

# WELSH BULLETIN

Editor : R. D. Pryce

No. 57, SUMMER 1994

## 27. Rosacea. pomea.

*Cotoneaster vulgaris*

~~Loc:~~ Carmelend, on cliffs  
opp. St. Geo. Ch: 4/7/61. - v.c. 49.

Note. The abundant specimens here were found by me torn up & lying on gr. ground close to the small bushes of *Cotoneaster*! Just the way to eradicate it! So I had gathered carefully before I found the others -

Robert Davies



29.204.29

S6778

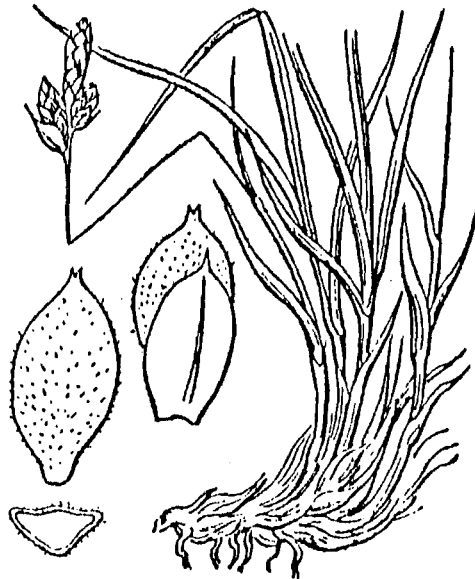
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**Carex montana**

**EDITORIAL**

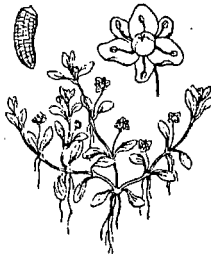
This Bulletin seems to be following on the tail of the last with undue haste but this is to ensure its arrival through your letterbox in plenty of time to remind you of the BSBI Welsh Annual General Meeting and associated field meetings to be held in Bangor from Friday 8th to Monday 11th July. Full details are in the 1994 Yearbook and Nigel Brown will be glad to advise you on arrangements and accommodation. There is always room for more helpers in the recording of a county flora and I know that Nigel will welcome all who are prepared to participate.

There is still plenty of room left for additional members to attend the *Rubus* recording weekend to be led by Alan Newton based in Carmarthen from Thursday 21st to Sunday 24th July. Here is an opportunity to learn more about the determination of the micro-species in this bewildering complex. I would be glad to supply you with further details.

The contents of this Bulletin consist of just three papers which deal with *Cotoneaster intergerrimus* and *Carex montana*, for which I am very grateful to the contributors, and my regular report on recording the Carmarthenshire flora. It would be good to receive a more steady flow of articles as there are many subjects which could usefully be tackled. Reports from around the Principality on species of interest, habitats, noteworthy sites, site and species monitoring...the list goes on... would be of immense interest to all BSBI members. Please act. Don't assume that someone else will write. Your article will be most valuable.

Lastly, I am sure you would echo me in sending all best wishes to Mrs. Annie-Marie Pell of Capel Hendre in her recovery following her recent spell in hospital. She has been a very active field botanist both in the recording of the Glamorgan flora and more recently in Carmarthenshire. I hope that she will soon be well enough to resume her botanical pursuits.

Richard Pryce, Trevethin, School Road, Pwll, LLANELLI, Dyfed, SA15 4AL.  
23rd June 1994.



*Elatine hexandra*

**COTONEASTER INTERGERRIMUS:  
A STEP FURTHER AWAY FROM EXTINCTION**

In the BSBI Welsh Bulletin No. 37 (Feb. 1983), John Davies described the status of *Cotoneaster intergerrimus*\*, the wild Cotoneaster of Great Orme Berry, and related the measures taken to increase its population at its only British location - the Great Orme's Head - to counteract the effects of Victorian specimen collectors (and possibly goats). Ten years on, the purpose of this note is to provide an update on the status of the species and on the reintroduction programme.

John Davies referred to four original plants. Shortly after the publication of his note the presence of two further plants came to light from an elderly climber/amateur botanist, who had noted the plants in his youth.

Of the reintroduced plants referred to by John Davies, one from 1979 still survives as does one from 1982. Further reintroductions from plants propagated at the University College of North Wales Botanical Gardens at Treborth, took place in 1983, 1986 and 1989 totalling 22 plants, of which seven survive today.

Seed was sown at ten sites in 1982 and 1983, and subsequent monitoring has recently revealed one plant developing as a result - the first instance of 'natural' regeneration recorded this century, and an event that perhaps give greater hope for the long term survival of this species without man's intervention.

In the short term however, with the population currently comprising 16 plants, the reintroduction programme will continue with a view to raising the population to a level near that which seems likely to have existed in the last century.

T. Gravett, Tyddyn Llan, Eglwysbach, Colwyn Bay, Gwynedd.

\* [*Cotoneaster intergerrimus* has recently been renamed *C. cambricus* J. Fryer & B. Hylmö (1994) *Watsonia* 20 61-63] Ed.

