchid). Meadow near The North, SO50I, Mrs E. Wood; and north of Raglan, SO50J, S. Kerry, both 1987.

663/23. *Carex strigosa* Huds. (Thin-spiked Wood-sedge). + Near stream and high in Gaer House Wood, SO32R, T.G. & U.T. Evans; + wood W of Lower Redbrook, SO50J, S. Kerry, both 1987.

663/60. *Carex disticha* Huds. (Brown Sedge). + Wet ditches, Big Pit, Blaenavon, SO20J, T.G. Evans & R. Fraser; + wet field, Wernymelin, SO41A, S. Kerry, both 1987.

+663/61. *Carex arenaria* L. (Sand Sedge). Rail ballast, Big Pit, Blaenavon, SO20J, T.G. Evans & R. Fraser, 1987.

+663/67. *Carex spicata* Huds. (Spiked Sedge). Recorded from nine new 10km squares - ST19, 38, 48, 58, SO20, 21, 32, 41, 50 - by various recorders for the Gwent Flora project, 1985-87.

+1670/5. *Festuca heterophylla* Lam. (Various-leaved Fescue). About 80 plants on wood margin, 'The Hill' Abergavenny, SO2915, R. Fraser, 1987. Second Welsh record.

+670/6lit. *Festuca rubra* L. subsp. *litoralis* (G.F.W. Meyer) Auquier (a red fescue). In three tetrads on the banks of River Usk between Newport and Caerleon, ST39A, F, K, T.G. Evans, 1987.

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+!683/7. *Bromus diandrus* Roth (Great Brome). Cliff-top, Sudbrook, ST5087, G.Hutchinson, 1987.

+!687/jub. *Hordeum jubatum* L. (Foxtail Barley). Two sites at St Mellons, ST28F, G.Hutchinson & Sue Bellamy, 1987.

!718/1. *Echinochloa crus-galli* (L.) Beauv. (Cockspur). A plant in garden under bird-feeding station, Mathern, ST5191, Dr A.Jacks, 1987.

+!720/3. *Setaria pumila* (Poiret) Schultes (Yellow Bristle-grass). One plant near entrance to drive, Whitebrook, SO5306, T.G.& U.T.Evans, 1987.

GLAMORGAN, v.c. 41 (comm. Q.O.N.Kay & J.P. Curtis)

\*15/5tri. *Asplenium trichomanes* L. subsp. *trichomanes* (Delicate Maidenhair Spearwort). Bare rock at base of cliff, Graig-fawr, Rhondda, SS9296, G.Hutchinson & P.Jones, 1985.

+!50Nig/dam. *Nigella damascena* L. (Love-in-a-mist). Waste ground, Swansea, SS6593, G.Hutchinson, 1987.

+66/2. *Fumaria capreolata* L. (White Ramping-fumitory). Gileston Beach car park, ST06, J.P.Curtis, 1987.

113/06. *Viola canina* L. (Heath Dog-violet). Edge of lawn at perimeter fence, Old Coastguard Station, Barry Island, ST1066, G.Hutchinson, 1987, conf. D.M.Moore. The only extant record for eastern Glamorgan.

+!113/wit. *Viola x wittrockiana* Gams (Garden Pansy). Rubbish tip, Clyne Valley, Swansea, SS6192, G.Hutchinson, 1985.

+154/14. *Chenopodium rubrum* L. (Red Goosefoot). Silage heap adjoining motorway, Cefn-onn, Cardiff, ST1783, G.Hutchinson, 1987.

+!170/4. *Oxalis europaea* Jord. (Upright Yellow-sorrel). Nursery weed in glasshouses, Cyfarthfa Park, Merthyr Tydfil, SO0407, J.Davies, 1987.

+!170/7. *Oxalis corymbosa* DC. (Large-flowered Pink-sorrel). Nursery weed in glasshouses, Cyfarthfa Park, Merthyr Tydfil, SO0407, J.Davies, 1987. Third record.

+!182/ins. *Parthenocissus inserta* (A.Kerner) Fritsch (Common Virginia-creeper). Waste ground, Bessemer Road, Cardiff, ST1675, G.Hutchinson, 1987.

+!183/pol. *Lupinus polyphyllus* Lindley (Garden Lupin). Embankment, Coryton, Cardiff, ST1381, G.Hutchinson, 1987.

+192/1. *Trifolium ornithopodioides* L. (Bird's-foot Clover). Stony ground near lighthouse, Flatholm, ST26, J.P.Curtis, 1987.

\*192/7. *Trifolium occidentale* D.E. Coombe (Western Clover). Cliff-top *Festuca rubra* turf, locally frequent along 400m of cliffs between Tear's Point and Mewslade, Gower, SS4187, Miss J.Dunn, 1987, conf. D.E.Coombe. First Welsh record.

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- +195/2. *Lotus tenuis* Waldst. & Kit. ex Willd. (Narrow-leaved Bird's-foot-trefoil). Waste ground, Birchgrove, Cardiff, ST1680, A.R.E.Tipper, 1987.
- +1206/fab. *Vicia faba* L. (Broad Bean). Fly ash, Aberthaw, ST06, J.P.Curtis, 1987.
- +1212/8. *Potentilla norvegica* L. (Ternate-leaved Cinquefoil). Three plants on reclaimed land, Mountain Ash, ST0399, J.P.Curtis, 1987. Two of the plants had been destroyed by levelling two months later.
- +1220/3/12. *Alchemilla mollis* (Buser) Rothm. (Robust Lady's-mantle). Parkland, Whitchurch, Cardiff, ST1580, G.Hutchinson, 1987.
- +1227/2. *Cotoneaster simonsii* Baker (Himalayan Cotoneaster). Wall alongside minor road, N of Penrice, Gower, SS4988, G.Hutchinson & B.A.Thomas, 1987, det. J.Fryer.
- \*1342/4ita. *Populus nigra* cv. *Italica*. (Lombardy Poplar). Whitchurch Common, Cardiff, ST1679, G.Hutchinson, 1987.
- +367/3. *Primula veris* L. (Cowslip). Grassy bank, near Cwmllynfell Hall, Cwmllynfell, SN7412, K.L.Davies, 1987.
- +372/3. *Anagallis foemina* Miller (Blue Pimpernel). Garden weed, possibly from bird seed, Gwaelod-y-Garth, ST18, A.Lock, 1987.
- +382/1. *Centaureum pulchellum* (Swartz) Druce (Lesser Centaury) On back of storm beach, Gileston, ST06, J.P.Curtis, 1987. First post-1930 record.
- +410/1. *Atropa bella-donna* L. (Deadly Nightshade). Seaward edge of very low clay/stone cliff at back of storm beach, Summerhouse Point, ST9966, J.P.Curtis, 1987. Another plant reported as growing close to this site by Dr M.E.Gillham in 1985 was not seen. First records since c.1907.
- 445/5x7. *Mentha x villosa* Hudson nm. *alopecuroides* (Hull) Briq. (Apple Mint). Roadside verge, Thornhill, near Cardiff, ST1783. G.Hutchinson, 1987.
- +497/2. *Dipsacus pilosus* L. (Small Teasel). Streamside by bridge over River Kenson, East Aberthaw, ST0367, J.P.Curtis, 1987. Second record.
- +1502/2. *Galinsoga quadriradiata* Ruiz & Pavon (Shaggy Soldier). Roadside, Mountain Ash, ST09A, J.P.Curtis, 1987.
- 558/1/86. *Hieracium leyi* F.J. Hanb. (a hawkweed). Damp N-facing rocks above Llyn Fawr, Craig-y-llyn, SN9103, R.G.Ellis, 1978, det. J.Bevan.
- +558/1/109. *Hieracium grandidens* Dahlst. (a hawkweed). Shaded roadside bank under beech, Radyr, ST1281, G.Hutchinson, 1985, det. J.Bevan.

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+558/1/124. *Hieracium stenstroemii* (Dahlst.) K. Joh. (a hawkweed). + Rock face at entrance to limestone quarry, Draethen, ST2086, R.G.Ellis, 1972, det. J.Bevan.

+158/1/169. *Hieracium submutabile* (Zahn) Pugsley (a hawkweed). Grass-heath bank, Llwydcoed, SN9904, A.B.Pinkard & A.E.Wade, 1974, det. J.Bevan.

558/1/174. *Hieracium diaphanum* Fries (a hawkweed). + Rock face at entrance to limestone quarry, Draethen, ST2086, R.G.Ellis, 1972; + disused coal mine near Llanharan, ST0083, A.E.Wade, 1973; wall, near Troedyrhiw, SO0602, A.E.Wade, A.B.Pinkard & B.Scotter, 1973; + waste ground, Cardiff Docks, ST27, A.E.Wade & R.G.Ellis, 1975, all det. J.Bevan.

558/1/176. *Hieracium diaphanoides* Lindeb. (a hawkweed). + Kenfig, SS88, M.S.Percival, 1961; + Cwm Selsig, SS99, R.G.Ellis, 1970; + Aberdare, SO00, K.Adams, 1973; + stone bank of old reservoir, Groes-wen, ST1386, R.G.Ellis & A.E.Wade, 1974; + grassy bank, Tir-y-berth, ST1596, A.B.Pinkard & A.E.Wade, 1974, all det. J.Bevan.

558/1/177. *Hieracium acuminatum* Jordan (a hawkweed). Pyrddin Valley, SN8908, R.G.Ellis, 1969; + quarry, Llansannor, SS9779, A.E.Wade, 1970; bridge over disused railway cutting, Coryton, Cardiff, ST1381, G.Hutchinson, 1986, all det. J.Bevan.

558/1/179. *Hieracium subamplifolium* (Zahn) Roffey (a hawkweed). + Quarry, near Groesfaen Colliery, Deri, SO1300, A.E.Wade, 1922; + conifer plantation, Whitford Burrows, ST49, A.E.Wade, 1969; + quarry, Rhoose, ST06, A.B.Pinkard & R.G.Ellis, 1971, all det. J.Bevan.

558/1/184. *Hieracium vulgatum* Fries (a hawkweed). + Disused railway, St Brides - St Fagans, ST17, A.E.Wade; + disused railway track, near Efail Isaf, ST0884, A.E.Wade & R.G.Ellis, both 1972, det. J.Bevan.

574/1. *Triglochin palustris* L. (Marsh Arrow-grass). Marsh, Llanbethery, ST06, J.P.Curtis, 1987.

+643/1x4. *Dactylorhiza x grandis* (Druce) P.F. Hunt (*D. fuchsii* x *D. praetermissa*) (a hybrid marsh-orchid). Fly ash near drainage ditch, Aberthaw, ST06, J.P.Curtis, 1987.

643/4. *Dactylorhiza praetermissa* (Druce) Soo (Southern Marsh-orchid). Fly ash near drainage ditch, Aberthaw, ST06, J.P.Curtis, 1987.

+663/67. *Carex spicata* Hudson (Spiked Sedge). S end of disused railway line, Llanbethery, R.M.Walls, 1987.

+1720/3. *Setaria pumila* (Poiret) Schultes (Yellow Bristle-grass). Base of wall in lane at rear of Maindy Road, Cardiff, ST1777, A.D.Tipper, 1987.

