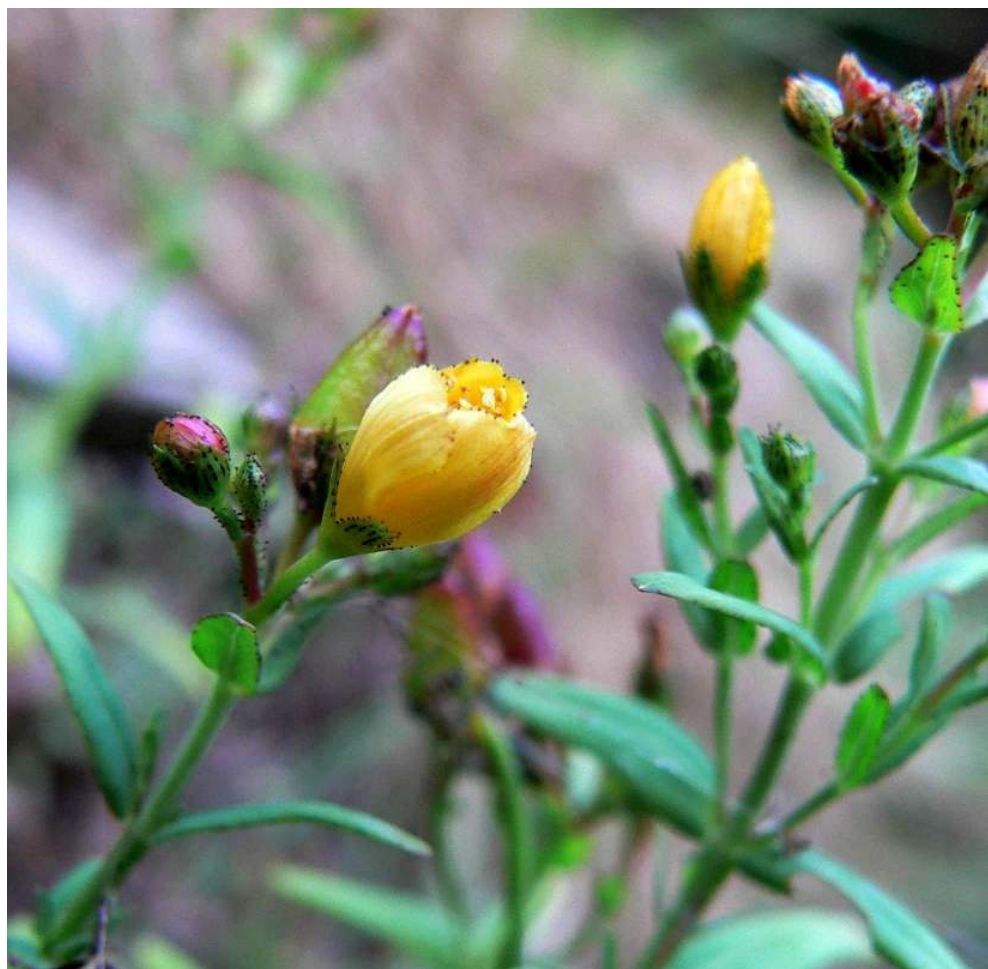
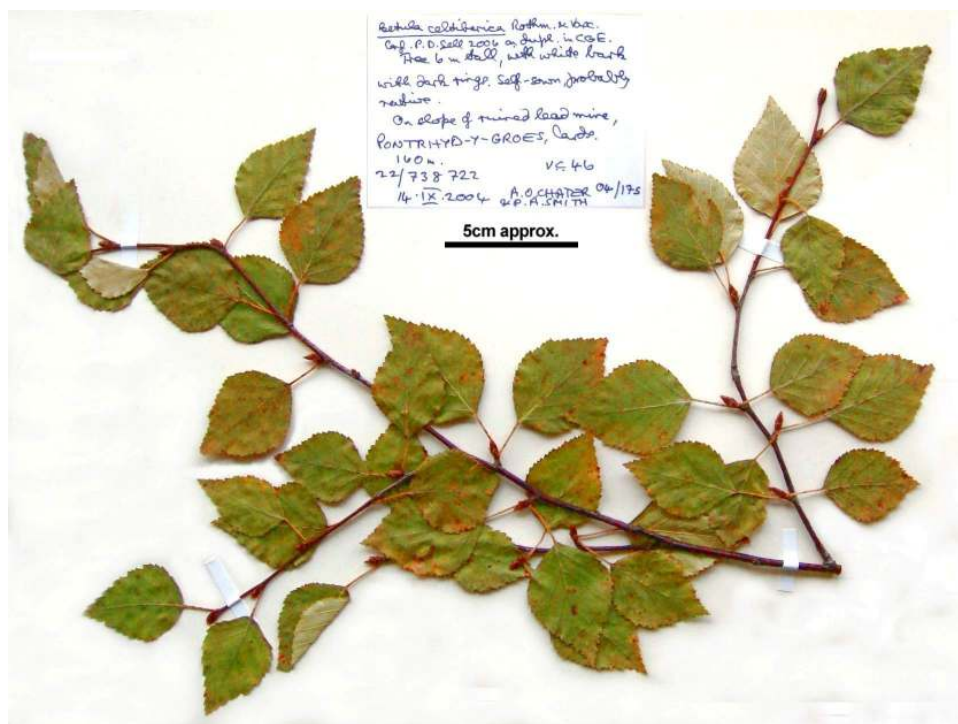






Above: *Betula celtiberica* from Pontrhyd-y-groes
 area v.c.46 (see pages 17-19) © A.O. Chater
Front Cover Photo : An example of *Hypericum*
linariifolium (see pages 22-23) © K. Walker



Welsh Bulletin

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January 2010

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Most back issues are still available on request (originals, photocopies versions) @ £2 per issue, please contact Sally Whyman or Katherine Slade. Cheques are payable to BSBI Wales. The last issue was no.84 released in June 2009.

Back issues are currently being uploaded to the website.
www.watsonia.org.uk/html/welsh_bulletin.html

All articles, news, photos, guest editorials and other items for inclusion in the May 2010 issue should be sent to an editor by 26th April 2010.

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PLANTLIFE
our plants our planet our future

Plantlife Wales
Newsletter - No. 10 1-6

Guest Editorial by the Chairman

ANDY JONES Chairman of BSBI Wales, *c/o Countryside Council for Wales, Welsh Assembly Government Building, Rhodfa Padarn, Llanbadarn Fawr, Aberystwyth, Ceredigion SY23 3UR*

At first sight, Plantlife's new campaign "The Ghost Orchid Declaration" looks stronger on design than content (<http://www.plantlife.org.uk>). It had the bad luck (or judgement) to headline an "Extinct" species just when the Ghost orchid happened to reappear and the tone, like the typeface, is a bit exaggerated. It's easy to dismiss an argument when it looks over-packaged or inaccurate.

But, if you can get past the packaging, the Declaration makes some very telling points. From the Joint Nature Conservation Committee (JNCC)'s own statistics, Vascular Plant features come bottom of the 'League Table of Species Features on SSSIs' with just 52% "favourable" – as opposed to 71% for Breeding Birds, 72% for Mammals and 92% for Fish – but "there is currently a fundamental imbalance in the resources ... to enable their effective conservation". Birds make up only 5% of the species in the UK Biodiversity Action Plan but they got 38% (over £1.5million) of the JNCC biodiversity research budget for 2007-9. Mammals are just 1.5% of the UKBAP but they received nearly 10% of the budget (£376,766). And Plants and Fungi? They make up 48% of the species on the UKBAP. And they got absolutely no research funding

whatsoever from JNCC in the last two years.

