

BOTANICAL SOCIETY OF THE BRITISH ISLES

# WELSH BULLETIN

*Editors : R. D. Pryce & G. Hutchinson*

**No. 78, June 2006**

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Publication date of last BSBI Welsh Bulletin (No. 77) - January 2006.

## NEW STORAGE FOR THE WELSH NATIONAL HERBARIUM

The Welsh National Herbarium of vascular plants has been re-housed following purchase of 420 new cabinets with a £100,000 grant from the Welsh Assembly. The new cabinets have allowed the entire collection to be rearranged and integrated into one room, with improved access and additional expansion space for the next 25 years.

The herbarium originated in 1870 when Cardiff Museum purchased a small collection of dried plants collected in the 1830s by Charles Conway of Pontrydyryn. In 1912 the collection was taken over by the newly constituted National Museum of Wales, by which time it comprised some 3,500 mounted specimens. Expansion continued through gifts, exchange, purchase of new collections and amalgamation of defunct herbaria. By 2004, the collections had contained about 235,000 specimens, and a reorganisation of the collections was long overdue.

The new cabinets were purchased from C&D (Sheet Metal) Engineering in Kent, who have also supplied cabinets to Kew Gardens and the Natural History Museum. The cabinets are constructed of sheet metal and can be bolted together, which will allow them to be loaded onto roller racking at some stage in the future. There are insect-proof seals around the doors, and shallower shelves to improve storage conditions for the specimens. The rearrangement took about 15 months, and was a huge undertaking, with many museum staff helping.

There are significantly improved facilities for visitors to work on the collections, who will be very welcome. Please contact either myself or George Hutchinson for access.

TIM RICH, Head of Vascular Plants  
National Museum of Wales, Cardiff CF10 3NP  
Tel: 02920 573218 email [tim.rich@museumwales.ac.uk](mailto:tim.rich@museumwales.ac.uk)

## A NEW “WILD” PLANT FOR THE BRITISH ISLES

In 2005, John S. Rees from Bristol sent me a few-flowered head and a compound leaf from a plant he had found on the bank of the Usk, near the bridge, at Abergavenny. He was unfamiliar with it and looked it up in Stace and decided it was *Cardamine bulbifera*. I was not convinced and the following day I visited the site near the top of a drainage ditch for carrying off flood water from Castle Meadows and counted 7 flowering spikes and 3 non-flowering stems, each had a whorl of 3 compound leaves just below the middle of the stem; only one had an additional, single compound leaf and that between the whorl and the inflorescence; there were no simple leaves and no bulbils; the inflorescence was a symmetrical, shortish raceme of 20-22mm long, deep purplish flowers (see photograph of a pressed plant); 2 outer stamens were shorter than the 2 inner ones, which were slightly shorter than the pistil, which was slightly longer than the fused tubular part of the clawed petals; the glabrous, oval sepals were brownish purple with the 2 outer ones slightly saccate at their base. The key in *Flora Europaea*, Vol. 1, page 285 (1st edn) in 4 steps revealed the plant as *Cardamine quinquefolia*, a plant of E. Europe. My rather old edition of *Plant Finder* had no mention of this *Cardamine*, George Hutchinson looked up last year’s version for me and found there were now 17 suppliers of the plant. Was one of these (via a gardener) the origin? The plants are among brambles and small saplings of at least Ash. A small piece of rhizome with leaves was removed to my garden where for over a month it survived and looked good, and then one morning there was nothing there except the trail of slug or snail. I couldn’t believe it, when early in March, this year a flash of purple caught my eye and there was a perfect flowering stem bedecked with a single whorl of 3 compound leaves and an inflorescence and with a single compound leaf on its own a few centimetres away. A visit to Abergavenny shortly after revealed the colony had 26 flowering plants so one was picked, pressed and presented to

**NMW.** Tim Rich and I looked up the Russian flora and found a drawing of *C. quinquefolia* and it matched the specimen, the Bulgarian Flora had an even better matching drawing.

A week ago, I received a letter from one of my recorders, Bob Hewitt. His friend Stephen Baker, also from near Pontypool, had visited his late wife's grave at Llangattock and had noticed flowers he didn't recognise on the bank of Nant Onnau. Bob collected a part of one and sent it off to someone in RHS. It was obviously not complete enough as the reply said it was *C. bulbifera*. Bob came with me and we saw at least 5 colonies, one quite big (see photo), the plants were examined, most of them were the same as those at Abergavenny with 3 compound leaves per whorl but one plant had a whorl of 4 and one had 2 leaves with a third just above the other two. There were no bulbils. The Onnau flows into the Usk opposite Crickhowell, a higher point than Abergavenny. The Usk floods, and it looks as if a propagule has been carried down to Abergavenny to establish a new colony. As every leaf has 7 leaflets why *quinquefolia*?

TREVOR EVANS, La Cuesta, Moun-ton Road, Chepstow, Gwent NP16 5BS

## RECORDING THE FLORA OF BRECKNOCKSHIRE : 2005

The discovery by Ray Woods of a single plant of *Dryopteris aemula* (Hay-scented Buckler-fern) near Elan Village marks a notable extension in the range of this species in Brecknockshire. With one bound it has leapt from its one known site near the southern boundary with Glamorgan to the northern extremity of v.c.42.

A small population of *Diphasiastrum alpinum* (Alpine Clubmoss) on a rocky outcrop on the northern slopes of Fan Nedd provided another example of an increase in the known distribution of a locally uncommon species. Nearby were flourishing populations of *Festuca vivipara* (Viviparous Fescue), *Huperzia selago* (Fir Clubmoss) and *Hymenophyllum wilsonii* (Wilson's Filmy-fern). Many dwarf plants of Fir Clubmoss were also found growing with *Carex montana* (Soft-leaved Sedge) in closely grazed turf over limestone on Mynydd Llangynidr.