Brecon

BRECON, v.c. 42 (comm. M. Porter)

- +§46/15. *Ranunculus sceleratus* L. (Celery-leaved Buttercup). Introduced when planting saplings on edge of Coed Wern Plemys, near Ystradgynlais, SN70, M.Porter, 1987.
- +57/1. *Ceratophyllum demersum* L. (Rigid Hornwort). Ty Mawr Pool, Llanfrynach, SO02, M.Porter, 1987.
- +58/3. *Papaver lecoqii* Lamotte (Yellow-juiced Poppy). River bank, Brecon, SO02, M.Porter, 1987. Second record and first post 1930.
- +!84/1. *Thlaspi arvense* L. (Field Penny-cress). River bank, Brecon, SO02, M.Porter, 1987. Second record and first post 1930.
- \*!92/1. *Lobularia maritima* (L.) Desv. (Sweet Alison). River shingle, Brecon, SO02, M.Porter, 1987.
- !105/1. *Erysimum cheiranthoides* L. (Treacle Mustard). Bank of River Usk near Llanhamlach in + SO02 & + SO12, M.Porter, 1987.
- +!113/wit. *Viola x wittrockiana* Gams. (Garden Pansy). Shingle of River Usk, Pencelli, SO02, M.Porter, 1987. Second record.
- \*!169Lim/dou. *Limnanthes douglasii* R. Br. (Poached-egg-flower). Small colony in ox-bow of River Usk, flooded in winter, Pencelli, SO02, M.Porter, 1987.
- +179/1. *Rhamnus catharticus* L. (Buckthorn). Edge of wet wood near Brecon, SO03, M.Porter. All previous records have been from limestone cliffs.
- §210/1. *Filipendula vulgaris* Moench (Dropwort). The double form planted in a churchyard at Pen-y-cae, SN81, R.G.Woods & M.Porter, 1987.
- +211/11/222. *Rubus flexuosus* P.J.Mueller & Lefevre (a bramble). Coed Fenni-fach near Aberyscir, SO02, M.Porter, 1987. Second record.
- +211/11/230. *Rubus longithyriger* Lees ex Focke (a bramble). Wood margin, Coed Wern Plemys, near Ystradgynlais, SN70, M.Porter, 1987, conf. A.Newton. Third record.
- \*!220/3.12. *Alchemilla mollis* (Buser) Rothm. (Robust Lady's-mantle). On mud dredged from canal, Brecon, SO0527, M.Porter, 1987.
- \*225/1x10. *Rosa x concinnoides* W.-Dod (*R. arvensis* x *R. obtusifolia*) (a hybrid rose). Hedge of lane, Cwm Llwch, SO0126, M.Porter, 1987, conf. G.G.Graham. First Welsh record.
- \*225/9x15. *Rosa afzeliana* Fries x *R. micrantha* Borrer ex Sm. (a hybrid rose). Scrub on limestone, Cwm Clydach, SO2112, M.Porter, 1987, conf. G.G.Graham. First Welsh record.
- \*!227/3. *Cotoneaster horizontalis* Decne (Wall Cotoneaster). Bank of disused railway, Brecon, SO0527, M.Porter, 1987.

\*247/3. *Drosera intermedia* Hayne (Oblong-leaved Sundew). Blanket bog, Onllwyn, SN8211, R.G.Woods, 1984; and bog at Gorsllwyn near Coelbren, SN8511, R.G.Woods, 1987. First & second records.

\*251/2. *Daphne laureola* L. (Spurge-laurel). Deciduous wood, Cantref, SO0525, M.Porter, 1987.

\*254/6. *Epilobium ciliatum* Rafin. x *E. montanum* L. ( a hybrid willowherb). Disused railway near Llanhamlach, SO02, M.Porter, 1987

\*343/6x9. *Salix* x *rubra* Huds. (*S. purpurea* x *S. viminalis*) (Green-leaved Osier). River bank, Llanhamlach, SO0926, M.Porter, 1987, det. R.D.Meikle.

\*343/12a. *Salix cinerea* L. subsp. *cinerea* (Grey Willow). Margin of upland fen near Llandeilo'r Fan, SN8839, M.Porter, 1987, det. R.D.Meikle. First Welsh record for the subspecies.

+432/1. *Pedicularis palustris* L. (Marsh Lousewort). Wet pasture near Brecon, SO03, growing with large populations of *Dactylorhiza incarnata* (Early Marsh-orchid) and *Troliius europaeus* (Globeflower), M.Porter, 1987.

\*435/1/1x2. *Euphrasia micrantha* Reichenb. x *E. scottica* Wettst. (a hybrid eyebright). Mountain flush with *Anagallis tenella* (Bog Pimpernel) and *Briza media* (Quaking-grass), Cwm Oergwm, SO02, M.Porter, 1987, det. A.J.Silverside. First Welsh record.

+460/1b. *Ballota nigra* L. subsp. *foetida* Hayek (Black Horehound). Hedge near old ford, Llanhamlach, SO02, M.Porter, 1987.

+537/1. *Carlina vulgaris* L. (Carlina Thistle). Rocky hillside, Nant Sere, near Brecon, SO02, M.Porter, 1987.

+1570/3. *Elodea nuttallii* (Planch.) St John (Nuttall's Waterweed). Abundant in canal at Pencelli, SO02, M.Porter, 1987.

+616/3. *Iris foetidissima* L. (Stinking Iris). Wooded river-bank, Fenni-fach, near Brecon, SO02, M.Porter, 1987.

\*643/2x636/1. x *Dactylogymnadenia legrandiana* (Camus) Soo (*Dactylorhiza maculata* x *Gymnadenia conopsea*) (a hybrid orchid). Haymeadow, Abergwesyn, SN8452, M.Porter, 1987.

+654/3. *Eriophorum latifolium* Hoppe (Broad-leaved Cottongrass). Springhead flush, Mynydd Eppynt, SN93, growing with *Carex dioica* L. (Dioecious Sedge) and *Eleocharis quinqueflora* (F.X.Hartmann) Schwarz (Few-flowered Spike-rush), R.G.Woods & M.Porter, 1987. All three are new records for this 10km square.

663/15. *Carex pseudocyperus* L. (Cyperus Sedge). + Swampy wood near Pencelli, SO02, M.Porter; + wet wood, Tregoyd, SO13, R.G.Woods, both 1987.

\*663/54x71. *Carex* x *boenninghausiana* Weihe (*C. paniculata* x *C. remota*) (a hybrid sedge). Margin of reservoir near Talybont-on-Usk, SO0817, M.Porter, 1987, det. A.O.Chater & A.C.Jermy.

+676/11. *Poa angustifolia* L. (Narrow-leaved Meadow-grass). Bank of disused railway, Brecon, SO02, M.Porter, 1987.

+!676/15. *Poa chaixii* Vill. (Broad-leaved Meadow-grass). Naturalized in woodland beside Gludy Lake, Battle, SO02, M.Porter, 1987.

\*!687/dis. *Hordeum distichon* L. (Two-rowed Barley). Shingle bank of river near Brecon, SO0328, M.Porter, 1987.

\*708/4x3. *Alopecurus aequalis* Sobol x *A. geniculatus* L. (a hybrid foxtail). Margin of Talybont Reservoir, SO0917, M.Porter, 1987, det. T.A.Cope. Second Welsh record.

+!713/2. *Phalaris canariensis* L. (Canary-grass). About forty plants on mud dredged from canal, Brecon, SO02, M.Porter, 1987.

*RADNOR, v.c. 43 (comm. Miss A.C.Powell & D.R.Humphreys)*

66/6b. *Fumaria muralis* subsp. *boraei* (Jord.) Pugs1. (Common Ramping-fumitory). + Roadside verge, sewage works, Rhayader, SO9767; + near Aberedw, SO0748, both R.G.Woods, 1987.

+!84/1. *Thlaspi arvense* L. (Field Penny-cress). One plant on disturbed roadside verge near Bleddfa, SO2368, R.G.Woods, 1987.

!92/1. *Lobularia maritima* (L.) Desv. (Sweet Alison). + Roadside tip, Knighton, SO2872; + tip at Nantmel, SO0165, both R.G.Woods, 1987. Second and third records.

+97/2. *Cardamine amara* L. (Large Bitter-cress). Wet flush, Church House farm, Michaelchurch, SO2450, D.E.Grey, 1987. Second record.

+!123/6. *Silene gallica* L. (Small-flowered Catchfly). One plant on recently constructed road verge, N of entrance to sewage works, Rhayader, SN9763, R.G.Woods, 1987. Second record.

+123/14. *Silene latifolia* Poiret (White Champion). Recently constructed road verge, N of entrance to sewage works, Rhayader, SN9763, R.G.Woods, 1987.

+141/2. *Arenaria serpyllifolia* subsp. *leptoclados* (Reichenb.) Nyman (Slender Sandwort). Bed of old railway N of Aberedw station, SO0747, R.G.Woods, 1987.

+!168/6. *Geranium phaeum* L. (Dusky Crane's-bill). Lane verge, Llanfaredd, SO0651, R.G.Woods, 1987.

+177/1. *Euonymus europaeus* L. (Spindle). On shale cliff by River Ithon to NW of Dolberthog, Llandrindod Wells, SO0460, R.G.Woods, 1987.

192/9. *Trifolium arvense* L. (Hare's-foot Clover). + Over 100 plants in old goods yard, etc., Builth Road station, SO0253, + also c.20 plants on S facing bank on site of old railway bridge, Llansantffraed Cwmdeuddwr, SN9667, both R.G.Woods, 1987.

- 211/2. *Rubus saxatilis* L. (Stone Bramble). Single plant on shale cliff by River Ithon, NW of Dol-berthog, Llandrindod Wells, SO1639, R.G.Woods, 1987. Second record.
- \*1227/3. *Cotoneaster horizontalis* Decne (Wall Cotoneaster). One plant on S facing roadside bank SW of Cwmbach, Glasbury-on-Wye, SO1639, R.G.Woods, 1987.
- +350/1. *Andromeda polifolia* L. (Bog-rosemary). Blanket bog, N of Drysgol, St Harmon, SN9475, I.D.Soane, 1987. Second record.
- +1425/3. *Mimulus moschatus* Lindley (Musk). Wet ditch, Rock Cottage, Old Radnor, SO2458, J. & C.Port, 1987.
- +442/4. *Utricularia minor* L. (Lesser Bladderwort). Beilbedw mawn pool, Glascwm, SO1656, UWIST survey, comm. F.S.Slater, 1987.
- \*1461/arg. *Lamiastrum argentatum* Smejkal (Variegated Archangel). Bank of Cnithio Brook, E of Gelliacadwgan, SO0651, R.G.Woods, 1987. First Welsh record.
- +494/2. *Valerianella carinata* Lois (Keeled-fruited Cornsalad). On dry calcareous mudstone outcrop in wood, E of Knuckles, SO2673, R.G.Woods & P.J.Port.
- \*1511/1. *Calendula officinalis* L. (Pot Marigold). Spoil heap on roadside between Disserth and Newbridge, SO0358, R.G.Woods, 1987.
- +512/4. *Inula conyza* DC. (Ploughman's-spikenard). About 50 plants on roadside bank SW of Cwmbach, Glasbury-on-Wye, SO1639, R.G.Woods, 1987.
- +533/1. *Chrysanthemum segetum* L. (Corn Marigold). Near Hendregenny, Pilleth, SO2569, D.E.Grey, 1987.
- +650/3. *Eleocharis quinqueflora* (F.X.Hartmann) O.Schwarz (Few-flowered Spike-rush). Calcicolous fen, Pentrosfa bog, Llandrindod Wells, SO0559, R.G.Woods, 1987.
- +654/1. *Eriophorum angustifolium* Honck. (Common Cottongrass). Llyn Dwr, Llanbadarn Fynydd, SO0783, J. & C.Port, 1987.
- +654/3. *Eriophorum latifolium* Hoppe (Broad-leaved Cottongrass). Calcicolous fen, Pentrosfa bog, Llandrindod Wells, SO0559, R.G.Woods, 1987.
- +663/7. *Carex lepidocarpa* Tausch. (Long-stalked Yellow-sedge). Basic flush, Carregwiber, Llandrindod Rural, SO0859, J. & C.Port, 1987, conf. A.O.Chater.
- \*663/8x4. *Carex demissa* x *C. hostiana* (a hybrid sedge). Calcicolous fen, Pentrosfa Bog, Llandrindod Wells, SO0559, R.G.Woods, 1987.
- \*663/60. *Carex disticha* Hudson (Brown Sedge). Calcicolous fen, Pentrosfa Bog, Llandrindod Wells, SO0559, R.G.Woods, 1987.
- \*670/4. *Festuca altissima* All. (Wood Fescue). In quantity on rocks and decaying wood, Bach Howey gorge, SO1143, R.G.Woods & M.Porter, 1987.