This funding disparity is not so bad in the Country Agencies (it couldn't be worse) but plant conservation here is still under-resourced. Natural England actually cut its botanical staff at a time when UKBAP plant targets more than doubled and the Countryside Council for Wales (CCW) increasingly relies on non-professional botanists (ie BSBI expertise) for data. CCW in fact didn't – or couldn't – provide any information on site features for that recent 'League Table' and, at present, it is still working out how to report on SSSIs at all. The best situation is probably in Scotland where, amongst other measures, Scottish Natural Heritage funds the BSBI to help with site-monitoring. Botanists get a bit of money (or other kinds of assistance) to visit sites for rare plants. Now I think that the BSBI in Wales has a very good relationship with CCW (pioneering County Rare Plant Registers, etc., etc.), but when it comes to getting people involved in plant conservation, we should look to Scotland. In addition, if Plantlife want to follow up their latest campaign I think they could launch a Thistle Declaration, on how to conserve botanists as well as plants.

At the time of going to press we have just heard the sad news from Pam Hill that Dr Derek Hill passed away in hospital on 22nd December. Derek and Pam attended many Welsh AGMs over the years where their botanical enthusiasm was much appreciated. Our deepest sympathy is extended to Pam.

Trevor Evan's *Flora of Monmouthshire* wins the President's Prize

TIM RICH *Welsh National Herbarium, Dept of Biodiversity & Systematic
Biology, Amgueddfa Cymru-National Museum Wales, Cathays Park, Cardiff
CF10 3NP*

"And next Wednesday I want the first ten species accounts" I said, but wished I hadn't as Trevor gave me an extra-withering look and I ran for the car. The following Wednesday when I rang the doorbell shaking in my boots in trepidation, there weren't ten species accounts waiting for me, there were 25.

Trevor's *Flora of Monmouthshire*, for which he'd been recording with his many helpers for 20 years, had become stalled in a morass of different mapping programs which purported to be compatible but weren't. His tetrad mapping data had become seriously corrupted, so I offered to help edit the data so he could start maps for the flora. Every Wednesday late into the evening for three months I had been helping put the data back into DMAP (the simplest mapping program and the only one I knew how to use - my computing knowledge being only marginally better than Trevor's). We had just finished cleaning up the existing data and had started adding the missing records to the maps. So, slave driver as I was, I thought 'first stage complete, now time to write the text to go with them'.

Thereafter Trevor continued to write the species accounts and sent them to me every week to edit. Progress was

tremendous and sometimes I found it hard to keep up - the thing that took the time, was, editing out, most of, his commas. I popped down occasionally to back up his computer, resolve some minor computing hiccups, and to have my leg pulled. It took two years, and the time spent in front of the computer and having his leg pulled back took a toll on his knees, one of which had to be replaced in early 2007. Trevor wished to make the information available to other botanists at a reasonable price, so he prepared the final copy for digital printing to keep the cost down. He applied for grants to help cover the up-front publication costs, and once the printing costs had been recuperated, returned the small profits back to those who had supported it with grants.

I have a huge admiration for Trevor for the quality of the Flora and for keeping going despite the pain (both his knees and me!). I'm very proud of the flora, and regard it as mine despite Trevor doing all the work. Trevor is also sure that any typos and mistakes, like the *Petasites* map being misplaced in the *Ambrosia* account, are mine.

I was delighted to hear that it had been awarded the joint Botanical Society of the British Isles/Wild Flower Society

President's Prize in 2008 by none other than Professor Sir Ghilleen Prance as the best botanical book for that year. There are thirty copies left for those of you who haven't got a copy yet.

I wonder if I should ask Trevor if its time to start recording for a new Flora yet...

The *Flora of Monmouthshire* is available direct from Trevor Evans (*La Cuesta, Moun-ton Road, Chepstow, Monmouthshire NP16 5BS*) at £25 each including p&p.

BSBI Wales Annual General Meeting 2010

12th Quadrennial Meeting, 48th Welsh AGM & 28th Exhibition Meeting, 2010

Friday 11th – Sunday 13th JUNE 2010
at
HOTEL CYMYRAN, VALLEY, ANGLESEY
DRAFT PROGRAMME

The theme of this meeting will be "Coastal and Heathlands", and will be centred on a remarkable area of Wales rich in coastal habitats, especially coastal heathland. The AGM extends a warm welcome to all members at all levels of experience.

FRIDAY 11th JUNE

- | | |
|--------|---|
| 1.00pm | Welcome and Registration |
| | Exhibition room open for setting up exhibits |
| 2.30pm | Afternoon walk to Cymyran coastal heathland to look for <i>Juncus capitatus</i> and other specialities. |
| 6.30pm | Evening meal at Hotel Cymyran |

SATURDAY 12th JUNE

- | | |
|-------------|--|
| 7.30-8.45am | Breakfast (collect pre-ordered packed-lunch) |
| 9.30am | Depart for excursions to coastal/heathland sites including South Stack and the Inland Sea. |
| 3.00pm | Return to Hotel Cymyran for tea followed by Wales AGM and reports from BSBI Officers. All participants welcome to attend. |
| 5.00-6.00pm | Identification workshop to assist with identification of material collected in the morning and with members' specimens brought to the AGM. |

- 6.30pm Evening meal
 8.00pm A series of short illustrated talks on the Anglesey flora.

SUNDAY 13th JUNE

- 7.30-8.45am Breakfast (collect pre-ordered packed-lunch)
 9.30am Depart for excursions to coastal/heathland sites including Newborough Warren, Aberffraw and Traeth Lligwy (horsetails). The excursions will finish by 4.00pm.

The cost for two nights' full-board at the luxurious Hotel Cymyran (<http://www.hotel-anglesey.co.uk>) with packed lunches and conference fee is expected to be around £170 single and £230 double (en suite). Other accommodation will be available at nearby hotels, in which case conference meals and booking fees will cost ca. £50. Further details and a booking form will be included with the January mailing of BSBI News.

EXHIBITS: Details for booking exhibit space will appear on the main meeting booking form in the January mailing of BSBI News. Any material that will be of interest to other members is welcome.

Organising Secretary (please note NEW ADDRESS): Trevor Dines, Uned 14, Llys Castan, Ffordd Y Parc, Parc Menai, Bangor, Gwynedd LL57 4FD. e-mail: trevor.dines@plantlife.org.uk

BSBI Field Meetings Wales – 2010

Full details and procedure for booking are also available in the BSBI Year Book for 2010. Wendy McCarthy, 5 Tyn-y-Coed, Great Orme, Llandudno, Conwy LL30 2QA.

Saturday 22nd May: Nant Gwynant, Snowdon, Caernarvonshire, v.c.49. Leader: Wendy McCarthy. A morning visit to Hafod y Llan farm, an estate that reaches from the valley floor to the summit of Snowdon. This was bought

by the National Trust in 1998 following a huge public appeal. We will see the work being done to restore the slopes of Snowdon to favourable condition after decades of over-grazing. The afternoon will be spent recording the various habitats around the farm, including cliffs, bogs, a waterfall and the Afon Cwm Llan. Meet at 10.30am in the car park at SH628.507 (fee payable). Bookings, with SAE please, to Mrs. W.