An unusual habitat for a locally scarce plant was reported by Tim Rich when he found eight clumps of *Vicia sylvatica* (Wood Vetch) growing along the top of a limestone cliff at Cefn Sychbant.

In 2005 one plant of *Campanula patula* (Spreading Bellflower) was flowering at one of its two extant localities in Brecknockshire. Both sites are steep lane banks which are subject to erosion.

Not surprisingly, at this stage in mapping the flora, most of the new county records in 2005 were aliens. *Verbascum speciosum* (Hungarian Mullein), on a road verge at Brecon, *Arisarum proboscideum* (Mousetailplant), on shady rough ground near Ystradgynlais, and *Phaseolus vulgaris* (French Bean), beside the canal at Brecon, were all NCRs reported by Tony and Viv Lewis. Steve Chambers noted *Hedera colchica* (Persian Ivy) as well established on a road bank near Llangattwg and Hywel Price recorded *Dianthus barbatus* (Sweet William) on waste ground at Bwlch. *Diascia integerrima* (Twinspur), growing on a road verge at Penderyn, and *Sutera cordata* (Bacopa), on the bank of the river west of Hay-on-Wye, may both have escaped from discarded hanging baskets. The soil used for the construction of a new roadbank near Bronllys, which supported several plants of *Fagopyrum esculentum* (Buckwheat), was traced to a nearby estate where pheasants are reared. The only new blackberry recorded last year was also an alien, *Rubus tricolor* (Chinese Bramble)!

Many of these records of aliens will be only casual occurrences, but the discovery of *Crassula helmsii* (New Zealand Pigmyweed) in a moorland pool on Mynydd Illtud, 6km west of Brecon rang alarm bells. The Brecon Beacons National Park own this area, so their Ecologist was alerted and has taken control measures, but only rigorous monitoring in subsequent years will show whether these measures have been effective. Nearby on this upland common, there are several other small pools, with scarce species such as *Limosella aquatica* (Mudwort) and *Baldellia ranunculoides* (Lesser Water-plantain), which would be threatened by an invasion of the pigmyweed.

MIKE PORTER, Aberhoywy Farm, Cyffredyn Lane, Llangynidr, Crickhowell NP8 1LR

## REPORT FOR V.C.43

Since the last report there have been few major happenings. An important project which was undertaken by Margaret Gill from Glasbury was a survey of the present botanical status of the Dolyhir and Strinds quarries. These are very active quarries, mainly providing roadstone, but also are the only sites of limestone in the county. There was considerable interest and co-operation from the owners, Tarmac Western, and the results have been published in the Radnorshire Society Journal with beautiful colour drawings by Margaret, straying for that year from her usual archaeological interests.

2004 has been a good year for *Ophrys apifera* (Bee Orchid) over the country generally, and provided the first county record when it was spotted by a local farmer's wife on the verge of the main A44, only a half mile from the English border with Herefordshire. Its reappearance on this closely mown trunk road edge will be awaited, but without great certainty.

Ongoing projects here will have to be to produce a second edition of the *Radnorshire Rare Plants Register* of 2001, and to work towards an update of Ray Wood's *Flora of Radnorshire* of 1993. The records for that publication had been made in 5km squares. Many later County Floras had tetrad distribution maps, which are not compatible with 5km quadrants, and therefore records are now being made in 1km squares, compatible with both methods, and nearer to the present tendency to concentrate on sites rather than areas. Actually v.c.43 has some 1300 km squares of which over 200 are partial squares on the county boundary. Like most Welsh counties many squares have no roads crossing them, and 'square-bashing', although a pleasurable activity, can become quite arduous. The county is well known for a great preponderance of sheep population over human, and a consequent scarcity of recorders.

DAVID HUMPHREYS, Knill Court, Presteigne, Powys LD8 2PR

### **THE RESULTS OF THE LOCAL CHANGE SURVEY IN TETRAD SN78A, CWMBRWYNO, CARDS, V.C.46**

In many ways this tetrad, 12km east of Aberystwyth on the A44, is a microcosm of inland Cardiganshire and it would be difficult to find any other more suitable for monitoring change in the county. It spans the boundary between lowlands and uplands, ranging from 105 to 370m altitude, and includes two complete small valleys and parts of two larger ones. In 1987-88, two-fifths of it were Forestry Commission conifer plantations, another two-fifths were improved, reseeded pasture, mostly grazed by sheep, and the remainder included unimproved upland sheepwalk and moorland, marshy pastures, several areas of poor fen, acidic bog and associated flushes, *Molinia* blanket bog, *Quercus petraea* woodland, scrub on rocky slopes, bracken-dominated slopes, heathy cliff slopes, wooded ravines with waterfalls, four streams and several arable fields. There was a hamlet of nine houses and a chapel with graveyard, two working farms, four other houses, two former lead mines with associated ruins and spoil tips, a small partly silted-up mine reservoir, a small quarry, a Forestry visitor centre, a trunk road with extensive lay-bys, and a network of other roads, green lanes, hedges, Forestry roads and footpaths. There were no SSSIs or nature reserves, and this absence of any statutory conservation designation meant that any changes that took place were likely to reflect the market forces and general public and institutional attitudes that would affect the county as a whole.