+676/15. *Poa chaixii* Vill. (Broad-leaved Meadow-grass). One plant on top of wall and under hedge in the cemetery at Knighton, SO2872, R.G.Woods, 1987. Second record.

CARMARTHEN, v.c. 44 (comm. R.D.Pryce)

+1/1. *Huperzia selago* (L.) Bernh. ex Schrank & Mert. (Fir Clubmoss). NE facing rocks at summit of Llethr Brith, SN6650, A.P.Fowles, 1987.

5/1. *Osmunda regalis* L. (Royal Fern). One plant only on damp cliff, Ragwen Point, SN2207, I.K.Morgan, 1987.

+21/2x1. *Dryopteris x complexa* (*D. affinis* x *D. filix-mas*) (*D. x tavelii*) (a hybrid male-fern). Roadside bank near Gwyddrug, SN43, A.M.Pell & T.S.Crosby, 1986. First substantiated v.c. record.

21/6. *Dryopteris carthusiana* (Vill.) H.P.Fuchs (Narrow Buckler-fern). ESE of Clunderwen, SN1417, G.Hutchinson; + tussocky *Molinia* mire, Rhossydd Rhydcymerau, D.A.Wells, A.P.Fowles, I.K.Morgan & R.D.Pryce, both 1987.

24/3. *Phegopteris connectilis* (Michx) Watt (Beech Fern). + Riverside rocks above Glynhir, SN6415, I.K.Morgan; NE facing rocks at summit of Llethr Brith, SN6650, A.P.Fowles, both 1987.

+28/1. *Botrychium lunaria* (L.) Swartz (Moonwort). Base-rich acid pasture, with *Ononis repens* and *Primula veris*, Pant y Cerrig, SN5630, I.K.Morgan, 1987.

+29/1a. *Ophioglossum vulgatum* L. (Adder's-tongue). Sheep grazed grassy bank, Crug Melyn, SN5027, Carmarthenshire Conservation Committee of Dyfed Wildlife Trust, 1987.

46/24bul. *Ranunculus ficaria* subsp. *bulbifer* Lawalree (Lesser Celandine). Wern Fendigaid, SN6345, I.K.Morgan, 1987.

80/2. *Coronopus didymus* (L.) Sm. (Lesser Swine-cress). Track, Blaengwrfach, SN4038, I.K.Morgan, 1987.

+!84/1. *Thlaspi arvense* L. (Field Penny-cress). Waste ground, Lopen Feed Mills, Cross Hands, SN5612, R.D.Pryce, 1987. Presumably introduced with cattle-feed ingredients.

\*\$97/3. *Cardamine impatiens* L. (Narrow-leaved Bitter-cress). Established and spreading in garden following introduction, Gellideg, Llandyfaelog, SN41, T.S.Crosby, 1987.

115/14. *Hypericum elodes* L. (Marsh St John's-wort). Wet meadow, Dyffryn Conin, SN1120, G.Hutchinson, 1987.

+131/10. *Cerastium diffusum* Pers. (Sea Mouse-ear). Llangadog Station, SN6928, G.Hutchinson, 1987.

\*166/4. *Linum catharticum* L. (Fairy Flax). Traditional hay meadow, Pantycerrig, Brechfa, SN5630, D.A.Wells, A.P.Fowles, I.K.Morgan & R.D.Pryce, 1987.

168/10. *Geranium columbinum* L. (Long-stalked Crane's-bill). + Station platform, Cynwyl Elfed, SN3826; car park, Llandybie, SN6115, both I.K.Morgan, 1987.

168/14. *Geranium pusillum* L. (Small-flowered Crane's-bill). Llansteffan, SN31, H.Sealy-Lewis, 1987.

180/1. *Frangula alnus* Miller (Alder Buckthorn). Alderwood edge, Penrhyn, SN7742, I.K.Morgan, 1987. First recorded here by J.Humphrey in 1977.

189/1. *Ononis repens* L. (Common Restharrow). Yet Wen, SN1913, BSBI Rubus Meeting; + traditional hay meadow, Pant y Cerrig, Brechfa, SN5630; + rhos pasture, Hendy Farm, Glanamman, both D.A.Wells, A.P.Fowles, I.K.Morgan & R.D.Pryce, all 1987.

+191/3. *Melilotus alba* Medicus (White Melilot). Penygroes, SN5812, A.M.Pell, 1987.

192/11. *Trifolium scabrum* L. (Rough Clover). Spreading over path of bare chippings, Llanelli North Dock, SS4999, G.Hutchinson, 1987.

206/9. *Vicia orobus* DC. (Wood Bitter-vetch). Edge of tussocky *Molinia* mire, overgrown by *Rubus* & *Salix*, Rhosydd Rhydcymerau, SN5738, D.A.Wells, A.P.Fowles, I.K.Morgan & R.D.Pryce, 1987.

\*!211/10. *Rubus loganobaccus* L.H.Bailey (Loganberry). Derelict ground at top of railway cutting, Carmarthen, SN4120, BSBI Rubus meeting, 1987, det. A.Newton. First Welsh record.

\*211/11.77. *Rubus amplificatus* Lees (a bramble). Laneside hedge, Llangadog, SN6826, BSBI Rubus meeting, 1987, det. A.Newton.

\*211/11.123. *Rubus cardiophyllus* Muell. & Lefev. (a bramble). Heath with gorse, Marros mountain, SN2008, BSBI Rubus meeting, 1987, det. A.Newton.

\*211/11.133. *Rubus rossensis* A.Newton (a bramble). Roadside hedgerow, near Yet Wqn, Whitland, SN1913, BSBI Rubus meeting, 1987, det. A.Newton.

\*!211/11.139. *Rubus procerus* P.J.Muell. (Himalayan Giant Blackberry). Escaped over garden wall adjacent to car park, Glanamman, SN6913, BSBI Rubus meeting, 1987, det. A.Newton.

\*211/11.221. *Rubus micans* Gren. & Godr. (a bramble). Hedgerow along old tramway, Pant-cae-melyn, Gorslas, SN5714, BSBI Rubus meeting, 1987, det. A.Newton. First confirmed Welsh record.

\*211/11.223. *Rubus flexuosus* Muell. & Lefev. (a bramble). Wet roadside or margin of bog near Glyn yr Henllan, SN5915, BSBI Rubus meeting, 1987, det. A.Newton.

\*211/11.253. *Rubus insectifolius* Muell. & Lefev. (a bramble). Dry heath with gorse, Marros mountain, SN2008, BSBI Rubus meeting, 1987, det. A.Newton.

\*211/11.263. *Rubus scaber* Weihe & Nees (a bramble). Trackside at woodland margin, Trevaughan Wood, Carmarthen, SN3920, BSBI *Rubus* meeting, 1987, det. A.Newton.

\*211/11.284. *Rubus rufescens* Muell. & Lefev. (a bramble). Forestry trackway overgrown with bracken, Llandingat-Without, SN7732, A.D.Marshall & G.Hutchinson, 1986, det. A.Newton.

\*211/11.311. *Rubus moylei* Barton & Riddelsdell, (a bramble). Rocky roadside, Gold mines area, Dolaucothi, SN6640, BSBI *Rubus* meeting, 1987, det. A.Newton.

\*211/11. bil. *Rubus biloensis* Newton & Porter (a bramble). Dolgran, SN430344, BSBI *Rubus* Meeting, 1987, det. A.Newton & M.Porter

\*211/11.mer. *Rubus merlini* Newton & Porter (a bramble). Cilycwm, SN751396, T.A.W.Davis, 1973, det. A.Newton, holotype in *NMW*.

\*211/11.vil. *Rubus villicauliformis* A.Newton (a bramble). Dry heath with gorse, Marros Mountain, SN2008, BSBI *Rubus* meeting, 1987, det. A.Newton.

212/2. *Potentilla palustris* (L.) sCOP. (Marsh Cinquefoil). Marsh, near Rhydowen, SN12Z, J.A.Green, 1987.

+229/1. *Crataegus laevigata* (Poiret) DC. (Midland Hawthorn). Two plants in hedge, Cilgwyn, SN7429, G.Hutchinson, 1987.

\*1237/hel. *Crassula helmsii* (T.Kirk) Cockayne (New Zealand Pigmyweed). Abundant in pond, Wern Fendigaid, SN6345, I.K.Morgan, 1987.

258/2. *Circaea x intermedia* Ehrh. (Upland Enchanter's-nightshade). Wern Fendigaid, SN6345, I.K.Morgan, 1987.

276/1. *Myrrhis odorata* (L.) Scop. (Sweet Cicely). Roadside verge on limestone, near Pwlla, Carmel, SN5815, R.D.Pryce, 1987.

+282/1. *Conium maculatum* L. (Hemlock). Wayside, Trefechan Farm, SN3920, *Rubus* Recording Meeting, 1987

+300/1. *Oenanthe fistulosa* L. (Tubular Water-dropwort). River meadow dammed by disused railway, near River Towy, Carmarthen, SN4120, G.Hutchinson; several substantial stands in valley fen, Moat Farm, Trimsaran, SN4305, R.D.Pryce, both 1987.

343/5. *Salix triandra* L. (Almond Willow). Roadside, Llanmiloe, SN2408, I.K.Morgan, 1987.

358/4. *Vaccinium oxycoccos* L. (Cranberry). Bog, Cors Bryn Mawr, SN6750, A.P.Fowles, 1987.

364/1. *Empetrum nigrum* L. subsp. *nigrum* (Crowberry). Hill heath, Cors Bryn Mawr, SN6750, A.P.Fowles, 1987.