McCarthy, 5, Ty'n y Coed, Great Orme, Llandudno LL30 2QA.
wendorme@aol.com

Saturday 29th May: Cefn Cribwr, Glamorgan, v.c.41. Leader: Julian Woodman. Meet at 10am at Bedford Park car park, bottom of Bedford Road, Cefn Cribwr. SS8536.8344. We will be looking at several fields with a range of marshy and dry grassland. One of the key points of interest here is the population of *Scorzonera humilis*. There are many other botanical highlights including Marsh Fern, Blunt-flowered Rush, Dyer's Greenweed and Petty Whin growing side by side. If you want to get an idea of what one of the best areas of Welsh 'rhos' looks like then come here. This meeting is early in the year, primarily to catch the main flowering time for *Scorzonera*. If time allows, we could go on to Kenfig dune system which is not far. Please bring wellies! And suitable clothing – who knows what May will bring. Further details sent on request. Bookings, with SAE please, to Julian Woodman (personal), c/o CCW, Unit 7, Castleton Court, Fortran Road, St. Mellons, Cardiff CF3 0LT.
j.woodman@ccw.gov.uk

Friday/Saturday/Sunday 11th/12th/13th June: Welsh AGM and Exhibition Meeting and associated field meetings, Anglesey, v.c.52.
[See Outline Programme, page 6].

Saturday 19th June: Cae Blaen Dyffryn Plantlife reserve, Lampeter,

Carmarthenshire, v.c.44. Leader: Trevor Dines. Join in the annual vegetation survey of this small but wonderful neutral grassland reserve. As well as recording changes in the vegetation, we'll survey the meadow for both *Platanthera chlorantha* and *P. bifolia*, (Greater & Lesser Butterfly-orchids) and look for hybrids between the two. We'll also monitor *Botrychium lunaria* (Moonwort) and *Viola lutea* (Mountain Pansy) as well as enjoying the wealth of sedges and hybrid *Dactylorhiza*. Meet at 11.00am on the road verge car park at SN605.442 (on the inside of the tight corner). Bring lunch. Bookings with SAE please to: Trevor Dines, Plantlife Wales, c/o CCW, Maes y Ffynnon, Ffordd Penrhos, Bangor, Gwynedd LL55 2LQ. Tel. 01248 387396.

Saturday 26th June: Caeau Tan y Bwlch Plantlife reserve, Clynnogfawr, Caernarvonshire, v.c.49. Leader: Trevor Dines. Join in the annual vegetation survey of this famous neutral grassland reserve. As well as recording changes in the vegetation, we'll survey the meadows for *Platanthera chlorantha* (Greater Butterfly-orchid). We'll also search for *Ophioglossum vulgatum* (Adder's-tongue) and have a look at the various *Euphrasia* taxa found here. If we have time, the stunning views are great too! Meet at 11am at the car park beside the reserve at SH431.488. Bring lunch. Bookings with SAE please to: Trevor Dines, Plantlife Wales, c/o CCW, Maes y Ffynnon, Ffordd Penrhos,

Bangor, Gwynedd LL55 2LQ. Tel. 01248 387396.

Saturday 3rd July: Cefn Caer Euni, Merionethshire, v.c.48. Leader: Sarah Stille. Meeting (limited car parking) in Sarnau village off the A494 at SH971.393 at 10.30am. Bring lunch and be prepared for a short steep walk (road and track) to the lake and possible rough walking thereafter to the hillfort at SJ0041. Bookings, with SAE please, to Mrs.S.E. Stille, The Quillet, Berwyn Street, Llandrillo, Corwen, LL21 0TH.
sarah.stille@virgin.net

Saturday 10th July: Gwent Levels, near Newport, Glamorgan, v.c.41. Leader: Richard Lansdown. Meet at the Wetland Trust Reserve car park at ST3347.8347 at 10.30am. A meeting to look at aquatic plants, where it is hoped to visit some nearby fields and perhaps move on in the afternoon to farmland supporting interesting ditches. Wellies recommended and bring a grapnel if you have one. Further information on the site can be found at www.rspb.org.uk/reserves/guide/n/newportwetlands/about.asp Bookings, with SAE please, to Mr R. Lansdown, 45 The Bridle, Stroud, Glos. GL5 4SQ.
rlansdown@ardeola.demon.co.uk

Friday 16th July to Friday 23rd July: Glynhir Mansion, Llandybïe, Carmarthenshire, v.c.44. Leaders: Kath and Richard Pryce.
Please note that this year's week will

run from Friday to Friday

The annual Carmarthenshire Recording and Monitoring Meeting will include visits to well-botanised sites as well as areas in need of additional recording within the county. The meeting will cater for both experienced and inexperienced botanists and will provide an opportunity for the informal development of identification skills.

The River Loughor runs through the estate and at one point plunges over a 10m waterfall into a rocky gorge where *Dryopteris aemula*, *Hymenophyllum tunbrigense* and *Asplenium trichomanes* ssp. *trichomanes* are among the ferns growing on the cliffs. There will be ample opportunity in the timetable to visit the site. Large parkland trees provide the setting to the mansion, including *Tilia cordata*, and there remains much scope for further discoveries to be made in the vicinity.

The mansion is run by the Jenkins family providing first class facilities including a large common room for evening identification and discussion sessions. The cost of the week from lunchtime on 16th to breakfast on 23rd, including full board and packed lunches, we are told will be pegged at last year's prices of approximately £400.00 but will be limited to about 20 participants. Accommodation for part of the week will be charged *pro rata*.

Please make initial bookings with the leaders as soon as possible. A 25%

deposit will be required by Glynhir followed by full payment six weeks prior to the meeting. Bookings to Mr & Mrs R.D. Pryce, Trevethin, School Road, Pwll, Llanelli, Carmarthenshire, SA15 4AL. Tel:/ Fax: 01554 775847; PryceEco@aol.com.

Sunday 25th July: Cors Fochno (Borth Bog), Cardiganshire, v.c.46. Leader: Mike Bailey (CCW warden). As BSBI's contribution to International Bog Day, this meeting is arranged to visit one of the most important actively-growing raised bogs in Britain. Cors Fochno shows a wide range of characteristic bog vegetation and an outstanding series of transitions, from bog, mire, reed swamp, lowland grassland to woodland (with adjacent saltmarsh and sand dune habitats that can also be accessed later). There are widespread and obligate bog species like *Andromeda polifolia* (and a nearly full suite of bog mosses) and also several very notable plants, like *Rhynchospora fusca*, *Drosera intermedia*, *D. longifolia* and the rare hybrid *D. x obovata* - together with notable invertebrates and other wildlife. Cors Fochno has extensive wet terrain and Wellington boots are advised. Meet at 10.30 am and park in a field on the south side of the B4353, c.150m east of Greenacres Nursery at c.SN624.929. Bookings (with SAE please) to Mr. R.A. Jones, CCW, Welsh Assembly Government Building, Rhodfa Padarn, Llanbadarn Fawr, Aberystwyth, Ceredigion, SY23 3UR. a.jones@ccw.gov.uk

Saturday 31st July: Brymbo Steelworks, Denbighshire, v.c.50. Leader: Delyth Williams. At one time, the largest and most advanced steelworks of its time in the UK, now derelict with planning permission for the entire area. Before it is too late, come and look for colonisers over the bare ground and walls, aquatic and associated species around the ponds and wet areas and whatever else we can find in the grassland and planted areas. There is a most interesting Visitors' Centre and geological trail. Bring lunch. Meet at 10.30am at SJ295.537 which is a gated entrance to the site, off a steep and narrow road, just below the top of the hill. Go through the gates, down to the obvious parking area in front of the buildings. Bookings, preferably by email, to delyth@siriol.myzen.co.uk or with SAE please to Mrs. D. Williams, Graig Fechan, Ruthin, Denbighshire LL15 2HA.