291 taxa were recorded in the tetrad in 1987-88. A considerable number of these were restricted to just one site, often just one or a few plants or in just a few square metres, for example *Lycopodium clavatum*, *Hymenophyllum wilsonii*, *Dryopteris carthusiana*, *Phyllitis*, *Asplenium trichomanes* subsp. *trichomanes*, *Pinguicula vulgaris*, *Silene uniflora*, *Linum catharticum*, *Epilobium brunnescens*, *Valeriana officinalis*, *Eleocharis palustris* and *Carex pallescens*. In a commentary on the tetrad submitted with the Monitoring Scheme results I suggested that species such as these would be expected to be especially vulnerable to any changes, and in an article (published only in Welsh, "Y filltir sgwar a'r rhwydwaith o blanhigion [The square mile and the network of plants]", *Y Naturiaethwr* No.19, pp.11-14 (1988)), describing this tetrad, I commented on the presumed importance of these often minute populations in maintaining the more general distribution of the less common species over the countryside as a whole.

By 2003-04 many changes had taken place in the tetrad, although most of the proportions of the different habitats remained roughly the same. Some areas of conifers had

[Erratum, colour section p.3: *Amsinckia micrantha* vide *A. microphylla*]

been felled, several areas of unimproved pasture had been reseeded, especially in the higher parts, a small part of the blanket bog and flushes had been destroyed to make an access road for a wind farm just outside the tetrad, one of the arable fields was different, the larger lead mine had been partially restored to smooth slopes, the visitor centre had been greatly extended and modified, the trunk road had been widened and part of the hillside cut away, the lay-bys had been extended and disturbed, a new house had been built and the chapel demolished and its graveyard become more overgrown. The larger upland farm had entered the Tir Gofal agri-environment scheme, although this had not yet had time to influence the vegetation. The most striking change was the construction of four new ponds, all on different properties. Three were small, put into marshy pastures for pleasure and environmental enrichment. The fourth was a 3ha lake built by the Forestry Commission next to the visitor centre, flooding an area of very acidic marsh and poorly grown conifers. (The ten Local Change tetrads in v.c. 46 had eight ponds built in them since 1987-88, so if this was a representative sample, and I think it may well be at least for this feature, it would indicate c.440 new ponds in the county in the last 17 years, probably the greatest single habitat change during that period.)

The 2003-04 total of taxa was 327, an increase of 36. Of the 69 new taxa recorded, 26 had probably been missed the first time through accident or ignorance (including *Trichomanes gametophyte*, *Juncus xkern-reichgeltii* and *Dactylorhiza maculata*). The 43 taxa that had probably genuinely newly arrived had come partly because of road widening and disturbance of the verges and lay-bys, or as part of the general movement of casuals along roads (seven taxa, including *Cochlearia danica*, *Atriplex patula*, and *Poa compressa*); because they had been deliberately planted, mostly in connection with the new ponds (15 taxa, including *Carex pendula*, *Crassula helmsii*, *Glyceria maxima* and *Cornus sanguinea*); because of changes in arable cultivation (four taxa, *Brassica rapa*, *Euphorbia peplus*, *Sonchus oleraceus* and *Viola arvensis*); by pasture reseeding (*Lolium multiflorum*); and by throw-outs from gardens and bird-dispersal (six taxa, including *Geranium endressii*, *Cotoneaster simonsii* and *Lysimachia punctata*); and by probably natural spread to the new ponds (five taxa, *Eleogiton fluitans*, *Lemna minor*, *Myriophyllum alterniflorum*, *Typha latifolia* and *Lythrum portula*) and to the old pond (*Sparganium erectum*). Apart from these last six taxa, the only other presumably naturally arrived native was *Ornithopus perpusillus*, on a rocky lane verge.

33 taxa had apparently been lost by 2003-04, but 19 of these were probably just missed accidentally (there were, I hope, fewer missed through ignorance by then). Reseeding of pastures was the chief observable cause of real loss, accounted for four taxa (*Lycopodium clavatum*, *Polygala vulgaris*, *Pimpinella saxifraga* and *Carex pallescens*); changes in arable accounted for two (*Lamium purpureum* and *Spergula arvensis*); felling of conifers accounted for *Pinus sylvestris* and, because of consequent drying out of a ravine, the same felling probably led to the loss of *Hymenophyllum wilsonii*; removal of a wall did for *Asplenium trichomanes* subsp. *quadrivalens*; grass encroachment in the graveyard exterminated *Silene uniflora*; *Carex laevigata* disappeared for unknown reasons from an apparently unaltered marshy pasture, and *Tripleurospermum inodorum*, *Myosotis sylvatica* and *Trifolium hybridum* similarly disappeared from where they had been before for no obvious reason.

Thus four of the eleven taxa I had noted in 1987-88 as vulnerable had gone because of habitat change. Of the seven that survive, *Pinguicula* precariously persists as eight plants on the ruined wall of a lead mine wheelpit, and *Dryopteris carthusiana* narrowly missed being flooded by the new lake. The arrival of *Ornithopus* and of six native aquatics is little consolation for the loss of *Lycopodium* and *Hymenophyllum* and eight other natives, but the tetrad has changed surprisingly little. Most of the original habitats still exist at least in part, and although there are now a few more gaps in the distribution of the scarcer taxa, the network still for the most part holds.

## RECORDING IN MERIONETH

Recording work in vice-county 48 has been concentrated on checking and updating the 'New Atlas' records - especially those dating back to the 1970-87 period. Experience shows that searching for species not seen since before 1970 is not rewarding: it uses up a lot of time and effort for little result. Of course, one always hopes for the lost species and the rediscovery of one of them is exciting indeed. But it rarely happens. Probably most species not sighted since before 1970 are truly extinct: if a species has survived, somebody in 36 years will have spotted it and reported the fact.

