

BOTANICAL SOCIETY OF THE BRITISH ISLES

WELSH BULLETIN

Editor: R.D. Pryce

No. 53, SPRING 1992

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Ex LEICESTER UNIVERSITY HERBARIUM (LTR)
FLORA OF THE BRITISH ISLES

LIMONIUM BINERVOSUM (G.E.Sm.) C.E. Salmon
AGGREGATE

L. BRITANNICUM Ingrouille
subsp. CELTICUM Ingrouille
var. PHARENSE Ingrouille

ISOTYPE

On the cliffs beside the steps leading down
to South Stack Lighthouse, near Holyhead,
Anglesey, v.c. 52; code 52SS.

Coll. M.J. Ingrouille July 1979

SH2082

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All back issues of the *BSBI Welsh Bulletin* are still available on request (originals or photocopies). Please send cheque (made payable to BSBI Wales), @ £1 per issue, which includes p & p, to - Dr 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.

EDITORIAL

The current prolonged spell of hot dry weather recalls happy memories of hours spent botanizing in the Mediterranean region. In fact, derelict land clearance carried out during the last year or so in sandy ground in the Llanelli area, has resulted in a crop of typical short-lived species, often reminiscent of more southern climes, having germinated from the *in situ* seed bank. George Hutchinson recently reported acres of poppies causing the old railway sidings around Burry Port Docks to turn into something akin to Flanders fields. More importantly, perhaps, an extensive patch of *Linaria supina* has appeared, a plant first recorded in vc44 at these sidings but not seen in recent years at this particular site, since they fell into disuse. From the recording point of view, I fear that growth has been so rapid in the last few weeks, that by the time the various meetings scheduled for Wales this summer take place, much of the floral interest will have passed its best. Despite this, knowing the stuff of which the average BSBI member is made, I doubt whether there will be any diminution of enthusiasm and all excursions will be well supported, no doubt many resulting in new records to add to the county lists.

This issue of the *Welsh Bulletin* has a varied content drawn from north, mid and south Wales but again contains articles by Arthur Chater, George Hutchinson and myself. I would very much like to see more Welsh botanists contributing to the publication, writing on subjects of topical or local interest. Ann Conolly has written a paper concerned with her beloved Llyn Peninsula and she tells me that another is in draft for the future. A further instalment of Welsh Plant Records, those for 1990, has been compiled by Gwynn Ellis, thus finally clearing the backlog. With the next *Bulletin* it will be possible to return to the normal format with Plant Records being published in every other issue. May I take this opportunity of thanking all present authors for taking the time to impart their words of wisdom for us all to share and again to urge prospective contributors to consider making the effort to provide copy for future issues.

The programme of Welsh field meetings and AGM notices were published in the last *Bulletin*. May I remind you that if you intend to be present at any meeting, you should book (usually with Dr David Humphreys) in order to ensure that the leader is aware of likely numbers attending and to wait for you should you be delayed. It is also necessary to prevent fragile habitats from being damaged by too many trampling feet and to make sure that safety is given due consideration in inhospitable terrains.

I look forward to seeing you at the AGM or another of these meetings during the summer months.

Richard Pryce, Trevethin, School Road, Pwll, LLANELLI, Dyfed SA15 4AL 16th June 1992

I am sure that all members will join with us in sending sincere condolences to Richard Pryce on the tragic death, through cancer, of his 14 year old daughter Rachel.

Gwynn Ellis & George Hutchinson.

ANNUAL GENERAL MEETING, 1991

The twenty-ninth Annual General Meeting and ninth Exhibition Meeting of BSBI Wales was held at Caer Llan Conference Centre, Lydart, nr Monmouth, Gwent, on Saturday July 6th 1991.

On the Friday, members staying at Caer Llan enjoyed an evenings botanizing in a Gwent Wildlife Trust Reserve between the River Wye and the A40 Trunk Road, led by Trevor Evans. On Saturday morning and early afternoon, Trevor took members to see many interesting botanical site in the Trelleck to Tintern area of the county, before returning to Caer Llan for the AGM. (A report on all the weekends field meetings was published in *BSBI News* 60: 59-60).

After tea, the Chairman opened the Annual General Meeting. Apologies for absence were received from Jean Green, Ray Woods and Nigel Brown. The Chairman mentioned that Jean Green's absence was caused by illness which had necessitated her resignation from the Committee for Wales, and, on behalf of all present expressed the hope that she would make a full and speedy recovery. The minutes of the last AGM, published in the *Welsh Bulletin* No. 51, Spring 1991, were then taken as read.

The Chairman, in his opening remarks, welcomed all members present and thanked the members of the Committee for Wales and the treasurer and secretary for their help and support over the last year.

Hon. Secretary's Report

The Hon. Secretary, Gwynn Ellis, then gave his report on the last years activities. He first paid tribute to Jean Green, who had served the Committee for Wales well in several capacities, most recently as Chairman and Welsh representative on Council. Her wise council would be greatly missed. He was, however, able to reassure members that Jean would be continuing to act as vice-county recorder for Denbigh.

He commented that the Committee for Wales had remained at full strength throughout the year, and in the elections that were to follow, Elsa Wood, a co-opted member of the Committee, would be nominated to fill the vacancy caused by Jean's resignation. The Committee, in its meeting earlier that afternoon, had decided to put to the AGM a proposition that would introduce new blood. The rule change required would be explained later on in the Meeting.

Two issues of the *Welsh Bulletin* had been issued since the last AGM; nos 50 and 51. Richard Pryce had taken over as editor at the last AGM and there was no doubt that he had continued the good work of his predecessors. Tribute was also paid to George Hutchinson for his efficient planning and production of the *Bulletin* and hope was expressed that members would continue to send in notes and articles for publication.

The Secretary then reported that eight field meetings had been organised by the Committee for Wales for 1991. Only two had been held so far but both were well attended. Bookings for most of the others were adequate but there was still room for more participants on most of them. The willingness of David Humphreys to take over the duties of Field Meeting Secretary had been a great relief to the Secretary and he was warmly thanked for this.

The dismembering of the Nature Conservancy Council and consequent setting up of a new body in Wales - The Countryside Council for Wales (CCW) had been much discussed in Committee. It had been decided to invite an observer from CCW to sit on the Committee, and also to complain to the Secretary of State for Wales about the absence of a botanist on the main committee of CCW.

Topics of a conservation nature that had been discussed in Committee included the dangers of genetic contamination of native trees and shrubs caused by planting non-native stock along new roadsides and other newly landscaped areas. The planting of non-native species in such areas was also to be regretted.

The Secretary then thanked the various organisations that had helped the Society in Wales over the last twelve months, including: the NCC & CCW for allowing the Committee for Wales to meet in its offices at Plas Gogerddan, Aberystwyth; University College Cardiff for allowing a similar meeting to be held at Llysdyman Field Centre near Newbridge on Wye; the National Museum of Wales for secretarial assistance, for production of the *Welsh Bulletin*, and for its help in many other ways; Peter Carpenter and his staff for the splendid way they had looked after members at Caer Llan; and finally Trevor Evans was thanked for all the hard work he had put into organising the meeting.

Members were then reminded about the following days field meeting looking at various sites in Gwent, led by Trevor Evans.

Finally, members were reminded that after the AGM, Trevor would be giving a talk on *The Flora of Gwent*, and that the exhibition meeting would open and slides would be shown after dinner that evening.

Hon Treasurer's Report

The Hon Treasurer, Richard Pryce, then gave his report on the financial situation that was again satisfactory. A balance sheet for the first 6 months of 1991 was circulated to members present. He commented on the increased costs of the *Welsh Bulletin* and the need to draw on central funds more often to cover running costs.

Elections

The Chairman then put to the AGM the proposal from the Committee for Wales *that one member of the Committee for Wales should retire each year and not be eligible for re-election to the Committee for two years*. He explained that this was an attempt to get new blood onto the Committee. The present membership of the Committee was concerned that there was so little turnover of members that it might give the impression of a "closed shop" being in operation. This was far from being the case as was indicated by the proposed rule change. A long discussion followed and, after a show of hands, the proposal was rejected by a decisive majority. The Chairman then thanked the meeting for the show of confidence in the present Committee.

In the elections that followed the Hon Secretary, Gwynn Ellis and Hon. Treasurer, Richard Pryce, were re-elected unopposed for their respective posts.

Nigel Brown, Jean Green, David Humphreys were due to retire under rule 5 of the constitution and were eligible for immediate re-election. As already mentioned, Jean Green was not seeking re-election, but the other three had indicated their willingness to stand again. In the absence of any other nominations from the floor, they were duly re-elected to serve on the Committee for Wales for a further period of two years. To fill the vacancy caused by the resignation of Jean Green, the Committee for Wales had nominated Elsa Wood. In the absence of any other nominations, she was duly elected to serve on the Committee for a period of two years.

Under Any other Business, the Hon. Secretary introduced to members the newly appointed CCW Rare Plants officer for Wales, Andrew Jones. Andrew then said a few words about his job and invited any Welsh member who was having difficulty with rare plants in his area to contact him for assistance. The Rare Plants Survey was to be extended in Wales to cover some species not on the main list.

Peter Hall mentioned the imminent publication of Clive Stace's new *Flora* and urged members to buy a copy.

In the absence of any other business, the Chairman declared the meeting closed. There followed a short recess while Trevor took off his chairman's hat and put on his lecturer's hat. He then delivered a very enjoyable and well illustrated talk on the *Flora of Gwent*. After dinner the Exhibition was opened and slides shown.

COMMITTEE FOR WALES, 1991-1992

Following the election of officers and members at the Annual General Meeting, the composition of the Committee for Wales is as follows:

Officers

Chairman	Mr T.G. Evans
Vice-chairman	Mr P. Day
Secretary	Mr R.G. Ellis
Treasurer	Mr R.D. Pryce

Committee Members

Mr S.B. Evans*	Mr N. Brown
Dr G. Hutchinson*	Dr D.R. Humphreys
Dr Q.O.N. Kay*	Mrs E. Wood
Dr G. Wynne*	Mr R.G. Woods

* members due to retire in 1992

STATEMENT OF ACCOUNTS FROM 1 JAN. 1991 TO 31 DEC. 1991

Receipts

Bulletin subs/back nos	£53.00
From BSBI Treasurer	£200.00
Lampeter Bookings	£490.00
Caer Llan Bookings	£1410.50

Total £2153.50

Payments

Production: Bulletin No. 50	£164.52
Donation : Carmel Woods	£25.00
Lampeter Accommodation	£483.00
Caer Llan Accommodation	£1108.50
Production: Bulletin No. 51	£145.53

Total £1926.95

Carried forward from 1990 (General & Special Accounts)	£306.55
Excess receipts over payments 1991	£226.55

Total £533.10

Current Account Balance	£303.95
Deposit Account Balance	£189.15
Cash in Hand	£40.00

Total £533.10

Richard Pryce, Hon. Treasurer

BOTANICAL SOCIETY OF THE BRITISH ISLES

30th WELSH ANNUAL GENERAL MEETING

AND

10th EXHIBITION MEETING, 1992

Friday 3rd July to Monday 6th July 1992

Coleg Amaeth LLYSFASI College of Agriculture, RUTHIN, Clwyd

Programme

Friday	6.30pm	Dinner
	7.30pm	Visit to local site
Saturday	8.30am	Breakfast
	10.00am	Meet at Llysfasi for Field Meeting Leader Goronwy Wynne
	4.00pm	Tea and Meeting of Committee for Wales
	4.30pm	Annual General Meeting
	5.00pm	Talk by Peter Rathbone <i>A Naturalists Library</i> Followed by Exhibitions/discussion
	6.30pm	Dinner
	7.30pm	<i>Flora of Denbighshire</i> by Jean Green Exhibition/Members slides/discussion
Sunday	8.30am	Breakfast
	10.00am	Meet at Llysfasi for Field Meeting Leader Jean Green
	6.30pm	Dinner followed by exhibitions etc
Monday	8.30am	Breakfast Optional recording in v.c. 50 on the way home

Accommodation

Because of an administrative mix-up by the College, accommodation this year is rather basic (no wash-basins in rooms) but the cost for full-board is remarkably cheap - £13 per day sharing or £15.50 for a single room.

For further information contact:

R.G. Ellis (BSBI Wales AGM), Department of Botany, National Museum of Wales, Cathays Park, Cardiff, CF1 3NP. Tel. Cardiff (0222) 397951 ext. 218.

TRAINING PLANTS IN CARMARTHENSHIRE

Introduction

Railway vegetation in the county has been around since the early 19th century. The Carmarthenshire Railway Company was one of the first to receive its Act of Incorporation (1802), two years before the Mumbles Railway. It opened in 1806 as a tramroad using horse power, the route partly surviving as the mineral line from Llanelli to the Cynheidre Colliery which recently closed. The first passenger railway in the county was the Llanelli Railway and Dock Company which opened in 1840 and ran from Llanelli Docks to Garnant in the Amman Valley (Morgan, 1909) and still survives from Llanelli to Pantyffynnon as the southern end of the Central Wales line. The Garnant branch is now a mineral line serving the Betws colliery and the coal washery at Gwaun Cae Gurwen.

In the early days most Victorian and Edwardian field naturalists had to rely on walking as the days of car and bus were yet to come. This meant that if one wanted to record in a distant part of the county train travel offered the best opportunity. The result was that attention was confined to a convenient area (Brunker, 1960). Bearing in mind the addresses of the recorders, many early records are concentrated in the areas around the railway towns of Llanelli, Pembrey, Kidwelly and Carmarthen with a few records from Ferryside, Llandybie, Llangadog, Llangennech and Whitland. Visiting botanists who may have spent their holidays in the county undoubtedly used the railway to get around. Horse-drawn transport could be used from the stations, if required.

Llanstephan at the mouth of the River Towy could be reached by regular ferry across the estuary from Ferryside railway station, currently a fifteen mile road detour via Carmarthen. Similarly the ferrying could be continued across the River Taf to explore the Laugharne area. In fact on July 3rd 1891 the Swansea Scientific Society made such a trip, with the Rev. R. Jackett recording the plants (Jackett, 1892). First stop, Kidwelly, with its castle and church; species recorded included: Antirrhinum major, Cheiranthus cheiri, Cochlearia danica, Parietaria judaica and Tanacetum vulgare, all of which still occur in the area, SN4006. "Bishop's Weed" Aegopodium podagraria was noted in the churchyard, SN4006.

At Ferryside, after examining the aquatic plants near the railway station, the ferries crossed to Llanstephan where plants noted included Cornus sanguinea, Geranium pratense, Salsola kali, Sanicula europaea, all of which are still present, SN30K tetrad. The members were sent off with a Welsh choir singing in the woods below the castle. "The party reached High Street Station, Swansea, soon after 10.30, having spent a most enjoyable day".

Kidwelly station appears to have been an important base for many early botanists including Dr H. Lewis Jones who in the 1870's recorded many first county records for Carms. from the Kidwelly area including Gentianella amarella, Glaucium flavum, Parentucellia viscosa, Dactylorhiza incarnata, Atriplex babingtonii [=A. glabriuscula], Viola curtisii [=V. tricolor ssp. curtisii], Epipactis palustris and Euphorbia paralias. (Botanical Locality Recorders Club Reports). On a personal note it is pleasing to see that a good proportion of the records for the county still result from use of this mode of transport.

Several old records may well have been associated with the rail network but often only general localities with no habitat details are listed. However, some are specific. In 1875 Dr H. Lewis Jones reported Ornithopus perpusillus as a possible introduced plant on gravelly ground used apparently for railway ballast near Carmarthen (Lees, 1876a). In the same year he found Linaria minor (=Chaenorhinum minus) on a railway track at Kidwelly (Lees, 1876b), and in 1876 Andromeda polifolia - one large clump in boggy ground by the railway line near Llanllwch (Lees, 1877), SN31U tetrad. T.W. Barker (1905) reported Linaria supina from a rail side by the Pembrey canal and considered it an escape. The species was refound on railway tracks near Burry Port station in 1948 by J.E. Lousley, SN4400; at the Pinged level-crossing in 1965 by R.F. May, SN420039, and near Burry Port Power Station by both Mrs I.M. Vaughan and R.D. Pryce in the late 1970's, SN4400. It is extant in SN40. Medicago arabica was noted by Hamer near Trimsaran railway crossing in 1911 (Hamer, 1912), SN40M tetrad, and

with Barker he found Matricaria suaveolens (= Matricaria matricarioides) at Abergwili station yard in the same year (Hamer, 1912), SN4321/4421.

The 1911 records of Anthemis arvensis and A. tinctoria have been conflictingly reported by recent authors (May, 1967; Ellis, 1983). Collector: D. Hamer/J.T.W. Barker, Grid Ref: SN41/42, Location: Carmarthen/near Carmarthen. Specimens present/absent NMW. Hamer reports that he and Mr Barker found both species at Carmarthen on August 16th 1911 (Hamer, 1912). Specimens of both have been found by the author at NMW. They had been sent to Arthur Bennett for confirmation who in turn donated them to NMW in 1928. The labels are in A. Bennett's handwriting and are registered at NMW in his name. Details on the handwritten label are "T.W. Barker, 20.8.1911..." which probably refers to the date of communication and the communicator. A preferred citation of the records could be Carmarthen, Grid Ref. 22/41 Railway side. T.W. Barker and D. Hamer 16.8.1911, NMW, conf. and comm. A. Bennett.

Hamer reported the western North American species Gilia capitata to be on ballast west of Carmarthen in 1922 (Hamer, 1923), determined by Thellung (B.E.C. Rep. for 1923 (1924), 7, 199). It is a variable species divided into eight subspecies (Kartesz & Kartesz, 1980).

Techniques

The general techniques used for recording plants from a moving train were described in a previous article (Hutchinson, 1991). However, in Carmarthenshire things happen faster than in Glamorgan, with the Flora Project based on a 2-km square rather than a 5-km square recording unit, so marking up tetrad boundaries across the railway line on the map beforehand is essential. Although many other interesting plants and sites occur near the county's railway lines, the unattributed records which follow are those of the author, obtained directly or indirectly by use of a train.

A Train Journey Through Carmarthenshire

The single main-line track over Loughor Bridge looks down on the autumn tints of Salicornia dolichostachya and S. ramosissima with a few plants of S. pusilla along the drift-line of a small tidal creek (R.D. Pryce & GH), SS559980. Sonchus arvensis grows tall along the railway here in late summer. The modern-day industrial south-east Carms. is reached at the Trostre tinplate works, SS5299, situated in the reclaimed marshy lowlands of Morfa-Bynea. A solitary Laburnum anagyroides flowers among a screen of Fallopia japonica which engulfs Ficus carica, prolific in 1991, SS524991. Railway sidings to the south of the line back onto the Wildfowl and Wetlands Trust Centre. Ditches contain Schoenoplectus tabernaemontani, SS526987, and there is much willow, including several tall old stands of Salix fragilis (e.g. SS521990), the leaves of which, from the train, look greyish-white by late summer resembling S. alba (a solitary tree of which grows at SS542987, I.K. Morgan). An abundance of Saxifraga tridactylites, Vulpia myuros, Conyza canadensis, Sagina apetala and Erigeron acer is a feature of the rail sides in this area.

After passing under the Morfa road bridge one cannot help noticing the yellow show in July of Hieracium along the disused railway sidings behind Morfa School, SS517991, perhaps the largest and densest stand in the county. Most specimens have been provisionally determined as Hieracium scabrisetum by Jim Bevan. The Welsh distribution map for the species contains a large number of pre-1930 records (Ellis, 1983). It is likely that the species is overlooked these days. Visits to the coal-mining areas of northern Glamorgan by JB & GH in the late 1980's showed it to be one of the commoner hawkweeds. Perhaps its presence in Llanelli is related to the transport of coal or railway ballast. It is known from Port Talbot another coastal industrial area (Glam.). Under a good microscope a key feature of H. scabrisetum is the presence of stellate hairs on both surfaces of the cauline leaves.

A purple clump of flowers spotted from the train among the Hieracium in 1991 proved to be Salvia verticillata, SS516991, first recorded in 1912 at Kidwelly (Hamer, 1912). The species was seen flowering at the same time in 1991 along the main London line near Bon-y-maen in the Lower Swansea Valley, SS671960 (Glam.).

Llanelli station, SS507994, has a typical selection of the county's railway spring flowers - Erophila verna, Arabidopsis thaliana, Saxifraga tridactylites. In summer Diplotaxis tenuifolia and Orobanche minor ssp. minor grow in the gravelled flower-bed among much Hirschfeldia incana.

In 1990 a 45 minute break between the Central and West Wales trains allowed the discovery of a little-explored area to the SW of the station between the North Dock and Machynys areas. A colony of Lamium amplexicaule was found thriving near an old scrap-metal works, SS503989. It is a rarely occurring species in Carms. but was recorded in the Felinfoel area of Llanelli as long ago as 1845 by James Motley (May, 1967). Other labiates among nearby Lamium purpureum were Stachys arvensis and Ballota nigra. Orobanche minor flowered well on recolonised waste mounds, SS503989. Within a few months of recording these industrial wasteland species the whole site was levelled for development.

Whereas the 1970's and 80's in Carmarthenshire saw large areas of agricultural land converted to rye-grass lawns resulting in butter mountains and milk quota problems for the local farmers, the 1990's have started with the clearing of urban wasteland near railways for developing or landscaping to lawns, with a similar decline in species diversity, at least in the areas not converted to an aquatic environment.