Saturday 7th August: Llangorse Lake, Breconshire, v.c.42. Leader: Ray Woods. Meet at 11am on Llangorse Common SO128.272. It is signposted from Llangorse Village, Powys. We will examine the lake margin and species-rich grassland. Waterproof footwear recommended. Please bring lunch. Bookings, with SAE please, to Mr. R.G. Woods, c/o CCW, Eden House, Ithon Road, Llandrindod Wells, Powys LD1 6AS.

R.woodsadvisor@ccw.gov.uk

Abstract of Exhibits shown at the 27th BSBI Welsh Exhibition Meeting, Builth Wells 2009

There were 13 exhibits at this meeting, and are described on the next 4 pages. New botanical and natural history books were displayed by Summerfield Books. Photos of the field meetings, are on the back page.

A Population of Whorled Caraway in France

GILL BARTER *I Glan-yr-afon,
Gwaelod y Garth, Cardiff CF15 9HP*

Habitat, in the Auvergne, described and associate species listed. The species were largely similar to those in similar South Wales habitat but the *Brachypodium pinnatum* found in the Auvergne was an unusual associate.

***Betula celtiberica* in Wales**

ARTHUR CHATER *Windover,
Penyrangor, Aberystwyth, Dyfed SY23
1BJ*

Notes (copies available to take away) and herbarium specimens of *Betula* species and hybrids. *Betula pendula* and *Betula pubescens* are usually thought to be the two native species in Wales. However a third species is now thought to be native in Wales: *B. celtiberica*. AOC included thanks to Peter Sell. See page 17 for the full article.

Fifty Taxa – How many can you name?

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

These pressed specimens kept a large number of the delegates, and Trevor, busy for a considerable time, and on the Saturday every entry was marked and the winner was Graeme Kay. The time and effort to prepare this workshop by Trevor is much appreciated by all who took part.

Development of Monmouthshire Floras 1868 -2007, culminating in the *Flora of Monmouthshire* 2007

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

Modern Trends in Welsh Grasses at NMW

GEORGE HUTCHINSON *Welsh
National Herbarium, Dept of
Biodiversity & Systematic Biology,
Amgueddfa Cymru-National Museum
Wales, Cathays Park, Cardiff CF10
3NP*

See page 23 for the full article.

Carex x deserta

R.A. JONES *c/o Countryside Council
for Wales, Welsh Assembly
Government Building, Rhodfa Padarn,
Llanbadarn Fawr, Aberystwyth,
Ceredigion SY23 3UR*

Carex x deserta (*C. laevigata* x *C. binervis*), first recorded for Britain by A.O. Chater in Caernarvonshire in 1961. This exhibition included a copy of original field notes of A.O. Chater from 1961 and details of plants found in vicinity in 2009 by Rod Gritten and Daffydd Roberts (former and current Snowdonia National Park ecologists) and a live specimen of *Carex x deserta*. See page 26 for the full article.

Vegetative Grasses

Identification Workshop

JOHN POLAND *91 Ethelburt Avenue,
Swaythling, Southampton SO16 3DF*

This workshop aimed to demonstrate useful and new identification tips found in the newly published *Vegetative Key to the British Flora*. Fresh specimens of over 40 species of native and alien grasses were available to participants for careful examination. A few of the species are given below (with interesting, yet simple, identification characters).

Alopecurus bulbosus (twin basal internodes or 'bulbs')

Alopecurus geniculatus (leaves glaucous and pruinose)

Anemanthele lessoniana (a tall alien

with whitish cataphylls like *Nardus stricta*)

Anisantha diandra (lower sheaths with long patent hairs)

Anisantha sterilis (lower sheaths with minute retrorse hairs)

Cortaderia selloana (leaves easily tearing)

Cortaderia richardii (leaves very tough)

Festuca longifolia (leaves smooth to touch)

Festuca brevipila (leaves rough to touch)

Festuca heterophylla (dead leaves around outside of clump)

Puccinellia distans (leaves ribbed above)

Puccinellia maritima (leaves not ribbed but with 'tramlines' above)

Brachypodium pinnatum (leaves ribbed above)

Brachypodium sylvaticum (leaves not ribbed above)

[Please note that a botanical glossary can be found in *The Vegetative Key to the British Flora* by J.Poland and E.J.Clement].

Live *Carex* Plants

RICHARD and KATH PRYCE

*Trevethin, School Road, Pwll, Llanelli,
Carmarthenshire SA15 4AL*

Live *Carex* plants were displayed in pots: *Carex montana* - originally from Carreg yr Ogof, Carmarthenshire (I.K. Morgan supplied plant to K.A.P)

Carex x pseudoaxillaris (*C. otrubae* x *C. remota*) – new to Carmarthenshire,

from roadside bank, Waunygweil, near Four Roads.

Carex ornithopoda – plant from I.K. Morgan, grown from seed supplied by Andy Jones.

A Collection of Rare

Native Plants

ANDREW GORDON SHAW

Gofynne, Llanynis, Builth Wells, Powys
LD2 3HN

See page 22 for the full article.

British Poas

SARAH STILLE *The Quillet, Berwyn Street, Llandrillo, Corwen, Denbighshire LL21 0TH*

A collection of 12 members of the genus *Poa* (and associated genera) were exhibited as herbarium sheets and a growing specimen. Also included were a key for identification, notes and correspondence. The species were:

1. *Puccinellia maritima*, 2. *Poa annua*, 3. *Poa humilis*, 4. *Poa angustifolia*, 5. *Poa trivialis*, 6. *Poa nemoralis*, 7. *Poa palustris*, 8. *Poa compressa*, 9. *Poa chaixii*, 10. *Poa alpina*, 11. *Poa infirma*, 12. *Poa pratensis*.

Native British Roses

KATE THORNE *Churton House, Church Pulverbatch, Shropshire, SY5 8BZ*

A substantial number of live specimens of species grown from cuttings of

plants identified by Rev. Primavesi were displayed.

The earlier date of this year's AGM meant that the subtle colour and size differences in the flowers of the wild *Rosa* species could be demonstrated e.g. the deep pink of *Rosa sherardii* and the smaller flowers of *Rosa micrantha*. In addition, other characters (demonstrated in last year's exhibition) could be revised.

Specimens included: *Rosa sherardii*, *Rosa mollis*, *Rosa micrantha*, *Rosa agrestis*, *Rosa tomentosa*, *Rosa caesia* ssp. *vosagiaca*, *Rosa caesia* ssp. *caesia* and *Rosa spinossisima*. Hybrids included the Tiree special – *Rosa spinossisima* x *Rosa caesia*.

Carex hostiana Hybrid from Radnorshire Trust's Latest Reserve

ANTHONY VAUGHAN *Craig Fawr, Llanelwedd, Builth Wells, Powys LD2 3RD*

The latest major acquisition of the Radnorshire Wildlife Trust is a 28 ha. area of traditionally managed hill-pasture called Tylcau Hill near Llanbister. Basic flora and fauna recording has been taking place throughout 2008 and 2009, the last being a survey carried out a few days before the meeting. A puzzling sedge collected then was shown to the meeting, where Arthur Chater obligingly confirmed the plants as

Carex x *fulva* (*C. hostiana* x *C. viridula*).

Workshop on the Identification of NVC Grassland Communities

JULIAN WOODMAN *c/o Countryside
Council for Wales Personal, Unit 4,
Castleton Road, Fortran Road, Cardiff
CF3 0LT*

Trays containing turves temporarily removed from various well characterised grassland types were displayed outside and delegates attempted to assign the correct NVC classification to each one! A considerable task to collect together these samples in preparation and a challenge for the delegates to correctly identify them.