**SOME NEW RECORDS OF CAREX MONTANA L.  
FROM GLAMORGAN (V.C.41) AND CARMARTHENSHIRE (V.C.44)**

INTRODUCTION

The geographical distribution of *Carex montana* L. is centred on mid Europe and extends into southern England and Wales where it is at the north-western edge of its range. In Britain, it occurs very locally in a variety of habitats, ranging from dry limestone ledges to marshy grassland, and from shady woodland to open heathland (David, 1977). Previous records of *C. montana* from Wales (David, 1977, 1982) are restricted to scattered sites in Glamorgan (v.c. 41), Breconshire (v.c. 42) and Carmarthenshire (v.c. 44).

In 1987, the Nature Conservancy Council (NCC) began a detailed (Phase II) survey of semi-natural lowland grasslands in Wales, with the aims of characterising their floristic composition and putting forward proposals for nature conservation. Since 1991, survey work on this dwindling habitat has been continued and accelerated by the Countryside Council for Wales (CCW), NCC's successor body in the Principality. The survey takes in wet *Molinia* and *Juncus* pastures and associated soligenous mires, as well as dry neutral, acidic and calcicolous grasslands. Sites are selected for Phase II survey from a variety of sources including a closely-linked field-by-field habitat survey (Phase I) of lowland Wales. At each Phase II site, the major vegetation types are mapped, sampled and described using the National Vegetation Classification (NVC) as the basis for plant community definition. Attention is therefore focused at community level, and intensive searches for rarities are not undertaken. Nevertheless, a number of new and interesting records of vascular plants and bryophytes are emerging from this work. Similarly, the phytosociological affinities of some scarce and declining grassland taxa are beginning to become clear.

The purpose of the present note is to document five new records of *C. montana* made during survey and related CCW work in and around the coalfield sectors of v.c. 41 and v.c. 44, with estimates of population size and data on floristic associates. The records are summarised in Table 1, and representative quadrat data are presented in Table 2.

## RESULTS

Survey work carried out during 1989 in the Lliw Valley District of v.c. 41 revealed two previously unrecorded sites for *C. montana*, one at Llwyn-celyn on the outskirts of Tairgwaith and the other at Green Meadows immediately north of Rhyd-y-fro. These sites both support damp semi-natural grassland vegetation and are situated at an altitude of 150-190 metres on the Coal Measures in the Upper Clydach valley. At each site, there were two separate colonies, comprising c. 40 and c. 30 patches (probable clones) at Llwyn-celyn and c. 25 and c. 20 patches at Green Meadows. In both cases, *C. montana* was growing in short *Molinia* pasture grazed by cattle. Associates included several mildly base-demanding species characteristic of the NVC *Molinia - Cirsium dissectum* fen-meadow community (M24) (Rodwell, 1991), such as *Briza media*, *Carex pulicaris* and *C. hostiana*, as well as *Cirsium dissectum* (Table 2). The M24 community typically occurs on peats and peaty mineral soils of circumneutral pH (Rodwell, 1991), and several sizable stands have been located in damp coalfield sites during the NCC/CCW Phase II grassland survey.

A third new record of *C. montana* in v.c. 41 was made by Miss G M Barter in 1991 during fieldwork for CCW's South Wales Region at Cefncribwr near Bridgend. This low-lying site is located on the Lower Lias immediately adjoining the southern fringe of the Coalfield. The population consisted of just two small patches growing in the same plant community as at the two sites described above (Table 2). The site was grazed by cattle and sheep in 1993.

In 1992, continuing grassland survey work in the Dinefwr District of v.c. 44 uncovered two further coalfield sites for *C. montana*, the first at Dolycoed just to the west of Brynamman, and the second at Castell-du to the east of Ammanford. These two sites are situated in the upper part of the Amman catchment at an altitude of 170-210 metres. In each case, *C. montana* was found in small quantity (c. 10 and c. 30 patches, respectively) in small stands of a species-rich bent-fescue grassland community, corresponding most closely with the NVC *Festuca ovina - Agrostis capillaris - Galium saxatile* grassland, *Lathyrus montanus - Stachys officinalis* sub-community (U4c) (Rodwell, 1992). This vegetation type was not recorded from Wales during sampling for the NVC, but has since been recognised during the current Phase II survey at scattered localities in the Principality, usually as small stands of less than 0.5 ha in area. Stands sampled in England as part of the NVC project were

characteristically associated with freely-draining soils that receive slight base-enrichment from the underlying substrate (Rodwell, 1992). Associates of *C. montana* at the two Carmarthenshire sites (Table 2) included *Vicia orobus*, which was also present in small quantity. At the time of survey, Dolycoed was grazed by horses and Castell-du by cattle.