In disturbed ground near the seashore here, SS5098, adjoining a new road development, a small scrappy-looking grass has turned out to be Festuca rubra ssp. junceae (det. A.K. Al-Bermani & Prof. C.A. Stace), a first county record for this subspecies, but which undoubtedly occurs elsewhere around the coast. Returning full circle from this coastal industrial site takes one across recolonised bare ground where vicious Vicia cracca sometimes dominates with large bright blue flowers, SS506988. Coronilla varia can be admired in flower on a railway wall near the level-crossing on the east side of the station, SS508993.

Shadows of the BSBI Monitoring Scheme are passed through in SS49Z with blue stands of Cichorium intybus between Llanelli Beach and the Sandy Water Park, SS497999 (also in SN4900). The latter is a former steel-works site, now landscaped over, and contains Azolla filiculoides, Isolepis setacea and Schoenoplectus tabernaemontani around the lake, SN4900. The western end has a rich flora colonising rubble and clinker including a dominant stand of Melilotus alba with plants of Viola x wittrochiana (reverting to plants resembling Viola tricolor), Poa compressa, Chenopodium ficifolium and C. polyspermum, SN4800. Many plants of Hieracium vagum (det. J. Bevan) were found in 1991 on unimproved grassy wasteland in a corner of the park close to the railway line, SN497000.

The power-station at Burry Port has been replaced by nearby experimental wind-power generators. Carex spicata (conf. A.O.Chater) has been found in damp ground nearby, SN455007. The footpath to Pwll, which leads off from the level-crossing near here, has a large stand of Equisetum palustre, SN453008.

The approaches to Burry Port station have yielded several plants over the years. One spike of Anacamptis pyramidalis was spotted from the train as it slowed down for the station in June 1990, SN447007. In a similar manner, in August, the wall opposite was yellow with a plant recalling Picris hieracioides. Examination showed it to be Hieracium rigens (det. J. Bevan), SN449008. The wasteland to the SE of the station is coloured with large stands of Lathyrus latifolius, L. sylvestris and Pastinaca sativa, SN449007. This was once the sidings for the now demolished coal-fired power station. In spring Cerastium semidecandrum is prevalent between the old sleepers. Sanguisorba officinalis grows near a drainage channel, SN448007, and Inula conyzia occurs on a nearby wall, SN447007. 1991 saw the clearance of this area resulting in a considerable reduction in its botanical diversity.

A short distance SW from the station one reaches the sand-dunes to the west of Burry Port harbour where Silene conica can be found in small blow-outs where there is little competition; the moss, Brachythecium albicans (det. A. Orange) being a common associate, SN443002. West of the station garden throw-

outs feature along the line including Rheum rhabarbarum sometimes seen in full flower, SN440007.

A young conifer plantation on Mynydd Penbre was devastated by fire in 1976 with the trees left as burnt skeletons, but the following spring Hyacinthoides non-scripta covered the hillside blue, the bulbs obviously surviving the fire, SN4201 & 4202. The area has been mostly replanted with larch, but in places has reverted to dense heathy slopes of tall Ulex europaea. Yellow has now replaced blue in spring.

The Kidwelly Flats have yielded little from the train apart from being a rich area for moles and their hills starting with the greens of the Ashburnham golf course, but decreasing as the salt-marsh zones are reached on the approaches to Kidwelly. The "Banc-y-Lord" snakes out towards Pembrey Forest and can be traced from the train by the scattered line of windswept Crataegus monogyna, SN4004 to 3904.

Kidwelly railway station these days has five willows including Salix cinerea x S. viminalis and Salix caprea x S. viminalis (det. R.D. Meikle), SN400065. Fumaria capreolata appears in the flower bed after soil disturbance caused by replanting. Here one is between the estuaries of the Gwendraeth Fawr and Fach and in the adjoining salt-marsh, near the confluence of the rivers, Salicornia pusilla, S. ramosissima and S. dolichostachya, recorded by Hamer in 1912 (B.E.C. Rep. for 1912 (1913), 3, 216), still survive, SN3905 & 3906. Last year Hordeum jubatum was found nearby growing on the canal towpath, SN397061.

Heading westwards, a small salt-marsh zone which borders the rail track on the north side of the Gwendraeth estuary, has Apium graveolens growing under the railway fence, SN390068, but the year-long feature here is the conspicuous tufts of Juncus acutus among Juncus maritimus, SN3906. These rushes were noted over 300 years ago from this area by the Rev. John Ray in 1662 (Lankester, 1846; Raven, 1950).

Carmarthenshire has little coastal headland in proportion to the length of its coast. The train rounds the first at St. Ishmael's. The sheep-grazed slopes to the south-east contain Myosotis discolor, SN369079, with Geranium columbinum, SN368076 and G. pyrenaicum SN374076 in the lanes below. Lathyrus sylvestris is a feature of the dunes to the NW of the picturesque old church, SN3608.

Euphorbia amygdaloides was rediscovered for the area in 1988, SN3608. It is only visible from a train and it needed a few passes to be sure. Rounding the headland, with superb views across to Caldey Island and Laugharne, one starts a journey inland up the east side of the longest river to flow only in Wales. The River Towy (Afon Tywi) has a small area of developing dune at its estuary, to the south of Ferryside, between the Undercliff Hotel and the "Red Rock", SN362094. It is an ideal place for exploration with Bromus hordeaceus ssp. thominei and B. x pseudothominei (both det. P.J.O. Trist). The coastal headland viewed across the estuary and surmounted by Llanstephan castle has B. hordeaceus ssp. ferronii (det. P.J.O. Trist), SN348099.

Ferryside station and approaches have yielded many records and still new species appear as weeds in the station-side flower beds after planting. The platform, SN366104, contains a standard set of small spring crucifers, and Soleirolia soleiroliae comes and goes with herbicide spraying. Cochlearia danica occurs further down the line, SN364101. Garden escapes abound in roadside gutters and woods in and around the village, including in 1991 Arum italicum, SN364098, Tellima grandiflora, SN365096, Euphorbia amygdaloides ssp. robbiae, SN365096, Cotoneaster horizontalis, SN365094, Brachyglottis "Sunshine" (Senecio Dunedin hybrid "Sunshine"), SN365095, Oxalis articulata, SN365103 and Lamium galeobdolon ssp. argentatum (Galeobdolon argentatum), SN365094 & 376111, a garden throw-out which is readily establishing itself in Carmarthenshire.

The small dune north of the station has Anchusa arvensis, Anacamptis pyramidalis, Centaurea pulchellum and Orobancha hederaceae (all SN367106) with Listera ovata under dense scrub on the dune, SN368108. The rabbit-grazed northern tip has Bromus hordeaceus ssp. thominei again (det. P.J.O.T.), SN368108, with occasional Atriplex littoralis. The railway track has Conium

maculatum, SN367106, and Coincya monensis ssp. recurvata (Rhynchosinapis cheiranthos), SN369108, Chenopodium ficifolium and a large stand of Centaurea scabiosa, SN369109. Mudflats of the north beach are being colonised by enlarging "discs" of Spartina anglica, SN368116, but few have joined up yet. Juncus ambiguus was first found in Carms. on the adjoining shoreline close to the railway line in 1986 (det. Prof. C.A. Stace), SN370119. Avocets were a bonus here one year, seen from the train, feeding at the edge of a retreating tide.

In late spring a small river-meadow pool at Morfa Uchaf at the north end of the beach, SN371119, has Zannichellia palustris in abundance with Ranunculus baudotii, and edged with Ranunculus omniophyllus. The muddy river banks are white with Cochlearia anglica, SN31R, 31W. Fleeting glimpses down onto the heron-stocked river between railway cuttings green with Polypodium interjectum, SN31W, 41C&D bring one to the deferred, now channelled, estuary of the River Pibwr, SN4017, on the outskirts of Carmarthen.

River meadows between here and Carmarthen Railway Junction have Hordeum secalinus, SN407190, and Oenanthe lachenalii, SN408189, with much Carex riparia. The sedge is dominant with Carex rostrata in what is known locally as "Tenby Lake", inside the triangle of lines at the junction, SN407191. Utricularia minor has been recorded in the small area of standing water remaining (I.K.Morgan). Small Cotoneaster shrubs remain elusive until autumn when red berries give them away. Cotoneaster horizontalis and C. simonsii (det. J. Fryer) were originally detected from the train in this way, approaching the station, SN410195. In certain years, Saxifraga tridactylites going over forms a red band on the station platforms, SN412196, making it visible from the A48 Dual Carriageway some distance away.

The waste ground around the station continues to reveal new plants. Briza maxima was a first county record in 1989 opposite the station entrance, SN412197. Filago minima was a surprise in abundance with Trifolium dubium and Cochlearia danica near the disused bailey bridge road with the garden escape Thalictrum minus in the adjoining hedgebank, SN412197. Closer to the river some of these plants grow mixed with more aquatic species including Ranunculus sceleratus and Rorippa palustris. In 1991 the whole site was destroyed within one week by the building of a chipping-surfaced coach park which is rarely occupied. Nearby tidal drainage ditches close to the railway line offer Rumex obtusifolius var. uliginosus (det. J.R. Akeroyd; RNG), SN410196. Allium ursinum and Hyacinthoides non-scripta grow on the tidal riverbank below the buttress of Carmarthen Bridge, probably arriving with flood water, SN414198.

Carmarthen station forms a cusp on the line west to Pembrokeshire and as the train reverses across the White Bridge near the junction, one passes river meadows formerly with Oenanthe fistulosa, the habitat now destroyed by the channelling of Tawelan Brook and the building of a trackway over the site, SN403194. Westwards, Carex paniculata is common in alder carr near the line, SN3919, and the trackside houses Lathyrus sylvestris at Llanllwch village, SN382189. Over Llanllwch Bog (Gors Goch) there are glimpses of Osmunda regalis and Myrica gale, a fine orange-red as is most of the site in winter, SN3618.

Remembering an old railway halt at Sarnau, SN336186, it was sufficient to stand near the adjoining level-crossing and gaze down on Erophila verna. A few plants of Cerastium tomentosum allow one to detect the narrow overgrown platform of the old St. Clears station; Erigeron acer occurs at the adjoining level-crossing, SN283173.

Whitland is where the line branches south to Tenby and Pembroke Dock. Valerianella locusta grows on railway chippings, SN198165. The poor flora of this well-maintained station is compensated by the richer flora of the disused railway sidings in the fork of the lines. Hieracium salticola (det. J. Bevan) grows here in the more open grassy areas between the willow scrub, SN191166. Shortly afterwards the Tenby line enters Pembs., but the Fishguard/Milford Haven line bestraddles the Carms./Pembs. border and the River Taf. Lepidium heterophyllum is prominent at the junction of the disused branch to Cardigan near Llanfallteg West, SN166184, with Potentilla palustris in a nearby drainage ditch, SN168183.

In the far west the county has a curious boundary in the shape of a spurred

foot with only the northern platform of Clynderwen station in Carms. (VC44), along the arch of the foot, SN11E & J tetrads. Future recorders beware; the latest maps have broadened the ankle near Llanfallteg due to administrative boundary changes. (See O.S. Sheet 158 (1:50,000) 1982 edn reprinted with selected changes... 1989). Veronica hederifolia ssp. hederifolia and Urtica urens are on disturbed banks at the end of the platform, SN120192, while in railway sidings to the west Trifolium campestre is abundant with Lepidium heterophyllum, SN117193. A minor road over the railway has the sickly scent of Cochlearia officinalis along the hedgebanks on warm early summer days, SN113195. Finally SW of Llandre-Egremont the railway crosses the Eastern Cleddau to Pembs. with a brief view to the south of the steep woods, dense with Luzula sylvatica, above the Eastern Cleddau river, SN086187.

But trains journeys in Carms. don't end here; there is the alternative line. The Central Wales or Heart of Wales line stretches north-eastwards through the county from Trostre near Llanelli to the [Western] Sugar Loaf tunnel between Llandovery and Llanwrtyd Wells. Arabidopsis thaliana has been recorded from the train from nearly all the stations along this line with a few records of Erophila verna. The first halt at Bynea has much Lamium album on grassy waste ground ENE of the platform, SS550991. Fine views appear after this across the broad lower reaches of the River Loughor up-channel of its constriction at the Loughor bridges. Schoenoplectus tabernaemontani is an occasional plant here in the ferruginous tidal creeks, SS5599. Thlaspi arvense was found on rubbish dumped in an old siding near Llangennech station, SN561011. Tidal marshes close to the M4 have Althaea officinalis, SN572021, Carex distans, SN576021, Ruppia maritima, SN577024, and Scirpus maritimus, SN5702, while the drier areas around the old mine workings have fine stands of Echium vulgare, SN580031, Hieracium sabaudum (H. perpropinquum) and H. scabrisetum (det. J. Bevan), SN5702. As yet unidentified Hieracia occur on station walls at Llandybie, SN6215, and Llanwrda, SN7131.

After Pontardulais the train travels through the picturesque rural Loughor valley, but on the Glamorgan side, re-entering Carms. at Pantyffynnon station with its increasing Cytisus scoparius and plentiful Chelidonium majus, SN621107. Hieracium sabaudum grows on nearby coal tips, SN619111. Lepidium sativum features along the line to Ammanford, SN627115, with Impatiens parviflora and Rorippa austriaca on the shingle of the nearby River Amman (Afon Aman), SN631119, the latter spreading down the River Loughor.

Ammanford is uneventful from the train apart from garden escapes such as Lunaria annua, SN6212. The line to Llandeilo crosses several river bridges, below which Ranunculus penicillatus has been spotted, such as in the Afon Marlais, north of Llandybie, SN619159. A feature of the wooded banks of the Afon Cennen is Saxifraga granulata which was seen around crumbling soil banks of the river SSW of Ffairfach, SN627206, a village which at one time could boast two railway stations.

From Llandeilo the railway follows the Towy valley with many oxbows featuring Glyceria maxima. Carex disticha (det. A.O.Chater) was found in rank vegetation behind shingle banks on a sharp bend in the Towy, SN637229. Llangadog station brings one within walking distance of Trollius europaeus, discovered in the wooded gorge of the Afon Sawdde, SN719253, with much Equisetum sylvaticum in a nearby forestry picnic area, SN717255. Ranunculus aquatilis floats in the shallows of the River Towy at Llangadog SN695284. Llanwrda village has the garden escape Saxifraga x arendsii group (det. R.J. Gornall) on a grassy bank, SN7131. The group is common in Carmarthenshire gardens.

Due to a double breakdown on the line one evening, it was possible to record the garden escapes around Llandovery station in the twilight while waiting for a relief engine from Swansea. Centaurea montana SN7623545, and Meconopsis cambrica, SN765348, were new for the area. A memorable evening that, with a taxi provided from Swansea to Cardiff in order to get valuable specimens into the plant press before deterioration; disembarking at 1.00am.

The main visit that day was to the remote last railway halt in Carms. at Cynghordy. Even here there is evidence of reclamation with the old brickworks area recently bulldozed, a former site for Carex divulsa (immature, det. R.W. David & A.O. Chater) collected by Mrs I.M. Vaughan in 1976, SN795405, but not refound in 1991 (R.D. Pryce and G.H.). The hedgebanks leading down to the

village have Montia sibirica, SN811411, and Briza media, SN802406, the former originally confined to the Afon Bran but has now been swept downstream into the Towy as far west, to date, as Nantgaredig (I.K.M.), SN507201.

A cutting before the Cynghordy viaduct has planted Nothofagus procera, SN807417. There is good walking country along the Afon Bran where one can bear off up into the Lwynor valley. Carex hostiana, Senecio sylvaticus, SN8142, and recently Viola lutea (GH & RDP), SN819427, were found on the valley slopes. In the valley of the Gwyddon which leads up to the Sugar Loaf, Pinguicula vulgaris and Drosera rotundifolia are a feature of wet flushes near rocky outcrops, SN827430. Finally, as the train curves round the tunnel at the county boundary one can reflect on the fine population of Phegopteris connectilis above, SN839435.

Acknowledgments

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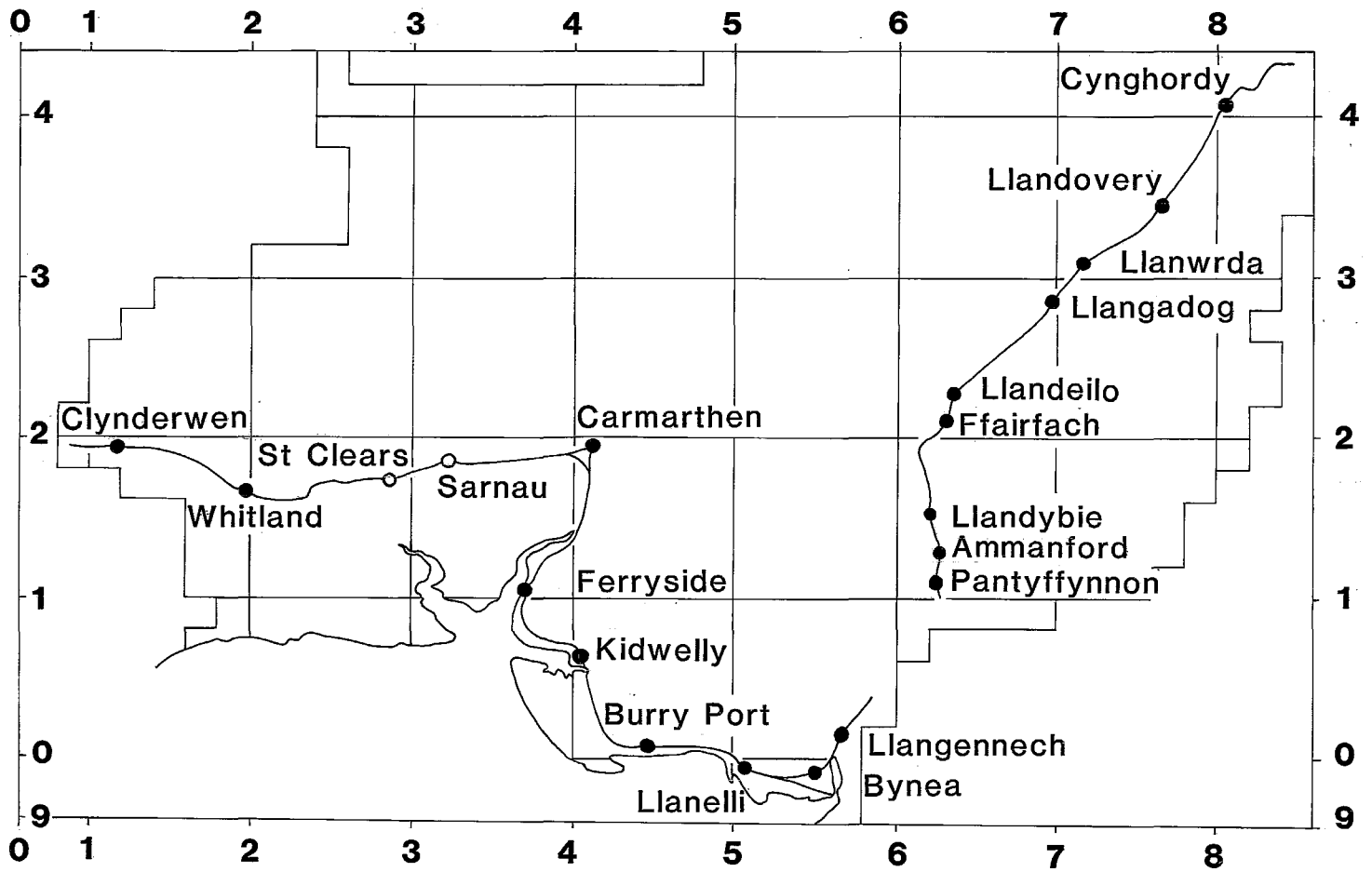
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G. Hutchinson.



Map of a southern portion of Carms. (v.c. 44) to show passenger rail network. (Boundary corresponds to part-tetrad boundary).

- Station or halt in use
- Station or halt closed

THE "LIGHTHOUSE ROCK SEA-LAVENDER" IDENTIFIED FROM BARDSEY ISLAND (YNYS ENLLI)

Rock Sea-lavender (Limonium binervosum agg.) has been known from Bardsey Island (Caerns. V.C.49) since 1955, when it was observed "beneath Pen Cristin, on cliff" by W.H.N. (Obs.ms), followed by the UCNW (Bangor) expedition of July 1956 with the report "rocks east coast. Rare". (Agnew et al. 1957). A sea-cliff colony has been seen on several occasions since: in 1957 (E. Williams, Obs.ms.); between 1953 and 1965 (A. Vaughan Jones ms.); in 1977 (W.E. Jones, pers. comm.); in 1983 (L.J. Larsen, pers.comm.); in 1986 (Prosser et al. 1987; Atkinson 1987).

We have long wanted to know how the Bardsey plants compare with other colonies within this Limonium binervosum complex of species, several of which occur on mainland Llŷn, as well as the north Caerns. coast and on Anglesey (Ellis 1983; Roberts 1982). In a recent study of this group by Martin Ingrouille (1982; Ingrouille & Stace 1986) a number of segregate "microspecies" were distinguished under this "umbrella" name L. binervosum agg. Here, all the colonies on mainland Llŷn that he investigated were named as L. procerum subspecies procerum var. procerum: a variant which is also found on the Great Orme and on Anglesey (map 1) as well as further south, both in Wales (Pembs., Glam.) and in south-west England (and a single Sussex site). I had surmised that the Bardsey plants would belong to this same category, and that the interest lay (cf. Ingrouille, pers. comm. c. 1981) in whether they were more nearly related to the south-coast mainland Llŷn colonies or to that on the north coast, or even to the Anglesey ones (cf. Conolly, Brown & Ratcliffe 1991). But I was wrong.