+367/3. *Primula veris* L. (Cowslip). Traditional hay meadow, Pantycerrig, Brechfa, SN5630, D.A.Wells, A.P.Fowles, I.K.Morgan & R.D.Pryce, 1987.

Carmarthen

- 395/1. *Pentaglottis sempervirens* (L.) Tausch ex L.H.Bailey (Green Alkanet). Kidwelly, SN4007, I.K.Morgan, 1987.
- +421/1. *Chaenorhinum minus* (L.) Lange (Small Toadflax). Station platform, Cynwyl Elfed, SN3826, I.K.Morgan, 1987.
- +422/2. *Kickxia elatine* (L.) Dumort. (Sharp-leaved Fluellen). Roadside, near Llandre, SN12L, J.A.Green, 1987.
- +430/2. *Veronica anagallis-aquatica* L. (Blue Water-speedwell). SW of Hendy, SN50R, G.Hutchinson, 1987.
- 459/3. *Stachys arvensis* (L.) L. (Field Woundwort). One plant with other casuals in disturbed Forestry ground, near Lan Farm, SN1926, J.A.Green, 1987.
- 459/6x7. *Stachys* x *ambigua* (*S. palustris* x *S. sylvatica*) (Hybrid Woundwort). Near Rhydownen, SN12Z, J.A.Green, 1987.
- +494/1. *Valerianella locusta* (L.) Laterrade (Common Cornsalad). Llangadog station, SN6928, G.Hutchinson, 1987.
- +539/3. *Carduus nutans* L. (Musk Thistle). Sheep grazed pasture, NE of Mount, SN6442, I.K.Morgan, 1987.
- +544/3. *Centaurea cyanus* L. (Cornflower). Few plants on new motorway cutting near Foelgastell, SN5415, R.D.Pryce, 1987. First localized record since 1912.
- 560/4/fae. *Taraxacum faeroense* Dahlst. (a dandelion). + *Carum* meadow, Garnant, SN6812, R.D.Pryce; + base-rich rock ledges on Old Red Sandstone, above Llyn y Fan Fach, SN7921, R.D.Pryce & J.Bevan, both 1987, det. C.C.Haworth.
- 560/7/nor. *Taraxacum nordstedtii* Dahlst. (a dandelion). + *Carum* meadow, Syddyn Melyn, Carway, SN4406, R.D.Pryce; + lawn (ex meadow), Capel Hendre, SN5911, A.M.Pell, both 1987, det. C.C.Haworth.
- \*580/8/ham. *Taraxacum hamatum* Raunk. (a dandelion). Roadside bank, E of Llanycefn, SN1023; + improved meadow with persistent *Carex nigra* etc., Ty Coch, Carway, SN4406, both R.D.Pryce, 1987, det. C.C.Haworth.
- \*560/8/pse. *Taraxacum pseudohamatum* Dahlst. (a dandelion). Roadside verge, near Plas Ucha, Porthyrhyd, SN5317, R.D.Pryce, 1987, det. C.C.Haworth.
- \*560/9/anc. *Taraxacum ancistrolobum* Dahlst. (a dandelion). Rank grassland, Llangathen Churchyard, SN5822, R.D.Pryce, 1987, det. C.C.Haworth, 'very typical'.
- \*560/9/cro. *Taraxacum croceiflorum* Dahlst. (a dandelion). Roadside bank, Llanfihangel-uwch-Gwili, SN4924; + rank grassland, Llangathen Churchyard, SN5822, both R.D.Pryce, 1987, det. C.C.Haworth.
- \*560/9/rha. *Taraxacum rhamphodes* Hagl. (a dandelion). White-washed wall, King's Head, Capel Hendre, SN5911, A.M.Pell, 1987, det. C.C.Haworth. First Welsh record.

\*560/9/sel. *Taraxacum sellandii* Dahlst. (a dandelion). Roadside bank, near Rhyd Deg, Maesybont, SN5417, R.D.Pryce, 1987, det. C.C.Haworth.

\*560/9/und. *Taraxacum undulatum* H.Lindb. fil. & Marklund (a dandelion). Roadside verge, near Plas Ucha, Porthrhyd, SN5317, R.D.Pryce, 1987, det. C.C.Haworth. First Welsh record.

+579/2. *Ruppia maritima* L. (Beaked Tasselweed). SW of Hendy, SN50R, G.Hutchinson, 1987.

588/1. *Convallaria majalis* L. (Lily-of-the-valley). A small colony on limestone woodland at edge of old quarry, Garn Bica, SN5114, D.Poulter, 1987.

\*605/2.amb. *Juncus ambiguus* Guss. (Frog Rush). Upper edge of tidal mud flat, Morfa Uchaf, Ferryside, SN3711, G.Hutchinson, 1986, conf. C.A.Stace; + brackish marsh, Commissioner's Marsh, Kidwelly, SN3906, I.K.Morgan, 1987, det. G.Hutchinson. First & second records.

629/1. *Neottia nidus-avis* (L.) L.C.M.Richard (Bird's-nest Orchid). Several plants under lime trees lining entrance drive, Gelli Aur Country Park, Llandeilo, SN5919, M.Ridley, 1987. Rediscovery of a 1950s record.

+635/1. *Coeloglossum viride* (L.) Hartm. (Frog Orchid). Four flowering spikes seen in thin soil near sandstone outcrops in hay field, Pantycerrig, Abergorlech, SN5630, J.Hopkins, D.Wells, R.D.Pryce, C.Fuller & I.K.Morgan, 1987. 3rd record, second since 1905 and second inland record.

+636/1. *Gymnadenia conopsea* (L.) R.Br. (Fragrant Orchid). Rhos pasture, Hendy Farm, Glanamman, SN6712, A.P.Fowles, 1987.

+638/1. *Platanthera chlorantha* (Custer) Reichenb. (Greater Butterfly-orchid). Rhos pasture, Hendy Farm, Glanamman, SN6712, D.A.Wells, A.P.Fowles, I.K.Morgan & R.D.Pryce, 1987.

642/5. *Orchis morio* L. (Green-winged Orchid). At least 50 plants seen in hay-meadow type species-rich grassland, Nazareth Cemetery, Whitland, SN1917, M.J.& R.D.Pryce, 1987. One plant recorded by G.Hutchinson in 1986.

+655/4. *Scirpus sylvaticus* L. River flood plain ditch, Gwendraeth Fawr valley, near Glassberry, Carway, SN4406, 1987.

+660/1. *Rhynchospora alba* (L.) Vahl. (White Beak-sedge). Rhos pasture/fen, Cruglas, Bethlehem, SN6324, D.A.Wells, A.P.Fowles, I.K.Morgan & R.D.Pryce, 1987.

+663/8x4. *Carex demissa* x *C. hostiana* (a hybrid sedge). Flush, Nant Fawr Flushes, SN6750, A.P.Fowles, 1987.

\*669/1x2. *Glyceria* x *pedicellata* Townsend (*G. fluitans* x *G. plicata*) (Hybrid Sweet-grass). Marshy ground adjoining Eastern Cleddau River, 3.5km W of Clynderwen, SN01Z, G.Hutchinson, 1986.

\*1670/6b. *Festuca nigrescens* Lam. (Chewing's Fescue). Sand dunes, Llansteffan, SN31K, H.Sealy-Lewis, 1987.

+670/1x671/1. x *Festulolium loliaceum* (Huds.) P.Fourn (*Festuca pratensis* x *Lolium perenne*) (Hybrid Fescue). Quite abundant on roadside verges between Rhyd-deg and Clos-glas, Maesybont, SN5417, R.D.Pryce, 1987, conf. G.Hutchinson. Third record, second since 1905.

+672/2. *Vulpia bromoides* (L.) S.F.Gray (Squirreltail Fescue). Abergwili Churchyard, SN4320, A.M.Pell, 1987, det. R.D.Pryce.

674/1. *Desmazeria rigida* (L.) Tutin (Fern-grass). Buckleys Brewery car park, Llanelli, SN5000, I.K.Morgan, 1987.

+693/2. *Avenula pubescens* (Hudson) Dumort (Downy Oat-grass). Old limestone quarry, Pant-y-castell, Maes y Bont, SN5715, R.D.Pryce, 1987.

PEMBROKE, v.c. 45 (comm. S.B. Evans)

4/4. *Equisetum variegatum* Schleich. ex Weber & Mohr (Variegated Horsetail). Small but dense stand in damp hollow in disturbed area adjoining gravel workings, Trevayos, St Nicholas, SM9037, S.B.Evans & J.W.Donovan, 1987.

+21/2bor. *Dryopteris affinis* subsp. *borreri* (Newman) Fraser Jenkins (a scaly male-fern). Near Wolf's Castle, SM9726, B.A.Thomas, det. G.Hutchinson, 1987.

+95/1. *Erophila verna* (L.) Chevall agg. Old tarmac driveway, Haverfordwest, SM91, E.C.Howells, 1987.

CARDIGAN, v.c. 46 (comm. A.O.Chater)

+9/1. *Cryptogramma crispa* (L.) Hooker (Parsley Fern). Disused quarry, Cerrigyrfahan, 8km E of Tal-y-bont, SN78, A.O.Chater, 1987.

15/5tri. *Asplenium trichomanes* L. subsp. *trichomanes* (Maidenhair Spleenwort). + Rock cutting in wood N of Ystwyth, 2km W of Pontrhyd-y-groes, SN77; + SW facing rocks, Cwm Berwyn, SN75; + and N facing scree, Esgair Nantyrarian, SN78, all A.O.Chater, 1987, conf. J.M.Camus.

21/3. *Dryopteris oreades* Fomin (Mountain Male-fern). Spoil heaps, Eagle Brook lead mine, 8km E of Tal-y-bont, SN78, A.O.Chater, 1987, conf. J.M.Camus.

\*46/22.pse. *Ranunculus penicillatus* subsp. *pseudofluitans* var. *pseudofluitans* (Syme) S.Webster (*R. calcareus* Butcher) (a water-crowfoot). In the Teifi at Aber-banc, above Henllan, SN34, A.O.Chater, 1986, det. S.Webster.

+61/1. *Glaucium flavum* Crantz (Sea Poppy). Scree slope of sea cliffs, Llangranog Head, SN35, A.O.Chater et al., 1987.

\*102/2x1. *Nasturtium x sterile* (Airy Shaw) Oefelein (*N. microphyllum* x *N. nasturtium-aquaticum* (Hybrid Water-cress). Abundant in stream north of Crugbychan, 1.6km west of Mwnt, SN15, A.O.Chater, 1987.

+113/12. *Viola tricolor* L. (Wild Pansy). Disused gravel quarry, Crugyreryr, Talgarreg, SN45, A.O.Chater, 1987.

+\$115/12. *Hypericum hirsutum* L. (Hairy St John's-wort). Grassy scrub on river bank, Ponterwyd, SN78, A.O.Chater & BSBI Field Meeting, 1987. Presumably originated as a garden throw-out, but well established; it seems to have been recorded only once previously, from roadsides near Aberystwyth in 1961, and is nowhere native.

+123/1. *Silene vulgaris* (Moench) Garcke (Bladder Campion). Roadside hedgebank 1km south of Mwnt, SN15, A.O.Chater, 1987.