#### DISCUSSION

Geologically, most of the known sites for *C. montana* in Wales (David, 1977, 1982) are associated with outcrops of Carboniferous Limestone around the perimeter of the South Wales Coalfield, and with the Old Red Sandstone beyond. There appear to be no previous Welsh records from either the Coal Measures or the Lias. The sedge has probably been overlooked due to incomplete botanical exploration of the Coalfield and adjoining areas, and perhaps also through confusion with the closely-related *C. pilulifera* and *C. caryophyllea* which resemble it in some respects. Edaphic conditions over much of the Coalfield may be too acid to support *C. montana*, and it appears to be restricted in this area to plant communities characteristic of at least mildly base-enriched soils.

These observations on newly-discovered *C. montana* colonies in Welsh pasture sites emphasize the pressing requirement to locate and characterise the isolated remnants of semi-natural grassland in lowland agricultural landscapes of Wales. They also illustrate the need to develop conservation measures for small, and in this case clonal, populations of scarce and declining plant species in these environments.

#### ACKNOWLEDGEMENTS

We are grateful to G M Barter for supplying information about her record of *C. montana*, T H Blackstock and M J M Yeo for critical comments on the manuscript, I K Morgan for first suggesting that we write this note, and G S Motley for assistance with field recording. The five sites for *C. montana* described in this note are all in private ownership, and we are grateful to the owner/occupiers for granting access permission.

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Table 1. Five new records of *Carex montana* from Glamorgan (v.c. 41) and Carmarthenshire (v.c. 44).

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Site	Vice-county	Grid reference	Altitude (m)	Recorders	Date of record
Llwyn-celyn	41	SN7111	190	J C E Turner & D P Stevens	July 1989
Green Meadows	41	SN7105	150	T H Blackstock & K A Perry	June 1989
Cefncribwr	41	SS8581	70	G M Barter	June 1991
Dolycoed	44	SN6914	210	J M S Bevan & D E Gray	June 1992
Castell-du	44	SN6511	170	D E Gray & J M S Bevan	June 1992

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D.P. STEVENS, J.M.S. BEVAN and J.P. WOODMAN, Countryside Council for Wales, Plas Penrhos, Ffordd Penrhos, Bangor, Gwynedd, LL57 2LQ



Table 2. Floristic associates of *Carex montana* in 2 x 2 m quadrat samples from five sites in the South Wales Coalfield (T - Tairgwaith, R - Rhyd-y-fro, Cc - Cefncribwr, D - Dolycoed, C - Castell-du). Figures represent cover-abundance Domin values on a scale of 1 to 10.

Species	T	R	Cc	C	D
NVC (sub-)community	M24	M24	M24	U4c	U4c
<i>Agrostis canina</i>	4		2		1
<i>Agrostis capillaris</i>	4	3	4	5	6
<i>Anthoxanthum odoratum</i>	3	4	1	4	4
<i>Briza media</i>	3	3			
<i>Cynosurus cristatus</i>		1	1		
<i>Danthonia decumbens</i>	2	2	3	4	3
<i>Festuca ovina s.l.</i>	3	2	2	5	5
<i>Festuca rubra</i>		4	3	5	
<i>Holcus lanatus</i>	2				
<i>Molinia caerulea</i>	6	8	7	1	2
<i>Nardus stricta</i>	2	2			2
<i>Achillea millefolium</i>				3	
<i>Betula</i> sp. seedling		2		2	
<i>Calluna vulgaris</i>		2		2	1
<i>Carex caryophylllea</i>	2	1	2		4
<i>Carex flacca</i>	3	3	5		
<i>Carex hostiana</i>		1	4		
<i>Carex montana</i>	+	1	2	3	3
<i>Carex nigra</i>					1
<i>Carex panicea</i>	3	2	2	3	4
<i>Carex pulicaris</i>	2	1	4		
<i>Carum verticillatum</i>	3	2			2
<i>Centaurea nigra</i>	2	1		2	3
<i>Centaureum erythraea</i>				2	
<i>Cirsium dissectum</i>	4				
<i>Euphrasia</i> sp.	2			3	
<i>Genista tinctoria</i>	2				
<i>Hieracium pilosella</i>				3	2
<i>Hieracium</i> sp.				2	
<i>Hypochoeris radicata</i>				4	3
<i>Juncus acutiflorus</i>			2		
<i>Juncus bulbosus</i>		2			
<i>Juncus conglomeratus</i>		3			
<i>Juncus inflexus</i>			2		
<i>Lathyrus montanus</i>	1				
<i>Leontodon autumnalis</i>	1				
<i>Leontodon hispidus</i>	3			3	1
<i>Linum catharticum</i>				4	
<i>Lotus corniculatus</i>	3	3	3	4	2
<i>Lotus uliginosus</i>	2		4	4	
<i>Luzula campestris</i>					1
<i>Pimpinella saxifraga</i>				3	
<i>Plantago lanceolata</i>	3	2		3	3
<i>Potentilla erecta</i>	3	3	3	4	4
<i>Prunella vulgaris</i>		2	2	2	2
<i>Pteridium aquilinum</i>					2
<i>Ranunculus acris</i>					2
<i>Rhinanthus minor</i>	2				
<i>Salix cinerea</i>		1			
<i>Salix repens</i>		4			
<i>Sanguisorba officinalis</i>				3	
<i>Serratula tinctoria</i>	3	1	1	2	2
<i>Stachys officinalis</i>	1	2		3	4
<i>Succisa pratensis</i>	4	5	3	4	5
<i>Taraxacum</i> sp.	1				1
<i>Trifolium dubium</i>			1		
<i>Trifolium pratense</i>	2	1		2	
<i>Ulex europaeus</i> seedling		2			
<i>Vicia orobus</i>				3	3
<i>Brachythecium rutabulum</i>			2		
<i>Calliargon cuspidatum</i>	2	2	4		1
<i>Ctenidium molluscum</i>		2			
<i>Hypnum cupressiforme s.l.</i>				2	3
<i>Pseudoscleropodium purum</i>	2			3	3
<i>Rhytidiadelphus squarrosus</i>	2		1	3	2
<i>Thuidium tamariscinum</i>	1				
Bare soil	2				4