Recently Martin Ingrouille has studied both the original specimens collected on the UCNW expedition of July 7-14, 1956 by K.A. Kershaw and A.D.Q. Agnew: (UCNW No.23259): "Sea Cliffs. (between 2 Dolerite intrusions)", and, most important, also material gathered by Peter Hope Jones (with the agreement and permission of the Bardsey Scientific Committee) in 1990, offsets of which were successfully cultivated at Leicester University Botany Department for chromosome counting. Martin Ingrouille now reports (pers. comm. 1991) that both these collections belong, not to L. procerum, but to a related taxon: L. britannicum subspecies celticum var. pharense Ingrouille. L. britannicum is a species newly described by Ingrouille; subspecies celticum is known only from Anglesey, the west Lancs coast and Hilbre Island; other subspecies come from Pembs., Devon & Cornwall. Only the two Anglesey colonies of subsp. celticum were named as var. pharense (see map 1): South Stack above the lighthouse (hence the varietal name) and near Lligwy Bay (Ingrouille 1982 p.151, map p.187; Ingrouille & Stace 1986 map p.215). L. britannicum is related to L. procerum (morphologically) "from which it may have arisen several times" (Ingrouille, 1982 p.152); moreover the subspecies celticum, in at least one respect, is closer to L. procerum than are the other subspecies of L. britannicum. But there are consistent distinctions nevertheless.

So, the Rock Sea-lavender on Bardsey is the first known occurrence for the var. pharense outside of Anglesey; and indeed, as no representative of the subspecies celticum nor any of the other subspecies of L. britannicum has been recognized from Caernarvonshire, it becomes the first record for V.C.49 (Caerns.) of the (microspecies) L. britannicum.

Martin Ingrouille in his thesis (1982, p152) also makes the comment that "var. pharense (of subsp. celticum) is male sterile in common with other L. binervosum agg. variants on Anglesey". This also applies to the Gt. Orme plants and to one of the Llŷn mainland colonies (of L. procerum); that at Porth Gwylan - the only site on the north Llŷn coast (Ingrouille 1982 Table 6, p.74-75). The three south coast Llŷn colonies Ingrouille studied differ in not being male sterile.

A further outcome of having live material brought back by Peter Hope Jones, and its subsequent cultivation at Leicester, is that a chromosome count has been successfully achieved by John Bailey (and Johnny Wentworth) as part of the project for the Cytological Catalogue of the British and Irish Flora centred here at Leicester. They give the 2n number as 35. This agrees with the counts obtained by Ingrouille from the South Stack var. pharense (1982, p.50).

Ingrouille also obtained chromosome counts from three of the four mainland Llŷn colonies of L. procerum that he studied (Porth Gwylan, St Mary's Well, Trwyn yr Wylfa and Porth Ysgo). Although there was some variation, over 80% of his counts gave the same number $2n=35$. Such odd numbers reflect the peculiar nature of reproduction in many Sea-lavenders, by which seed is set without recourse to any pollen contribution: all progeny repeat the maternal parental make-up. Hence colonies are clonal and any genetic aberrations are retained. In time, the accumulation of tiny natural changes leads to local population divergence: that is incipient speciation.

Whether the Bardsey Limonium has arisen from the Llŷn mainland "stock" of Limonium binervosum independently, or been brought to Bardsey from Anglesey plants of L. britannicum as seed carried by some bird, one can only speculate. But the island isolation would reduce the risk of new arrivals with their potentiality to out-compete.

A drawing by Kim Atkinson of the Bardsey Rock Sea-lavender can be seen in the Report for 1986 of the Bardsey Bird and Field Observatory (1987).

I have added "Lighthouse" to the usual English name for the aggregate species L. binervosum, but perhaps "Celtic Lighthouse Rock Sea-lavender" would be even more accurate! At least this variant is confined to Welsh lighthouse-lit islands.

Acknowledgement and thanks are given to Martin Ingrouille for the identifications and for discussion to Kim Atkinson for locating and Peter Hope Jones for collecting the fresh material, to John Bailey for the chromosome count and to Sue Ogden for assistance with the map.

Addendum On the map the Anglesey entry for SH68 (Ellis 1983) was based on Griffith (1895) "Penmon"; it has not, apparently been seen recently. However, Nigel Brown (pers. comm., 1991) reports seeing a "Rock Sea-lavender" (presumably some form of L. binervosum) on a cliff on Puffin Island (Ynys Seriol). One cannot speculate as to which taxon it might belong.

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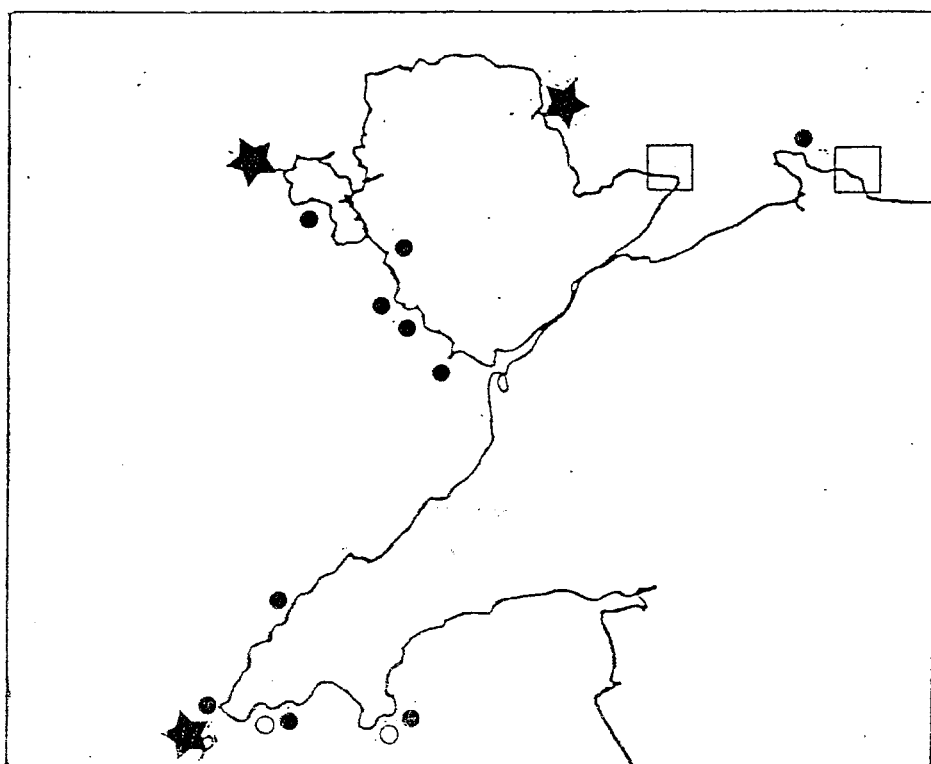
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Ann Conolly, 25 Brocks Hill Drive, Oadby, Leicester. LE2 5RE. Jan 1992.



Limonium binervosum agg.
in North Wales

L. procerum ssp. procerum
var. procerum

- det. MJI
- APC
- Ellis 1983

L. britannicum ssp. celticum
var. pharense

- ★ det. MJI

Map 1

RECORDING IN VC46 DURING 1990 AND 1991

General tetrad recording towards a new Flora of Cardiganshire has continued during the last two years, and there has also been a methodical attempt to sort out some of the more difficult groups. Several of these though remain very inscrutable, and recording of them has scarcely got beyond the stage of accumulating specimens and field notes. Elms have been collected throughout the county and, although many have been killed, plenty of mature trees of both wych and field elms survive in hedges and woods. Poplars have been collected, photographed and visited at different times of year. The Prunus spinosa/domestica complex has also been sampled. Sparganium erectum is proving very difficult to identify to subspecies, partly because so many colonies fail to produce good fruit, and partly because what fruits are produced seem not to fit the descriptions (and anyway fall almost as soon as they are ripe enough to try and identify). Festuca remains especially intractable.

On the credit side, all the known colonies of naturalised Aster were collected in the autumn of 1990. Thanks to P.F. Yeo's determinations, it is now clear that A. lanceolatus, A. x salignus, A. novi-belgii and plants suggesting A. concinnus occur in VC46, all on estuarine banks or within 3km of the sea. Coastal Atriplex was also investigated in 1990 and A. glabriuscula was found, usually with A. prostrata, on virtually every major sea beach in the county, but it quite fails to "turn the corner" into either the Dyfi or the Teifi estuaries, where A. prostrata remains an abundant driftline species. Samples of roses were collected and sent to G.G. Graham in 1991, the most interesting results being the finding of a single bush of R. obtusifolia on a roadside verge 400m south of Glanrheidol, Capel Bangor, SN663789, new for VC46 and 50km or more from any of its other known sites in Wales. A hunt for R. stylosa, not yet recorded for the VC, in the Mwldan valley north of Cardigan, SN197486, produced only the hybrid R. canina x stylosa. Another hybrid involving a species (R. mollis) not yet found in the county is R. sherardii x mollis, identified from six sites inland in the north. R. caesia x canina was found near Gwarfelin, Penparcau, SN595794, in a roadside hedge, and near Llanddeiniol, SN565722. R. rugosa, planted on the back of Tan-y-bwlch Beach, Aberystwyth, SN579806, about 1970 is now self-sown and well-naturalised in the area. It is perhaps worth mentioning that R. rubiginosa, unknown as a native in the county, was in 1985 planted on reconstructed roadside slopes by the A487(T) at Llanfarian, SN590777.

Marsh orchids have received a lot of attention, D.C. Lang visiting selected sites as part of a Welsh tour in 1990 and F. Horsman doing a detailed census of the Ynys-las populations in 1991 (supported by a grant from the BSBI's Welch Bequest). FH counted 3859 spikes of Dactylorhiza majalis subsp. cambrensis in the Ynys-las area; the main colony contained 2806 spikes, as opposed to c.1500 seen there by F.H. in 1988. This is clearly the most important site there is for this British endemic and must be considered a high responsibility for Ceredigion in conservation terms. FH discovered this subspecies in new sites near Cardigan and New Quay. He also found D. purpurella subsp. majaliformis at both Ynys-las and New Quay, and var. maculosa at New Quay, both new to Wales. Six hybrids have been added to the VC list. A.P. Fowles found D. fuchsii x praetermissa in 1989 in a pasture above Plas Cwmcynefelin, SN603832, confirmed in the field by DCL in 1990. D. purpurella x majalis subsp. cambrensis was found by DCL and APF at Ynys-las in 1990, and again by FH in 1991. A single plant at Ynys-las was suspected of being D. incarnata subsp. coccinea x majalis subsp. cambrensis by DCL, and FH found a definite plant of this the following year; it is apparently new to science. Another hybrid new to science found by FH at Ynys-las was D. praetermissa x majalis subsp. cambrensis, again as a single plant. His other novelties for the VC were D. fuchsii x purpurella at Ynys-las, and D. maculata subsp. ericetorum x incarnata subsp. incarnata in one of the Mwldan fens near Cardigan.

The Scarce Species Project was a valuable stimulus to censussing and finding new sites for a number of species. Asplenium septentrionale has increased enormously in its two main localities at Cwmsymlog, SN698838, and Cwmystwyth, SN784742, in recent decades, with a total of 1238 clumps counted in 1991 at the former and 342 clumps around the village and leadmine at the latter. There is also a small colony of 18 clumps at the Ceunant mine, Cwmerfyn, SN707827. All the colonies are on walls except for 72 clumps which occur on rocks at the

Cwmystwyth mine and a few on an opencast cut at Cwmsymlog; all or most of these rock faces have been broken or disturbed by mining operations in the past so even they cannot be considered entirely natural. The fate of Rhynchospora fusca in Ceredigion is much less happy. It seems to have become extinct on Cors Caron within the last 20 years. On Cors Fochno (Borth Bog) it was known in at least two areas, and at one of these where it was seen c.1965 by P.D. Moore it is gone, or lost. At the other, where 694 spikes were seen by APF and A.D. Fox in 1978 it declined to 26 spikes the following year, 6 in 1983 and 1985 (ADF), 12 in 1986 (P. Burnham) and finally to one in 1991 (A.D.Q. Agnew, APF and AOC). The decline is clearly due to overgrowth of the old peat cuttings where it grows, by Phragmites, Myrica and other vegetation, and the CCW warden of the adjacent NNR, M. Bailey, is attempting to improve conditions for the species in the cutting concerned. The second and third VC records for Listera cordata were made, by A. Jones and AOC respectively, on the extensive moorland SE of Llyn Rhuddnant and NE of Cwmystwyth, and AOC found new sites for Hammarbya paludosa below Graig Ddu, Cwmystwyth, SN811739. Andromeda polifolia was found in numerous sites on the moorlands and peat hags in this area (and has coincidentally now been excluded from the Project as it is too widespread).

After many years of searching, and several unconfirmed reports of sightings, AOC refound Melittis melissophyllum in the Coed Cwm Du Dyfed Wildlife Trust Reserve, Cwm Cou, in 1991, clearly in the place where Oldham and Lloyd discovered it in 1924 and where it was last seen, by Whellan, in 1941. Three flowering and five non-flowering plants were found, in hawthorn, blackthorn and bramble scrub in Quercus petraea woodland. Another rediscovery was Ranunculus sardous, in abundance in a sandy pasture at Gwbert, SN163498; apart from an unlocalised and perhaps doubtful 1955 record from SN46, it has apparently not been recorded from the VC since well before 1930. Callitriche brutia had only once been recorded in the VC, at Llyn Teifi by Burkill and Willis in 1894 (as C. intermedia var. pedunculata), but it was found in vast abundance in a seasonally dry pond at Glanrheidol, SN662793, in 1990 and equally abundant at a similar pond at Pendre, Hafod, SN762734, in 1991.

Isoetes echinospora continues to spread. Llyn Berwyn, SN744571, where Salter recorded one or other Isoetes species before 1935, had become virtually devoid of vegetation by 1984, presumably because of acidification, but liming has transformed it in the last few years and I. echinospora now occurs in vast abundance around at least half the lake. One of the gravel pits at Glanrhydty-noeth, Capel Bangor, SN665785, dug in 1968, is full of it (along with abundant Elatine hexandra); at 40m asl this is an unusually lowland site for the species. The Cwm Rheidol Reservoir, SN695795, at 50m asl, was drained for a time in the summer of 1991 and about two acres of the mud was green with a dense, even-aged population of young I. echinospora, a few plants of which had produced ripening megaspores by the end of July. Another scarce species that may be increasing is Orobanche rapum-genistae, now known from six sites after having been found in two DWT Reserves, by L. Gander et al. at Pant Da, SN671788, and M.E. Baines by the Pentood Marshes, on a scrub-covered mound, SN183454, in 1991. AOC and D. Glyn Jones also found it in gorse scrub on river shingle at Glanyrafon on the Rheidol, SN617806, in 1990. Thlaspi caerulescens, however, seems to have declined and may even be extinct in VC46. It was last seen on the Ystwyth by J.P. Savidge at Llanilar, SN6275, in about 1987, and by AOC at Llanafan, SN682712, in 1979, and on leadmine spoil below Cwmerfyn, SN685830, by JPS in about 1982. Later leadmine reports by others may well have been in fact of rosettes of Lepidium heterophyllum which, if glabrous as they occasionally are, can easily be confused with Thlaspi. As the Thlaspi is an indicator of heavy metal pollution, perhaps we should not really regret its disappearance. The ever-rewarding arable fields at Mwnt were visited by AOC and D.L. Kelly in July 1991. Silene gallica was in great abundance, along with Valerianella dentata, Misopates orontium, Polygonum rurivagum and Fumaria capreolata. The Valerianella was also at the margin of a set-aside field at Clynyrnys, Gwbert. V. carinata appeared at the Aberystwyth Station yard in 1991.

Although the Gyfarllwyd Falls on the Rheidol, SN742775, are the focal point of the famous view from the terrace outside the Hafod Arms Hotel at Devil's Bridge, they seem rarely to have been visited by botanists. In June 1990 AOC was surprised to find there, along with Sedum forsterianum and Meconopsis cambrica, a large colony of Euphorbia amygdaloides, only the second inland

site for this species in the VC. As another notable extension of range, Festuca vivipara was found in 1990 along the east side of Llyn Conach, SN741933, about 7km NW of its previously known distribution area on Pumlumon.

The most surprising new VC record has been Rorippa islandica on rocks by the Teifi at Cenarth, SN268415, the first definite Welsh record and unusual in that it is normally a plant of muddy pond-margins and pastures. It was confirmed by T.C.G. Rich and B. Jonsell. (A few metres away the extension of a public car-parking area has exterminated Verbena officinalis, which now occurs only at Craigypenrhyn, Tre'r-ddol, SN654927, at the opposite end of the county where AOC refound it in 1991). Other first records for VC46 included Arenaria serpyllifolia subsp. macrocarpa detected on the Ynys-las dunes, SN608938, by J.R. Akeroyd on a BSBI Field Meeting in July 1990. On the same meeting TCGR noticed Sonchus arvensis var. glaber, and made the second record for Juncus ambiguus in the car park at the S end of the dunes, SN606926. (AOC made the third record by the stream NE of Mwnt church, SN196521, in 1991). Elymus pycnanthus x repens, determined by T.A. Cope, was found by the Golf Course compost heap. Arctium pubens, confirmed by F.H. Perring, was found by AOC at Ystrad Teilo caravan park, Llanrhystud, SN546695, in 1991. The fleshy-leaved Rumex acetosa subsp. biformis was found on the sea cliffs 1km SW of New Quay, SN373595, and 4km SW of Aberaeron, SN426607, and is probably in other sites on the coast. Equisetum x litorale should have been discovered long ago, and AOC recorded it both on the disused railway track below Pendinas, Aberystwyth, SN581801, and in disturbed pasture at Llwyn-llwyd, Penparc, SN201488, in 1991.

A considerable number of records of naturalised and alien species have been made in these two years. S.P. Chambers investigated the scrub slope below what used, from 1923 to 1942, to be J.H. Salter's garden above the Church Hall at Llanbadarn Fawr, SN598810, finding Geranium rotundifolium and Euphorbia hyberna well-naturalised for the first time in the VC and many other species of interest. AOC and SPC found Veronica crista-galli here, its second VC record. (We hope to write a separate account of this very rich site for the Bulletin). SPC recorded Orobancha hederaceae in a garden nearby in 1989 (5 spikes) and 1990 (c.25 spikes), the only record for the N half of the VC. He also recorded a fine colony of Montia sibirica in a blackthorn thicket on the NE side of Pendinas, SN585808, in 1989, and AOC found it by the Nant Bran, SW of Pontsaeson, SN536625, in 1991. SPC's sighting of Malva neglecta on the Castle Grounds, Aberystwyth, SN579815, in 1991 seems to have been the first post-war record. AOC and W.M. Condry found Calystegia sepium subsp. roseata in quantity on the railway embankment at Ynys Edwin, Eglwys Fach, SN673962, and AOC later made a second record of it at Tresaith, SN279514. Oxalis exilis was found new to the VC in 1991 at Carrog, Llanddeiniol, SN562724, where it is abundant and in places dominant in the lawns (it was not planted there and arrived as a weed); it also occurs on pavements and in alleys, mixed with O. corniculata, at Adpar, SN306411. AOC also found O. stricta new for the VC by a track through rough pasture near Glanrheidol, SN663792, an odd site for the plant. AOC and C.D. Preston found Pernettya mucronata well-naturalised on a bank at Furnace, SN685952, in April 1991.

For many years AOC had been monitoring the colony of Lysichiton americanus at Felin-cwm, Furnace, SN691947, where it is well-naturalised under alders after being planted there by WMC in 1955. The colony reached a peak of about 30 flowering plants and hundreds of seedlings in April 1991, but most had inexplicably vanished by the autumn. It transpired that a local conservationist had conscientiously extirpated it as it had seemed in danger of taking over that part of the valley. R.N. Stringer found it in a second site, at Ty-glyn, SN498598, in 1991. A second record of Hirschfeldia incana was made by AOC in 1990 by the road at the Penyrerhyd dunes, Gwbert, SN163486, and Brassica nigra, with which it has often been confused, was found, presumably native, in the brackish Rosehill Marsh further up the Teifi estuary, SN189454, as well as by the river at Llechryd, SN217436. Elodea nuttallii was found in abundance in the Teifi below Coedmor, SN191438, but inspection of the abundant and apparently increasing Elodea in the river around Henllan and below Lampeter in 1990 and 1991 showed it all to be E. canadensis. An unfamiliar shrub or small tree, dominated and regenerating freely over about an acre in the understorey of a Quercus petraea wood at Allt Fawr, E of Llanwnnen, SN543475, turned out to be Prunus serotina. It must have been naturalised there for some decades at least. The most naturalised-looking

Sempervivum tectorum I have seen was found growing with Cystopteris and Ceterach on a ruined mortared wall at Cwmsymlog leadmine in 1991. Polygonum campanulatum was found well-established in the completely wild, wooded gorge of the Afon Leri 1km N of Elerch, SN681875, in 1990; the only other colony known in the VC, at Llanafan, was destroyed about 1976. R.G. Woods found about 30 plants of Helleborus foetidus in 1989 on the spoil of the Cwm Rheidol leadmine, SN730782, where about 12 plants of it had been seen by J.E.G. Good in 1976; this is the only site where the species is now known to be naturalised.