Anglesey Plants in 2009

IAN BONNER *Cae Trefor, Tyn y Gongl, Anglesey, LL74 8SD*

As an experiment a pre-season indoor meeting was held at Treborth Botanic Garden in March. About 30 of us listened to a range of short talks about the current state of knowledge about the flora, and examples of possible recording initiatives for the coming year. Based on the enthusiasm of the day it was agreed there would only be three general excursions, leaving more time for individuals and small groups to pursue other recording projects.

In late April a plant identification workshop was held at Treborth, where participants could try using a range of keys on different plants – with help on hand. The flora was also sufficiently advanced to start monad recording and during the whole season some records have been collected from over 80 of the 800 monads on Anglesey.

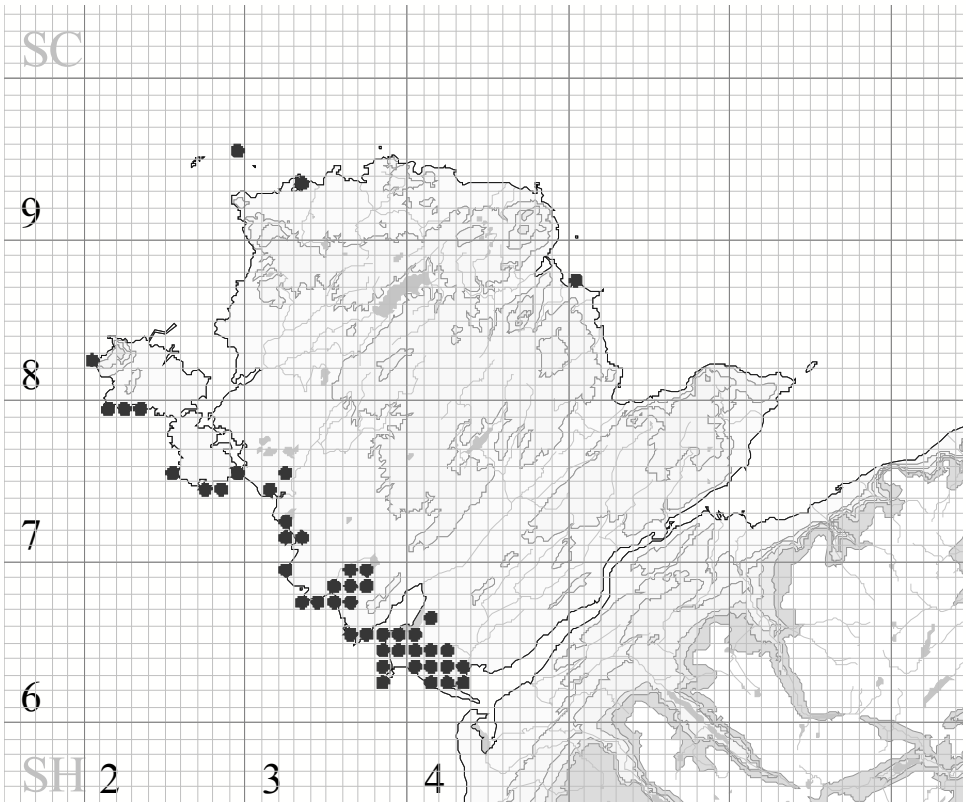
In early May *Barbarea intermedia*

(Medium-flowered Winter-cress) was noted at Cors Erddreiniog, only a few yards from where it was first recorded on Anglesey in 2000. It seems likely that it has been introduced with fodder for the ponies grazing the nature reserve.

The first excursion in mid May saw ten of us meet on the coast at Tywyn Fferam and Tywyn Llyn, Rhosneigr, before moving inland along foot paths through Penserri to Llanfaelog. Good lists were made from the three monads visited; but the highlight was the sight of a Marsh Harrier over pools at Penserri.

In late May the annual monitoring of the *Cephalanthera longifolia* (Narrow-leaved Helleborine) population took place. This year these results were also used in the BSBI Threatened Plants Project (TPP) species on Anglesey.

Distribution of *Centaureum littorale* (Seaside Centaury) on Anglesey, v.c.52. Image created in MapMate by I.R. Bonner (see pages 13-15).



Monad recording north of Rhosneigr brought an invitation to look at a pony grazed field with the delights of both *Trifolium ornithopodiodes* (Bird's-foot Clover) and *Trifolium subterraneum* (Subterranean Clover), as well as *Trifolium micranthum* (Slender Trefoil) and *Ornithopus perpusillus* (Bird's-foot), all in a few square metres of pony grazed pasture.

After an absence of ten years several repeat visits were made to the Bodior

area of Rhoscolyn. One of the finds on some rather scrubby heathland was a small population of the nationally vulnerable *Viola lactea* (Pale Dog-violet), and it is hoped some management can be restarted here that would benefit the violet and other heathland species. The only extant population of *Suaeda vera* (Shrubby Sea-blite) in Wales, first recorded in 1999, continues to grow near here, and botanists are still divided over whether it is an introduction or a remarkable

extension to its range.

A report on the BSBI's field visit to Cors Erddreiniog on a cool and damp Saturday in early June will appear in *BSBI News*.

Remarkably this year two new populations of the Near Threatened fern, *Asplenium obovatum* (Lanceolate Spleenwort) have been found, near Rhoscolyn and Trearddur, both on Holy Island. This brings the number of known sites on Anglesey for this fern to five.

Returning to Rhosneigr and clovers, a July walk through the town confirmed *Trifolium scabrum* (Rough Clover) on several of the mown verges in the town. All five post-2000 records are from this part of Anglesey.

Jane and Ivor Rees found *Centaureum littorale* (Seaside Centaury) along the cliff edge near Moelfre, this is the first record from the east side of the island. Seaside Centaury is very much a feature of dune slacks and cliff tops from Newborough to South Stack, as can be seen on the map on page 15.

In a similar vein Richard Birch found *Pyrola rotundifolia* (Round-leaved Wintergreen) in the damp floor of a disused quarry near Llanddona. It is also much more associated with damp areas in the dunes from Newborough to Rhosneigr, although there are isolated records from a quarry near Llangaffo and by Llyn Hendref at Cors Bodwrog.

Cors Bodwrog was the location of the second Flora Group meeting in late July. We added considerably to our records from 2008; but still have the northern end to cover another time. We were surprised by the diversity of the flora of the rock outcrops along the west side of the fen basin.

Oenanthe fistulosa (Tubular Water-dropwort) was the second of the BSBI's chosen TPP taxa on Anglesey and the population on the RSPB's Valley Lakes Reserve was duly monitored in August. A good number of young plants were found in an area managed round one of the landing beacons for the nearby airfield; but other parts of this wetland also need management to enable this and other less competitive species to thrive.

A select band braved another wet and windy day on Parys Mountain for the final excursion of the year. A good number of additional records were made for the various monads; but we failed to refind *Lycopodium clavatum* (Stag's-horn Clubmoss) at its only Anglesey location.

Ivor Rees has continued to study the unfashionable and taxonomically challenging glasswort (*Salicornia* spp.) and Sea-lavender species (*Limonium* spp.) plants around the coast. His reward is confirmation that a population of *Limonium recurvum* (Lafant-y-mor Portland, a Sea-lavender species) is amongst other Sea-lavender taxa by the estuary of the Afon Crigyll.

This is a new species for Wales, other locations being the Mull of Galloway, St Bees in Cumbria, Portland Bill in Dorset and various localities in SW Ireland. Fuller details about this discovery will form a note for *BSBI News*.