+ *C. montana* present in stand just outside quadrat

## CARMARTHENSHIRE FLORA PROJECT: PROGRESS IN 1993

This year's report continues to show how the enthusiasm of recorders remains as high as ever. Very successful recording weekend meetings were held during the year and all corners of the vice-county (vc) were visited with many new records being made.

### COASTAL RECORDS

Early in the year an unsuccessful search was made for both *Mibora minima* (Early Sand-grass) and *Hornungia petraea* (*Hutchinsia*) which both grow on Whitford Burrows in Glamorgan, only c 5km from potentially suitable habitat at Pembrey. The dune systems at Laugharne and Tywyn Burrows as well as Pembrey were scoured by George Hutchinson (GH), Trevor Crosby and RDP but it would appear that rabbit activity is not intense enough to produce the exact conditions that the plants require.

During the July meeting of the MoD Pendine Conservation Group, members refound *Viola hirta* (Hairy Violet), the first vcr for nearly twenty years (SN242079). Later the same day a very small, non-flowering, *Ranunculus* plant was found which it was hoped would turn out to be *R. tripartitus* (Three-lobed Crowfoot) (SN311072). However, later careful examination by GH at the National Museum of Wales (NMW) showed that the specimen was *R. sardous* (Hairy Buttercup), the third vcr and a species that has only been recorded once since c1960.

Philip Jones, who frequently walks over Pembrey Burrows, reported another very prolific year for *Orchis morio* (Green-winged Orchid) but also recorded a new station for *Ophrys apifera* (Bee Orchid) when he discovered one spike on the "Lifeboat Dunes" (SN427002) on 10 June. It was in seed by 30 June. This is the sixth vc site, five of which are probably extant. He also reported a good number of specimens of *Linaria supina* (Prostrate Toadflax) at a new site, growing on disturbed ground near a new football field in Burry Port (SN453008).

On 17 August, John Rees (JR), GH and RDP met at East Marsh below Sir John's Hill, Laugharne primarily to record the aquatic flora of the pills and ponds. Generally speaking, the diversity was disappointing due to the adjacent intensity of farming. The most abundant species was *Potamogeton pectinatus* (Fennel Pondweed) which grew in many pills (eg SN290094). One pond, which was fenced from farm stock, proved to be the richest (SN304086) and supported both *Ceratophyllum demersum* (Rigid Hornwort) and *C. submersum* (Soft Hornwort), together with *Hippuris vulgaris* (Mare's-tail) and *Potamogeton natans* (Broad-leaved Pondweed). Another narrow-leaved pondweed collected from a few sites was later determined by C.D.Preston (CDP) as *P. pusillus* (Lesser Pondweed).

The first vcr of *Molinia caerulea* subsp. *arundinacea* (a subspecies of Purple Moor-grass) was confirmed by GH from material collected near the Witchelt Pool on Laugharne Burrows (SN283077) (coll. GH & Ian Morgan (IKM), 1992) and the second record was also confirmed by GH from a specimen from near the southeast corner of the Lower Lliedi Reservoir, Llanelli (SN519033) (coll. IKM, conf. GH, 1992).

Early in the year GH found what he suspected to be three old *Populus nigra* subsp. *betulifolia* (Black Poplar) trees by Dyfatty Marsh, Burry Port (SN454008). This was an exciting

culmination to the research that he and IKM had been undertaking in order to plot the locations of the different *Populus* taxa growing in the district. Arthur Chater (AOC) has since confirmed the identification.