Several unpublished earlier records have recently been caught up with. WMC found Lathyrus nissolia on the railway embankment at Ynys Edwin, SN6796 in 1968; by 1972 it was flowering along a 140m stretch but has not been seen since. This is the earliest record for the VC, the only other being on the disused railway at Cardigan in 1976-1979. A 1979 AOC specimen of Euphrasia from the RAE site, Aberporth, SN247525, was determined by A.J. Silverside as E. pseudokerneri, the second VC record. Galium uliginosum was recorded from one of the Mwldan fens north of Cardigan by W. Fojt in 1987 (Salter reports it from Cors Fochno and Cors Caron, but it seems never to have been seen at either of these sites by anyone else and the Mwldan fen may well be its only extant site). Also in 1987 P. Macpherson found a strange Agrostis in Llangwryfon old churchyard, SN597705, which defeated AOC but was determined by C.A. Stace as A. scabra, an alien very rarely recorded in Wales and whose presence in a closed churchyard is hard to explain. Realising rather late in the 1991 season that there were no localised records for Avena fatua in VC46, AOC recorded it from Gwbert (a set-aside field), SN168509, Cardigan (the verges of the new by-pass), SN188468, and Ffair-rhos (by a smallholding), SN743679. It is presumably quite widespread, at least in places where there is still arable cultivation. A. sativa also occurs as a casual in a number of sites. I am now on the track of A. strigosa, which was cultivated for fodder as recently as 1975, at Tal-y-bont, and which I believe still occurs as a casual in the south of the VC.

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CARMARTHENSHIRE FLORA PROJECT

RECORDING IN 1990

1990 was another year when further valuable progress was made towards the flora. As has now become customary, Dr. George Hutchinson (GH) has probably been most active and contributed the most records, both in the field and in the lab where he has been painstakingly determining an accumulation of dried material during the winter. Some recorders do not appear to have been as prolific this year, and this applies as much to me as to anyone - due principally to vastly increased commitment at work. However, if the 1989 Additional Records map is compared with that of 1990, I think that the extent of the ground covered has not substantially diminished and there are now only 15 tetrads wholly contained within the vice-county boundary with less than 100 species recorded (cf 33 last year).

NEW VICE-COUNTY RECORDS.

Several new vice-county records (ncrs) were made. Probably the most important was that of the *Orobancha maritima* (Carrot Broomrape) about 15 plants having been found by Ian Morgan (IKM) in June growing beside a track at Pembrey Burrows (21/414997). The voucher specimen he collected was identified by D.G. Hambler and subsequently reported in B.S.B.I. News.

The first substantiated record of *Acaena inermis* was made by RDP and IKM on river shingle at Carreg Sawdde Common, Llangadog (22/706277) in March 1987 but not determined as such until February 1991 by GH at the National Museum of Wales, Cardiff (NMW). A review of the *Sorbus latifolia* aggregate (Sell, 1989) has resulted in the specimen reported by Mrs. I.M. Vaughan (IMV) in May 1970 being redetermined as *S. croceocarpa* P.D. Sell *sp. nov.* The tree in question is in a hedgerow at Carreg Cennen House (22/653193) and has been noted several times by various recorders over the years, most recently by Nigel Stringer and Dic Davies (RNS & RD) in 1990. Another newly described taxon, *Aethusa cynapium* subsp. *cynapium* (Fool's Parsley) was identified by Annie-Mary Pell (AMP) from gardens at both Capel Hendre (22/594113) and Cross Hands (22/562128) and confirmed by Gwynn Ellis at NMW.

Several orchid hybrids and varieties new to the county were recorded by David Lang during his 1990 Welsh Itinerary. Accompanied by John Rees (JR), at the Pendine Ranges he found many plants of the Marsh Helleborine *Epipactis palustris* var. *ochroleuca* growing in abundance in the "Fen Orchid Slack" (22/294074) (but alas no Fen Orchids!) and also the hybrid marsh orchids *Dactylorhiza incarnata* x *D. praetermissa* and *D. fuchsii* x *D. praetermissa* west of the Witchett Pool at 22/281076. He also found the latter at Pembrey Burrows (21/430997), interestingly growing in the absence of *D. fuchsii*.

Rubus and *Hieracium* were not neglected and *H. lasiophyllum* was identified by Jim Bevan from material in NMW collected from dry rocks above Troed Rhiw Rhuddwen (22/7747) by IMV in 1972 and *H. lachenallii* was determined definitely for the first time in the vc from material collected by GH and RDP near Llanpumsaint (22/43A) in August 1988. Several local *Rubi* have been recently described (Newton and Porter, 1990) and the following are ncrs: *Rubus merlini*, Pont Gwydderig (22/786347), 5th August 1897, A. Ley; *R. gallofuscus*, Cwm Twrch (22/71), 7th July 1899, A. Ley and *R. biloensis*, Nant Gwennol (22/83), 28th July 1982, M. Porter.

The remaining ncrs were escapes or planted specimens and include *Reseda phyteuma* (Corn Mignonette): Sandy Water Park, Llanelli, 22/497007, RNS & RD; *Briza maxima* (Great Quaking Grass): Croes y ceiliog, 22/41E, GH; *Tellima grandiflora* (Fringe-cups): College Farm, Llangynog, 22/340170, GH and *Salix x rubens* nvar. *basfordeana* f. *basfordeana* (a hybrid willow): Gwendraeth bank, Kidwelly, 22/399069 and 22/40D, GH and f. *rubens*: Trostre, 21/522998, GH.

SECOND VICE-COUNTY RECORDS

A sedge specimen collected by JR and RDP in June 1989 from the E3 range at the MoD establishment at Pendine (22/3007) has been identified by Arthur Chater as *Carex acuta*, here at the extreme western edge of its range and previously only known in Carms. from Talley Lakes.

The *Allium* specimen in NMW collected in 1972 by IMV and Margaret Humphrey from waste ground at Llansteffan has recently been determined as *A. scorodoprasmum*. This should have been a ncr but the more recent collection of the species from Laugharne Burrows had already been reported (Pryce, 1987). Another NMW herbarium record is the specimen formerly identified as *Valerianella locusta* from Llangadog Station (22/700286) collected by (AMP) in June 1989 which has recently been redetermined as *V. carinata* (Keel-fruited Cornsalad) by GH.

Critical examination of still more NMW material, on this occasion by Chris Preston of BRC Monks Wood, has resulted in the separation of the pondweed *Potamogeton pusillus* from *Zannichellia palustris*, both mounted on the same sheet! They were collected by RNS and IKM from the Swan Pool Drain (22/40A) in August 1982 and is the 2nd post 1930 record for *P. pusillus*.

Hottonia palustris (Water Violet) was discovered in a pond near Cilycwm (22/746412) by James and Mary Iliff (J&MI) and is the first record since Brunker's of 1912.

Hybrid ferns also feature as 2nd vcrs. The hybrid buckler fern *Dryopteris carthusiana* x *D. dilatata* (*D. x deweveri*) was noted in June by IKM growing with a "huge population" of *D. carthusiana* (Narrow Buckler Fern) at Cors Farlais (22/678348). GH has identified the hybrid shield fern *Polystichum aculeatum* x *P. setiferum* (*P. x bicknellii*) from two of his recent collections. The first was from a hedgebank near Tavernspite (22/179123) in April 1987 and the second from a hedgebank near Trapp (22/654183) in August 1988.

One of GH's visits to Newcastle Emlyn castle (22/310407) produced the 2nd vcr of *Medicago arabica* (Spotted Medick), which was the first record since Hamer's from Trimsaran in 1912.

OTHER NOTABLE RECORDS

There were many records worthy of mention: the following are a small selection. Mary Williams has discovered a thriving population of *Paris quadrifolia* (Herb Paris) growing with *Mercurialis perennis* (Dog's Mercury) in a side-valley woodland near Bethlehem (22/62), only the third vcr away from the Carboniferous Limestone outcrop. J&MI recorded *Verbascum lychnitis* (White Mullein) growing on the north side of a lead mine site southwest of Rhandirmwyn (22/780435): the third vcr and first post 1970.

Another species of *Verbascum* was noted by IKM. He recorded three plants of *V. nigrum* (Black Mullein) at Glan Towy Farm (22/672248) in October. IKM also noted "one clump" of *Trifolium scabrum* (Rough Clover) on a track at Penrhynghwyn, Machynys (21/515973) and also *Asperula cynanchica*

(Squinancywort) growing commonly on the dry embankment of Banc y Lord at 22/405048. He also reported that the small colony of *Sorbus torminalis* (Wild Service Tree) at Cencoed Uchaf (22/478029) had produced abundant fruit in 1990 but that the second population on the facing slope of the valley at 22/479031 remained very spindly, growing through oak-birch scrub.

Julian Friese recorded two plants of *Osmunda regalis* (Royal Fern) south of Mynydd Figyn (22/589299, comm.IKM).

Notable species recorded by GH included *Kickxia elatine* (Sharp-leaved Fluellen), *Alopecurus myosuroides* (Black Grass) and *Chenopodium bonus-henricus* (Good King Henry) from disturbed ground near Ffynnoncyll, Whitland (22/209149) and one small clump of *Mercurialis annua* (Annual Mercury), the fifth vcr and first since 1968, growing with *Lamium album* (White Dead-nettle) and *C.bonus-henricus* at Five-fields Allotments, Carmarthen (22/403197). He also noted one plant of *Juncus acutus* (Sharp Rush) on the saltmarsh at Morfa Uchaf, Ferryside (22/369122) and *Potamogeton crispus* (Curled Pondweed) growing with *Myriophyllum alterniflorum* (Alternate Water-milfoil) in a pond at Aberglasney (22/580220).

Salicornia (Glasswort) received particular attention in 1990. In October, with the help of IKM and RDP, GH attempted to visit all tetrads with suitable habitat. It was found that *S.ramosissima* was the most common species, occurring mostly in the middle and lower saltmarsh, *S.dolicostachya* was next in abundance and favoured the lower marsh, whilst the third species found, *S.pusilla* grew only at the top-most level and was much less frequent (Hutchinson, 1991). Possible hybrids were also recorded.

GH has also been looking at the local elms and is hoping to continue with this study in 1991 and Peter Wilde, in addition to sending a number of new records for his home tetrads in 22/53, sent a list of sites where he had recorded *Arrhenatherum elatius* subsp. *bulbosum* (Bulbous Oat Grass), a taxon not segregated by most recorders.

"GOOD SITES"

Carum verticillatum (Whorled Caraway) is often an indicator of semi-natural heath and grassland sites. Nine new tetrad records were made for the species: 22/21Q, 43T, 53L, 53V, 63E, 63Y, 64W, 64Z and 73J. Notable amongst these was GH & RDP's wet heath often dominated by tussocky *Molinia caerulea* (Purple Moor-grass) near Blaengofiarth (22/63E) where *Carum* was accompanied by *Pedicularis sylvatica* (Lousewort), *Dactylorhiza maculata* (Heath Spotted Orchid), *Serratula tinctoria* (Saw-wort), *Wahlenbergia hederacea* (Ivy-leaved Bellflower, *Narthecium ossifragum* (Bog Asphodel) and several species of *Carex*. Dry heath was also present in this tetrad and one extensive bank was near-dominated by *Lathyrus montanus* (Bitter Vetch) accompanied by a single, 30cm spike of *Platanthera chlorantha* (Greater Butterfly Orchid).

Several unimproved *Carum* meadows were reported at Mooroutlet Farm (22/274108) by IKM which also had *D.maculata*, *P.sylvatica*, *Succisa pratensis* (Devil's-bit), *Eleocharis palustris* (Common Club-rush) and *Veronica scutellata* (Marsh Speedwell).

James and Mary Iliff's record cards are an example to us all. Notable species are singled out for detailed attention, all habitats are described, the itinerary is noted, in fact any relevant information is written down for future workers to compare. The moorland habitats in the

Blaentwrch area (22/642) not only provided a widespread *Carum* population in a boggy area at 22/687494 but also the sedges *Carex curta*, *C. paniculata*, *C. echinata*, *C. pilulifera* and *C. rostrata* were recorded together with, for example, *Cirsium dissectum* (Meadow Thistle), *Hypericum elodes* (Bog St. John's Wort), *Pinguicula vulgaris* (Common Butterwort) and *Scutellaria minor* (Lesser Scullicap). They also reported *Oxycoccus palustris* (Cranberry) in the old plantation at 22/681488, *Myriophyllum alterniflorum* in the Cothi at 22/696488 and *Viola lutea* (Mountain Pansy) widespread in dry turf in and out of the new plantation at 22/685487. J&MI also recorded *Carum* in 22/64W associated with *Carex* spp., *C. dissectum* and *Anagallis tenella* (Bog Pimpernel) and in the vicinity was a colony of *H. elodes* covering a continuous length of 5m in the bottom of a shaded wet gully east of Banc Llwyn Ceiliog, Cwrt y Cadno (22/694425). A further new *Carum* population recorded by them was in riverside wet pasture, north of Llanwrda together with sedges and *Lysimachia vulgaris* (Common Loosestrife). Adjacent heath had the bent-grass *Agrostis vineale* and the lady's-mantle *Alchemilla xanthochlora* whilst in nearby woodland was *Festuca gigantea* (Giant Fescue) and *Epipactis helleborine* (Common Helleborine) and at 22/694368 about 10 plants of the Maidenhair Spleenwort *Asplenium trichomanes* subsp. *trichomanes* were growing at the entrance to an old quarry.

J&MI have become very concerned in recent years over the decline of the species of the Lycopodiaceae in Carms. and have undertaken a great deal of research and monitoring. The demise of these plants is very real and the principal cause is apparently the inadvertent physical disturbance by increased numbers of sheep's feet which dislodge all but those individuals growing on the most inaccessible ledges (Iliff, in press).

One of GH's best recorded sites of the year has now been destroyed by redevelopment. The area comprised derelict industrial ground in the Seaside area of Llanelli (21/503989) and supported a large number of uncommon weedy species including *Lamium amplexicaule* (Henbit Dead-nettle), *Viola tricolor* subsp. *tricolor* (the true Heartsease or Wild Pansy), *Stachys arvensis* (Field Woundwort), *Matricaria recutita* (Scented Mayweed) and *Ballota nigra* (Black Horehound). Also abundant here and also at 21/507994 was *Orbanche minor* (Common Broomrape). He also recorded *Mercurialis annua* from the same square at 21/509990 and *Hydrocharis morsus-ranae* (Frogbit) at 21/504989.

The castle area of Newcastle Emlyn (22/310407) received a good deal of GH's attention during the year. In addition to the 2nd vcr of *Medicago arabica* referred to above he also recorded *Poa compressa* (Flattened Meadow Grass), *Sherardia arvensis* (Field Madder), *Myosotis ramosissima* (Early Forget-me-not) and *Cerastium semidecandrum* (Little Mouse-ear).

Participants of the Ferryside recording meeting covered much ground and made some interesting discoveries. Jean Green and Pauline Goodhind recorded *Ornithopus perpusillus* (Bird's-foot) from Penlifau (22/73J) and *Phegopteris connectilis* (Beech Fern) from the east side of a gorge at 22/517366 and near Nant y Caws Farm (22/510356) both on Mynydd Llanfihangel Rhos y Corn and also two plants of *Dryopteris carthusiana* in a wet area near the latter site. John Killick discovered a marshy flush at Bryn eithin (22/559327) with *Carum*, several sedge species, *Anagallis tenella* and *Scutellaria minor* but he also recorded *Cynoglossum officinale* (Houndstongue), *Hypericum humifusum* (Trailing St. John's Wort), *Sanicula europaea* (Wood Sanicle) and *Epipactis* cf. *helleborine* from the same tetrad. Some of his other records were *Stachys arvensis* from a roadside near Llanddowror (22/233137) with *Euonymus europaeus* (Spindle) and *Isolepis setacea* (Bristle Club-rush) in the same vicinity;

the sedge *Carex laevigata* and *Mimulus guttatus* (Monkey Flower) from the banks of the Cothi near Abergorlech (22/572333) and *Acer campestre* (Field Maple) from near Old Pale (22/21H). G.K.Watson recorded *Wahlenbergia hederacea* and *Hypericum elodes* from Pen Llwyn Uchel (22/523390).

Also during the Ferryside meeting, GH, RDP and Mathew Pryce discovered four plants of *Anthyllis vulneraria* (Kidney Vetch) growing on a newly enlarged lane junction near Rhydcymerau (22/583387) whilst between Maudsland and Cwmforfan (22/33B) a damp heath at Pant Melyn yielded *Veronica scutellata*, *Wahlenbergia hederacea* and *Narthecium ossifragum*; *Carex pallescens* (Pale Sedge) in a flood meadow near the old mill at 22/302331 and one small plant of *Chrysanthemum segetum* (Corn Marigold) on the roadside at 22/308336.

An equally small plant of *C.segetum* was found on disturbed ground at the working opencast site at Garnant (22/688126, RDP) and across the valley near Tir Sir Walter (22/698137), *Molinia* dominated heath supported some extensive stands of *Genista anglica* (Petty Whin). Nearby unimproved meadows (eg at 22/705138) were dominated by a rich rhos-heath floral association and the riverside oak woodland along the Amman had a good ground flora including two plants of *Epipactis helleborine* at 22/704136. The old Amman Colliery tips, whilst largely growing only gorse, locally supported species typical of dry, base-rich conditions including *Daucus carota* (Wild Carrot), *Centaureum erythraea* (Common Centaury) and *Linum catharticum* (Fairy Flax). RDP also visited a small, long-restored opencast site near Tumble (22/524117) where natural recolonisation had resulted in the reasonable recovery of the pastures. The species list included the sedges *Carex panicea*, *C.hirta*, *C.flacca* and *C.ovalis*, dactylorchids, *Sanguisorba officinalis* (Greater Burnet), *Pedicularis sylvatica*, *Lythrum salicaria* (Purple Loosestrife), *Ajuga reptans* (Bugle) and *Hypericum tetraptrum* (Square-stemmed St.John's Wort).

RDP, J&MI *et al* were invited to assess the nature conservation value of land at Blaenau Farm, Llanddeusant (22/793240). Riverside wet flushes had an abundance of *Valerianella dioica* (Marsh Valerian) whilst the valley woodland supported large populations of both *Phegopteris connectilis* and *Equisetum telmateia* (Great Horsetail). The *Molinia* heath on the slopes above was dotted with many dactylorchids.

RDP was also invited to a garden in Bronwydd Arms (22/418251), the owner of which, Mrs.Daphne Davies, formerly ran a florist's shop in Carmarthen and had accumulated an enviable collection of plants in recent years. Her concern was the identity of several orchids which had been growing in the plot since the house had been built about 20 years ago. They turned out to be *Epipactis helleborine*, four in a clump near the original roadside hedge and two individuals which had appeared in isolation in the flower-beds.

John Rees is still actively recording the flora of the Pendine Ranges despite having retired in 1990. He reported new records of *Botrychium lunaria* (Moonwort) and *Silene vulgaris* (Bladder Campion) from Ginst Point (22/323077). There were, however, no *Liparis loeselii* (Fen Orchid) or *Coeloglossum viride* (Frog Orchid) in 1990 although there were c150 spikes of *Ophrys apifera* (Bee Orchid) on the E5 range at about 22/311073. At Whitehill Down (22/21W), 1990 was a very good year for *Platanthera bifolia* (Lesser Butterfly Orchid), c250 plants having been counted but *P.chlorantha* was less prolific and numbered only c50.