Another new plant for Wales is the even more unobtrusive pondweed hybrid spotted by Richard Lansdown at Cors Bodeilio. This is *Potamogeton x billupsii*, the hybrid between *P. coloratus* (Fen Pondweed) and *P. gramineus* (Various-leaved Pondweed). Although collected in 2000 its true identity has only been confirmed this year. This hybrid was

first recorded in 1892 at Benwick in Cambridgeshire and has otherwise been noted on Benbecula in the Outer Hebrides. The Anglesey plants may form the only extant population in Britain.

My thanks to all members of the Flora Group and to all others who have contributed records and also to those who have helped with the identification of specimens this year.

EXHIBIT
ARTICLE

Betula celtiberica in Wales

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There are usually thought to be two native Birch species in Wales, but in my experience they are so variable that it is often impossible to decide whether they are one or other of these species, the hybrid between them, or some other species. Recent recognition by P. D. Sell (pers. comm.) that a third species appears to be native here seems to have partially resolved the problem, although many uncertainties remain. It is hoped that this article will stimulate others to look more closely at Birches in their areas. The two familiar natives are usually distinguished as follows:

Betula pendula Roth: bark white, broken into black fissures at the base of the trunk; young twigs glabrous, with wart-like glands as well as lenticels; leaves doubly serrate, truncate or broadly cuneate at the base, acuminate at the apex, glabrous; catkin scales with more or less recurved lateral lobes and broadly triangular, obtuse median lobe; each wing of the fruit at least twice as wide as body.

B. pubescens Ehrh.: bark greyish, rough, not broken into black fissures; young twigs puberulent, with lenticels

but no glands; leaves more or less singly serrate, rounded or broadly cuneate at base, acute at the apex, often somewhat pubescent; catkin scales with more or less patent or slightly ascending lateral lobes, the median lobe oblong or triangular-lanceolate, obtuse or subacute; each wing of the fruit less than twice as wide as the body. (ssp. *tortuosa* (Ledeb.) Nyman, usually a shrub, with very small leaves (mostly <3cm), also occurs in a few places.)

Hybrids are supposed to occur, but it is difficult to discover how to recognise them. Stace (1997) says that it varies in characters between the two species, and describes the Atkinson Discriminant Function, which uses leaf character measurements to separate the species, but as a positive value indicates *B. pendula*, a negative one *B. pubescens*, and the chances of getting a value of 0 are minimal, it seems difficult to know how to begin to identify the hybrid.

The third species now believed to be native in Wales is *B. celtiberica* Rothm. & Vasc. (1940), widespread in the mountains of Spain and Portugal. It is treated as *B. pubescens* ssp. *celtiberica* (Rothm. & Vasc.) Rivas Mart. in *Flora Europaea* (Walters, 1993), and is sunk into *B. pubescens* in *Flora Iberica* (Moreno & Peinado, 1990). It is intermediate between the other two species in some characters, but not in all:

B. celtiberica Rothm. & Vasc.: (see images on the inside front cover) bark white to the base, not broken into fissures; young twigs puberulent and with warty glands as well as lenticels; leaves rather rhombic (diamond-shaped), cuneate, sometimes narrowly so, at the base, acute at the apex, singly dentate, sometimes slightly pubescent; catkin scales with lateral lobes patent or slightly recurved; each wing of the fruit less than twice as wide as body.

Walters (1993) and Sell (pers. comm.) emphasise the vegetative characters in distinguishing *B. celtiberica*, and the combination of both warty glands and pubescence on the twigs is especially distinctive. Moreno & Peinado (1989) consider that it is a species of hybrid origin probably involving *B. fontqueri* Rothm. and *B. carpatica* Waldst. & Kit. ex Willd., and relate this to the great variation in both vegetative and bract and fruit characters shown in its Spanish populations; they do not record *B. pubescens* in central Spain where this study was carried out. In their *Flora Iberica* account (1990) they say that because of the great variation in the glands on the twigs in *B. pubescens* as a whole, recognition of *B. celtiberica* using this character is unjustified, and consequently sink it; this is in line with the general tendency towards often excessive lumping in *Flora Iberica*. *Betula* identification seems to be no easier in Spain than in Wales.

Like *B. pendula* and *B. pubescens*, *B. celtiberica* is often planted in Wales, but it occurs frequently in wild, often very remote situations and certainly appears to be native. This is confirmed by an early collection from Nantyrarian, v.c.46, in CGE by Burkill and Willis in 1893, determined as *B. celtiberica* by P. D. Sell. The collectors thought it was *B. pubescens*, and remarked that it was “certainly not planted”. Representative native material has recently been collected from many sites in v.c.46, including open woodland on the south slope of Foel Fawr, Eglwys-fach SN69029490, 2004 (CGE, A. O. Chater, conf. P. D. Sell), open woodland 500m ENE of Strata Florida SN752659, 2005 (CGE, A. O. Chater, conf. P. D. Sell), and trackside in Cwm Mwyro, 3km E of Strata Florida SN773649, 2004 (CGE, A. O. Chater & P. A. Smith, conf. P. D. Sell). In many areas it seems almost as common as *B. pubescens*, but like that species it is certainly variable and it may well hybridise with the other native species and with alien planted species.

Many alien Birches are planted, and several, especially *B. japonica* and *B. litwinowii*, occasionally appear in very wild sites where they seem unlikely to have been planted and must have arrived either as wind-blown seed or via semi-migratory finches such as Redpoll, the major part of its diet in autumn and winter being birch seed (Newton, 1972). They too probably hybridise. In Coed Mynachlog-fawr at

Strata Florida SN745654 in v.c.46, for example, a fairly remote, unplanted upland mixed Oak/Birch wood, apart from a few trees of *B. celtiberica*, *B. litwinowii* and *B. japonica*, scarcely any of the Birches can be confidently identified and none are typical *B. pubescens* or *B. pendula*.

I am grateful to Peter Sell for introducing me to *B. celtiberica* and for naming a number of my specimens, and to George Hutchinson for further information.

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Hieracium adelphicum P. D. Sell, Glamorganshire Hawkweed rediscovered in Glamorgan

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Hieracium adelphicum P.D. Sell, Glamorganshire Hawkweed, is a new name coined for *Hieracium praecox* Sch.Bip. microgen. *fraternum* Sudre (Sell & Murrell 2006; Sudre 1902), a species which occurs in Central Europe from Hungary to South-west France. It is characterised by the diffuse inflorescence with small capitula with densely glandular involucre bracts and pedicels, and the leaves with pronounced mammiform teeth. Sell & Murrell (2006) only recorded it in the British Isles from specimens collected in the neighbourhood of Caerphilly by A. Ley in 1906, and noted that it could be an introduced species.

Peter Sell asked Tim Rich to keep an eye out for it in 2001, which he has been doing ever since. It was thus with pleasure that on 30 May 2009, Tim Rich and Judith Rich discovered *H. adelphicum* in Cardiff. Five plants were found in flower on the west facing wall of the railway embankment of Wyndham Terrace, Llanishen (v.c.41; at ST180815. The associated species were *Rubus fruticosus* (dominant), with scattered *Centaurea nigra*, *Cymbalaria muralis*, *Epilobium lanceolatum*, *E. montanum*, *Hieracium*

cf. *argillaceum* (deformed by aphids), *H. sabaudum*, *Leucanthemum vulgare* and *Potentilla reptans*. On a second visit on 20 June 2009, the plants were largely in fruit with a few flowers remaining.