123/6. *Silene gallica* L. (Small-flowered Catchfly). Abundant in potato field SE of Pen-y-graig, Llandysiliogogo, SN35, A.O.Chater & W.M.Condry, 1987. First record since 1941.

148/1. *Scleranthus annuus* L. (Annual Knawel). + Rocky cart track just west of Llawr-cwrt farm, and disused gravel quarry, Crugyreryr, both near Talgarreg, SN45; + potato field, Pen-y-graig, Llandysiliogogo, SN35, all A.O.Chater, 1987.

149/3. *Montia sibirica* (L.) Howell (Pink Purslane). Well-naturalized in woods behind Ynys-hir, Eglwys-fach, SN69, W.M.Condry, 1987.

+167/1. *Radiola linoides* Roth (Allseed). With *Anagallis minima* on grassy sea cliffs 1.5km W of Mwnt, SN15, A.O.Chater & A.P.Fowles, 1987.

168/9. *Geranium pyrenaicum* Burm. fil. (Hedgerow Crane's-bill). Roadside hedgebank by Parish Hall, Llanbadarn Fawr, SN58, M.Chater, 1987. First record since 1935.

+169/1. *Erodium maritimum* (L.) L'Her. (Sea Stork's-bill). Margin of arable field, and by rocky footpath up the Foel, Mwnt, SN15, A.O.Chater, 1987. The second extant site in Cards.

+!178/1. *Buxus sempervirens* L. (Box). Scattered over several acres, self-sown and well-naturalized in mixed woodland NW of Coedmor, Cardigan, SN15, A.O.Chater, 1983.

192/1. *Trifolium ornithopodioides* L. (Bird's-foot Clover). One small plant, with abundant *T. scabrum* in shingle on seaward side of coast road, Borth, SN69, J.R.Akeroyd & C.D.Preston, 1987.

\*!192/7. *Trifolium incarnatum* L. subsp. *incarnatum* (Crimson Clover). Turnip field 1km ESE of Llanaeron House, SN45, A.O.Chater, 1987.

+192/10. *Trifolium striatum* L. (Knotted Clover). Margin of arable field, Mwnt, SN15, A.O.Chater, 1987.

+192/13. *Trifolium subterraneum* L. (Subterranean Clover). Margin of arable field, Mwnt, SN15, A.O.Chater, 1987. Second post 1940 record.

+220/10. *Alchemilla glabra* Neygenf. (Smooth Lady's-mantle). Clayey pasture, Llain, Blaenpennal, SN66, A.O.Chater et al., 1987.

Cardigan

+!235/3. *Sedum spurium* M.Bieb. (Caucasian Stonecrop). Abundantly naturalized in close-cut hedgebank W of Trebedw, Henllan, SN34, C.D.Preston, 1987.

\*!237/hel. *Crassula helmsii* (T.Kirk) Cockayne (New Zealand Pigweed). Artificial pool in dune slack, Ynys-las NNR, SN69, M.Wainwright, 1986. Presumably introduced as an aquarium throw-out and now a considerable threat to the slacks.

+!239/5xumb. *Saxifraga x urbium* Webb (*S. spathularis* x *S. umbrosa*) (Londonpride). Abundant over an area 10x7m on slumping boulder clay slope above sea, Cei Bach, SN45, A.O.Chater, 1987.

+!256/nov. *Oenothera novae-scotiae* Gates (Small-flowered Evening-primrose). Overgrown rubbish-tip, Blaendolau, Llanbadarn-fawr, SN68, A.O.Chater, 1987.

+319/11. *Euphorbia exigua* L. (Dwarf Spurge). Barley fields 2km W of Mwnt, SN15, A.O.Chater & A.P.Fowles, 1987. Second post 1950 record.

+320/1/are. *Polygonum arenastrum* Boreau (Equal-leaved Knotgrass). Sandy shingle on seaward side of coast road, Borth, SN69, J.R.Akeroyd & C.D.Preston, 1987.

+358/1. *Vaccinium vitis-idaea* L. (Cowberry). Rocky ridge in F.C. plantation NE of Llyn y Gwaith, Llanfair Clydogau, SN65, A.P.Fowles, 1987.

+372/4. *Anagallis minima* (L.) E.H.L.Krause (Chaffweed). With *Radiola linoides* on grassy sea cliffs 1.5km W of Mwnt, SN15, A.O.Chater & A.P.Fowles, 1987.

\*!407/cam. *Cuscuta campestris* Yuncker (Field Dodder). On *Godetia* and Stocks in garden of Joydon, Penyrangor, Aberystwyth, SN58, A.O.Chater, 1987, det. B.Verdcourt. Growing very vigorously and enmeshing a small flowerbed of bedding plants together with its stems.

+416/1. *Verbascum thapsus* L. (Great Mullein). Disused railway, Aberbachnog, Henllan, SN34, C.D.Preston, 1987.

417/1. *Misopates orontium* (L.) Raf. (Lesser Snapdragon). + Shingle by Ystwyth 1.5km SSE of Llanfarian, SN57, A.P.Fowles; + waste ground Llanarth village, SN45, A.O.Chater; + margin of arable field, Mwnt, SN15, J.R.Akeroyd et al.; + and abundant at margins of barley fields 2km W of Mwnt, SN15, A.O.Chater & A.P.Fowles, all 1987.

440/8. *Orobanche minor* Sm. (Common Broomrape). Flower-bed of U.C.W. Chemistry Dept., Aberystwyth, SN58, J.R.Akeroyd, A.O.Chater & C.D.Preston, 1987. First record since 1938, when J.H.Salter recorded it from the U.C.W. Experimental Station nearby.

+445/7. *Mentha suaveolens* Ehrh. (Round-leaved Mint). Rank vegetation behind shingle beach at mouth of Morfa Mawr stream, Llanon, SN46, A.O.Chater & A.P.Fowles, 1987. Recent records of the species rather than the hybrid seem very few.

+453/1. *Clinopodium vulgare* L. (Wild Basil). Amongst scrub on bank, Rhos Glynrhelyg D.W.T. Reserve, Gors-goch, SN45, R.M.Walls, 1987. The only recent record from a native site.

Cardigan

- +§461/1. *Lamiastrum galeobdolon* (L.) Ehrend. & Polatschek (Yellow Archangel). Abundant in larch/sycamore wood 2km west of Talgarreg, SN45, A.O.Chater, 1987. Probably introduced as wood very acidic and the usual associates absent.
- \*!475/pos. *Campanula poscharskyana* Degen (Trailing Bellflower). Well naturalized on roadside hedgebank 1.5km W of Sarnau, SN35, A.O.Chater, 1984.
- 481/1. *Sherardia arvensis* L. (Field Madder). + Garden weed, Pontrhydfendigaid, SN76, J.Harvey; + and margin of barley field 2km W of Mwnt, SN15, A.O.Chater & A.P.Fowles, both 1987.
- \*§484/1. *Cruciata laevipes* Opiz (Crosswort). Verge of A44 just W of Cwmergyr, SN78, A.O.Chater, 1987. Presumably accidentally introduced during recent roadworks and not known elsewhere in Cards; the record in *Flowering Plants of Wales* is an error.
- 514/1. *Filago vulgaris* Lam. (Common Cudweed). About 50 plants on eroded grassy slope, Foel y Mwnt, SN15, J.R.Akeroyd et al. This is the only locality from which this decreasing species has been seen in recent decades.
- +532/1. *Matricaria recutita* L. (Scented Mayweed). National Trust car park, Mwnt, SN15, C.D.Preston et al. The only recent record, but whether genuinely rare, decreasing or under-recorded is uncertain.
- 535/6. *Artemisia absinthium* L. (Wormwood). Grassy slopes and field margins just east of Mwnt, SN15, A.O.Chater, 1987. Second post 1940 record; recorded here by Salter in 1938.
- \*!536/1. *Echinops sphaerocephalus* L. (Globe Thistle). Four plants just inside conifer plantation, Plas Gogerddan, SN68, A.P.Fowles, 1987. Well-established, presumably originating from a garden throw-out.
- +§537/1. *Carlina vulgaris* L. (Carline Thistle). Landscaped spoil heap and adjacent grassy slope, Cwm Rheidol lead mine, 2km NW of Devil's Bridge, SN77, A.O.Chater, 1987. Very rare inland in v.c. 46 and presumably here an accidental introduction.
- \*554/1. *Lactuca serriola* L. (Prickly Lettuce). Verge of road to Cardigan market, SN14, A.O.Chater et al., 1987.
- +!557/3. *Cicerbita macrophylla* subsp. *uralensis* (Rouy) P.D.Sell (Common Blue-sow-thistle). Thriving colony on waste ground 400m SSW of Lampeter church, SN54, K.Catley & A.O.Chater, 1987.
- +577/1. *Potamogeton natans* L. (Broad-leaved Pondweed). Pond by disused railway, Aberbachnog, Henllan, SN34, C.D.Preston, 1987.
- +577/15. *Potamogeton berchtoldii* Fieber (Small Pondweed). Pond (formed in last few years) by coast footpath N of Gwbart, SN15, C.D.Preston et al., 1987.
- \*605/fol. *Juncus foliosus* Desf. (Leafy Toad-rush). Marshy track on upland sheepwalk, Nant-llwyd, Soar y Mynydd, SN75, A.O.Chater & D.Davies, 1987.

639/1. *Platanthera chlorantha* (Custer) Reichenb. (Greater Butterfly-orchid). + Scrubby pasture, Trawsnant, Cellan, SN64, A.O.Chater & D.Glyn Jones; + and W bank of Aeron at Llain, Blaenpennal, SN66, D.Glyn Jones, 1987.

643/3cx5. *Dactylorhiza incarnata* subsp. *coccinea* (Pugsley) Soo x *D. purpurella* (T. & T.A.Stephenson) Soo (a hybrid marsh-orchid). Dune slack, Ynys-las, SN69, F.Horsman, 1987. The only previous records for this hybrid are from "near Borth" in 1935 (P.M.Hall and W.A.Sledge) and 1943 (T.Stephenson). The 1919 record (T. & T.A.Stephenson) cited in *Fl. Pl. Wales* p.191 is not of this hybrid (*fide* F.Horsman).

643/6x7. *Dactylorhiza x robertsii* Horsman (*D. majalis* subsp. *cambrensis* x *D. maculata*) (a hybrid marsh-orchid). Marsh, Ynyslas, SN69, F.Horsman, det. R.H.Roberts, 1987. New to science.

+!649/2. *Arum italicum* Miller subsp. *italicum* (Italian Lords and Ladies). Well naturalized on roadside bank, Croes-lan, Llandysul, SN34, G.Harrison, 1987. Second record.

\*652/1. *Sparganium erectum* L. (Branched Bur-reed). Ditch E of Leri, Borth, SN68, J.R.Akeroyd & C.D.Preston, 1987.

\*661/1. *Cladium mariscus* (L.) Pohl (Great Fen-sedge). Abundant over about an acre of fen carr with *Salix cinerea* and *Alnus*, near Ciliau Aeron, SN85, A.P.Fowles, 1987.

663/1. *Carex laevigata* Sm. (Smooth-stalked Sedge). + Sea cliffs 2km NE of Aber-arth, SN46, A.P.Fowles, conf. A.O.Chater; + poor fen, Waun Fawr, 3km SE of Mydroilyn, SN45, A.O.Chater; + and damp gully, Craig Clogan, Cwm Berwyn, SN75, A.O.Chater, all 1987.