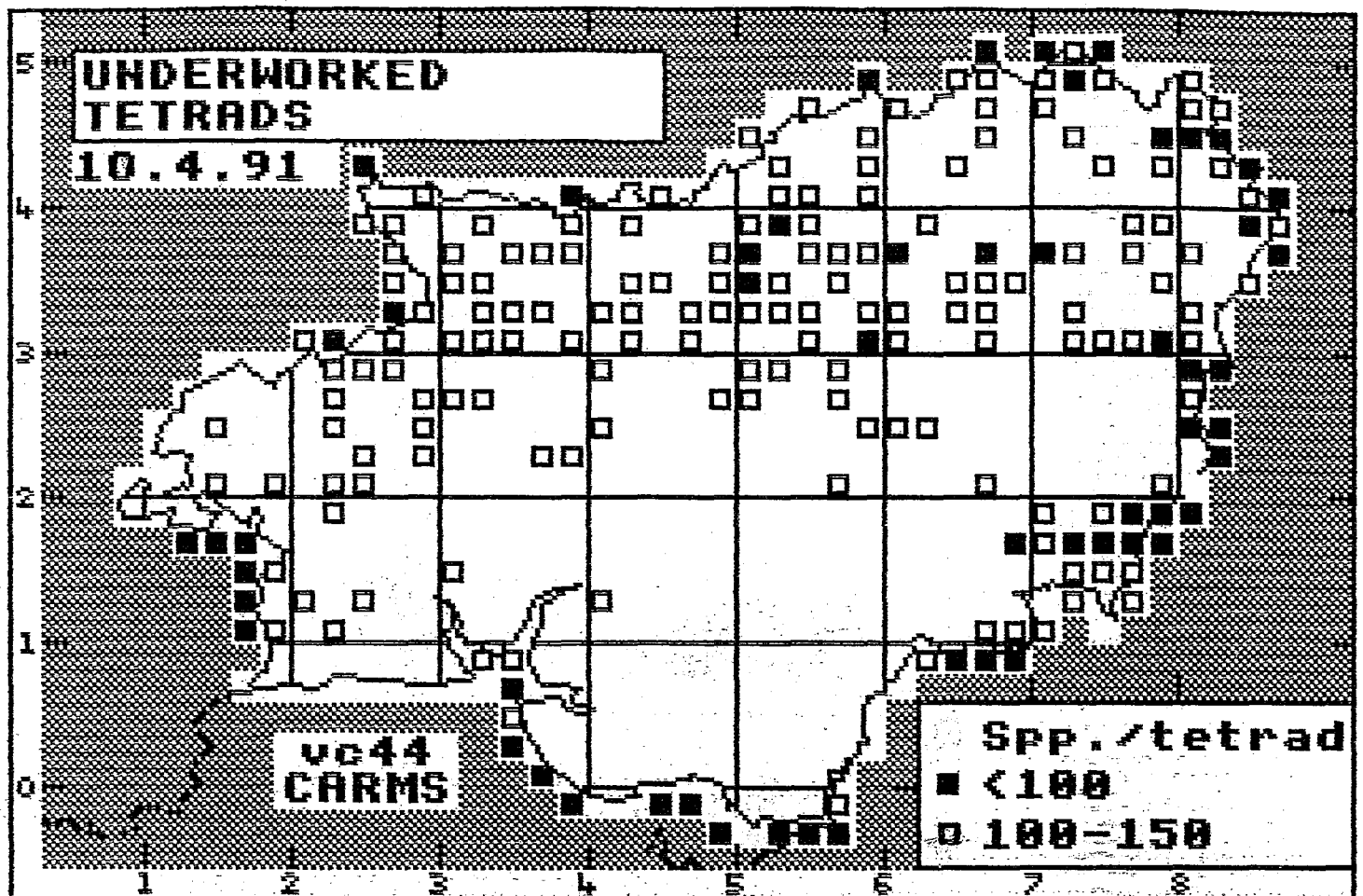
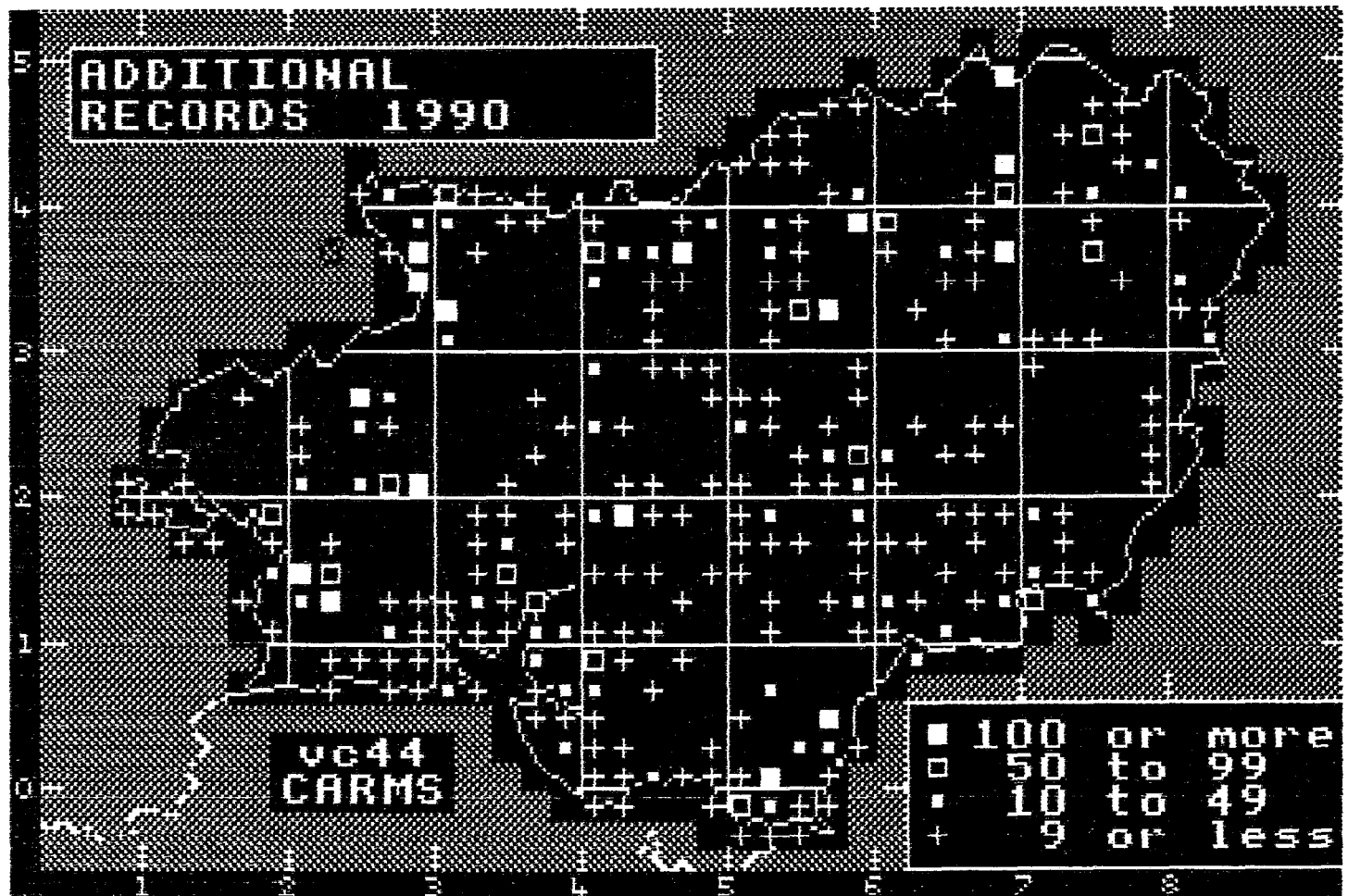
IKM visited Coed Gwempa (22/433116) where he refound the *Equisetum hyemale* (Dutch Rush) first recorded here by IMV in 1968, a colony measuring 7m x 3m in flushed open woodland. He also discovered a large population of *Scirpus sylvaticus* (Wood Club Rush) in a lightly shaded area at the northwest end of the wood and the meadows up-slope had *Cirsium dissectum* and *Dactylorhiza maculata*. Southeast of Triolmaengwyn (22/394343) he recorded an acidic pasture and flush which also had *C. dissectum* together with *Drosera rotundifolia* (Common Sundew), *Eriophorum vaginatum* (Hare's-tail Cotton-grass), *Narthecium ossifragum*, *Potamogeton polygonifolius* (Bog Pondweed), *Succisa pratensis* and *Trichophorum caespitosum* (Deergrass) and near Felindre, Llansadwrn (22/686306), a mesotrophic grassland pasture had a population of c50 *Platanthera chlorantha* plants with abundant *Sanguisorba officinalis* and *Leucanthemum vulgare* (Ox-eye Daisy).

I am again greatly indebted to all who have contributed to the 1990 tally but most particularly to George Hutchinson who takes it on himself to do so much for the forthcoming Flora.

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Richard D. Pryce
30th April 1991



WELSH PLANT RECORDS - 1990

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 changed since 1958 can be given 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, although 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 records which are additional to those given in *Flowering Plants of Wales* by R.G. Ellis (1983) are listed. Other records are included at the discretion of the vice-county Recorder. The minimum grid reference is to a 10km square but, if supplied by the recorder, references to a 1km or even a 100m square may be included.

The Vice-county Recorders from 1/1/1992 are:

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

GLAMORGAN, v.c. 41(East); P. Jones, 13 The Mount, Dinas Powis, Cardiff CF6 4DP

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

BRECON, v.c. 42; M. Porter, Aberhoewy Farm, Cyffredyn Lane, Llangynidr, near 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

PEMBROKE, 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, Tremeirchion, St Asaph, Clwyd LL17 0UH

FLINT, v.c. 51; Dr G. Wynne, Gwylfa, Lixwm, Holywell, Clwyd CH8 8NQ

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

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

- +25/1cam. *Polypodium cambricum* L. (Southern Polypody). Wall, Caldicot Castle, ST4888, T.G. Evans, 1990, conf. G. Hutchinson.
- +25/1intxvul. *Polypodium x mantoniae* Rothm. (*P. interjectum* x *P. vulgare*) (Manton's Polypody). Hedge bank, Grosmont, SO3924, T.G. Evans, 1989, conf. G. Hutchinson.
- +46/22. *Ranunculus penicillatus* subsp. *pseudofluitans* (Syme) S. Webster (Stream Water-crowfoot). Mouton Brook, Mathern, ST5191, A. Jacks, 1990, det. T.G. Evans.
- 50/1. *Thalictrum flavum* L. (Meadow-rue). Near River Wye, ST59J, SO50F, G, J, E. Wood, 1990. A decreasing species in the county.
- +88/5. *Cochlearia danica* L. (Danish Scurvygrass). Spreading along A40 road margins in Monmouth area, SO51A, B, H, B.J. Gregory, 1990.
- +105/1. *Erysimum cheiranthoides* L. (Treacle Mustard). Raglan, SO30T, D. Lewis, 1990.
- *!123/12. *Silene noctiflora* L. (Night-flowering Catchfly). Occurs most years as weed in some part of garden, Chepstow, ST5293, T.G. Evans, 1982 to 1990. First record.
- *!124/cha. *Lychnis chalconica* L. (Maltese-Cross). In dense vegetation on side of forestry track, Bishop Barnet's Wood, Godefroy, ST5193, T.G. Evans, 1989. First record.
- *169/1. *Erodium maritimum* (L.) L'Her. (Sea Stork's-bill). Grassy bank near River Severn, Iron Age Fort, Sudbrook, ST5087, T.G. Evans, 1978.
- *207/1ten. *Lathyrus montanus* Bernh. var. *tenuifolius* (Roth) Garcke (Bitter-vetch). Wet heath, Cwm Celyn, SO2008, J. Wohlgemuth, R. Fraser & T.G. Evans, 1990. First record of this distinctive variety.
- +211/11/lon. *Rubus longus* (Rogers & Ley) Newton (a bramble). Forest edge, Parc Seymour, ST4092, T.G. Evans, 1990, det. A. Newton.
- +211/11/284. *Rubus rufescens* P.J. Mueller & Lefevre (a bramble). Pond edge, Llanfoist Farm, SO3221, T.G. Evans, 1990.
- 212/2. *Potentilla palustris* (L.) Scop. (Marsh Cinquefoil). Pool, Llanfoist Farm, Abergavenny, SO2912, R. Fraser, 1990. The pool was white with *Oenanthe aquatica* (L.) Poir.
- +!212/8. *Potentilla norvegica* L. (Ternate-leaved Cinquefoil). Weed in garden near two new shrubberies planted Autumn 1988, Chepstow, ST5293, T.G. Evans, 1990.
- +218/1. *Agrimonia procera* Wallr. (Fragrant Agrimony). Roadsides NW of Swffryd School and near Keir Hardie Terrace, Crumlin, ST29E, R. Fraser, 1990.
- +225/13. *Rosa mollis* Sm. (Soft Downy-rose). Several bushes on grassy quarry top, Mynyddislwyn, ST1893, R. Fraser, 1990, det. T.G. Evans, conf. Rev. G.G. Graham.
- 225/14. *Rosa rubiginosa* L. (Sweet-briar). +Margin of River Sirhowy, Blackwood, ST1796, R. Fraser, 1990, det. Rev. G.G. Graham. +River Rhymney bank, Rhymney, SO1008, T.G. Evans & R. Fraser, 1990. Second records.
- +225/15. *Rosa micrantha* Borrer em. Sm. (Small-flowered Sweet-briar). One discrete, well established bush on limestone bank, southern edge of Liveoaks Grove and River Wye meadows, Tintern, ST5397, T.G. Evans, 1990, conf. Rev. G.G. Graham.
- +259/4. *Myriophyllum alterniflorum* DC. (Alternate Water-milfoil). Shallow silted canal, Cefn, Rogerstone, ST2788, P. Smith, 1990.
- +276/1. *Myrrhis odorata* (L.) Scop. (Sweet Cicely). Roadsides, Mynyddislwyn Church, ST1994, and Ton-y-felin, ST1998, R. Fraser, 1990. First record for this square since 1930.
- *283/5. *Bupleurum falcatum* L. (Sickle-leaved Hare's-ear). Accidentally introduced as seed with plants from Joan Swanborough, has reappeared in various parts of the garden for at least ten years, Chepstow, ST5293, T.G. Evans, 1980 to 1990. First record for county, second Welsh record and only extant Welsh record.
- *291/1. *Carum verticillatum* (L.) Koch (Whorled Caraway). Thirty to forty plants in woodland flush near Blaina, SO20E, J. Wohlgemuth, 1990. First record.
- +!318/2. *Mercurialis annua* L. (Annual Mercury). Top of bank near Trostrey Lodge, SO3507, T.G. & U.T. Evans, 1990.
- +!319/4. *Euphorbia corollarioides* L. (Coral Spurge). Accidental introduction as seed with plants from Joan Swanborough, has persisted for at least 10 years in Chepstow garden, ST5293, T.G. Evans, 1990. Second record.

- +319/16. *Euphorbia cyparissus* L. (Cypress Spurge). W end of Spyttly Lane, Newport, ST3386, G. Hutchinson, 1990. Second record.
- +343/16. *Salix repens* L. (Creeping Willow). Cwm Celyn, SO20E, T.G. Evans, R. Fraser & J. Wohlgemuth, 1990.
- +!397/1. *Anchusa arvensis* (L.) Bieb. (Bugloss). Weedy arable field SE Clytha Castle, SO3608, R.D. Vernon, 1990.
- +411/1. *Hyoscyamus niger* L. (Henbane). Twenty-four square metres of large plants 0.7m high, shore infill, Goldcliff, ST3682, D. Upton, 1990.
- *427/1. *Sibthorpia europaea* L. (Cornish Moneywort). Twenty two cm² on mossy bank, Nant-y-Draenog, Cwmfelinfach, ST1892, R. Fraser, 1990. First record.
- *!430/9. *Veronica longifolia* L. (Long-leaved Speedwell). Waste ground outside walled garden near Llanfoist Church, ST2813, T.G. Evans & R. Fraser, 1990. 'One of its forms', E.J. Clement. First record. A garden escape? no appearance of being planted!
- +451/2. *Calamintha sylvatica* Bromf. subsp. *ascendens* (Jord.) P.W. Ball (Common Calamint). Ride in Chepstow Park Wood, ST5098, R.D. Vernon, 1990
- +466/1. *Nepeta cataria* L. (Cat-mint). Earth bank, Horsington Yard, Abergavenny, SO2914, R. Fraser, 1990. Very uncommon in the county.
- *472/1int. *Plantago major* L. subsp. *intermedia* (DC.) Arcangeli (Greater Plantain). S side of Black Rock Point, Portskewett, ST5188, A.O. Chater, 1987. First record of the subspecies.
- +!509/3. *Petasites japonicus* (Sieb. & Zucc.) Maxim (Giant Butterbur). Large colony on bank of Berthin brook, W of entrance to Usk College of Agriculture, SO3601,, T.G. & U.T. Evans, 1990. Second record and probably the origin of C. Titcombe's first record lower down the brook.
- +558/1/184. *Hieracium vulgatum* Fries (a hawkweed). Railside, Newport Docks, ST3186, T.G. Evans, 1985, det. J. Bevan. Second record and first since 1930.
- 558/1/240b. *Hieracium umbellatum* L. subsp. *bichlorophyllum* (Druce & Zahn) P.D. Sell & C. West (a hawkweed). Roadside bank at Parc Seymour, ST4092, T.G. Evans, 1984 - 1990. Roadside bank, Newchurch West, ST4597, T.G. Evans, 1984. Both det. J. Bevan.
- +558/1/241. *Hieracium vagum* Jord. (a hawkweed). Roadside, Itton to Devauden road, ST49Y, T.G. Evans, 1984, conf. J. Bevan. First confirmed post-1930 record.
- *559/8. *Crepis paludosa* (L.) Moench (Marsh Hawk's-beard). Hundreds of plants of very long standing along tree-lined stream, Afon Cibi, The Park, Abergavenny, SO2817, R. Fraser, 1990. First record.
- +638/1. *Platanthera chlorantha* (Custer) Reichb. (Greater Butterfly-orchid). Grassy cemetery, Christchurch, ST3489, P.R. James & Newport Group, 1990.
- +642/5. *Orchis morio* L. (Green-winged Orchid). Bishton area, ST38Y, T.G. & U.T. Evans, 1990.
- *!648/1. *Lysichiton americanus* Hulten & St John (Yellow Skunk-cabbage). One plant by stream in wood, Llanarth Fawr, SO3608, C. Titcombe, 1990. First record, present for 15 years.
- 654/3. *Eriophorum latifolium* Hoppe (Broad-leaved Cottongrass). Boggy slope, Pontyspig, SO2820, T.G. Evans & R. Fraser (based on information from M. Porter), 1990. The only v.c. site.
- +658/1. *Cyperus longus* L. (Galingale). A patch 3-4m² on margin of newly created pond, on site of natural spring, Kilgwrrwg, ST4797, T.G. Evans, 1990. Only extant site in the county after destruction of the colonies in the Newport Docks marsh in the mid 1980s.
- 663/17. *Carex vesicaria* L. (Bladder Sedge). Near Abergavenny, SO21W & X, R. Fraser & T.G. Evans, 1987-1990.
- 663/60. *Carex disticha* Huds. (Broom Sedge). Near Moynes Court, Mathern, ST5190, first recorded here by T.G. Evans in 1961 and by A. Jacks in 1990.
- *663/54x71. *Carex x boenninghousiana* Weihe (*C. paniculata* x *C. remota*) (a hybrid sedge). Wet woodland, Cwm Merddog, Ebbw Vale, SO1806, R. Fraser, 1990, conf. A.O. Chater. First record, growing with *Carex remota*, *C. paniculata* and *C. binervis*.
- +670/1x671/1. *xFestulolium loliaceum* (Huds.) P. Fourn (Hybrid Fescue). Grassy verge, Earlswood Common, ST4595, T.G. Evans, 1990. Second record.

- +673/5. *Puccinellia rupestris* (With.) Fernald & Weatherby (Stiff Saltmarsh-grass). Saltmarsh E of St Pierre Pill, ST5289, T.G. Evans, 1990.
 +!683.6, *Bromus madritensis* L. (Compact Brome). Garden, Fountain Inn, SO50A, E. Wood, 1990.
 +688/1. *Hordelymus europaeus* (L.) C.O. Harz. (Wood Barley). Common Wood, ST4693, T.G. Evans, 1990.

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

- 21/2aff. *Dryopteris affinis* (Lowe) Fraser Jenkins subsp. *affinis* (Scaly Male-fern). +Floor of birch wood, Jersey Marine, SS7093, G. Hutchinson, 1989. +Roadside hedgebank, 2.5km NE of Pontardulais, SN6005, G. Hutchinson, 1990. +Bank of stream, Cyfarthfa Park, Merthyr Tydfil, SO0407, G. Hutchinson, 1990.
 21/2bor. *Dryopteris affinis* subsp. *borreri* (Newman) Fraser Jenkins (Scaly Male-fern). +Floor of birch wood, Jersey Marine, SS7093, G. Hutchinson, 1989. +Deciduous wood, NE of Cornelly Quarry, SS8380, G. Hutchinson & J. Bevan, 1990. +Wooded railway embankment, near Coed y Wallis Quarry, N of Castle upon Alun, SS9075, G. Hutchinson & J. Bevan, 1990. +Bank of stream, Cyfarthfa Park, Merthyr Tydfil, SO0407, G. Hutchinson, 1990.
 +21/2cam. *Dryopteris affinis* subsp. *cambrensis* Fraser Jenkins (Scaly Male-fern).. Ditch on hillside at edge of wood, Cyfarthfa Castle, Merthyr Tydfil, SO0407, G. Hutchinson, 1990. Second record.
 +21/3. *Dryopteris oreades* Fomin (Mountain Male-fern). Base of escarpment, Graig Fawr, Rhondda Valley, SS9296, J. Bevan & G. Hutchinson, 1989, conf. C.R. Fraser Jenkins. Southernmost extant site in British Isles.
 +22/2. *Polystichum aculeatum* (L.) Roth (Hard Shield-fern). Near bottom of cutting of old tramway in deciduous wood, Valley wood, Penllergaer, SS6298, G. Hutchinson, 1990.
 +46/10. *Ranunculus auricomus* L. (Goldilocks Buttercup). Limestone woodland, Green Cwm, NW of Parkmill, Gower, SS5390, A.J. Lack, 1982., conf. Q.O.N. Kay, First Gower record.
 +58/3. *Papaver dubium* subsp. *lecoqii* (Lamotte) Syme (Yellow-juiced Poppy). Sandy waste ground, near Marina, Swansea, SS6692, Q.O.N. Kay, 1987.
 +66/6b. *Fumaria muralis* subsp. *boraei* (Jordan) Pugsley (Common Ramping-fumitory). Waste ground, Tyle-garw, ST0381, G. Hutchinson & J. Bevan, 1990.
 +67/2. *Brassica napus* L. (Rape). Waste ground adjoining road, Bridgend Industrial Estate, SS9179, G. Hutchinson, 1990.
 +67/4. *Brassica nigra* (L.) Koch (Black Mustard). In landscaped flower-bed Bridgend Industrial Estate, SS9379, G. Hutchinson, 1990.
 +!71/1. *Hirschfeldia incana* (L.) Lagèze-Fossat (Hoary Mustard). Extensive on mounds of earth in building site, Bridgend Industrial Estate, SS9379, G. Hutchinson, 1990.
 81/1. *Cardaria draba* (L.) Desv. (Hoary Cress). +Railway embankment adjoining industrial estate, Pyle, SS8381, G. Hutchinson, 1990. +Wasteground, Bridgend Industrial Estate, SS9279, G. Hutchinson, 1990.
 +88/5. *Cochlearia danica* L. (Danish Scurvey-grass). Roadside N side of A48, E of St Hilary TV transmitter, A.B. Pinkard, c.1970.
 +95/1. *Erophila verna* (L.) Chevall. (Common Whitlowgrass). Station platform, Pontardulais, SN5804, G. Hutchinson, 1990.
 +112/2. *Reseda lutea* L. (Wild Mignonette). Main railway line near Ogmore River, Bridgend, SS9080, G. Hutchinson, 1990.
 +113/ x7. *Viola x militaris* Savoure (*V.canina* x *V. lactea*)(a hybrid dog-violet).A few plants with both parents on cliff top, Overton Cliff, Gower, SS4684, Q.O.N. Kay, 1983.
 +113/7. *Viola lactea* Sm. (Pale Dog-violet). About 20 plants on cliff top with *Erica cinerea*, *Polygala serpyllifolia*, *Ulex europaeus*, *U. gallii*, *Viola canina* and *V. canina* x *V. lactea*, Overton Cliff, Gower, SS4684, Q.O.N. Kay, 1983.