But the middle group in the 'New Atlas' time categories - the species not updated since 1987 - are a different matter. Many, perhaps most, of these can be expected to have survived. Lack of a more recent sighting probably means that they are inconspicuous, locally uncommon or inaccessible species or were just missed in all of the activity of assembling a large number of records for the 'New Atlas' in a few hectic seasons. Updating these is our most rewarding activity, especially now that recording has reached the stage when completely new hectad records are only occasional and new vice-county records, except escapes, throw-outs or plantings, are rare.

Going back in time, the most recent new native - type Merioneth plants, excluding *Rubi*, are *Dactylorhiza traunsteineri* (2003) and *Raphanus maritimus* (2001) (if these are treated as species), and *Schoenus nigricans* (1993), *Koeleria macrantha* (1991), *Carex disticha* (1991), *Cyperus longus* (1981), *Limosella aquatica* (1979) ...

Re-recording of the 1987-onwards species has hardly begun because many of the existing records are, even now (2006), only 7 years old and they include all the very common species. Their turn will come. But at present work on this group would divert attention from the more important earlier date categories and from the BSBI's hybrid project, and would choke the system with a mass of unnecessary data. Exceptions are the uncommon species and all the Pteridophyta (as a separate well-marked group): these are updated in Merioneth year by year as sightings allow - not just to the date categories of the 'New Atlas'.

Merioneth has been well-worked for hybrids. Even when *A Contribution to a Flora* appeared in 1963 75 different ones were listed, and now the total for the vice-county is around 118. But many of the records of them need updating and there are gaps to fill for some of the commonest hybrids such as *Agrostis capillaris* x *stolonifera*, *Quercus petraea* x *robur*, *Rumex crispus* x *obtusifolius* and *Salix aurita* x *cinerea*. Several hybrids - *Barbarea verna* x *vulgaris*, *Carex binervis* x *punctata*, *Catapodium marinum* x *rigidum*, *Ophioglossum azoricum* x *vulgaris* - are not known anywhere else, while *Carex acuta* x *aquatilis*, *Festuca rubra* x *Vulpia myuros*, *Mimulus guttatus* x *luteus* and probably *Ulex europaeus* x *gallii*, though subsequently found elsewhere, were originally recognised in Merioneth.

PETER BENOIT, Pencarreg, Barmouth, Merionethshire LL42 1BL

**LETTER TO THE EDITORS**

23 Nov 2005

Dear Editors

I always enjoy reading the *BSBI Welsh Bulletin* and thank you for your behind-the-scenes work on it.

I was particularly interested in the article by Trevor Dines in No. 76 June 2005 - *Plantlife Wales Newsletter* No. 2 concerning Narrow-leaved Helleborine (*Cephalanthera longifolia*).

It is perhaps worth pointing out that although the Aberdyfi population is in a mostly *Quercus petraea* wood, several *Tilia cordata* (Small-leaved Lime) also grow amongst the oaks, so there is presumably some base-rich feature to the site.

Bill's last *Guardian* 'Country Diary' (Machynlleth 30 May 1998) was about *Cephalanthera longifolia*. In it he wrote: "In a steeply tilted oak wood not far from here, as May turns to June, a rare orchid shyly appears. A mere half dozen spikes are its visual output, with a few other plants producing leaves only, a promise for the following year. But in good seasons as this year there may be a score or so of blooms. This treasure which I have always called a sword-leaved helleborine, but which now seems to be more often known as the Narrow-leaved Helleborine, is a great beauty when freshly opened but is so sadly [?evanescent] that its pure white petals are turning brown in only two or three days. What makes the helleborine so rare I have no means of telling but I can say that besides its normal range of between six and twenty blooms per year it can at rare intervals produce a great outburst. One year I found it flowering abundantly on the roadside at the bottom of the wood where it had also spilled over on the railway bank below, a beautiful and astonishing site ..."

Best wishes

PENNY CONDRY, Ynys Edwin, Eglwys Fach, Machynlleth, Powys SY20 8TA

**STELLARIA PALLIDA ON BARDSEY**

The cover of the Summer 2001 issue of the *Welsh Bulletin* shows a photocopy of a specimen at NMW of *Stellaria pallida* labelled "Bardsey Island 49 Caern., comm: P.M. Benoit Apr. 1954." in the hand of A.E. Wade. It does not seem to have been recorded that this specimen was actually collected by Mary Richards of Dolgellau. Condry (1998) in his biography of Mrs Richards says (p.110), "In early April [1954] she was in a working party on Bardsey Island, helping to get the bird-observatory ready for the visitor season." The *Stellaria* was in a box of miscellaneous Bardsey plants, mainly mosses, posted to me at Aberdaron and received on the 12th April 1954. As the specimen was a good one of typical *S. pallida* and I realised it probably represented a worth-while record for the island, I sent it to the National Museum of Wales. That accounts for the label being in the hand of Mr Wade (Assistant Keeper of Botany at the Museum) and bearing my name. I did not myself visit Bardsey in 1954.

## References

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Condry, W. (1998). *Wildflower Safari. The Life of Mary Richards*. Gomer Press, Llandysul.