### ORGANISED MEETINGS

There were two BSBI recording meetings during the year. The first, based at Ferryside and held in mid-June, was led by GH. Under-recorded tetrads in the west and north of the vc were visited on the Saturday and several notable records were made. Ten spikes of *Platanthera chlorantha* (Greater Butterfly Orchid), 50+ of *Dactylorhiza praetermissa* (Southern Marsh-orchid) and *Dryopteris carthusiana* (Narrow Buckler-fern) were found growing in an unimproved meadow 5km north of Nantgaredig (SN487268) by Jean Green who also reported *Isolepis setacea* (Bristle Club-rush) and *Polygonatum multiflorum* (Solomon's Seal) from the same tetrad. GH and J.A.Gibson also recorded *P.mutiflorum* in SN12H and SN12M. John Killick (HJK) discovered *Geum rivale* (Water Avens) in a wood below Hafod Farm (SN666215) and a nearby mire had *Pinguicula vulgaris* (Common Butterwort) and *Scutellaria minor* (Lesser Skullcap). The whole party spent the Sunday monitoring the notable species growing on Tywyn Burrows (SN30R & SN30S). This has been written-up by the leader and will appear elsewhere (Hutchinson, 1994).

The second recording weekend was based at Lampeter from 30 July to 2 August. On the Saturday, some superb streamside flushes were discovered by John and Margaret Humphrey (J&MH) and RDP at Cwm Iar, Llanllwini (SN508395) supporting extensive stands of *Eleocharis multicaulis* (Many-stalked Spike-rush) in company with, for instance, *Rhynchospora alba* (White Beak-sedge), *Hypericum elodes* (Bog St.John's-wort) and *Drosera rotundifolia* (Common Sundew). In addition, *Asplenium trichomanes* subsp. *trichomanes* (Maidenhair Spleenwort) (conf. GH) was discovered in the same tetrad, growing in the vicinity of *Phegopteris connectilis* (Beech Fern) on an acid streamside crag at SN519397. The following day, J&MH visited SN64D accompanied by James and Mary Iliff (J&MI) and again they discovered some good flushes with, for instance, *Hypericum elodes* and *Veronica scutellata* (Marsh Speedwell) (cSN610461). Most remarkable, however, was the noticeable absence of *Pteridium aquilinum* (Bracken) throughout the tetrad, a fact borne out by Arthur Chater (AOC) when he visited the square in 1985. J&MI also spent a day and a half in the Twrch Valley south of Llyn y Gwaith where they recorded wetland habitats with *Potentilla palustris* (Marsh Cinquefoil) and *Vaccinium oxycoccus* (Cranberry). AOC and RDP made the first vcr of the hybrid Holly *Ilex x altaclerensis* (= *I. aquifolium* x *perado*) (det.AOC), an isolated tree of which was growing on an exposed, boundary bank near Gelli Dewi, south of Cwmann (SN583444). Habitats within the tetrad ranged from bog with *Vaccinium oxycoccus* and *Scutellaria minor* (cSN584443) to dry grassland with *Campanula rotundifolia* (Hairbell) and *Viola lutea* (Mountain Pansy) (cSN589442) and a hedge close to the derelict farmstead of Pantmaenog (SN593444) was dominated by *Laburnum alpinum* (Scotch Laburnum). GH & Jim Bevan (JB) also found this species near Llanybydder (SN538419). AOC also visited SN53J and his very thorough records included *Eleogiton fluitans* (Floating Club-rush) (SN527397) and in company with Peter Jones he discovered *Equisetum sylvaticum* (Wood Horsetail) on extensive flushed slopes near Llanfynydd (SN566291) and a single plant of *Epipactis helleborine* (Broad-leaved Helleborine) growing at SN572276.

The meeting organised by the Llanelli Naturalists on 17 July and led by Nigel Stringer and Dic Davies set out to contrast the respective floral communities of the Millstone Grit, the Carboniferous Limestone and the Old Red Sandstone in the Carmel area (Davies, 1993).

The acidophiles of the thin quartzite soils and peat bogs of the grit (SN593158) were represented by such species as *Rhynchospora alba* and *Osmunda regalis* (Royal Fern). Across the main road at the large karstic depression known as Pwll Edrychiad (SN595163), 200-300 spikes of *Platanthera chlorantha* (Greater Butterfly Orchid) had been recorded in the previous year but none was seen on this occasion. Typical limestone species such as *Primula veris* (Cowslip), *Linum catharticum* (Fairy Flax) and *Carlina vulgaris* (Carlina Thistle) were, however, noted and the transitional ecotone onto the acid Old Red Sandstone dip-slope, which was characterised by *Molinia caerulea* (Purple Moor-grass), *Calluna vulgaris* (Heather) and *Pteridium aquilinum* (Bracken), was well marked.