The identification was confirmed by D. McCosh, who provided details of other records which have come to light since publication of Sell & Murrell's account (see the table to the right). This included a recently determined specimen collected in 1997 by Paul Smith from Wyllie, north of Caerphilly (v.c.35). The site was revisited on 4 July 2009 by Paul Smith and Tim Rich, and about 20 flowering and over 30 vegetative plants were found on the bridge over the disused railway line at ST177943. The associated species included *Acer pseudoplatanus*, *Arrhenatherum elatius*, *Betula pendula*, *Centaurea nigra*, *Crepis capillaris*, *Epilobium lanceolatum*, *E. montanum*, *Fragaria vesca*, *Geranium dissectum*, *G. robertianum*, *Hedera helix*, *Holcus lanatus*, *Quercus robur*, *Rubus fruticosus*, *Salix caprea*, *Senecio jacobaea*, *Stellaria holostea*, *Taraxacum* spp., *Torilis japonica*, *Ulex europaeus* and *Urtica dioica*.

Table Showing Historical Records of *Hieracium adelphicum* (courtesy D. J. McCosh)

V.C.	Locality	Recorder	Date	Herbarium
34	Minchinhampton Common	Day, E.M.	3 June 1911	BM
34	Selsley Hill	Pugsley, H.W.	13 June 1904	BM
34	Stinchcombe Hill, Dursley	Day, E.M.	25 May 1911	BM
35	Wyllie, near Caerphilly	Smith, P.A.	31 May 1997	Herb. McCosh
41	Caerphilly, nr	Ley, A.	June 1906	CGE
41	Pantglas, Lisvane	Riddelsdell, H.J.	28 June 1905	BM
41	Pentyrch	Riddelsdell, H.J.	25 June 1906	BM
41	Radyr	Riddelsdell, H.J.	3 June 1911	NMW
41	Sully	Riddelsdell, H.J.	26 June 1906	BM
41	Taffs Well	Riddelsdell, H.J.	June 1904	BM
41	Sgwd Gwladys [as Ysgwyd Gwladys]	Riddelsdell, H.J.	June 1904	BM

Vouchers from both sites have been deposited in the Welsh National Herbarium (NMW).

We suspect that there could be more plants in South Wales and western England, and their association with railways of both current sites indicates a mechanism for introduction and for dispersal.

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A Collection of Rare Native Plants

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Over fifty rare species from Wales, Scotland, England and Ireland were on display. Most specimens were exhibited as whole plants growing in pots. A number of the plants were exhibited as picked specimens (from A.G. Shaw's garden) and were displayed in vases. Where known, the provenance of each specimen was given.

The display generated much discussion. Of particular interest was a specimen of *Hypericum linariifolium* (see also image on front cover). A.G. Shaw and H.J. Powell found this plant growing on a rock outcrop in Yatt Wood, Radnorshire on the 17th June 2006. This was the first record for Radnorshire since 1945. The specimen on display originated from seed collected from the Yatt Wood plants. The small stature of the plant and the presence of translucent dots on the leaves probably indicate some hybridising with *Hypericum humifusum*. A full determination from the *Hypericum* referee has yet to be made. The Yatt Wood plants grew on very shallow soil and were killed off by drought shortly after discovery. Despite searches it has not been seen since.

originally collected from Port Meadow, Oxfordshire. Whilst many of the plant's features pointed towards *Apium repens*, John Poland considered that the leaf shape was not typical and suggested that the specimen may be a small ecotype of *Apium nodiflorum*. A full determination from the *Apium* referee has yet to be made.

Species on display with a Welsh provenance included:

Cardamine impatiens (Radnorshire),
Dianthus armeria (Carmarthenshire),
Dianthus deltoides (Radnorshire),
Epilobium lanceolatum (Radnorshire),
Hypericum linariifolium (Radnorshire),
Hypericum montanum (Radnorshire),
Luronium natans (Montgomeryshire),
Lychnis viscaria (Radnorshire),
Pilularia globulifera (Radnorshire),
Potentilla rupestris (Radnorshire),
Rumex rupestris (Anglesey),
Scleranthus perennis ssp. *perennis* (Radnorshire),
Sorbus leyana (Brecknock),
Sorbus minima (Brecknock),
Utricularia minor (Radnorshire),
Utricularia australis (Radnorshire),
Vicia orobus (Radnorshire).

Also the subject of discussion was a specimen of *Apium repens* that was

Full list of species on display:

Alisma gramineum, *Apium repens*,
Arabis alpina, *Arabis glabra*, *Armeria*
maritima ssp. *elongata*, *Artemisia*
norvegica, *Carex chordorrhiza*, *Carex*
depauperata, *Cardamine bulbifera*,
Cardamine impatiens, *Clinopodium*
menthifolium, *Cyperus fuscus*,
Damasonium alisma, *Dianthus*
armeria, *Dianthus deltoides*, *Draba*
aizoides, *Eleocharis parvula*,
Epilobium lanceolatum, *Epipactis*
palustris, *Euphorbia serrulata*,
Fumaria purpurea, *Fumaria*
occidentalis, *Fumaria parviflora*,
Gastroidium ventricosum, *Herniaria*

glabra, *Hypericum linariifolium*,
Hypericum montanum, *Juncus*
pygmaeus, *Limosella aquatica*,
Linnaea borealis, *Lonicera xylosteum*,
Luronium natans, *Lychnis viscaria*,
Melittis melissophyllum, *Ophioglossum*
azoricum, *Pilularia globulifera*,
Polycarpon tetraphyllum,
Potentilla rupestris, *Ranunculus*
ophioglossifolius, *Rumex rupestris*,
Saxifraga cernua, *Scleranthus perennis*
 ssp. *perennis*, *Scrophularia scordonia*,
Sibthorpia europaea, *Sorbus leyana*,
Sorbus minima, *Stachys germanica*,
Utricularia minor, *Utricularia*
australis, *Vicia orobus*, *Viola*
kitaibeliana.

EXHIBIT
ARTICLE

Modern Trends in Welsh Grasses at NMW

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115 taxa comprising 383 specimens of Welsh Poaceae were collected between 2000 and 2009 inclusive. Many were aliens and the more difficult to identify taxa. All taxa are listed over the next two pages in alphabetical and then number of specimens order.

Some brief vice-county notes:

v.c.35 Many *Bromus*, and Pond Survey specimens.

v.c.41 100 specimens of which many aliens, mostly from the Cardiff area and Merthyr Tydfil, and Pond Survey specimens.

v.c.44 136 specimens of which 27 aliens.

v.c.45 Nearly all alien specimens.

v.c.46 100 specimens of which 35 *Festuca ovina* det. to subspecies and many other critical taxa, and hybrids.

North Wales few of which 40% alien.

Acknowledgements

Especially to Mr T.B. Ryves (Aliens and General), Mr L.M. Spalton (*Bromus*), Dr C. Stapleton (Bamboo); also to those who have donated grass specimens to NMW in recent times.