PETER BENOIT, Pencarreg, Barmouth, Merionethshire LL42 1BL

### V.C. 50 DENBIGHSHIRE PLANTS 2005

During 2005 five recording meetings were held for interested people - not all were BSBI members. Usually 5-10 people came and we visited a variety of sites. Near Worthenbury we refound a small number of *Myosurus minimus* (Mousetail) in a farm gateway. An elusive plant - its habitat is common, but the plant is rare. A small elm tree was identified as *Ulmus minor* subsp. *minor* (from the key in 'Stace') but not determined by an expert. In Erddig (National Trust) Orchard there was an abundance of *Viscum album* (Mistletoe) no doubt encouraged by Victorian gardeners to supply the big house. A large specimen of *Platanus x hispanica* (London Plane) found in a park in Wrexham proved to be a 1st V.C. record. It is rare in North Wales ?under-recorded because "planted". A carbody repair yard in Denbigh was full of *Senecio inaequidens* (Narrow-leaved Ragwort) and in September we found a new site for *Gentianella campestris* (Field Gentian) near Minera. Other records include *Carex x decolorans* (*C. bigelowii* x *C. nigra*) (1st V.C. record) from the summit of Cadair Bronwen, and from lowland sites *Lathyrus sylvestris* (Narrow-leaved Everlasting-pea) and *Epilobium roseum* (Pale Willowherb).

Almost ready is "Flowering Plants and Ferns of Denbighshire V.C. 50". This is the first plant list to be produced for Denbighshire. It will be available soon.

JEAN A. GREEN, Coed Duon, Tremeirchion, St Asaph, Clwyd LL17 0UH

BOTANICAL SOCIETY OF THE BRITISH ISLES

# WELSH BULLETIN

*Editors : R. D. Pryce & G. Hutchinson*

**No. 79, JAN 2007**

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**ABSTRACTS OF EXHIBITS SHOWN AT THE 24th BSBI  
WELSH EXHIBITION MEETING, PLAS TAN Y BWLCH  
FIELD STUDY CENTRE, MAENTWROG SEPT 2006**

**PLANT ATLAS OF MID-WEST YORKSHIRE:** A display about the production of this recently published Flora.

PHYL ABBOTT, Cedar Croft, 73 Ridgeway, Leeds LS8 4DD

**DANTHONIA, A GRASS OF MANY PARTS:** A series of drawings and specimens to show the several of the unusual features of *Danthonia decumbens* (Heath-grass). These include chasmogamous flowers, as well as the usual cleistogamous ones, and also cleistogenes in the ails of the basal sheaths of the culm.

ARTHUR CHATER, Windover, Penyrangor, Aberystwyth, Dyfed SY23 1BJ  
[The full text of the note and the illustrations form a separate article in this Bulletin.]

**A CLOVER NEW TO CAERNARFONSHIRE:** A specimen of *Trifolium resupinatum* (Reversed Clover) was exhibited, taken from a plant growing on an arable field headland sown with a 'nectar and seed' mixture at Cwrt, Aberdaron (Caerns, v.c. 49), 22nd August 2006. *Helianthus annuus* (Sunflower), *Phacelia tanacetifolia* (Phacelia), *Fagopyrum esculentum* (Buckwheat), *Trifolium hybridum* (Alsike Clover) and *Melilotus officinalis* (Ribbed Melilot) were also present. The BSBI Atlas Updating Project gives only four 2000+ records for this species in the UK, and the plant has not been recorded in Wales since 1985. If this species is being sown on arable field headlands in nectar and seed mixes, it may well occur more widely.

TREVOR DINES, Plantlife Wales Officer, c/o Countryside Council for Wales, Maes y Ffynnon, Ffordd Penrhos, Bangor, Gwynedd LL57 2LQ

**A FIRST RECORD FOR DENBIGHSHIRE OF VACCINIUM X INTERMEDIUM:**

Esclusham Mountain is a featureless plateau rising to 456m. to the west of Wrexham. Both *Vaccinium myrtillus* (Bilberry) and *Vaccinium vitis-idaea* (Cowberry) are common, together with *Empetrum nigrum* (Crowberry), *Calluna vulgaris* (Ling) and *Erica tetralix* (Cross-leaved Heath).

The hybrid, *Vaccinium x intermedium*, between Bilberry and Cowberry was found by P.L. Thomas, with a BSBI recording group, on 13th August 2006. The hybrid was growing in a patch of about 5m x 5m. Both parents were present, but not growing among the hybrid.

The hybrid is intermediate between the parents, it has pale pink flowers and a terete stem with a few hairs. The leaves have a few gland dots and a revolute margin. They are partially deciduous and are easily seen in January- February, when *Vaccinium myrtillus* has shed its leaves. [See colour photos].

JEAN GREEN, 3 Karen Court, Denbigh LL16 4RB

**NEW (OLD?) KIDS ON THE BLOCK:** Since the New Atlas was published, Cheshire has seen an explosion in the arable fields in certain areas, of the grasses not seen for nearly 100 years. It seems unlikely that their seeds are viable for that long, so they are presumably coming in with the sown grain and hence could appear anywhere in Britain. Why, in these days of super-clean seed, that should be so, I do not know.

Most startling is the abundance of *Bromus secalinus* in the High Legh area and on Frodsham Marshes where it is joined by *Bromus commutatus* and sometimes by *Anisantha diandra*, and *Alopecurus myosuroides* which also seems to be on the increase. *B. commutatus* is generally more delicate than *secalinus* and when young, can be distinguished by having softly downy lower leaf sheaths where those of *secalinus* are much less hairy or glabrous. In fruit, the rachis of *secalinus* is revealed in the spikelets which look more open and are the colour of wholemeal bread and whose heavy heads can be seen above the crop. The rachis is hidden in *commutatus* whose more closed spikelets are a paler shade closed to shortbread!