### MONITORING

Talley Lakes were the focus of much attention by Liz Flood, Carmarthenshire Conservation Officer of the Dyfed Wildlife Trust who was instrumental in the construction of a boardwalk and a hide adjacent to the Lower Lake. She also arranged to sample the aquatic macrophytes of both lakes by canoe in August, accompanied by RDP! Much material was collected much to the consternation of GH who very kindly and patiently sorted and determined it. No new records were made but the great abundance of *Potamogeton berchtoldii* (Small Pondweed) (det. CDP) was noted in the Lower Lake together with *P. obtusifolius* (Blunt-leaved Pondweed) and two populations of *Elatine hexandra* (Six-stamened Waterwort) were seen in the southern end of the Upper Lake where only one was previously known. Also very abundant was *Carex aquatilis* (Water Sedge) which frequently grew in beds around the lake margins.

Considerable research by Ian Morgan (IKM) into the locations of the two 1940s records of *Melittis melissophyllum* (Honey Balm) from the northwest of the vc was rewarded by his refinding of one of them (Morgan, 1993). One plant was seen on 13 May comprising one robust flowering shoot with three much smaller shoots on a roadside hedgebank near Lan Cych (SN23) associated with species suggesting a degree of base enrichment.

In the autumn, IKM, GH and RDP made an unsuccessful attempt to refind the only bush of *Juniperus communis* (Juniper) known in the vc in recent years which formerly grew on Craig-y-Bwch near Ystradffin (cSN775457). Mrs. Vaughan made a note that the plant was in very poor condition in June 1972 and that it had disappeared by November 1976. However, David Davies, in a recent conversation told me that he had seen the bush since Mrs. Vaughan's retirement to Suffolk, which would put the date in the early 1980s. He said that it consisted of one dead branch about 1m high with one, smaller subsidiary, live branch. A consolation for us was that a single plant of *Huperzia selago* (Fir Clubmoss) was found and the views of the Upper Tywi area from the summit were breathtaking.

IKM, GH and RDP embarked upon a similar, unsuccessful attempt to refind *Mentha pulegium* (Pennyroyal) recorded as "frequent on the wet heaths near Upper Brynamman" by J.A. Webb in 1944. The scorching day did, however, have a minty end with *Mentha x smithiana* (Tall Mint) being discovered as a certain member of the team cooled off in the River Amman at Pantyffynnon (SN624107)!

### OTHER INLAND SITES

The CCW Phase 1 surveyors Richard Howorth (RH) and Sarah Andrews (SA) provided comprehensive records of semi-natural grassland sites in Carmarthen District which included new records of such species as *Carum verticillatum*, (Whorled Caraway) *Cirsium dissectum*,

(Meadow Thistle), *Genista anglica*, (Petty Whin) *Sanguisorba officinalis*, (Greater Burnet) and *Potentilla palustris* (Marsh Cinquefoil). Near Rhydgareau, SA also recorded at least ten plants of *Botrychium lunaria* (Moonwort) at SN459269 and eight to ten clumps of *Ophioglossum vulgatum* (Adder's-tongue Fern) at SN458266.

Only one site for *Eriophorum latifolium* (Broad-leaved Cottongrass) was known in the vc prior to 1993. Jamie Bevan (JMSB) and Graham Motley (GSM), CCW Phase 2 surveyors, made three new records in June at the following sites: about ten plants in a base-rich flush at Cwrt Bryn y Beirdd, Trapp (SN659181), about fifty plants at Pen-y-graig (SN742226) and about twenty plants at Gellyfawr (SN5915) and J.J.Graham recorded about five plants at Tyle Pengham (SN7622). In addition, JMSB and GSM recorded two new sites for *Galium uliginosum* (Fen Bedstraw), about ten plants at Pen-y-graig and a further ten at Llwynroser (SN758225). These complemented the discovery of about thirty plants at Cae Maes-y-fynnon SSSI by JMSB and Dawn Gray in 1991.

IKM discovered a new site for *Antennaria dioica* (Mountain Everlasting) where about fifty plants were growing on the Carboniferous Limestone outcrop on Mynydd Du at Pal-y-Cwrt (SN676181) with *Helianthemum nummularium* (Common Rockrose) (4th vcr) and *Sherardia arvensis* (Field Madder) also in the vicinity.

The fourth vcr and first since 1975 of *Dryopteris oreades* (Mountain Male-fern) was made in November by IKM and Andy Jones (conf. GH) from upland crags of Craig Dyferion, near Rhandirmwyn (SN734463)

Early in the year, a ten km square was "discovered" new to the vc following RDP's examination of the 1:2500 OS maps of the Cwmgors area! The area of SN70 within Carns amounts to no more than 1000m<sup>2</sup> of unimproved, wet, rush-dominated, rough pasture alongside a small stream (SN700099). The flora was not outstanding but did total 65 species including *Carum verticillatum*, as well as *Scutellaria galericulata* (Common Skullcap) and *Valeriana dioica* (Marsh Valerian). Close by in adjacent tetrads, *Epipactis helleborine* was frequent along the hedgebanks of the drive to Nantricket Farm (SN699102 & SN700102).