- +127/1. *Dianthus armeria* L. (Deptford Pink). Stony bank near Briton Ferry, SS79, C.R. & J. Hipkin, 1986. Second record for county since 1910.
- +!Lim/dou. *Limnanthes douglasii* R. Br. (Poached-egg Flower). Waste ground, Penarth Marina, ST1872, G. Hutchinson, 1990.
- +179/1. *Rhamnus catharticus* L. (Buckthorn). Wet deciduous wood adjoining Nant Mawr stream, S of Rhydypenau Road, Cardiff, ST1880, G. Hutchinson, 1989.
- +188/1. *Cytisus scoparius* (L.) Link (Broom). Embankment S of railway line, Bridgend Industrial Estate, SS9179, G. Hutchinson, 1990.
- +!191/1. *Melilotus altissima* Thuill. (Tall Melilot). Waste ground near railway line, Tyle-garw, ST0381, G. Hutchinson & J. Bevan, 1990.
- +202/1. *Ornithopus perpusillus* L. (Bird's-foot). Sheep-grazed unimproved grassland on village green, Reynoldston, Gower, SS4890, Q.O.N. Kay, 1985. First certain post-1950 record for this declining species in Gower.
- +206/9. *Vicia orobus* DC. (Wood Bitter-vetch). Frequent in grassy heathland with *Genista anglica*, *Osmunda regalis*, Portmead Heath, Cadle, Swansea, SS6296, B. Pawson, 1990. First record in area since 1840s for this declining species.
- +207/2. *Lathyrus nissolia* L. (Grass Vetchling). Grassy waste ground, Bridgend Industrial Estate, G. Hutchinson, 1990.
- !207/8. *Lathyrus latifolius* L. (Broad-leaved Everlasting-pea). +Adjoining railway line SE of Port Talbot railway station, SS7689, G. Hutchinson, 1989. +Grass verge, M4 roundabout, Coryton, Cardiff, ST1481, G. Hutchinson, 1990.
- +!Pis/sat. *Pisum sativum* L. (Garden Pea). Bare mound of earth S of railway line, Tyle-garw, ST0381, G. Hutchinson & J. Bevan, 1990.
- *211/11/gal. *Rubus gallofuscus* Newton & Porter (a bramble). Mynydd Bach near Lower Cwmtwrch, SN7609, M. Porter, 1988. First county and second Welsh record.
- *225/9x14. *Rosa x latens* Wolley-Dod (*R. canina* x *R. rubiginosa*). Edge of tall shrubs on disused quarry floor, Dutton's Quarry, Rhiwbina Hill, Cardiff, ST1483, G. Hutchinson, 1989, det. Rev. A.L. Primavesi. First record.
- *225/caexcan. *Rosa x dumalis* Bechst. (*R. caesia* subsp. *glauca* x *R. canina*), (a hybrid dog-rose). Abernant, Aberdare, SO0103, J.W.Davies, A.E. Wade & A. Newton, 1973, det. Rev. A.L. Primavesi. First record.
- +225/11. *Rosa tomentosa* Sm. (Harsh Downy-rose). Hedge, Morlais Hill, Merthyr Tydfil, SO01, A.E. Wade, 1973, det. Rev. A.L. Primavesi.
- 225/13. *Rosa mollis* Sm. (Soft Downy-rose). Roadside bank, Llechryd, SO1009, T.G. Evans, 1988, det. Rev. G.G. Graham.
- +!227/2. *Cotoneaster simonsii* Baker (Himalayan Cotoneaster). Derelict industrial site, W side of River Tawe, S of Morriston, SS6696, G. Hutchinson, 1989, det. J. Fryer.
- +!227/die. *Cotoneaster dielsianus* Pritz. (Diels' Cotoneaster). Derelict industrial site, W side of River Tawe, S of Morriston, SS6696, G. Hutchinson, 1989, det. J. Fryer.
- +232/7. *Sorbus torminalis* (L.) Crantz (Wild Service-tree). Roadside near Earlswood roundabout on A483, Crymlyn Burrows, Swansea, SS7293, C.R. Hipkin, 1990. Second record since 1930.
- !246/4. *Ribes sanguineum* Pursh (Flowering Currant). +Growing out of cutting alongside railway line, SE of Bridgend railway Station, SS9179, G. Hutchinson, 1990. +Relic of old farm site, E of Pentrebach, N of Pontardulais, SN6005, G. Hutchinson, 1990.
- +!252/1. *Hippophae rhamnoides* L. (Sea Buckthorn). Waste ground in industrial park, Bridgend Industrial Estate, SS9279, G. Hutchinson & J. Bevan, 1989.
- +254/9. *Epilobium obscurum* Schreber (Short-fruited Willowherb). Waste ground near road, Bridgend Industrial Estate, SS9279, G. Hutchinson, 1990.
- +!256/cam. *Oenothera cambrica* Rostaski (Small-flowered Evening-primrose). Waste ground along river bank, Ogmore Vale, SS9389, G. Hutchinson & J. Bevan, 1989.
- +291/1. *Carum verticillatum* (L.) Koch (Whorled Caraway). Wet acid heath, Llanbad, 1.3km N of Brynna, SS9884, R.D. Pryce, 1990.
- +300/1. *Oenanthe fistulosa* L. (Tubular Water-dropwort). Over 200 plants in marshy meadows with *Potentilla palustris*, Llangennith Moors, SS4191, Q.O.N. Kay, 1987. First certain record in Gower; previous records are likely to have been errors for *O. lachenalii*.

- +302/1. *Foeniculum vulgare* Miller (Fennel). Side of railway track, E of bridge over River Ogmore, Bridgend, SS9080, G. Hutchinson, 1990.
- +318/1. *Mercurialis perennis* L. (Dog's Mercury). Hedgebank near Metal Works, Pentrebach, 1km N of Pontardulais, SN5905, G. Hutchinson, 1990.
- 319/11. *Euphorbia exigua* L. (Dwarf Spurge). +Disused railway line, Ty Rhiw, ST1284, J.P. Curtis *et al.*, 1990. +Burnt gorse area near Tresilian, Llantwit Major, SS9567, J.P. Curtis, 1990.
- 320/2. *Polygonum oxyspermum* C.A. Meyer & Bunge ex Ledeb. subsp. *raii* (Bab.) D.A. Webb & Chater (Ray's Knotgrass). Few plants on drift-line, Three Cliffs Bay, Gower, SS5388, Q.O.N. Kay, 1980.
- *!320/19. *Fallopia japonica* (Houtt.) Ronse Decraene var. *compacta* (Hook. fil.) J. Bailey (Japanese Knotweed). S side of A465 near Gyrnos Farm, Merthyr Tydfil, SO0408, J. Davies, 1989, det J. Bailey & A.P. Conolly. First record for the variety.
- 320/19x20. *Fallopia x bohémica* (Chrtek & Chrtkova) J.P. Bailey (*F. japonica* x *F. sachalinensis*) (a hybrid knotweed). +In a corner of the links, Whitchurch Golf Club, Rhiwbina, Cardiff, ST1581, G. Hutchinson, 1988. +Roadside, Brynsadler, NE of Llanharry, ST0180, G. Hutchinson & J. Bevan, 1990. +N side of trackway through wood, Cyfarthfa Castle, Merthyr Tydfil, SO0407, G. Hutchinson & B.A. Thomas, 1990. Second, third and fourth records, all det. J.P. Bailey.
- +!Rhe/bar. *Rheum rhabarbarum* L. (Rhubarb). In flower in railway cutting near electricity sub-station, Bridgend, SS9179, G. Hutchinson, 1990. First Welsh record.
- *!366/2. *Armeria arenaria* (Pers.) Schutt (Jersey Thrift). Sand dunes near the sea, Kenfig Burrows, SS7880, S. Moon *et al.*, 1990. First record.
- 411/1. *Hyoscyamus niger* L. (Henbane). Edge of car-park, Port Eynon, Gower, SS4685, P.M. Goodhind, 1990. First record for square since c.1950.
- +!413/che. *Solanum chenopodioides* Lam. (Tall Nightshade). Two plants in reseeded waste ground, Blackhills, Gower, SS5891, Q.O.N. Kay, 1990. First record in the western part of the county.
- *!413/phy. *Solanum physalifolium* Rusby var. *nitidibaccatum* (Bitter) Edmonds (Green Nightshade). Numerous plants of an entire leaved form on rubbish tip, Lamby Way, Rumney, Cardiff, ST2277, J.P. Curtis, 1990. First county and third Welsh record.
- +422/1. *Kickxia spuria* (L.) Dumort. (Round-leaved Fluellen). Disused railway line, Ty Rhiw, ST1284, J.P. Curtis *et al.*, 1990.
- +437/1. *Parentucellia viscosa* (L.) Caruel (Yellow Bartsia). Over 50 plants in disturbed ground in old pasture near Blackhills, Gower, SS5790, T. Davies, 1988. First record at this site since 1923 for this declining species.
- +488/1. *Viburnum lantana* L. (Wayfaring-tree). Four old bushes in a row in a hedgebank on SW boundary of farm, Pwll-du, Bishopston, Gower, SS5787, T. Davies, 1989. First confirmed and localised record in 10km square. Most records of *V. lantana* in Gower have been errors or at least doubtful.
- +!492/1. *Leycesteria formosa* Wall. (Himalayan Honeysuckle). Among dense brambles on Bridgend Industrial Estate, SS9279, G. Hutchinson, 1990.
- +!533/3. *Leucanthemum maximum* (Ramond) DC. (Shasta Daisy). Open grassy area NW of Kenfig Castle, N of Kenfig, SS7983, G. Hutchinson & J. Bevan, 1990.
- !554/1. *Lactuca serriola* L. (Prickly Lettuce). +Waste ground, old Brickworks site, Rhiwbina, Cardiff, ST1680, A.D. Tipper, 1989, conf. G. Hutchinson. +Waste ground S of railway line, Bridgend Industrial Estate, SS9279, G. Hutchinson, 1990.
- *558/1/149. *Hieracium vagum* Jord. (a hawkweed). Disused railway line, St Fagans, ST1176, G. Hutchinson, 1990, det. J. Bevan. First confirmed record.
- 558/1/158. *Hieracium diaphanum* Fries (a hawkweed). +Minor roadside hedgebank, Tre-bryn NW of Pencoed, SS9481, J. Bevan & G. Hutchinson, 1989. +Wall along B4277 road, Tylorstown, ST0095, J. Bevan & G. Hutchinson, 1989.
- +558/1/199. *Hieracium scabrisetum* (Zahn) Roffey (a hawkweed). Wall along B4277 road, Tylorstown, ST0095, J. Bevan & G. Hutchinson, 1989.
- +558/1/219. *Hieracium perpropinquum* (Zahn) Druce (a hawkweed). Small sheltered gorge above stream, Cwm Dar, Bwlch y Clawdd, Rhondda Valley, SS9494, G. Hutchinson & J. Bevan, 1989.

- *558/1/222. *Hieracium salticola* (Sudre) P.D. Sell & C. West (a hawkweed). Grassy waste ground by foreshore, Cardiff Docks, ST2074, G. Hutchinson, 1986, det. J. Bevan. First record.
- +605/7amb. *Juncus ambiguus* Guss. (Frog Rush). Sandy tracks, Crymlyn Burrows, Swansea, SS7092, Lady R. FitzGerald, 1988.
- +606/9. *Luzula multiflora* (Retz.) Lej. (Heath Wood-rush). Grassy area adjoining deciduous wood, Howardian Nature Reserve, Cardiff, ST2078, G. Hutchinson, 1988.
- +!620/1. *Tritonia x crocosmiflora* (Lemoine) Nicholson (Montbretia). Wood, Pontardulais, SN5903, G. Hutchinson, 1990.
- +629/1. *Neottia nidus-avis* (L.) L.C.M. Richard (Bird's-nest Orchid). Single plant at edge of beech plantation, Parkmill, Gower, SS5489, J. Lehan, 1980.
- +640/1. *Ophrys apifera* Hudson (Bee Orchid). About 25 plants on Howardian Nature Reserve, Cardiff, ST2079, M. Doe, 1990.
- *643/1x3. *Dactylorhiza x kernerorum* (Soó) Soó (*D. fuchsii* x *D. incarnata*) (a hybrid orchid). Dune slacks, Kenfig Burrows, SS7981, D.C. Lang, 1990. First record.
- +643/4. *Dactylorhiza praetermissa* (Druce) Soó (Marsh Orchid). Field adjoining Glamorgan Canal, Forest Farm, Whitchurch, Cardiff, ST1380, M. Gillham & M. Wiley, 1989.
- *643/5. *Dactylorhiza purpurella* (T. & T.A. Steph.) Soó (Northern Marsh-orchid). In three sites in dune slacks, Kenfig Burrows, SS7981, D.C. Lang, 1990. First record.
- +649/1. *Arum maculatum* L. (Lords-and-Ladies). Hedgebank adjoining stream near Metal Works, Pentrebach, 1km N of Pontardulais, SN5905, G. Hutchinson, 1990.
- +653/1. *Typha latifolia* L. (Bulrush). Afon Rhondda Fawr, Gelli, Rhondda Fawr Valley, SS9794, G. Hutchinson & J. Bevan, 1989.
- +654/2. *Eriophorum gracile* Roth (Slender Cottongrass). Fen, Pant-y-Sais near Neath, SS7194, C.R. Hipkin, 1990. Second record.
- 660/1. *Rhynchospora alba* (L.) Vahl (White Beak-sedge). Seven plants in boggy flush with *Narthecium ossifragum*, *Eleocharis multicaulis* and *Molinia caerulea*, slopes of Cefn Bryn, Reynoldston, Gower, SS4890, Q.O.N. Kay, 1973. First Gower record since 1940.
- 663/15. *Carex pseudocyperus* L. (Cyperus Sedge). With *Carex paniculata* and *C. vesicaria* in alder carr near superstore, Culverhouse Cross, Cardiff, ST1174, P. Randerson, 1990.
- +663/24. *Carex pallescens* L. (Pale Sedge). Relict marsh of tidal River Rhymney, Howardian Nature Reserve, Cardiff, ST2078, G. Hutchinson, 1988.
- +663/37. *Carex montana* L. (Soft-leaved Sedge). Unimproved pasture with *Succisa pratensis*, *Serratula tinctoria*, etc., Rhydyfro near Pontardawe, SN7105, T. Blackstock, 1989. First record for county not on limestone.
- +!Sas/pal. *Sasa palmata* (Burbidge) E.G. Camus (Bamboo). Extensive colony stretching for about a hundred yards on semi-wooded hillside, Valley Wood, Penllergaer, SS6298, G. Hutchinson, 1990.
- +!687/dis. *Hordeum distichon* L. (Two-rowed Barley). Roadside verge, Court Colman, near Bridgend, SS8881, G. Hutchinson, 1988.
- +714/2. *Parapholis incurva* (L.) C.E. Hubbard (Curved Hard-grass). Two plants in waste ground near the sea, Oystermouth Road, Swansea, SS6592, Q.O.N. Kay, 1986. First record for West Glamorgan since 1842.
- +!720/2. *Setaria verticillata* (L.) Beauv. (Rough Bristle-grass). Crack in paving stones, Cathays Terrace, Cardiff, ST1877, G. Hutchinson, 1990. First record since 1930.
- +!720/ita. *Setaria italica* (L.) Beauv. (Foxtail Bristle-grass). Lamby Way Rubbish Tip, Cardiff, ST2277, J.P. Curtis, 1990. First record since 1941.

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

- *!171/3. *Impatiens parviflora* DC. (Small Balsam). Edge of plantation, Llangoed, SO1140, M. & C. Port, 1990. +Bank of River Wye, near Llangoed, SO1239, L. Bolingbroke, 1990. First and second records.
- *211/11/194. *Rubus mucronatoides* A. Ley ex Rogers (a bramble). Wood, Llandefaelog, SO03, M. Porter, 1990, conf. A. Newton. First record.

- *211/11/aqu. *Rubus aquarum* Newton & Porter (a bramble). Hedgerow, W of Llanwrtyd Wells, SN8745, M. Porter, 1988, conf. A. Newton. First World record of this newly described species.
- *211/11/bil. *Rubus biloensis* Newton & Porter (a bramble). Lane bank, near Llanfillo, SO1133, M. Porter, 1988. Cwm Gwdderig, SN83, H.H. Knight & A. Ley, 1906. Both conf. A. Newton. First and second World records of this newly described species.
- *211/11/gal. *Rubus gallofuscus* Newton & Porter (a bramble). Gorsey bank, Penrhos near Ystradgynlais, SN8011, M. Porter, 1988, conf. A. Newton. First World record of this newly described species.
- *211/11/rob. *Rubus robii* (W.C.R. Watson) Newton (a bramble). Wooded bank of River Pyrddin, Pont-nedd-fechan, SN8909, M. Porter, 1990, conf. A. Newton. First record.
- *211/11/tav. *Rubus tavensis* Newton & Porter (a bramble). Near Coed Wern Plemys, Ystradgynlais, SN7809, M. Porter, conf. A. Newton. First World record of this newly described species.
- *254/6x3. *Epilobium ciliatum* Rafin x *E. montanum* L. (a hybrid willowherb). Disused railway, Llanhamlach, SO0827, M. Porter, 1987, det. T.D. Pennington. First record.
- *1320/18. *Fallopia aubertii* (Louis Henry) J. Holub (Russian-vine). Hedge, Llanfillo, SO1133, M. Porter, 1990. +Hedge, Glangrwyney, SO2316, M. Porter, 1990. First and second records.
- *440/10. *Orobanche hederæ* Duby (Ivy Broomrape). Deserted garden, Brecon, SO0428, C. Cooper, 1990. First localised record.
- *445/3x5. *Mentha x gentilis* L. (*M. arvensis* x *M. spicata*). (Bushy Mint). Edge of pool, Glasbury, SO1840, M. Porter, 1990. First record.
- *643/2bx4. *Dactylorhiza x hallii* (Druce) Soó (*D. maculata* x *D. praetermissa*). a hybrid orchid). Marshy meadow near Llangorse Lake, Llangasty Tal y llyn, SO1226, M. Porter, 1990. First record.
- *670/2x3. *Festuca x fleischeri* Rohlena (*F. arundinacea* x *F. gigantea*) (a hybrid fescue). Margin of pool under trees, Glasbury, SO1840, M. Porter, 1990. First Welsh record.

RADNOR, v.c. 43 (comm. D.R. Humphreys)

- +194/4. *Draba muralis* L. (Wall Whitlowgrass). About 50 plants on tipped spoil with garden plants, roadside verge of A470 S of Ashfield, Ysfa, SN9763, R.G. Woods, 1990. Spoil may have come from gardens affected by road widening in Llanwrthwl, v.c. 42!
- *154/14. *Chenopodium rubrum* L. (Red Goosefoot). About 20 plants on organic matter on stony roadside tip, S of Upper Pitts Farm, Stanage, SO3170, R.G. Woods, 1990. +On mud of lake margin, Llanbwchllyn, SO1246, D.R. Druit & J.D. Soane, 1990, conf. R.G. Woods. First and second records.
- *211/11/mer. *Rubus merlini* Newton & Porter (a bramble). Thickets, Allt Goch, SN97, A.Ley, 1892, det. A. Newton. First county and second Welsh record. Specimen (in NMW) previously det. as *R. viridis* Kalt.
- *1256/2. *Oenothera erythrosepala* Borbas (Large-flowered Evening-primrose). Scattered in shrubberies and on path edge, Ddol Road Industrial Estate, Llandrindod Wells, SO0662, R.G. Woods, 1990. First record.
- 328/1. *Urtica urens* L. (Small Nettle). About 100 plants on tipped rocky spoil on roadside, near Pentre Caeau, Llandeilo Graban, R.G. Woods, 1990.
- *343/16a. *Salix repens* L. (Creeping Willow). About 7 plants in species rich wet pasture, SW end of Rhosgoch Common, SO1948, R.G. Woods, 1990.
- +1406/3. *Calystegia silvatica* (Kit.) Griseb. (Large Bindweed). Scrub on verge beside trunk road W of Ashfield, Ysfa, SN9764, R.G. Woods, 1990.
- +465/5. *Galeopsis speciosa* Miller (Large-flowered Hemp-nettle). Only one plant seen in roadside swede field ½km NW of Llidiardau, Pantydwr, SN9779, R.G. Woods, 1990.
- +485/3. *Galium mollugo* L. (Hedge-bedstraw). Mown grass bank, Royal Welsh Agricultural Showground, Llanelwedd, SO0351, R.G. Woods, 1990. Too immature to identify subspecies.