*Anisantha sterilis* has a one-sided inflorescence whereas *A. diandra* is more evenly spread and has markedly hairy inflorescence branches as well as generally bigger dimensions. It seems to vary in stature greatly, sometimes small and almost prostrate but often towering over the crop.

Another recent discovery is *Conyza bilbaoana* which is big and densely hairy (except fore the capitula) and greyer green than *C. canadensis*. Hairy capitula mean *sumatrensis* which has appeared in the same location, or *bonariensis*. *Bilbaoana* has 5-lobed disc florets (not 4). See *BSBI News* No. 73, 47-9 (1996). It seems to have arrived by long-distance lorry! Mine was determined by Eric Clement who forbid me to send him any more, they are that difficult!! He says that Sell's account may work in Cambridge, but not elsewhere, so be warned. Eric also thinks that *bilbaoana* germinates earlier and out-competes *canadensis* and is set to replace it.

The illustrations with this exhibit show how useful the internet is when you need to see what a plant really looks like. It is loaded with photos and line drawings that help resolve many a problem. *Conyza bilbaoana* drew a blank, however!

GRAEME M. KAY, 4 Geneva Road, Bramhall, Stockport, Cheshire SK7 3HT

**A RARE HYBRID FERN FROM CAERNARFONSHIRE:** A herbarium specimen of a fragment of *Asplenium x alternifolium* (*Asplenium trochomanes* x *septentrionale*) collected for determination.

WENDY MCCARTHY, 5 Tyn-y-Coed, Great Orme, Llandudno, Conwy LL30 2QA

**NICANDRA PHYSALODES (APPLE-OF-PERU):** Posing the question: Has it been recorded previously as originating from bird-seed?

RAY WOODS, c/o CCW, Eden House, Ithon Road, Llandrindod Wells, Powys LD1 6AS

**WELSH FERNS IN THEIR HABITAT:** A collection of coloured photographs of ferns in Wales in their natural habitats.

RAY WOODS, c/o CCW, Eden House, Ithon Road, Llandrindod Wells, Powys LD1 6AS

**WELSH FERNS 19th CENTURY STYLE:** A selection of herbarium sheets of ferns collected in Wales during the time of the Victorian "fern craze".

GORONWY WYNNE, Gwylfa, Lixwm, Holywell, Clwyd CH8 8NQ

**Other exhibitor:** SUMMERFIELD BOOKS.

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## CHASMOGAMOUS *DANTHONIA*

*Danthonia decumbens*, Heath-grass, formerly known as *Sieglingia decumbens* or *Triodia decumbens*, is usually cleistogamous, i.e. the florets remain closed and fertilisation takes place within the floret; the anthers are minute and never emerge and become entangled in the stigmas, and the panicle branches and spikelets remain appressed to the inflorescence axis, giving the plant its very characteristic jizz.

Chasmogamous plants, in which the florets open and the much larger anthers emerge so that cross-fertilisation can take place, occasionally occur; their panicle branches spread widely, so that these plants look very different from the usual cleistogamous ones.

Few local Floras mention the occurrence of chasmogamous plants, and a rare exception is Benoit & Richards (1963), who say that they are regular in the dune slacks on Morfa Harlech and in Arthog Bog in Merioneth. I had never seen them in Cardiganshire until 2006, when I found a small colony on a dry trackside on the MoD Site at Aber-porth, SN247524 (see cover illustration), and another in damp, sedge-rich pasture on the Rhos Pil-bach WTSWW Reserve, SN366528. Hubbard (1984) says that “Normal flowering has been observed on several occasions, usually on plants in wet soils”, but nothing in general seems to be known of the distribution of chasmogamous plants in Britain. In the two populations I saw, most of the florets seemed to be chasmogamous, but to what extent particular plants produce uniform or mixed types of flower, or the same type each year, seems unrecorded. It would seem worth noting chasmogamous plants whenever they are seen, and recording whether they persist from year to year.

*D. decumbens* has other features of interest. In addition to the normal terminal inflorescences, about half the plants one examines (at least in Cardiganshire) have specialised cleistogamous florets in the axils of the basal sheaths of the culm. This seems unique in British grasses, but they are known in a number of other grasses throughout the world. Chase (1908, 1918), Weatherwax (1928) and Dobrenz & Beetle (1966) among others have described their structure and occurrence in American species of *Danthonia* and in related genera. These basal florets, known as cleistogenes, appear as bony, completely sealed, ovoid, pointed structures with two scabrid keels (Figs. 1 & 2), but in fact consist of closely overlapping scales enclosing the pistil and stamens. The outermost 2-keeled scale, which has two vascular bundles, was interpreted as an indurated prophyll by Chase (1918) and Weatherwax (1928). Both Chase and Arber (1934) said that the cleistogenes lack glumes, but between this prophyll and the lemma there is usually in *D. decumbens*, and in the species studied by Weatherwax, a smaller scale which, from its position in relation to the lemma, the latter interpreted as the upper glume; the lower glume seems always to be missing (Fig. 4). A rachilla is usually observable between this smaller scale and the lemma, indicating that the cleistogene is a specialised spikelet rather than just a floret. The cleistogenes are remarkably variable, as Chase (1908) remarked. In *D. decumbens* a second, very reduced floret is occasionally present, and very occasionally elaiosomes are present on the palea (see below and Fig. 5). Cleistogenes presumably act as a fail-safe reproductive measure in case the terminal inflorescences are grazed off (Clay 1983). Their occurrence and germination in American species of *Danthonia* are reviewed in detail by Dobrenz & Beetle (1966).