As I predicted in last year's report, *Carum verticillatum* had to be in SN30. After a day in August unsuccessfully searching likely looking habitats (which did produce some other notable species), I spent a second day and eventually discovered three plants growing in a very scruffy, cattle-grazed, slightly flushed, semi-improved, rushy pasture below Allt Farm near Llansaint (SN397091). This just proves that the species is able to hang-on even when agricultural management has exterminated virtually everything else of interest. This was of, course, a new 10km square record and one that had been sought for some years. There does not appear to be any further suitable habitat within SN30. *Carum* was also recorded new to the following tetrads: SN31C, SN72P, SN72U (all GH), SN41L (RH), SN41P, SN42K (both SA), SN53E (J&MH & RDP), SN53J (AOC), SN54X (AOC & RDP), SN70E (GH & RDP) and SN74V (J&MI).

### CRITICAL GROUPS

Great excitement followed Tim Rich's visit to Cardiganshire in August when he and AOC confirmed the presence of *Rorippa islandica* ss at several more sites in the Teifi valley following AOC's discovery of the species at Cenarth in 1991. Not only did they discover the plant in vc46 but they also made the first vcr for Carmarthenshire when they recorded well

over 1000 plants growing in a silage field near Newcastle Emlyn (SN319408). In October Tim examined herbarium material at NMW and redetermined the following collections as *R. islandica* ss: from shingle of the River Bran, near Llandoverly (SN783362)(RDP, 1981); West Pwll rubbish tip (SN40Q)(IKM, 1982) and an immature specimen which he was unable to confirm from Cwm Mynys near Llanwrda (SN726340)(HJK, 1986). The species was also confirmed from Garnswllt, on the Glamorgan side of the Loughor from material collected by Gwynn Ellis in 1981 and is probably awaiting discovery on the vc44 side!

The 1992 collection of *Taraxacum* (Dandelion) specimens was determined and I am very grateful to John Richards and Andrew Dudman for their attention and to GH for submitting them from the NMW. There were ten new vc records (*T.hamiferum*, *T.cordatum*, *T.aberrans*, *T.stereodes*, *T.sinuatum*, *T.inopinatum*, *T.lucidum*, *T.chrysophaenum*, *T.dilatatum* and *T.nitidum*) and nine second vc records (*T.undulatum*, *T.expallidiforme*, *T.chrysophaenum*, *T.porteri*, *T.lamprophyllum*, *T.atactum*, *T.hamiferum*, *T.piceatum* and *T.subbracteatum*). All were collected by GH and/or RDP on one of three days at the end of April 1992 from sites widespread through the county. One site of note was situated in the Clydach valley, 1.3km east-northeast of Brechfa at SN536310 which yielded six species: *T.dilatatum* (ncr), *T.subbracteatum* (2nd vcr), *T.porteri* (2nd vcr), *T.ekmani* (3rd vcr), *T.expallidiforme* (3rd vcr) and *T.atactum* (new 10km square record) (all GH & RDP).

Alan Silverside (AJS) returned a large batch of *Euphrasia* (Eyebright) specimens which GH had previously sorted and many of which he had provisionally determined. Most of GH's deliberations were confirmed. I reproduce Alan's comments below.

"Carmarthenshire obviously has the same problems as S.W. England and S.W. Scotland in that *E. confusa* and *E. nemorosa* are substantially replaced by their hybrid, but the limits one sets on the pure species are rather arbitrary. As with S.W.Scotland the situation is compounded by the presence of *E. arctica* subsp. *borealis* as a third corner of what may be an almost continuous triangle of hybridisation in these grassland taxa."

"By contrast it was almost a relief to work through the *anglica/rozkoviana* material. In damp upland turf *E.officinalis* subsp. *rozkoviana* can get quite small and slender and I have named some such plants as this without feeling the need to invoke hybridisation. If Carmarthenshire has any decent upland hay meadows left near the Breconshire border, perhaps you should tell local recorders to look out for subsp. *monticola* (= *E. montana*). It is still in Breconshire and could be overlooked elsewhere."

Taxa determined or confirmed by Alan included:

- Euphrasia arctica* x *confusa*: 1. Waste ground at Machynys (SS5198)(BSBI Meeting, coll. RDP, 1986), first vcr and second Welsh record. 2. Grassy hillside, east of Pont Ricket (SN3421) (GH, 1987), second vcr and third Welsh record.
- E. confusa* x *officinalis* subsp. *rozkoviana*: Upstream of Pont Clydach, Mynydd Du (SN71) (RDP, 1982), first vcr and second Welsh record, "apparently this"- AJS
- E. nemorosa* x *officinalis* subsp. *anglica*: Rough pasture, Cefn Parcin, Llanybydder, (SN54) (Mrs.I.M.Vaughan, 1972), first vcr and third Welsh record.
- E. arctica* x *scottica*: 1. Healthy roadside near Llidiadenog (SN553367) (RDP, 1986), first Welsh record and first vcr. 2. Boggy turf near Llyn Brianne (SN804489) (M&J, 1986), second Welsh record and second vcr, "apparently"- AJS.