\*663/15. *Carex pseudocyperus* L. (Cyperus Sedge). One plant only, growing near *Cladium* in fen carr with *Salix cinerea* and *Alnus*, near Ciliau Aeron, SN45, A.O.Chater & A.P.Fowles, 1987.

+663/28. *Carex limosa* L. (Bog-sedge). Open mire, Bwlchyrhandir, 3km SSW of Aber-mad, SN57, A.P.Fowles, 1987. Not seen here when mire was surveyed on several occasions 1957-1977 and perhaps a recent arrival, although abundant in an area 2x10m.

+663/54. *Carex paniculata* L. (Greater Tussock-sedge). Marshy slope N of Wyre, 700m W of Llangwryfyon, SN57, A.O.Chater *et al.*, 1987.

+673/1. *Puccinellia maritima* (Hudson) Parl. (Common Saltmarsh-grass). Sea cliff N of Gwbirt, SN15, J.R.Akeroyd *et al.*, 1987.

\*683/7. *Bromus diandrus* Roth (Great Brome). Rocky slope by Bay View, Penyrangor, Aberystwyth, SN58, A.O.Chater, 1982, det. P.J.O.Trist.

+683/14. *Bromus racemosus* L. (Smooth Brome). Manure heap by farmyard, Ponterwyd, SN78, BSBI Field Meeting, 1987, det. P.J.O.Trist.

+683/15. *Bromus commutatus* Schrad. (Meadow Brome). Disturbed ground by Mwnt churchyard, SN15, A.O.Chater, 1987, det. P.J.O.Trist.

Montgomery

MONTGOMERY, v.c. 47 (comm. Mrs M. Wainwright)

- 3/2. *Isoetes echinospora* Durieu (Spring Quillwort). Abundant in Glanmerin Lake (megaspores examined), SN79, A.J.Morton, 1987. First recorded here by B.A.Seddon in 1963.
- \*46/23. *Ranunculus baudotii* Godr. (Brackish Water-crowfoot). In good quantity in saltmarsh pools, Dyfi Junction, SN6998, M.Wainwright, 1987.
- !84/1. *Thlaspi arvense* L. (Field Penny-cross). Arable field edges at Llanfechain, SJ22, M.Wainwright, 1987.
- 115/12. *Hypericum hirsutum* L. (Hairy St John's-wort). Small clumps in hedgerow beside track on dry section of Montgomery Canal, SO19, I.Gunn & Canal Survey Team, 1987.
- +131/10. *Cerastium diffusum* Pers. (Sea Mouse-ear). In roadside quarry, E of Bryndan, near Aberhosan, SN89, A.J.Morton, 1987, conf. T.C.G.Rich.
- \*136/3. *Sagina maritima* G.Don fil. (Sea Pearlwort). Upper saltmarsh, mouth of Afon Llyfnant, SN6997, P.M.Benoit, 1987.
- 143/1. *Spergularia rubra* (L.) J. & C.Presl (Sand Spurrey). + On newly-made forestry road at Nant Ysguthan, SH91, S.Stafford; + and on forest track in Hafren forest, SN88, A.J.Morton, both 1987.
- !191/3. *Melilotus alba* Medicus (White Melilot). Waste ground near Welshpool station, it reappears temporarily on waste ground in various parts of Welshpool, SJ20, C.A.Small.
- +225/12. *Rosa sherardii* Davies (Sherard's Downy-rose). Hedgerows near Llandinam, SO08, V.Evans & M.Wainwright, 1987, det. A.L.Primavesi.
- 300/4. *Oenanthe lachenalii* C.C.Gmelin (Parsley Water-dropwort). Frequent on upper salt-marsh at Dyfi Junction, SN69, P.M.Benoit, 1987.
- +!321/1. *Fagopyrum esculentum* Moench (Buckwheat). A garden weed among vegetables at Leighton, Welshpool, SJ20, M.A.Markwick, 1987.
- +!393/1. *Borago officinalis* L. (Borage). Levelled site of old church, Llanbryn-mair, SH80, J.W.Bates, 1987.
- +416/7. *Verbascum nigrum* L. (Dark Mullein). About 16 plants by the railway S of Welshpool station, SJ20, C.A.Small, 1987.
- +!425/3. *Mimulus moschatus* Douglas ex Lindley (Musk). Two plants in flower on gravelly banks of River Severn, SJ08, J.A. & R.I.Green, 1987
- +435/1/19. *Euphrasia rostkoviana* Hayne (an eyebright). Basic flush near Llanfihangel, SJ01, P.M.Benoit & M.Wainwright, 1987.

Montgomery

459/6x7. *Stachys x ambigua* Sm. (*S. palustris* x *S. sylvatica*) (Hybrid Woundwort). Beside newly-dug pools at Wern Reserve on the Montgomery Canal, SJ21, F.H.Perring et al.; + and with both parents on banks of River Severn at Llandinam, SJ08, J.A. & R.I.Green, both 1987.

\*472/5. *Plantago coronopus* L. (Buck's-horn Plantain). Gravelly bank of tidal river, mouth of Afon Llyfnant, SN6997, P.M.Benoit, 1987.

\*506/2x1. *Senecio x ostenfeldii* Druce (*S. aquaticus* x *S. jacobaea*) (a hybrid ragwort). Marsh by River Dyfi, 1km SSE of Pennal, SN7099, P.M.Benoit, 1987.

\*540/4x3. *Cirsium x celakovskianum* Knaf (*C. arvense* x *C. palustre*) (a hybrid thistle). Meadow, Cwm Einion, 1km WNW of Pontrobert, SJ0913, P.M.Benoit, 1987. One plant with both parents.

+558/1/245. *Hieracium perpropinquum* (Zahn) Druce (a hawkweed). Woodland edge near Llandinam, SO08, V.Evans & M.Wainwright, 1987, det. P.M.Benoit.

+!558/2/6b. *Pilosella aurantiaca* subsp. *carpathicola* (Naegli & Peter) Sojak (Fox-and-cubs). Twelve plants in Methodist graveyard at Llangynog, SJ02, R.Dawes & J.Edwards, 1987. A casual of disturbed earth in burial grounds.

+577/9. *Potamogeton perfoliatus* L. (Perfoliate Pondweed). In River Camlad, W of Salt Bridge, SO29, J.Roper, 1987, det. I.C.Trueeman.

577/14. *Potamogeton obtusifolius* Mert. & Koch (Blunt-leaved Pondweed). Near edge of pool in Montgomery Wildlife Trust Reserve, near Welshpool, SJ20, C.Tandy, 1987.

+605/7fol. *Juncus foliosus* Desf. (a toad rush). Basic flush near Llanfihangel, SJ01, P.M.Benoit & M.Wainwright, 1987.

!648/1. *Lysichiton americanus* Hulten & St John (Yellow Skunk-cabbage). First reported W of River Severn at Llandinam, SO08 (K.Jones, 1972), and now well-established on both sides, V.Evans & J.Packwood, 1986.

+670/4. *Festuca altissima* All. (Wood Fescue). Rocky streamside, N of Llanbrynmair, SH90, A.J.Morton, 1987.

\*701/2b. *Agrostis vinealis* Schreber (Brown Bent). Acid stony forestry track, Coedleos, 2km NE of Dolanog, SJ0814, P.M.Benoit, 1987.

MERIONETH, v.c. 48 (comm. P.M. Benoit)

\*320/12x9. *Polygonum x intercedens* G. Beck (*P. hydropiper* x *P. persicaria*) (a hybrid knotgrass). One plant with an abundance of both parent species at marshy edge of pool, Cynwyd, SJ04, P.M.Benoit, 1987. First Welsh record.

Caernarfon

CAERNARFON, v.c. 49 (N.H.Brown)

- +4/7. *Equisetum sylvaticum* L. (Wood Horsetail). Plentiful in a very well known locality in the Clynnogfawr area, SH44, D.Jones, 1987.
- +5/1. *Osmunda regalis* L. (Royal Fern). In small quantity near Llandwrog, SH45, D.Jones, 1987.
- +15/6. *Asplenium viride* Hudson (Green Spleenwort). Small number of plants on rocky outcrop in a predominantly acidic area at Cwm Pennant, SH54, D.Jones, 1987.
- 21/6. *Dryopteris carthusiana* (Vill.) H.P.Fuchs (Narrow Buckler-fern). Very sparingly in boggy area SW of Eirianwys Farm, c.1.5km N of Ty'n-y-groes, SH7773; and very sparingly with *Dryopteris dilatata* in boggy ground at side of track leading from Sychnant Pass to Conway Mountain, SH7577, both R.Lewis, 1987.
- +24/4. *Gymnocarpium dryopteris* (L.) Newman (Oak Fern). Two colonies on steep boulder scree slope below W side of road between Sychnant Pass and Dwygyfylchi, near Penmaenmawr, SH7477, R.Lewis, 1987.
- +50/3. *Thalictrum minus* L. (Lesser Meadow-rue). On exposed limestone crags in woodland above Marl Hall, Llandudno Junction, SH7978, R.Lewis, 1987.
- +!53/dar. *Berberis darwinii* Hooker fil. (a barberry). Hedgerow at side of lane near Conway, SH7875; and in woodland on steep hillside E of road between Roewen and Pontwgan, SH7671, both R.Lewis, 1987
- +!111Lun/ann. *Lunaria annua* L. (Honesty). In hedgerow roadside, W side of B5106 road at Henefail, c.1.5km N of Ty'n-y-groes, SH7773, R.Lewis, 1987.
- !115/4. *Hypericum calycinum* L. (Rose-of-Sharon). Growing between stones of retaining wall at side of lane, near Ty'n-y-groes, SH7770, R.Lewis, 1987.
- +!23/14. *Silene latifolia* Poiret (White Champion). Three plants below Llandwrog, SH45, D.Jones, 1987.
- \*!131/2x3. *Cerastium x maureri* M. Schulze (*C. arvense* x *C. tomentosum*) (a hybrid mouse-ear). At base of limestone cliff on the Great Orme, SH7783, C.Westall & E.Phenna, 1987, det. A.Leslie & C.Westall. First Welsh Record.
- +!149/3. *Montia sibirica* (L.) Howell (Pink Purslane). In small quantity near Tudweiliog, SH23, D.Jones, 1987.
- \*!168/3x4. *Geranium x oxonianum* P.F.Yeo (*G. endressii* x *G. versicolor*) (a hybrid crane's-bill). Near base of Rhyd Rhos bog, Cwm Pennant, SH5142, R.E.Hughes, 1987.
- +168/9. *Geranium pyrenaicum* Burm. fil. (Hedgerow Crane's-bill). One clump near the old station at Penygroes, SH45, D.Jones, 1987.
- +169/1. *Erodium maritimum* (L.) L'Her. (Sea Stork's-bill). One plant on a garden wall at side of lane, c.1km E of Dwygyfylchi, SH7476, R.Lewis, 1987.