*D. decumbens* is one of the very few British grasses to possess elaiosomes, oil bodies on the disseminules that are attractive to ants and therefore encourage dispersal (*Melica* also has them, but of a very different kind). In *D. decumbens* they are paired, sac-like swollen structures at the base of the palea; this in itself is surprising, as the palea is in most grasses a featureless scale, in contrast to the often highly modified lemma. They are present in both the

cleistogamous and the chasmogamous florets in the terminal inflorescences, but are usually, though not always, absent in the cleistogenes. Ant-dispersed plants with elaiosomes often have oblique or prostrate stems like *D. decumbens*. *Carex pilulifera* with its slender stems that usually flop on the ground when in fruit, and a white, waxy elaiosome at the base of the utricle, is another example. *D. decumbens* elaiosomes were nicely illustrated by Dore (1971), although he did not know what they were. Sernander (1906) discussed them in some detail in his extensive survey of myrmecochory [state of being dispersed by means of ants].

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ARTHUR CHATER,

Windover, Penyrangor, Aberystwyth, Ceredigion SY23 1BJ

### LONG-STALKED BROOMRAPE IN CARMARTHENSHIRE

*Orobanche minor* (Common Broomrape) is a very variable species and currently four varieties are recognised (Rumsey & Jury, 1991). One of these, var. *maritima*, may have pedicellate lower flowers (Stace, 1997) and I have always looked out for this character, always without success.

However, in 2005, a dozen or so spikes of an *Orobanche* were found in waste ground at Machynys, Llanelli, all with noticeably long pedicels, up to 30mm, in fact. It was late in the season and flowering was long over, also it was not possible to discern any host.

Dr Fred Rumsey of the Natural History Museum in London tells me that the character is not restricted to var. *maritima*, or to the plant of the dunes which is, in his opinion, often wrongly identified as that taxon, although it does occur more frequently in these situations. He adds, 'long-pedicellate flowers are rare and of considerable interest as they may hint as to the primitive state in *Orobanche*.' In other words, a throw-back!

It is advisable therefore not to collect specimens for identification but to photograph the plant in the first instance and to note any likely hosts.

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TONY LEWIS (posth.)  
12 Cannisland Park, Parkmill, Swansea SA3 2ED.

**YUCCA SEEDLINGS**

*Yucca recurvifolia* and *Y. gloriosa* (Spanish-daggers) are natives of the east coast of the United States of America where, as in South Wales, they grow on sand dunes. They are much cultivated in Britain and are often cast out to become established, at least for a while. One reason for their eviction could be their unreliable flowering, especially in the case of *Y. gloriosa* which is more susceptible to winter wet and snow. Also the flower spikes develop late in the season and then may fail to open. Another good reason is no doubt the stiff, viciously-sharp leaves which the unwary discover when approaching too closely.

*Y. recurvifolia*'s spiky leaves, as the name tells us, are recurved and therefore more approachable. This asset, together with its earlier and more regular flowering, makes it popular with gardeners and, in my experience, is less often encountered in the wild. This species has long been known from Tywyn Burrows and both species occur at Pembrey Burrows, both in Carmarthenshire.

When *Yuccas* are found in sand dunes in situations where they are unlikely to be garden escapes, the theory has been put forward that they may be the result of American seeds or vegetative fragments drifting across the North Atlantic, presumably aided by Gulf Stream currents. The hypothesis has few supporters and it is worth noting that *Yuccas* do not feature on the list of drift aliens in Clement & Foster (1994), but other explanations are hard to find.

A new *Yucca* puzzle is the recent discovery of six small plants on the grassy verge of a country lane about half a mile from the village of Pen-y-banc near Llandeilo, Carmarthenshire. So far as I am aware there are no records of self-sown plants in Britain but these can only be seedlings. While young plants are not easily identifiable, *Y. gloriosa* leaves differ from *Y. recurvifolia* in their serrated margins, clearly visible in the accompanying photograph. There are no gardens nearby, the lane is bounded by farmland, so how did they get there? The site is about half-way between the nearest houses and an old quarry used as a dump for garden rubbish, among other things. So my theory is that seeds shed from a trailer en route to the tip landed on the verge and in due course germinated.

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TONY LEWIS (posth.)  
12 Cannisland Park, Parkmill, Swansea SA3 2ED.

BOTANICAL SOCIETY OF THE BRITISH ISLES

# WELSH BULLETIN

*Editors : R. D. Pryce & G. Hutchinson*

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Photocopy of specimen of *Plantago media* (Hoary Plantain) at NMW, (x 2/3).  
This species has recently been recorded from vice-county 48 (see pp. 9, 31).

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Most back issues of the BSBI Welsh Bulletin are still available on request (originals or photocopies). Please enquire before sending cheque (made payable to BSBI Wales), @ £2 per issue, which includes p. & p., to - Dr G. Hutchinson, Department of Biodiversity & Systematic Biology, National Museum, Cathays Park, Cardiff CF10 3NP, specifying the issue number, or year (which would have to include the season or month).

Publication date of last BSBI Welsh Bulletin (No. 79) - January 2007.

## ANGLESEY PLANTS IN 2006

For its second season the Anglesey Flora Group met each month from April to August, visiting woodland, sand dune, fen, heathland, grassland and open water. Three to ten botanists joined in under varying weather conditions from cold and wet, to almost too hot and dry for fieldwork! Thanks to Nigel Brown for arranging the programme, and to all those who participated – we hope to see you all and others in 2007. Thanks also to Owen Mountford, Martyn Stead and Ted Phenna for really useful lists from specific 1x1 km. squares (monads) across the county. I would be very pleased to receive more lists next year.