- +551/2. *Picris hieracioides* L. (Hawkweed Oxtongue). Roadside verge S of Burfa Camp, Evenjob, SO2860, R.G. Woods, 1990.
 +577/21. *Potamogeton pectinatus* L. (Fennel Pondweed). Eutrophic lake, Llanbwchlllyn, SO1246, D.R. Drewett & I.D. Soane, 1990, conf. R.G. Woods. Second record.

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

- 15/5tri. *Asplenium trichomanes* L. subsp. *trichomanes* (Maidenhair Spleenwort). +Shaded sandstone outcrop, Cwm Ddol-fawr, 5km ENE of Rhydargaeau, SN4827, and on acidic boulder in oakwood, E of Troedrhiwhir, SN7546, both I.K. Morgan, 1989, conf. G. Hutchinson.
 21/2aff. *Dryopteris affinis* (Lowe) Fraser Jenkins subsp. *affinis* (Scaly Male-fern). +Roadside hedgebank, 1km N of Capel Iwan, SN2937, G. Hutchinson, 1990. +Roadside hedgebank, N of Drefach-Velindre, SN3539, G. Hutchinson, 1989. +In ash woodland on Carboniferous Limestone, NW of Garn Farm, Drefach, SN5114, I.K. Morgan, 1990, det. G. Hutchinson. +Roadside hedgebank, 1.8km N of Broad Oak, SN5724, G. Hutchinson, 1989. +Steep deciduous wood, Cefn Coed Isaf Farm, Abergiar, 3.5km SW of Llanybyther, SN5140, G. Hutchinson, 1989.
 21/2bor. *Dryopteris affinis* subsp. *borreri* (Newman) Fraser-Jenkins (Scaly Male-fern). +Roadside hedgebank, 1.2km NW of Hermon, SN3531, G. Hutchinson, 1989. +Steep deciduous wood, Cefn Coed Isaf Farm, Abergiar, 3.5km SW of Llanybyther, SN5140, G. Hutchinson, 1989.
 21/6x7. *Dryopteris* x *deweveri* (Jansen) Wachter (*D. carthusiana* x *D. expansa*) (a hybrid buckler-fern). Alder carr, near Llanddewi Velfrey, SN1417, G. Hutchinson, 1986, det. C.R. Fraser Jenkins.
 22/2. *Polystichum aculeatum* (L.) Roth f. *cambricum* (Hard Shield-fern). Limestone waste, Blaen-y-van Quarry, SN4511, R.D. Pryce, 1979, conf. G. Hutchinson.
 22/2x1. *Polystichum* x *bicknellii* (Christ) Hahne (*P. aculeatum* x *P. setiferum*) (a hybrid shield-fern). +Hedgebank, Tavernspite, SN1712, G. Hutchinson, 1987. +Hedgebank, near Trapp, SN6518, G. Hutchinson, 1988. +On steep slope behind roadside hedge, 1.5km SE of Conwyl Elfed, SN3825, G. Hutchinson, 1989, conf. C. Jermy. Second and subsequent records.
 *165/alb. *Pseudofumaria alba* (Miller) Liden (Pale Corydalis). Gelli Aur Country Park, SN5920, D. Smith, 1988, det. D. McClintock. First record.
 *113/5x4. *Viola* x *bavarica* Schrank (*V. riviniana* x *V. reichenbachiana*) (a hybrid dog-violet). Roadside bank, Garn Fach, SN5715, R.D. Pryce, 1985, det. D.M. Moore. First record.
 +160/2. *Salicornia dolichostachya* Moss (Upright Glasswort). Channel to N Dock, Llanelli, SS4998, G. Hutchinson, 1987, det. D.H. Dalby. First post-1930 record.
 *211/11/mer. *Rubus merlini* Newton & Porter (a bramble). Hedgebank, Cilycwm, SN7539, T.A.W. Davis, 1973, det. M. Porter. First World record of this newly described species. +Nantmwyn, SS74, A. Ley, 1897, det. A. Newton. Second record.
 +216/3. *Geum rivale* L. Wet farm driveway, E of Trevaughan, SN2015, G. Hutchinson, 1987.
 +223/2. *Sanguisorba minor* Scop. subsp. *muricata* Briq. (Fodder Burnet). Hedgebanks on restored opencast site, near Llandybie, SN6114, R.D. Pryce, 1987. Second record.
 *1343/2vit. *Salix alba* L. var. *vitellina* (L.) Stokes (Golden Willow). Roadside, Laugharne Burrows, SN3008, G. Hutchinson, 1988. First record for the variety.
 *1423/2. *Cymbalaria pallida* (Ten.) Wettst. (Italian Toadflax). Rampant on graves, Pontyberem Churchyard, SN4910, R.D. Pryce, 1982, conf. G. Hutchinson. First record.
 440/3. *Orobanche rapum-genistae* Thuill. (Greater Broomrape). +About 20 plants on *Cytisus scoparius* on maritime cliff grassland, Wharley Point, SN3309, D. Stacey, 1990. About 20 plants on *Ulex europaeus* on woodland edge, S facing slope, Cwm Celyn, SN3112, D. Stacey, 1990.

- +!502/3. *Bidens frondosa* L. (Beggarticks). Witchett Pool, Laugharne, SN2807, V. Gordon, 1956, det. G. Hutchinson. Second record.
- *558/1/45. *Hieracium lasiophyllum* Koch (a hawkweed). Dry rocks above Troed Rhiw Rhuddwen, SN7747, I.M. Vaughan, 1972, det. J. Bevan. First record.
- *558/1/164. *Hieracium lachenalii* C.C. Gmel. (a hawkweed). Wayside near Llanpumsaint, SN4031, G. Hutchinson & R.D. Pryce, 1988, det. J. Bevan. First confirmed record.
- [507/3. *Elodea nuttallii* (Planchon) St John (Nuttall's Waterweed). The redetermination mentioned in the last issue of the *BSBI Welsh Bulletin* p26, referred to the Afon Teifi, Henllan record only.]
- +614/2. *Narcissus obvallaris* Salisb. (Tenby Daffodil). Roadside bank near house, Gelli, Pentrecwrt, SN3937, T.S. Crosby, 1989.
- +663/2. *Carex distans* L. (Distant Sedge). Three plants in one clump near the driftline of tidal River Loughor, SW of Hendy, SN5702, G. Hutchinson, 1987.
- +663/47. *Carex acuta* L. (Slender Tufted-sedge). Damp dune grassland, Laugharne Burrows, SN3007, J. Rees & R.D. Pryce, 1989. Third record.
- *670/6are. *Festuca arenaria* Osbeck. (Rush-leaved Fescue). Shingle at foot of calcareous cliff, Llansteffan, SN30, I.M. Vaughan, 1967, det. A.K. Al-Bermani. First record.
- *!680/3. *Briza maxima* L. (Great Quaking-grass). Roadside verge, near waste ground opposite station, Carmarthen, SN4119, G. Hutchinson, 1989. First record.
- *683/13. *Bromus lepidus* Holmberg (Slender Soft-brome). Infrequent at edge of Forestry Commission rides, Pembrey Forest, SN30, I.M. Vaughan, 1965. First record.
- +689/1. *Koeleria macrantha* (Ledeb.) Schultes (Crested Hair-grass). Limestone grassland, near Llandyfan, SN6417, D. Grey & S. Gouch, 1989. Second record.
- *701/2b. *Agrostis vinealis* Schreber (Brown Bent). Cerrig Cyffion, SN6846, R. Walls, 1988. First record.

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

- 7/2. *Hymenophyllum wilsonii* Hook. (Wilson's Filmy-fern). Tiny patch only in deep crevice under large boulder, Carn Cwn, Newport, SN0638, S.B. Evans, 1990.
- 26/1. *Pilularia globulifera* L. (Pillwort). Four patches covering some 29²m on clay margin to irrigation reservoir, Llandigie Fawr, Tretio, SM7929, S.B. Evans, 1990.
- *!Nig/dam. *Nigella damascena* L. (Love-in-a-mist). Disturbed roadside verge, Penally, SS1198, G. Hutchinson, 1988. First record.
- +185/1tin. *Genista tinctoria* L. subsp. *tinctoria* (Dyer's Greenweed). Patch 3x3m only, wet heath, Sageston Mountain Common, SN0603, S.B. Evans, 1990. Second recent record.
- +220/3/10. *Alchemilla glabra* Neygenf. (Smooth Lady's-mantle). Grassland at foot of hedgebank, W of Blaen Dyfant, Llanfyrnach, SN2329, S.B. Evans, 1990.
- 411/1. *Hyoscyamus niger* L. (Henbane). Five plants in disturbed ground on cliff top, St Justiniani, St David's, SM7225, M. & J. Herbert, 1990.
- *506/4x8. *Senecio* x *baxteri* Druce (*S. squalidus* x *S. vulgaris*) (a hybrid groundsel). Waste ground, Goodwick Harbour, SM9538, J.W. Partridge, 1988, det. C. Jeffrey. First record.
- 527/1. *Chamaemelum nobile* (L.) All. (Chamomile). Tractor track on central grassy ridge, Caerbwdi Bay, SM7624, S.B. Evans, 1990.
- *643/7. *Dactylorhiza traunsteineri* (Sauter) Soó (Narrow-leaved Marsh-orchid). Single spike in flush in calcareous fen with *Epipactis palustris*, *Carex lasiocarpa* and *Juncus subnodulosus*, Castlemartin Corse, SR8999, D.C. Lang, J. Donovan & S.B. Evans, 1990. First record for South Wales.
- +!719/1. *Echinochloa crusgalli* (L.) P. Beauv. (Cockspur). A few plants on gravel at base of wall below pigeon roost, Bishop's Palace, St David's, SM7525, S.B. Evans, 1990. Second record.

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

- 3/2. *Isoetes echinospora* Durieu (Spring Quillwort). +Very abundant around shore of Llyn Berwyn, where none was seen in visits in 1984 and earlier, SN744571, A.O. Chater, 1990. +Abundant around shore of middle gravel pit, dug in 1968-69, Glanrhyd-ty-noeth, Capel Bangor, SN665785, A.O. Chater, 1990. +Abundant along W shore of Pond Glandwgan, SN705752, A.O. Chater, 1990.
- +5/1. *Osmunda regalis* L. (Royal Fern). Ditch at SW corner of Cors Fochno, 600m E of Borth church, SN617897, A.O. Chater, 1990.
- +21/6. *Dryopteris carthusiana* (Vill.) H.P. Fuchs (Crested Buckler-fern). Bog SW of Llyn Conach, SN744921, A.O. Chater, 1990.
- +24/4. *Gymnocarpium dryopteris* (L.) Newman (Oak Fern). Crevices of drystone dam, Llyn Teifi, SN780674, A.O. Chater, 1990.
- +28/1. *Botrychium lunaria* (L.) Swartz (Moonwort). Among gorse on lead mine spoil, Esgair-fraith mine, SN740912, A.O. Chater, 1990. The second lead mine site for this species in Cards.
- +29/1. *Ophioglossum vulgatum* L. (Adder's-tongue). Grassy slope by lead mine ruin, Esgair-fraith mine, SN740912, A.O. Chater, 1990. The second lead mine site for this species in Cards.
- +138/1. *Helleborus foetidus* L. (Stinking Hellebore). c.30 plants on spoil heaps of lead mine, Cwm Rheidol, SN730782, R.G. Woods, 1989.
- 46/21. *Ranunculus trichophyllus* Chaix (Thread-leaved Water-crowfoot). Moel Ynys Pool, Ynys-las, SN606923, A.O. Chater, 1989, det. S.D. Webster. Confirmation of Salter's 1934 record.
- +46/23. *Ranunculus baudotii* Godron (Brackish Water-crowfoot). Ditch along S side of B4353 at S end of Borth, SN609889, A.O. Chater, 1989, det. S.D. Webster.
- +46/24/bul. *Ranunculus ficaria* subsp. *bulbifer* Lawalrée (Lesser Celandine). Shaded roadside verge, Fron-gog, 1.5km E of Llanbadarn Fawr, SN613809, A.O. Chater, 1990. Apparently very sparse in Cards.
- +154/1. *Mahonia aquifolium* (Pursh) Nutt. (Oregon-grape). Naturalised in oak/chestnut wood, Coed Wallog, SN597859, A.O. Chater & A.P. Fowles, 1989.
- +67/4. *Brassica nigra* (L.) Koch (Black Mustard). Plants 250-310cm tall in estuarine *Phragmites* marsh, Rosehill Marsh, Teifi estuary, SN189454, A.O. Chater, 1990.
- +171/1. *Hirschfeldia incana* (L.) Lagr.-Foss. (Hoary Mustard). Roadside bank, Penyrergyd, Gwbert, SN163486, A.O. Chater, 1990. Second record.
- !72/1. *Diplotaxis muralis* (L.) DC. (Annual Wall-rocket). +Waste ground on E side of main street, Borth, SN608895, A.O. Chater, 1989. +Sand dunes, The Patch, Gwbert, SN161487, A.O. Chater, 1990.
- +80/1. *Coronopus squamatus* (Forsskål) Aschers. (Swine-cress). Disturbed slope near new house, Hafod-wen, Coedmor, SN202430, A.O. Chater, 1990.
- +192/1. *Lobularia maritima* (L.) Desv. (Sweet Alison). Several plants on disturbed ground in scrub above shore, Aber-porth, SN260514, A.O. Chater, 1990.
- +95/gla. *Erophila glabrescens* Jordan (A Whitlowgrass). Ynys-las Dunes NNR, SN610940, A.O. Chater, 1990.
- +198/4. *Barbarea verna* (Miller) Aschers. (American Winter-cress). Reclaimed margin of refuse tip, Pendinas, Aberystwyth, SN584798, A.O. Chater, 1990.
- 122/1. *Elatine hexandra* (Lapierre) DC. (Six-stamened Waterwort). +Gravelly islet at N end of Llyn Gynon, SN799649, BSBI Field Meeting, 1989. +SW corner of Llyn Eiddwen, SN604668, S.P. Chambers, 1990. +Gravel pits, Glanrhyd-ty-noeth, Capel Bangor, SN665785, A.O. Chater, 1990.
- 123/6. *Silene gallica* L. (Small-flowered Catchfly). Margin of oats field 200m NE of Tygwyn, Mwnt, SN199520, A.O. Chater, 1990. 2 plants only; the third post-war record, one being an unlocalised BSBI meeting record of 1958 from this square.
- *141/1/subsp. *Arenaria serpyllifolia* subsp. *macrocarpa* (Lloyd) F.H. Perring (Thyme-leaved Sandwort). In slacks and on grey dunes, Ynys-las NNR, SN608938, BSBI Field Meeting, 1990, det. A.O. Chater. First record.

- +!149/3. *Montia sibirica* (L.) Howell (Pink Purslane). Colony 20x7m in blackthorn thicket, NE side of Pendinas, Aberystwyth, SN585808, S.P. Chambers, 1989.
- +154/2. *Chenopodium polyspermum* L. (Many-seeded Goosefoot). Reclaimed margin of refuse tip, Pendinas, Aberystwyth, SN584798, A.O. Chater, 1990.
- 156/4. *Atriplex glabriuscula* Edmonston (Babington's Orache). +Top of sandy beach, Traeth Penbryn, SN294526, A.O. Chater, 1990. +New Quay beach, SN389601, A.O. Chater. +Cei Bach beach, SN410597, A.O. Chater, 1990. +Beach in Aberaeron harbour, SN457628, A.O. Chater, 1990. +Beach by Wyre mouth, Llanrhystud, SN526697, A.O. Chater, 1990. +S end of Tan-y-bwlch beach, Aberystwyth, SN578796, A.O. Chater, 1990. +S end of Borth beach, SN607888, A.O. Chater, 1990.
- +162/2. *Tilia cordata* Miller (Small-leaved Lime). Large old tree, ancient woodland, Gwenffrwd valley, Penuwch, SN596608, A.O. Chater, 1990.
- +192/13. *Trifolium subterraneum* L. (Subterranean Clover). Edge of cabbage and potato field 400m NE of Tygwyn, Mwnt, SN200521, A.O. Chater, 1990.
- +207/6. *Lathyrus sylvestris* L. (Narrow-leaved Everlasting-pea). Gully on cliffs below Grogal, New Quay, SN373593, D.C. Boyce *et al.*, 1989.
- +!223/2. *Sanguisorba minor* subsp. *muricata* Briq. (Fodder Burnet). Slope above Afon Ystwyth by Llanfarian bridge, a large patch among scrub, SN590777, A.O. Chater, 1990.
- *!225/5. *Rosa rugosa* Thunb. (Japanese Rose). Top of shingle beach, Penyrangor, Aberystwyth, SN580808, A.O. Chater, 1990. Two fruiting bushes and many seedlings, presumably derived from bushes planted at the back of Tan-y-bwlch Beach, c.300m away, c.1970. First record.
- *!226/ser. *Prunus serotina* Ehrh. (Wild Rum Cherry). Abundant trees to 10m tall, regenerating freely, over several acres of *Quercus petraea* wood, Allt Fawr, 1km ENE of Llanwnnen, SN543475, A.O. Chater, 1990. First record. Very well naturalised and apparently rarely thus in Britain; the wood contains no other obvious non-native species.
- +239/8. *Saxifraga tridactylites* L. (Rue-leaved Saxifrage). Railway ballast just E of Plas Crug crossing, Aberystwyth, SN591810, S.P. Chambers, 1990. Known from the Ynys-las dunes since 1955, and from the Gwbert dunes since 1941; the only previous railway record is from Strata Florida in 1954.
- *254/6x254/3. *Epilobium ciliatum* Rafin. x *E. montanum* L. (A hybrid Willowherb). Waste ground in village, Tal-y-bont, A.O. Chater, 1990. First record.
- +259/4. *Myriophyllum alterniflorum* DC. (Alternate Water-milfoil). Gravel pit, Glanrhyd-ty-noeth, Capel Bangor, SN667786, A.O. Chater, 1990.
- +262/4/bru. *Callitriche brutia* Petagna (Pedunculate Water-starwort). Dominant over much of dried-up pond, Glanrheidol, Capel Bangor, SN662793, A.O. Chater, 1990, conf. N. Stewart & C.D. Preston. First record since Burkill & Willis recorded it at Llyn Teifi in 1894.
- 320/1/3. *Polygonum rurivagum* Bor. (Cornfield Knotgrass). Cabbage field, Tygwyn, Mwnt, SN198520, A.O. Chater, 1990. Second record.
- +333/1. *Myrica gale* L. (Bor-myrtle). SW corner of Cors Fochno, 600m E of Borth Church, SN618898, A.O. Chater, 1990.
- !336/2. *Alnus incana* (L.) Moench (Grey Alder). +Abundant and regenerating freely, edge of *A. glutinosa* wood by Llanilar Station (disused), SN627752, A.O. Chater, 1990. +Self-sown bushes 2-3m tall and fruiting, near planted bushes on site of old refuse tip, Blaendolau, Llanbadarn Fawr, SN600804, A.O. Chater, 1990.
- +!370/5. *Lysimachia punctata* L. (Dotted Loosestrife). Edge of alder carr by Afon Rheidol, Glanyrafon, SN605803, A.O. Chater, 1990.
- +372/1. *Anagallis tenella* (L.) L. (Bog Pimpernel). Basin mire, Cors Bwlch y Baedd, Ystrad Meurig, SN710699, I.S. Francis, 1990.
- +!417/1. *Misopates orontium* (L.) Rafin. (Lesser Snapdragon). Disturbed slope near new house, Hafod-wen, Coedmor, SN202430, A.O. Chater, 1990.
- *!420/2x3. *Linaria purpurea* (L.) Mill. x *L. repens* (L.) Mill. (a hybrid Toadflax). With both parents, railway ballast just SE of Aberystwyth Station, SN588811, A.O. Chater, 1990. First record.