Caernarfon

- +!171/4. *Impatiens glandulifera* Royle (Indian Balsam). On waste ground near Talycafn, SH7871; and side of lane leading to Coed Parc Mawr, c.1.5km N of Roewen, SH7673, both R.Lewis, 1987.
- +!179/2. *Rhamnus alaternus* L. (Italian Buckthorn). On exposed limestone crags in woodland, above Marl Hall, Llandudno Junction, SH7978, R.Lewis, 1987, det. J.Davies.
- +202/1. *Ornithopus perpusillus* L. (Bird's-foot). Very good quantity at old gravel pit near Penygroes, SH45, D.Jones, 1987.
- +!203/1. *Coronilla varia* L. (Crown Vetch). Edge of woodland near Ty'n-y-groes, SH7770, R.Lewis, 1987. Second record.
- 206/9. *Vicia orobus* DC. (Wood Bitter-vetch). In two places between Pant Glas and Glandwyfach, SH44, D.Jones, 1987.
- +207/9. *Lathyrus palustris* L. (Marsh Pea). On bank of drainage channel scrambling among *Phragmites australis* in flat estuarine area, near Ty'n-y-groes, SH77, R.Lewis, 1987. Second record and first this century.
- +212/11. *Potentilla tabernaemontani* Aschers. (Spring Cinquefoil). Edge of rocky outcrop on grassy bank in disused quarry, Vardre, S of Deganwy Castle, SH7879, R.Lewis, 1987.
- +216/3. *Geum rivale* L. (Water Avens). One plant on the banks of Afon Llyfni, near Penygroes, SH45, D.Jones, 1987.
- +!235/11. *Sedum reflexum* L. (Reflexed Stonecrop). On top of low roadside wall, c.2km N of Ty'n-y-groes, SH7773, R.Lewis, 1987.
- +291/1. *Carum verticillatum* (L.) Koch (Whorled Caraway). In good quantity in the neighbourhood of Carn Bentyrch, SH44, D.Jones, 1987.
- +!320/22. *Polygonum campanulatum* Hook. fil. (Lesser Knotweed). Amongst rocks in Afon Roe, Roewen, SH7571, R.Lewis, 1987. Second record.
- +\$337/1. *Carpinus betulus* L. (Hornbeam). Hedgerow at side of lane between Caerhun and Roewen, near Ty'n-y-groes, SH7770, R.Lewis, 1987.
- +!340/1. *Castanea sativa* Miller (Sweet Chestnut). Woodland, Parc Mawr, c.1.5km N of Roewen, SH7573, R.Lewis, 1987.
- \*!342/4. *Populus nigra* L. s.s. (Black Poplar). + Hedgerow, six trees near Ty'n-y-groes, SH7771; + three trees in hedgerow (1 pollarded) W of lane between Pontwgan and Llanbedr-y-Cennin, SH7670; + and one tree in hedgerow in field W of B5106, near Ty'n-y-groes, SH7669, all R.Lewis, 1987. First records. All ten trees have the massive down curved branches and large swellings on the main trunk as described by Meikle in "Willows and Poplars". The trees appear very old and some have been badly wind-damaged and from their location it appears that they were all originally planted.
- 367/3x5. *Primula x tommasinii* Gren. & Godron (*P. veris* x *P. vulgaris*) (False Oxlip). Few plants with parents between Llanrug and Caeathro, SH56, D.Jones, 1987.

+1392/2x1. *Symphytum x uplandicum* Nyman (*S. asperum* x *S. officinale*) (Russian Comfrey). Near Pontllyfni in good quantity, SH45, D.Jones, 1987.

!392/6. *Symphytum tuberosum* L. (Tuberous Comfrey). In hedgebank at side of lane leading to Coed Parc Mawr, c.1.5km N of Roewen, SH7573, R.Lewis, 1987.

+400/4. *Myosotis laxa* subsp. *cespitosa* (C.F.Schultz) Hyl. ex Nordh. (Tufted Forget-me-not). In fair quantity below Llandwrog, SH45, D.Jones, 1987.

+400/7. *Myosotis sylvatica* Hoffm. (Wood Forget-me-not). Waste ground beneath overhanging trees on side of lane near Hafoty Gwyn, SH7470, R.Lewis, 1987. Second record and first since 1876.

+413/1. *Solanum dulcamara* L. (Bittersweet). Small amount below Llandwrog, SH45, D.Jones, 1987.

+430/8. *Veronica spicata* L. (Spiked Speedwell). On exposed limestone crags in woodland, above Marl Hall, Llandudno Junction, SH7978, R.Lewis, 1987.

485/3b. *Galium album* Miller (Upright Hedge-bedstraw). + Large colony on raised grassy embankment, Llanrwst, SH7961; + and loamy hedgebank, Ty'n-y-groes, SH7771, both R.Lewis, 1987.

497/1. *Dipsacus fullonum* L. (Teasel). Grassy roadside bank (B5279) between Ty'n-y-groes and Talycafn, SH7871, R.Lewis, 1987.

+\$589/3. *Polygonatum multiflorum* (L.) All. (Solomon's-seal). Small quantity near Llandwrog, but on the verge of extinction due to carelessness, SH45, D.Jones, 1987.

+635/1. *Typha latifolia* L. (Bulrush). In fair quantity near Brynkir, SH44, D.Jones, 1987.

663/2. *Carex distans* L. (Distant Sedge). Very sparsely scattered on west side of Traeth Mawr, near Porthmadog, SH53, D.Jones, 1987.

+663/20. *Carex riparia* Curtis (Greater Pond-sedge). In fair quantity in the neighbourhood of Pontllyfni, SH45, D.Jones, 1987, det. R.H.Roberts.

+663/54. *Carex paniculata* L. (Greater Tussock-sedge). Plentiful near Pant Glas, SH44, D.Jones, 1987.

663/72. *Carex curta* Good. (White Sedge). + Very fine in a number of places in the neighbourhood of Pant Glas, SH44, D.Jones, 1987; + bog SW of Eirianwys Farm, c.1.5km N of Ty'n-y-groes, SH7773, R.Lewis, 1987.

DENBIGH, v.c. 50 (comm. Mrs J.A. Green)

+1/1. *Huperzia selago* (L.) Bernh. ex Schrank & Mart. (Fir Clubmoss). One plant on edge of forest path with *Lycopodium clavatum*, Bontuchel, SJ0555, J.A.Green, 1987.

Denbigh

1/4. *Lycopodium clavatum* L. (Stag's-horn Clubmoss). + Several plants in forestry plantation, Cerrig Caws, SH9556, P.Day, 1986; three large patches with fruiting bodies, edge of forest path, Bontuchel, J.A.Green, SJ0553, 1987.

+5/1. *Osmunda regalis* L. (Royal Fern). Six young plants of Fenn's Moss, SJ3748, B.Formstone, 1987.

+28/1. *Botrychium lunaria* (L.) Swartz (Moonwort). On a building tip below Alwen dam, SJ3942, J.A.Green, 20 plants in 1986, one in 1987.

67/1. *Brassica oleracea* L. (Wild Cabbage). Many plants on cliffs above Terfyn, SH9177, J.A.Green, 1987.

\*112/3. *Reseda alba* L. (White Mignonette). One plant on open cast mine waste, Cefn y Bedd, SJ3155, B.Formstone, 1987.

+185/1. *Genista tinctoria* L. (Dyer's Greenweed). Several plants on top of wall on A539, Acrefair, SJ2843, P.Day, 1987. First post-1930.

+207/6. *Lathyrus sylvestris* L. (Narrow-leaved Everlasting-pea). Bank of River Dee, Bangor-on-Dee, SJ3843, J.A.Green, 1987. Second post 1930 record.

+212/14. *Potentilla anglica* Laich. (Trailing Tormentil). Roadside, near Ysbytty Ifan, SH8549, J.A.Green, 1987.

+319/2. *Euphorbia lathyris* L. (Caper Spurge). Quarry waste, Denbigh, SJ0566, J.A.Green, 1987.

!341/1. *Quercus cerris* L. (Turkey Oak). Many seedlings in woods, Cefn yr Ogof, SH9177, J.A.Green, 1987.

430/8. *Veronica spicata* L. (Spiked Speedwell). Isallt cliffs, Llysfaen, SH8976, P.Day, 1987. Last recorded here in 1963.

440/10. *Orobanche hederæ* Duby (Ivy Broomrape). Isallt cliffs, Llysfaen, SH8976, P.Day, 1987.

\*!475/5. *Campanula persicifolia* L. (Peach-leaved Bellflower). Established on railway bank, 0.5km from nearest house, c.13km NNW of Bodnant Gardens, SH7973, J.A.Green, 1987.

485/3a. *Galium mollugo* L. s.s. (Hedge-bedstraw). Railway bank, Eglwysbach, SH7972, J.A.Green, 1987.

485/3b. *Galium album* Miller (Upright Hedge-bedstraw). Roadside, Llanferres, SJ1861, J.A.Green, 1987.

486/1. *Rubia peregrina* L. (Wild Madder). Screes, Cefn yr Ogof, SH9177, J.A.Green, 1987.

\*!503/2. *Galinsoga quadriradiata* Ruiz & Pavon (Shaggy Soldier). On rocks near river bank, near Llanycefn, Overton, SH3541, J.A.Green, 1987.

\*!605/2. *Juncus tenuis* Willd. (Slender Rush). Several clumps on track between humps of lead mine waste, Maeshafn near Mold, SJ2061, J.A.Green, 1987.

656/6. *Eleocharis uniglumis* (Link) Schultes (Slender Spike-rush). Talycafn, SH7972, J.A.Green, 1987.

663/23. *Carex strigosa* Hudson (Thin-spiked Wood-sedge). Wet wood near Ruabon, dominant over a 50 yard square, SJ3140, J.A.Green, 1987.

+663/65. *Carex divulsa* subsp. *divulsa* (Grey Sedge). Lane near Erbistock Ford, SJ3541, G.Kaye, 1987, conf. A.O.Chater.

+663/66. *Carex divulsa* subsp. *leersii* (Kneucker) W.Koch (Many-leaved Sedge). Lane near Erbistock Ford, SJ3541, G.Kaye, 1987, conf. A.O.Chater.

+663/67. *Carex spicata* Hudson (Spiked Sedge). Dry bank, River Conway, SH7973, J.A.Green, 1987, conf. A.O.Chater

\*670/4. *Festuca altissima* All. (Wood Fescue). Hundreds of plants on sandstone rocks in deciduous woodland on banks of the River Dee, Erbistock, SJ3541, J.A.Green, 1987.

\*670/1x671/1. x *Festulolium loliaceum* (Hudson) P.Fourn (*Festuca pratensis* x *Lolium perenne*) (Hybrid Fescue). Wet meadows, Overton, SJ3942, D.Tinston, 1987, det. P.M.Benoit.

+672/3. *Vulpia myuros* (L.) C.C.Gmelin (Rat's-tail Fescue). Grounds of Wrexham Maelor Hospital, SJ3250, M.Newstead, 1987.

683/1. *Bromus erectus* Hudson (Upright Brome). Cefn yr Ogof, SH9177, J.A.Green, 1987.

\*684/2. *Brachypodium pinnatum* (L.) Beauv. (Tor-grass). Limestone grassland, Bryn Euryn, Colwyn Bay, SH8379, P.Day & A.M.Burn, 1987.