April saw the County Rare Plant Register for Anglesey published, thanks to CCW. A limited number of copies were printed for the local authority, relevant statutory bodies, conservation organisations and contributing botanists. A more comprehensive electronic version has been produced for selected organisations, which is also the basis of a Data Exchange Agreement with Cofnod, The North Wales Environmental Information Service. It is to be hoped that publication will stimulate the flow of additional and updated records, enabling a revised version of the Register to be produced before too long.

Among the more interesting records of native taxa was the discovery by Charles Aron of a hundred or so plants of *Ceterach officinarum* (Rustyback) on limestone rubble, near Plas Newydd making this the island's largest population, and probably only the second not on a wall of some kind. Also finding that *Moenchia erecta* (Upright Chickweed) grew more extensively at Tywyn Trewan, including to the west of the railway line around the edge of RAF Valley. Another airfield discovery was *Cerastium arvense* (Field Mouse-ear), a plant with a marked eastern distribution in Britain – has it been overlooked up until now, or hitched a lift from one of the airfields in East Anglia? James Robertson found a single flower spike of *Platanthera chlorantha* (Greater Butterfly-orchid) in semi-improved grassland near Llanddaniel, this is a second location for this plant on Anglesey – where will it be found next? James also found a second location for *Ononis spinosa* (Spiny Restharrow), on a road edge near Llanddaniel, in very similar habitat to that of the first record by Geoff & Penny Radford at Dwyran in 2004. It was satisfying to find the nationally Near Threatened *Pilularia globulifera* (Pillwort) in new locations on both the north and south shores of Llyn Alaw.

One of the more worrying failures was that no one could find *Monotropa hypopitys* (Yellow Bird's-nest) at any of its known locations in 2006. Was this due to the dry summer weather in July, or due to the decline of this plant, which is now listed as nationally Endangered? Something to be looked out for in 2007 please.

Many of the new county records are of alien species, partly because they have not been recorded in the past, even though they may have been quite well established for some years; but also because others are arriving here for the first time. In the former category are *Acaena novae-zelandiae* (Pirri-pirri-bur) and *Rubus spectabilis* (Salmonberry), both well established in the grounds at Plas Newydd. While amongst the latter *Hydrocotyle ranunculoides* (Floating Pennywort) appeared on a pool near Bryngwyran and Barry Wrightson recorded *Galinsoga parviflora* (Gallant-soldier) near Newborough (the *Galinsoga quadriradiata* (Shaggy-soldier), first recorded in 2004, also re-appeared in 2006 along the A55).

There have also been a few additional hybrid taxa recorded this year, just in time for inclusion in the BSBI Hybrids project, details of these and other interesting records are included in Welsh Plant Records 2006.

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***PLANTAGO MEDIA* (HOARY PLANTAIN) IN VICE-COUNTY 48**

A large patch of this species was discovered on the 15th July 2006 extending along *c.* 10m of the side of the former railway track, now the Mawddach long-distance footpath, between Arthog and Penmaenpool. The only previous certain record of the species in v.c. 48 that I know is one from Llandderfel, near Bala, by Thomas Ruddy in the *B.E.C. Report for 1919*, p.674 (1920), given as an alien occurrence. Around the 1970s there was a vague report from the same area – from a roadside somewhere between Bala and Corwen. But this was never confirmed and it is not shown in *Flowering Plants of Wales* or the ‘*New Atlas*’.

The origin of the new colony is doubtful. It is surely not native as it is a single patch in an artificial habitat in the heart of acidic country very remote from the natural occurrences on the Denbighshire limestone. There are three possible explanations – none of them entirely satisfactory.

(1) The path has become popular with walkers and cyclists and seeds of *P. media* could easily have been transported on footwear or wheels like the seeds of *P. major*, *Juncus tenuis* or *Matricaria discoidea*. But that seems unlikely in view of the remoteness of this single patch from other *P. media* colonies.

(2) These days one has to consider deliberate sowing of wildflower seed. But that too is unlikely as none of the ‘tell-tale’ species that one would expect, such as *Centaurea cyanus*, *Agrostemma githago*, *Scandix pecten-veneris*, *Papaver rhoeas* or *Chrysanthemum segetum*, is present here. And why should anyone sow just a patch of *P. media* in such an unlikely place?

(3) Before the closure of the railway in January 1965 the track (part of the Ruabon – Barmouth line) was richly ballasted with Carboniferous limestone reputedly originating at quarries in the Ruabon area of old Denbighshire; one could easily pick up fine Carboniferous fossils from the ballast. It seems most likely that the *Plantago* was accidentally introduced with this ballast and has just been quietly living its life unnoticed over the years. The size of the patch suggests it has been there a long time. Some annual calcicoles that have appeared on the track in the past – *Erophila verna* agg., *Saxifraga tridactylites*, *Linum catharticum*, *Myosotis ramosissima* – may well have come the same way.

But it is odd that I and doubtless many others have botanised the track so many times since 1965 without finding or reporting *P. media* till now. Perhaps it is just that we have never done the walk at quite the right time to spot the plants conspicuously in flower or that visiting observers who may have seen them have not realised that the species is a ‘notable’ in v.c. 48.

I should be glad to hear of any other occurrences of *Plantago media* in v.c. 48 that readers may know of.

PETER BENOIT

Pencarreg, Barmouth LL42 1BL

[The record is cited for v.c. 48 in ‘Welsh Plant Records - 2006’, see this Bulletin, p. 31. eds.]