- +435/1/16. *Euphrasia pseudokernerii* Pugsl. (an Eyebright). Rough grassland on clifftop, R.A.E. site, Aber-porth, A.O. Chater, 1979, det. A.J. Silverside, 1990. Second record.
- +435/1/16. *Euphrasia pseudokernerii* f. *elongata* Puglsey (An Eyebright). Fen with *Phragmites*, *Gymnadenia* etc., by Afon Mwldan, Penparc, SN197483, A.O. Chater, 1990, conf. P.F. Yeo.
- 440/3. *Orobancha rapum-genistae* Thuill. (Greater Broomrape). Oak scrub with gorse and broom, Pant Da Dyfed Wildlife Trust Reserve, SN670788, L. Gander *et al.*, 1990. In gorse scrub on shingle by Afon Rheidol, Glanyrafon, SN617806, A.O. Chater & D. Glyn Jones, 1990. Now known from 5 sites in Cards.
- +440/10. *Orobancha hederæ* Duby (Ivy Broomrape). Among ivy under yew tree, cottage garden, Llanbadarn Fawr, SN572810, S.P. Chambers, 1989. The first record for the northern part of Cards, 5 spikes in 1989, c.25 in 1990.
- +442/4. *Utricularia minor* L. (Lesser Bladderwort). NE end of Llyn Craig-y-pistyll, SN725860, A.O. Chater, 1990.
- 453/1. *Clinopodium vulgare* L. (Wild Basil). Clearings in bracken on coastal slope, Clogfryn, SW of Aberaeron, SN445622, A.O. Chater, 1990. Recorded from near here by Salter, and only the second post-war record from a native site.
- +462/3. *Lamium hybridum* Vill. (Cut-leaved Dead-nettle). Potato and cabbage field 400m NE of Tygwyn, Mwnt, SN200521, A.O. Chater, 1990.
- 462/5. *Lamium album* L. (White Dead-nettle). Golf course tee, and on roadside through dunes, Ynys-las, SN605931, A.P. Fowles, 1990.
- 473/1. *Litorea uniflora* (L.) Aschers. (Shoreweed). +Shore of Llyn Gwngu, SN840729, D.C. Boyce, 1990. +Shore of reservoir 3km ENE of Llanfihangel-y-Creuddyn, SN693767, I.S. Francis, 1990.
- +485/10. *Galium uliginosum* L. (Fen Bedstraw). *Phragmites* fen by Afon Mwldan, Penparc, SN197483, W. Fojt, 1987. The first record since Salter's for Cors Fochno and Cors Caron.
- +502/2. *Bidens tripartita* L. (Trifid Bur-marigold). Dried-up pond, Glanrheidol, Capel Bangor, SN662793, A.O. Chater, 1990.
- +1518/2. *Solidago canadensis* L. (Canadian Goldenrod). Waste ground on E side of main street, Borth, SN608895, A.O. Chater, 1989, det. D.H. Kent.
- +1522/1. *Conyza canadensis* (L.) Cronq. (Canadian Fleabane). Abundant in old railway yard, Aberystwyth Station, SN587814, A.O. Chater, 1989. Previously known only from the railway alongside the Dyfi estuary, where it was first recorded in 1957.
- +537/1. *Carlina vulgaris* L. (Carlina Thistle). Coastal slope 2km NE of Aber-arth, SN495650, A.O. Chater & A.P. Fowles, 1990.
- +540/8. *Cirsium dissectum* (L.) Hill (Meadow Thistle). Valley mire 2km W of Llanwnnen, SN508474, A.O. Chater, 1990.
- +550/3. *Leontodon taraxacoides* (Vill.) Mérat (Lesser Hawkbit). With *Carlina acaulis* on reconstructed slope below lead mine, Cwm Rheidol, SN728781, A.O. Chater, 1990.
- 551/1. *Picris echioides* L. (Bristly Oxtongue). +Grassy slope above beach, New Quay, SN388602, A.O. Chater, 1990. +Disused railway, SW side of Pendinas, Aberystwyth, SN584798, A.O. Chater, 1990. +Roadside verge, Waun Fawr, Aberystwyth, SN608814, A.O. Chater, 1990.
- +556/2. *Sonchus arvensis* var. *glaber* (Perennial Sow-thistle). By broadwalk on high dunes, Ynys-las Dunes NNR, SN606937, BSBI Field Meeting, 1990. E.S. Marshall recorded var. *glabrescens* Hall from near Aberaeron in 1899, presumably the same variant.
- +557/15. *Potamogeton berchtoldii* Fieber (Small Pondweed). Gravel pit, Glanrhyd-ty-noeth, Capel Bangor, SN667786, A.O. Chater, 1990.
- +1589/3. *Polygonatum multiflorum* (L.) All. (Solomon's-seal). Roadside hedgebank on both sides of Gilfach-coed, Llangwryfon, SN594699 & 595700, D. Davies & Cymdeithas Edward Llwyd, 1990. Few other records have been confirmed as the species rather than the hybrid.
- 605/7/amb. *Juncus ambiguus* Guss. (A Toad Rush). Salt marsh in car park, Ynys-las golf course, SN606926, BSBI Field Meeting, 1990, det. T.C.G. Rich. Second record.

- *643/1x4. *Dactylorhiza fuchsii* (Druce) Soó x *D. praetermissa* (Druce) Soó (a hybrid Marsh Orchid). Pasture above Cwm Cynfelin, SN603832, A.P. Fowles, 1989, conf. D.C. Lang, 1990. First record.
- +643/2bx643/4. *Dactylorhiza maculata* subsp. *ericetorum* (Linton) P.F. Hunt & Summerhayes x *D. praetermissa* (Druce) Soó (A hybrid Marsh-orchid). Pasture above Plas Cwmcynfelin, Llangorwen, SN603832, A.P. Fowles & D.C. Lang, 1990.
- +655/9. *Scirpus tabernaemontani* C.C. Gmelin (Grey Club-rush). Ditch at SW corner of Cors Fochno, 600m E of Borth church, SN617897, A.O. Chater, 1990.
- +670/10. *Festuca vivipara* (L.) Sm. (Viviparous Fescue). Heathy grassland on slope E of Llyn Conach, SN741933, A.O. Chater, 1990. Previously known only from the Pumlumon massif.
- +687/2. *Hordeum murinum* L. (Wall Barley). Car park just W of New Quay pier, SN388602, A.O. Chater, 1990. A rare plant in Cards, recorded in recent years only from around Cardigan, Gwbert and Aberystwyth.
- *685/3x4. *Elymus pycnanthus* (Godron) Melderis x *E. repens* (L.) Gould (a hybrid couch). By golf course compost heap, Ynys-las dunes, SN605930, BSBI Field Meeting, 1990, det. T.A. Cope. First record.
- +701/4. *Agrostis gigantea* Roth (Black Bent). Cabbage field 150m N of Tygwyn, Mwnt, SN198520, A.O. Chater, 1990.
- *!701/7. *Agrostis scabra* Willd. (a Bent). Llangwryfon old churchyard, SN597706, P. Macpherson, 1987, det. C.A. Stace. First record.

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

- 4/9x5. *Equisetum x litorale* Kuhlew. ex Rupr. (*E. arvense* x *E. fluviatile*) (Shore Horsetail). Roadside hedge near Gurley Hall, SJ2500, M. Wainwright & W. Hay, 1990, det. P.M. Benoit.
- 21/2aff. *Dryopteris affinis* (Lowe) Fraser Jenkins subsp. *affinis* (Scaly Male-fern). +N facing roadside bank, Gwynant, SO0884, B.A. Thomas, 1989. +Deciduous wood, Powys Castle, 1.7km SW of Welshpool, SJ2106, G. Hutchinson, 1989. Both conf. C.R. Fraser Jenkins.
- +21/2bor. *Dryopteris affinis* subsp. *borreri* (Newman) Fraser Jenkins (Scaly Male-fern). Deciduous wood, Powys Castle, 1.7km SW of Welshpool, SJ2106, G. Hutchinson, 1989.
- +21/1x2. *Dryopteris x complexa* Fraser Jenkins nothosubsp. *complexa* (*D. filix-mas* x *affinis*) (a hybrid male-fern). N facing roadside bank, Gwynant, SO0884, B.A. Thomas, 1989, conf. C.R. Fraser Jenkins.
- 139/1. *Eranthis hyemalis* (L.) Salisb. (Winter Aconite). Churchyard, Llanllugan, SJ0502, C.A. Small, 1990. (First recorded here by J.A. Webb in c.1940).
- *113/9b. *Viola palustris* subsp. *juressii* (Link ex K. Wein) Coutinho (Marsh Violet). Bare peat exposed after laying of gas pipeline, Dovey Junction, SN7098, P.M. Benoit, 1989. First record.
- +122/1. *Elatine hexandra* (Lapierre) DC. Lake margin, Llyn Ebyr, SN98, I.C. Trueman & M. Wainwright, 1990. Second record.
- 136/2. *Sagina apetala* Ard. subsp. *apetala* (Fringed Pearlwort). Castle ruins at Folforwyn, SO1595, P.M. Benoit, I.C. Trueman & M. Wainwright, 1990.
- +211/2. *Rubus saxatilis* L. (Stone Bramble). Ravine near Llanbrynmair, SN99, G. Morton, 1989. Second record.
- *274/1. *Anthriscus caucalis* Bieb. (Bur Chervil). Short grazed grass and hedge bottom, Crew Green, SJ3115, S. Stafford, 1977. First record, still present in 1990.
- *!647/1. *Calla palustris* L. (Bog Arum). Three plants remain from larger colony known for over 20 years in roadside marsh among *Petasites japonicus*, near Pen-y-lan Hall, Meifod, SJ1612, H. Webster, 1989.
- 655/11. *Isolepis cernua* (Vahl) Roem. & Schultes (Slender Club-rush). Salt marsh, Dovey Junction Station, SN6998, P.M. Benoit & Montgomery Flora Project party, 1989. Rediscovery of 1939 record in the only v.c. site.

- *663/16x17. *Carex x involuta* (Bab.) Syme (*C. rostrata* x *C. vesicaria*) (a hybrid sedge). In good quantity with *Carex rostrata* but no *C. vesicaria*, in marshy edge of lake in park, Maesmawr Hall, 6km WNW of Welshpool, SJ10, P.M. Benoit, 1989, conf. A.O. Chater & A.C. Jermy. First record.
- +663/52. *Carex bigelowii* Torrey ex Schweinitz (Stiff Sedge). Moel Sych, SJ03, A.P. & R.A. Dawes, 1990, conf. P.M. Benoit. Vegetative material only, but confirms record by S.M. Walters *et al.* in *Mont. Field Soc. Report and Notes 1955*, p.22 (1956), also vegetative material only.
- *663/54x71. *Carex x boenninghausiana* Weihe (*C. paniculata* x *C. remota*) (a hybrid sedge). One plant with both parents in marshy oak-birch woodland, near Penegoes, SH70, Alison Morton, S. Grasse & P.M. Benoit, 1990. First record.
- *663/61. *Carex arenaria* L. (Sand Sedge). Railway ballast, Dovey Junction Station, SN69, P.M. Benoit, 1989. First record, probably introduced from the sandy shores of the Dovey estuary in the W of the same 10km square.
- +670/9. *Festuca filiformis* Pourret (Fine-leaved Sheep's-fescue). On hummocks in boggy field, Llanfihangel-yng-Ngwynfa, SJ0915, P.M. Benoit, 1989. Second confirmed and localised record.
- *674/2. *Desmazeria marina* (L.) Druce (Sea Fern-grass). A few plants at Dovey Junction Station, SN69, P.M. Benoit, 1989. First record, probably spread from the coastal sands of the Dovey Estuary in the W of the same 10km square.

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

- +!111/1. *Descurainia sophia* (L.) Webb ex Prantl (Flixweed). A few plants in disturbed ground by golf links, Morfa Harlech, SH53, P.M. Benoit & D.C. Lang, 1990. First record this century.

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

- *!40/1xvar. *Aconitum x cammarum* L. (*A. napellus* x *A. variegatus*) (Purple Wolf's-bane). Ditch away from habitation, Nanhoron, SH23, J. Roberts, 1988. Second Welsh record.
- *!97/rap. *Cardamine raphanifolia* Pourret/ (Greater Cuckooflower). Bank of Afon Roe, near Pont Gorswen, 0.5km SE of Rowen, SH7671, R. Lewis, 1990, det. T.C.G. Rich & E.J. Clement. First record.
- +!98/3. *Barbarea intermedia* Boreau (Medium-flowered Winter-cress). Waste ground with *Brassica 'rapa'*, Methlem Farm, Lleyl Peninsula, SH1730, A.P. Conolly, 1990, det. T.C.G. Rich. First record for Lleyl.
- 168/1. *Geranium pratense* L. (Meadow Crane's-bill). +In ditch, Porth Neigwl E of Ty Mawr, SH2528, and +Abersoch Dunes, SH3332, both A.P. Conolly, 1990.
- +!227/2. *Cotoneaster simonsii* Baker (Himalayan Cotoneaster). Naturalised on bank under trees, Boduan, SH3237, A.P. Conolly, 1990.
- +!320/20. *Fallopia sachalinense* (Frederich Schmidt Petrop) Rosne Decraene (Giant Knotweed). Waste ground at rear of Glyn Isa Hotel, about 1km NE of Rowen, SH7672, R. Lewis, 1990. Second record.
- +370/2. *Lysimachia nummularia* L. (Creeping-Jenny). Wet grassy verge of lane leading to Coed Parc Mawr reserve, 1km NNE of Rowen, SH7673, R. Lewis, 1990.
- +707/1. *Phleum bertolonii* DC. (Smaller Cat's-ear). Sandy sward below 15th tee, S end of Abersoch Golf Links, Marchros, SH3126, A.P. Conolly, 1990.
- *!586/1. *Hemerocallis fulva* (L.) L. (Orange Day-lily). Three plants in ditch near Ty Mawr, Porth Neigwl, SH2528, A.P. Conolly, 1990. First record.
- +!687/jub. *Hordeum jubatum* L. (Foxtail Barley). Sandy beach, no growth nearby, one small clump only, Pontlyfni, SH4353, Lars J. Larsen, 1989, conf. R.G. Ellis. Second record, not present in 1987.

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

- !27/1. *Azolla filiculoides* Lam. (Water Fern). Roadside pond near Twnant Uchaf, SH8875, J. Osley, 1990.
- 46/11. *Ranunculus lingua* L. (Greater Spearwort). Abundant in pond, North Wales Wildlife Trust reserve, Erddig, SJ3247, J.A. Green, 1990.
- +!58/5. *Papaver argemone* L. (Prickly Poppy). Weedy arable field, near Fenn's Moss, SJ5038, J.A. Green, 1990. Second record.
- +!80/2. *Coronopus didymus* (L.) Sm. (Lesser Swine-cress). Near Wolvesacre Mill, SJ5043, J. Hughes, 1990.
- !94/4. *Draba muralis* L. (Wall Whitlowgrass). Several plants in grassy roadside verge, S side of minor road near Nant Clwyd Hall, Llanelidan, SJ1052, J.A. Green, 1990.
- +154/14. *Chenopodium rubrum* L. (Red Goosefoot). Near Three Fingers, SJ4442, K. Watson, 1990.
- *!Koc/sco. *Kochia scoparia* (L.) Schrader. (Summer-cypress). Garden weed, Rossett, SJ3657, B. Formstone, 1990. First record.
- *168/12. *Geranium rotundifolium* L. (Round-leaved Crane's-bill). Six plants on dry sandy ground near to main line station, Marford Quarry, SJ3556, P. Williams, 1990. First record.
- *!190/1fal. *Medicago sativa* subsp. *falcata* (L.) Arcangeli (Sickle Medick). On new bank following Colwyn Bay by-pass, Colwyn Bay, SH8278, J.A. Green, 1990. First record.
- *!220/3/12. *Alchemilla mollis* (Buser) Rothm. (Robust Lay's-mantle). Waste ground beside farm lane, Llanrwst, SH8365, R. Lewis, 1990. First record.
- +229/1. *Crataegus laevigata* (Poiret) DC. (Midland Hawthorn). Edge of lane, Isycoed Farm, near River Dee, SJ4151, P. Day, 1990. Second record.
- +246/5. *Ribes alpinum* L. (Mountain Currant). Large patch in wood on limestone, Maeshafn, SJ1961, J.A. Green, 1990.
- 300/6. *Oenanthe aquatica* (L.) Poiret (Fine-leaved Water-dropwort). +Farm pond, Penley, SJ4140, J.A. Green, 1990. +Farm pond, Knolton Bryn, SJ3639, I. Ralphs, 1990.
- +320/13. *Polygonum mite* Schrank (Tasteless Water-pepper). Edge of farm pond, Penley, SJ4140, J.A. Green, 1990. Second record.
- *!330/tho. *Ulmus thomasi* Sarg. (Rock Elm). Disused gravel quarry, Marford near Wrexham, SJ3556, J.A. Green, 1989. First record, apparently self-sown.
- !406/2. *Calystegia pulchra* Brummitt & Heywood (Hairy Bindweed). Tallarn Green, SJ4543, K. Watson, 1990.
- !425/5. *Scrophularia vernalis* L. (Yellow Figwort). Edge of wood, Upper Colwyn Bay, SH8578, G. Battershall, 1990.
- +430/2. *Veronica anagallis-aquatica* L. (Blue Water-speedwell). Meadow ditch, Pulford, SJ4058, J.A. Green, 1990. Uncommon in the county.
- +430/22. *Veronica polita* Fries (Grey Field-speedwell). Churchyard, Tallarn Green, SJ4444, BSBI Field Meeting, 1990.
- 459/5. *Stachys alpina* L. (Limestone Woodland). Fifteen plants on limestone outcrops in field, above Cilygroesllwyd Wood, SJ1255, P. Williams, 1990, a new site. Recently felled woods on limestone, Eyarth Woods, SJ1254, J.A. Green, 1990, another new site 1km from Cilygroesllwyd Wood.
- !465/5. *Galeopsis speciosa* Miller (Large-flowered Hemp-nettle). Weedy farmyard, Bryn Eglwys, SJ1247, J.A. Green, 1990. Second post 1960 record for the county.
- 517/1. *Antennaria dioica* (L.) Gaertner (Mountain Everlasting). Cefn yr Ogof, SH9177, P. Day, 1990.
- 540/7. *Cirsium heterophyllum* (L.) Hill (Melancholy Thistle). By stream, near Cerrigdruidion, SH9250, P. Day, 1990.
- +!542/1. *Onopordon acanthium* L. (Cotton Thistle). Railway embankment, Marford, SJ3656, C.R.J. Williams, 1990. Second record since 1930.
- +546/1. *Cichorium intybus* L. (Chicory). Roadside, near New House Farm, Eglwys Cross, SJ4740, K. Watson, 1990.
- *!570/3. *Elodea nuttallii* (Planchon) St John (Nuttall's Waterweed). River Dee, near Sutton Green, SJ4148, K. Watson, 1990. First record.

- +602/1. *Colchicum autumnale* L. (Meadow Saffron). Three flowering plants under larch tree at edge of wood, Maeshafn, SJ1961, M. Rogers, 1990. Second record, 300yds from house and possibly introduced with dump of soil or rubble.
- +663/23. *Carex strigosa* Hudson (Thin-spiked Wood-sedge). Stream in wood, Little Green Farm, Penley, SJ4141, J.A. Green, 1990.
- 676/9. *Poa compressa* L. (Flattened Meadow-grass). Many plants on rubble on waste ground near supermarket, Johnstown, Wrexham, SJ2945, J.A. Green, 1990.
- +677/1. *Catabrosa aquatica* (L.) Beauv. (Whorl-grass). Upland flush near Llechrydau, SJ2134, J.A. Green, 1990. Uncommon in the county.
- 683/1. *Bromus erectus* Hudson (Upright Brome). Grassland, Llysfaen, SH8977, G. Battershall, 1990.

FLINT, v.c. 51 (comm. G. Wynne)

- +246/5. *Ribes alpinum* L. (Mountain Currant). Old hedge, lane S of Afonwen, SJ1370, J. Hughes, 1988.
- +663/81. *Carex dioica* L. (Dioecious Sedge). Marsh near Graianrhyd, SJ2054, J.A. Green, 1990. First localised record.
- +!720/1. *Setaria viridis* (L.) Beauv. (Green Bristle-grass). Garden weed, Caergwrle, SJ25, A.G. Spencer, 1989. Second post 1930 record.

ANGLESEY, v.c. 52 (comm. R.H. Roberts)

- 4/4. *Equisetum variegatum* Schleich. ex Weber & Moh (Variegated Horsetail). Disused quarry near Llangaffo on sand stored on the quarry floor, SH46, J. Woodman, 1990. Other species introduced with the sand include *Saxifraga granulata*, *Pyrola rotundifolia*, *Filago minima* and *Erigeron acer*.
- 50/1. *Thalictrum flavum* L. (Common Meadow-rue). Hedgebank near Llangristiolus, SH57, D. Stevens, 1990.
- *!192/7. *Trifolium incarnatum* L. (Crimson Clover). On made-up soil of car park, Traeth Lligwy, SH4987, BSBI Meeting, 1990. First record.
- +!207/8. *Lathyrus latifolius* L. (Broad-leaved Everlasting-pea). Established on limestone ridge near Penmon Point, SH68, Lars Larsen, 1990.
- +220/3/2. *Alchemilla filicaulis* subsp. *vestita* (Buser) M.E. Bradshaw (a Lady's-mantle). Pasture near Plas Penmynydd, SH47, T.H. Blackstock, 1990.
- +225/13. *Rosa mollis* Sm. (Soft Downy-rose). Hedge near Tregaian, SH4579, R.H. Roberts, 1990, det. Rev. G.G. Graham.
- +!415/1. *Datura stramonium* L. (Thorn-apple). Disturbed ground near Brynteg, SH48, P. Dodd, 1990.
- 440/3. *Orobanche rapum-genistae* Thuill. (Greater Broomrape). Near Cytir Mawr, Llandegfan, SH57, R.H. Roberts & M.R. Davies, 1990.
- 605/18x19. *Juncus x surrejanus* Druce ex Stace & Lambinon (*J. articulatus* x *J. acutiflorus*) (a hybrid rush). Marshy edge of fen, Cors Goch National Nature Reserve, SH48, R.H. Roberts, 1990.
- 663/68. *Carex muricata* subsp. *lamprocarpa* Celak (Prickly Sedge). Llaneilian churchyard, SH49, T.H. Blackstock, 1990.
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