689/1. *Koeleria macrantha* (Ledeb.) Schultes (Crested Hair-grass). Limestone screes, Cefn yr Ogof, SH9177, J.A.Green, 1987.

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+!2/2. *Selaginella kraussiana* (Kunze) A.Braun (Mossy Clubmoss). Well established in damp woodland near Henblas, Llangristiolus, SH47, N.Brown & R.H.Roberts, 1987.

\*4/7. *Equisetum sylvaticum* L. (Wood Horsetail). Damp meadow near Bryn Mwcog in new extension to Cors Erddreiniog NNR, SH48, L.Colley, M.R.Davies & R.H.Roberts, 1987.

4/9x5. *Equisetum x litorale* Kuhlew. (*E. arvense* x *E. fluviatile*) (Hybrid Horsetail). Damp grassland near Bryn Mwcog, Maenaddwyn, SH48, L. Colley, M.R.Davies & R.H.Roberts, 1987.

+16/1. *Asplenium ceterach* L. (Rustyback). On walls, Four Mile Bridge, SH27, P.Stanley, 1986.

22/2. *Polystichum aculeatum* (L.) Roth (Hard Shield-fern). Base of mortared wall. near Paradwys, M.R.Davies & R.H.Roberts; hedgebank, near Talwrn, R.H.Roberts, both SH47, 1989.

- +25/2x1. *Polypodium x font-queri* Rothm. (*P. cambricum* x *P. vulgare* (a hybrid polypody). On outcrop of calcareous schist, near Cerrigceinwen, SH47, R.H.Roberts, 1987.
- +28/1. *Botrychium lunaria* (L.) Swartz (Moonwort). Heathy grassland, Mynydd Parys, SH48, D.F.Evans, 1987.
- 29/1. *Ophioglossum vulgatum* L. (Adder's-tongue). Several hundred plants on dune slacks, Aberfraw Common, SH36, R.H.Roberts, 1987.
- !84/1. *Thlaspi arvense* L. (Field Penny-cress). Near Cerrigceinwen Church, SH47, M.R.Davies & R.H.Roberts, 1987.
- +112/2. *Reseda lutea* L. (Wild Mignonette). On stable dune N of Rhosneigr, SH37, R.H.Roberts, 1987.
- \*149/1a. *Montia fontana* L. subsp. *fontana* (a blinks). Coastal turf near gullery, Twyn-y-park, Bodorgan Estate, SH3664, C.D.Preston, conf. S.M.Walters, 1986.
- +149/1d. *Montia fontana* subsp. *variabilis* Walters (a blinks). Close-grazed turf on SE shore of Llyn Coron, SH3769, C.D.Preston, 1986, conf. S.M.Walters. Second localized record.
- +!170/4. *Oxalis europaea* Jordan (Upright Yellow-sorrel). Garden weed, Henblas, SH47, C.D.Preston, 1987. Second record and first localized record.
- +206/16. *Vicia lathyroides* L. (Spring Vetch). Sandy soil near Maelog Hotel, Rhosneigr, SH37, P.Stanley, 1986.
- 207/11. *Lathyrus montanus* Bernh. (Bitter Vetch). On top of west-country type hedgerow near Ty Gwyn, Llangwyllog, SH47, M.R.Davies & R.H.Roberts, 1987.
- 218/2. *Agrimonia procera* Wallr. (Fragrant Agrimony). Rough grassland near the Britannia Bridge, SH57, M.P.Denne, 1987. Confirmation of old record.
- +225/8x12. *Rosa canina* L. x *R. sherardii* Davies (a hybrid rose). Hedgebank near Cerrig Engan, Llangristiolus, SH47, M.R.Davies & R.H.Roberts, 1987, conf. G.G.Graham.
- +251/2. *Daphne laureola* L. (Spurge Laurel). Many plants on hedgebank near Fferam Bailey, Trefdraeth, M.R.Davies & R.H.Roberts; limestone woodland, Plas Llanddyfnan, Talwrn, N.Brown, both SH47, 1987.
- +!256/2. *Oenothera erythrosepala* Borbas (Evening Primrose). Laneside near Fedw Fawr, Llangoed, SH68, R.H.Roberts, 1987.
- 285/4. *Apium inundatum* (L.) Reichb. fil. (Lesser Marsh-wort). Pool near Henblas, Llangristiolus, SH47, N.Brown & R.H.Roberts, 1987.
- 397/1. *Anchusa arvensis* (L.) Bieb. (Bugloss). Many plants in newly-made lawn, Capel Mawr, SH47, N.Brown & students from U.C. Bangor, 1987.

Anglesey

!46/10. *Verbascum virgatum* Stokes (Twiggy Mullein). + A single plant on waste ground, Church Bay, SH38, J.Smith, 1975; + many plants on an old wall, Henblas, Llangristiolus, SH47, BSBI Recording Meeting, 1987.

!542/1. *Onopordum acanthium* L. (Scottish Thistle). Sandy waste ground, Rhosneigr, SH37, M.R.Davies & R.H.Roberts, 1987. Second record and first post-1930.

!557/3. *Cicerbita macrophylla* (Willd.) Wallr. (Blue Sow-thistle). Field-border near the Post Office, Llandegfan, SH57, M.R.Davies, 1987.

566/1. *Butomus umbellatus* L. (Flowering Rush). Newly-made pond, Gronant, near Llynon Hall, SH38, N.Brown, 1987.

+605/7. *Juncus ambiguus* Guss. (a toad rush). Marshy edge of Cemlyn pool, SH39, R.H.Roberts, 1987.

+605/18x19. *Juncus x surrejanus* Druce ex Stace & Lambinon (*J. acutiflorus* x *J. articulatus*) (a hybrid rush). Pond near Henblas, N.Brown & R.H.Roberts; ditch near Cefni Reservoir, M.R.Davies & R.H.Roberts, both SH47, 1987.

677/1. *Catabrosa aquatica* (L.) Beauv. (Whorl-grass). Ditches near Penmynydd, SH57, F.Cattanach & L.J.Rees, 1987.

Welsh Field Meeting Programme-1991

WELSH FIELD MEETING PROGRAMME - 1991

SUNDAY 28th APRIL  
CRICCIETH, GWYNEDD (v.c. 49)  
Leader: Mr N.H. Brown

A meeting to explore the lower Dwyfach - riverside meadows, woodland and disused railway track.

Meet at 11.00am in car park opposite the Goat Inn, Glan Dwyfach, 10km NW of Porthmadog on A487, SH/483438. Wellingtons or other waterproof footwear recommended, bring packed lunch. Please send bookings to Mr R.G. Ellis, address on page 23, and not to the leader, before 1st April.

SUNDAY 5th MAY  
BODNANT GARDENS & GREAT ORME, GWYNEDD/CLWYD (v.cc. 49 & 50)  
(in conjunction with the A.G.M., Liverpool)

See A.G.M. leaflet for details of this meeting.

SATURDAY 22nd JUNE  
LAUGHARNE AREA, DYFED (v.c. 44)  
Leader: Mr R.D. Pryce

A meeting incorporating a number of rich botanical habitats in the area including damp mesotrophic grassland, woodland and saltmarsh.

Meet in car park below castle in Laugharne village, Grid ref. SN301107, at 11am. Bring packed lunch, wellingtons advised. Please send bookings to Mr R.G. Ellis, address on page 23, and not to the leader, before 1st June.

FRIDAY 5th to SUNDAY 7th JULY  
CAER-LLAN, GWENT (v.c. 35)  
(in conjunction with the Welsh A.G.M. and Exhibition Meeting)  
Leader: Mr T.G. Evans

This meeting will be based at Caer-llan Field Centre, near Trelleck. Friday evening will include a visit to some orchid sites. Saturday morning and early afternoon will be spent looking at several rich habitats in the area. At 4.00pm, the meeting will reconvene at Caer-llan Field Center for tea followed by the Welsh A.G.M. and a talk on the 'Flora of Gwent' by T.G.Evans. The evening will be spent looking at exhibits and slides.

Sunday's field meeting will be to several sites somewhat further afield.

All meetings will start from Caer-llan Field Centre at SO/491080 at 10.00am.

Accommodation is available at the Field Centre, at approx. £20 per day, but the meeting is also open to non-residents.

Please apply for accommodation booking forms, maps of meeting places and full details of the weekend's itinerary, to Mr R.G. Ellis, address on page 23, and not to the leader, before 15th May.

FRIDAY 19th to MONDAY 22nd JULY  
LAMPETER, DYFED, (v.c. 44)  
Leader: Mr R.D. Pryce

A weekend to assist with recording for the Carmarthenshire Flora project. The principal aim is to concentrate on poorly worked tetrads

Welsh Field Meeting Programme-1991

in the north-east of the vice-county by splitting the party into small groups.

Single room accommodation will be available at University College Lampeter, at approx. £20 per day (full board), but the meeting is also open to non-residents.

Please apply for accommodation booking forms or for further details to R.G. Ellis, address on page 23, and not to the leader, before June 1st.

**SATURDAY 3rd AUGUST**  
**PENLEY, DENBIGHSHIRE (v.c. 50)**  
Leader: Mrs J.A. Green

A meeting on the Denbighshire/Shropshire border to look at farm ponds and woodland.

Meet at Little Green Farm, Penley near Overton by kind permission of Mr Ian Owen. From Overton, 3km ESE on A539, turn north on minor road to Worthenbury (G.R. 33/413.406). Bring wellingtons, packed lunch and gnapnels.

Please send bookings to Mr R.G. Ellis, address on page 23, and not to the leader, before July 1st.

**SUNDAY 4th AUGUST**  
**LOWER CONWAY VALLEY, GWYNEDD (v.c. 49)**  
Leader: Mr N.H. Brown

A meeting to visit upland meadows and woodland on the Caerns/Denbs/Merioneth border.

Please meet at 11.00am in the car park at Pentrefoelas, 12km SE of Betws-y-coed on the A5, SH/873514. Bring packed lunch and wellingtons or other waterproof footwear.

Please send bookings to Mr R.G. Ellis, address on page 23, and not to the leader, before 1st July.

**SUNDAY 11th AUGUST**  
**HIRWAUN, GLAMORGAN (v.c. 41)**  
Leader: Mr I.B. Hart

A meeting to compare natural upland vegetation, reclaimed coal tips and naturally recolonised coal tips on the borders of Glamorgan and Brecknock.

Meet at 11.00am in car park adjacent to entrance of Tower Colliery Washery on A4061 (not Heads of Valleys dual-carriageway (A465)), Grid ref. SN943057. Bring packed lunch, wellingtons advised.

Please send bookings to Mr R.G. Ellis, address on page 23, and not to the leader, before July 12th.

**SATURDAY, 12th OCTOBER**  
**NATIONAL MUSEUM OF WALES, CARDIFF (v.c. 41)**  
Leader: Mr R.G. Ellis

An indoor meeting to see how a national herbarium goes about collecting, pressing, storing and preserving specimens. There will also be opportunities to consult the collections and library, and demonstrations of computer databases for nomenclature, herbarium collections and county floras.

Meet at 11.00am in the main hall of the National Museum of Wales, Cardiff.

Please send bookings to Mr R.G. Ellis, address on page 23, before October 1st.