Several *Rubi* (Brambles) were determined by Alan Newton, and these included the third vcr of a species from the *Suberecti* group: *Rubus scissus*, from a diverse traditional hay-meadow site near Lampeter (SN634477) which also had *Platanthera chlorantha* and in a small pond, *Utricularia minor* (Lesser Bladderwort) (Lindsay Applegate & RDP).

*Rosa* determinations by Tony Primavesi included the second vcr of the hybrid between *R. sherardii* (f) and *R. canina* (m) from near Capel Iwan (SN276376) (GH & RDP) as well as several new 10km square records.

Brian Robson determined the first three authenticated records of *Hypericum x desetangsil* (*H. maculatum* x *H. perforatum*) (Des Etangs' St.John's-wort) for the vc: 1, hay meadow at Pencarreg (SN567460) (HJK, 1985), 2, roadside above Goitre (SN373234) (HJK, JB & M.E.Smith, 1992) and, 3, hedgebank at cross roads east of Dinas (SN278300) (GH & RDP, 1992). Several other records of this taxon have been received in the past but these are the first to have been confirmed by the referee.

Peter Yeo determined an unusual colour form of *Aster x salignus* (a Michaelmas Daisy) which has been known as being established at Cydweli railway station for at least fifteen years (SN401065) (GH).

GH determined or confirmed several elms (*Ulmus* spp.) collected by IKM. *U. glabra* x *minor* was growing in company with other elms at Ffordd-y-Wagen, Pwll (SN471011), *U. minor* was planted along the south side of the A40 road just east of the turning to Llantlŵch (SN351189) and a large mature tree of *U. laevis* (European White Elm) was present in Dinefwr Deer Park, Llandello (SN610223).

## ALIENS

Alien species recorded during the year included a first vcr of *Epilobium canum* (California Fuschia) which was another noteworthy "weed" discovered growing in the garden of Dylan Thomas' Boathouse, Laugharne (SN306110) by John Rees adding to his finds of last year. A first record for Wales was the planted *Populus tremuloides* on dunes at the northern end of Ferryside, noted during the June recording meeting by GH & J.A.Gibson. A probably bird-sown shrub of *Amelanchier lamarkii* (Juneberry) discovered in full flower by IKM & GH on 26 April growing at the edge of a ride in Penybedd Wood, Pembrey (SN417017) was a new vc record and also the 2nd record for Wales. In July, GH & RDP found two plants of *Tropaeolum majus* (Nasturtium) flowering on a disturbed roadside bank near Abergwili (SN435222) which was only the second vcr. A single plant of *Silene armeria* (Sweet-William Catchfly) was discovered in derelict ground near houses at Upper Brynamman (SN708142) by Jeff Hoskins which was a new vcr and only the third Welsh record (det. RDP, conf. GH). Jim Davies recorded a new site for *Azolla filiculoides* (Water Fern) near Golden Grove (SN589191) and both the first and second vc records were made of *Lathyrus nissolia* (Grass Vetchling): well established at edge of restored opencast land near Cae'r-bryn (SN597143) (Keith Sanderson & RDP) and a road cutting near Porthyrhyd (SN521166) (GH).

Urban areas again produced their fair share of records. The first Welsh record of *Eccremocarpus scaber* (Chilean Glory Vine) was made when one plant was noted by IKM as a pavement weed in Little Water Street, Carmarthen (SN413203). It was so diminutive that its identity alluded all until revealed by R.W.Rutherford of the University of Reading. IKM also recorded *Onobrychis vicifolia* (Sainfoin) amongst tree plantings at Machynys (SS508979)

which was the first var since Hamer's of 1922. This was growing in company with the alien, upright variety of Common Bird's-foot Trefoil, *Lotus corniculatus* var. *sativus* which is often found established on restored open-cast sites. He also found one plant of *Fagopyrum esculentum* (Buckwheat) growing as a street-weed in John Street, Llanelli (SN506002).

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As always I must thank all of you who have submitted records (too many for me to cope with!) and to all who have made the year's field meetings so enjoyable and often memorable. Special thanks, as always, to George Hutchinson for his continued remarkable contribution, not only in the field but also in determining specimens in the museum and also communicating with many referees and undertaking the laborious task of submitting specimens for examination. Ian Morgan has again surpassed his customary high quality of records and James and Mary Iliff continue to submit tetrad cards of such detail that one is tempted to subdivide them into site-related species-lists for the purpose of computer input. Thanks also to the CCW Phase 1 and 2 survey teams for letting me have access to the cream of their discoveries. And finally, I am most grateful to all those referees whom George has consulted who devote so much time and energy into servicing the requests of all recorders, nationwide.

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**Orchis Morio**