Specimens Collected (in alphabetical order)

- 1 *Agrostis canina* L.
- 2 *Agrostis capillaris* L.
- 2 *Agrostis capillaris* L. x *A. stolonifera* L.
- 1 *Agrostis castellana* Boiss. & Reuter
- 2 *Agrostis gigantea* Roth.
- 10 *Agrostis stolonifera* L.
- 4 *Agrostis vinealis* Schreb.
- 1 *Aira praecox* L.
- 2 *Alopecurus bulbosus* Gouan
- 7 *Alopecurus geniculatus* L.
- 6 *Alopecurus myosuroides* Huds.
- 3 *Anisantha diandra* (Roth) Tutin ex Tzvelev
- 3 *Anisantha madritensis* (L.) Nevski
- 10 *Anisantha sterilis* (L.) Nevski
- 2 *Apera spica-venti* (L.) P.Beauv.
- 1 *Arrhenatherum elatius* (L.) P.Beauv.
- 1 *Arrhenatherum elatius* var. *bulbosum*
- 5 *Avena fatua* L.
- 1 *Avena sterilis* L. ssp. *ludoviciana*
- 1 *Brachypodium pinnatum* (L.) P.Beauv.
- 5 *Brachypodium sylvaticum* (Huds.) P. Beauv.
- 2 *Briza maxima* L.
- 1 *Bromopsis erecta* (Huds.) Fourr.
- 1 *Bromopsis inermis* (Leyss.) Holub.
- 2 *Bromopsis ramosa* (Huds.) Holub
- 1 *Bromus carinatus* H. & A. var. *marginatus*
- 5 *Bromus commutatus* Schrad.
- 3 *Bromus hordeaceus* L.
- 1 *Bromus hordeaceus* L. ssp. *ferronii*
- 15 *Bromus hordeaceus* L. ssp. *hordeaceus*
- 9 *Bromus hordeaceus* L. ssp. *longipedicellatus* Spalt.
- 1 *Bromus inermis* (Leyss.) Holub
- 1 *Bromus interruptus* (Hackel) Druce
- 2 *Bromus racemosus* L.
- 3 *Bromus secalinus* L.
- 1 *Calamagrostis epigejos* (L.) Roth
- 5 *Catabrosa aquatica* (L.) P.Beauv.
- 6 *Catapodium maritimum* (L.) C.E. Hubb.
- 5 *Catapodium rigidum* (L.) C.E. Hubb.
- 2 *Dactylis glomerata* L.
- 6 *Danthonia decumbens* (L.) DC.
- 6 *Deschampsia cespitosa* (L.) P.Beauv.
- 1 *Digitaria ciliaris* (Retz.) Koeler
- 1 *Digitaria sanguinalis* (L.) Scop.
- 1 *Echinochloa colona* (L.) Link
- 13 *Echinochloa crus-galli* (L.) P.Beauv.
- 1 *Echinochloa frumentacea* Link
- 4 *Elymus caninus* (L.) L.
- 4 *Elytrigia atherica*
- 11 *Elytrigia repens* (L.) Desv. ex Nevski
- 1 *Elytrigia x laxa* (Fr.) Kerguelen
- 1 *Elytrigia x obtusiuscula* (Lange) Hyl.
- 8 *Elytrigia x oliveri* (Druce) Kerguelen ex Carreras
- 1 *Fargesia murielae* (Gamble) T.P. Yi
- 6 *Fargesia nitida* (Stapf) Keng f.
- 2 *Festuca arenaria* Osbeck
- 8 *Festuca arundinacea* Schreb.

- 3 *Festuca gigantea* (L.) Vill.
- 1 *Festuca lemanii* Bastard
- 1 *Festuca ovina* L.
- 2 *Festuca ovina* L. ssp. *ovina*
- 7 *Festuca ovina* L. ssp. *ophiolithicola*
- 3 *Festuca pratensis* Huds.
- 7 *Festuca rubra* L.
- 1 *Festuca rubra* L. ssp. *commutata* Gaudin
- 2 *Festuca rubra* L. ssp. *junceae* (Hack.) K.Richt.
- 2 *Festuca rubra* L. ssp. *megastachys* Gaudin
- 2 *Festuca rubra* L. ssp. *rubra*
- 4 *Glyceria declinata* Breb.
- 7 *Glyceria fluitans* (L.) R.Br.
- 3 *Glyceria maxima* (Hartm.) Holmb.
- 2 *Glyceria maxima* (Hartm.) Holmb. 'Variegata'
- 8 *Glyceria notata* Chevall.
- 1 *Helictotrichon pratense* (L.) Besser
- 4 *Helictotrichon pubescens* (Huds.) Pilg.
- 1 *Holcus lanatus* L.
- 1 *Holcus mollis* L.
- 1 *Hordeum europaeus* (L.) Jess. ex Harz
- 1 *Hordeum distichon* L.
- 1 *Hordeum murinum* L.
- 1 *Melica altissima* L.
- 1 *Melica nutans* L.
- 3 *Molinia caerulea* (L.) Moench
- 6 *Panicum miliaceum* L.
- 1 *Parapholis incurva* (L.) C.E.Hubb.
- 5 *Parapholis strigosa* (Dumort.) C.E.Hubb.
- 6 *Phalaris arundinacea* L.
- 2 *Phalaris arundinacea* L. var. *picta*
- 3 *Phalaris canariensis* L.
- 2 *Phalaris paradoxa* L.
- 2 *Phleum bertolonii* DC.
- 5 *Phragmites australis* (Cav.) Trin. ex Steud.
- 1 *Pleiblastus simonsii* (Carriere) Nakai
- 1 *Poa annua* L. forma *purpurea* M.L. Grant
- 6 *Poa compressa* L.
- 2 *Poa humilis* Ehrh. ex Hoffm.
- 4 *Poa pratensis* L.
- 3 *Poa trivialis* L.
- 6 *Polypogon monspeliensis* (L.) Desf.
- 1 *Polypogon viridis* (Gouan) Breistr.
- 1 *Pseudosasa japonica*
- 1 *Puccinellia distans* (Jacq.) Parl.
- 2 *Puccinellia maritima* (Huds.) Parl.
- 4 *Sasa palmata* (Burb.) Camus
- 1 *Sasaella ramosa* (Makino) Makino
- 3 *Semiarundinaria fastuosa*
- 1 *Setaria adhaerens* (Forssk.) Chiov.
- 1 *Setaria parviflora* (Poir.) Kerguelen
- 7 *Setaria pumila* (Poir.) Schult.
- 1 *Setaria verticillata* (L.) P.Beauv.
- 7 *Setaria viridis* (L.) P.Beauv.
- 1 *Stipa tenuissima* Trin.
- 5 *Vulpia bromoides* (L.) Gray
- 3 *Vulpia myuros* (L.) C.C.Gmel.
- 1 *Zea mays* L.

Specimens Collected (in order of no. of specimens)

- 15 *Bromus hordeaceus* L. ssp. *hordeaceus*
 13 *Echinochloa crus-galli* (L.) P.Beauv.
 11 *Elytrigia repens* (L.) Desv. ex Nevski
 10 *Agrostis stolonifera* L.
 10 *Anisantha sterilis* (L.) Nevski
 9 *Bromus hordeaceus* L. ssp. *longipedicellatus* Spalt.
 8 *Elytrigia x oliveri* (Druce) Kerguelen ex Carreras
 8 *Festuca arundinacea* Schreb.
 8 *Glyceria notata* Chevall.
 7 *Alopecurus geniculatus* L.
 7 *Festuca ovina* L. ssp. *ophiolicola*
 7 *Festuca rubra* L.
 7 *Glyceria fluitans* (L.) R.Br.
 7 *Setaria pumila* (Poir.) Schult.
 7 *Setaria viridis* (L.) P.Beauv.
 6 *Alopecurus myosuroides* Huds.
 6 *Catapodium marimum* (L.) C.E. Hubb.
 6 *Danthonia decumbens* (L.) DC.
 6 *Deschampsia cespitosa* (L.) P.Beauv.
 6 *Fargesia nitida* (Stapf) Keng f.
 6 *Panicum miliaceum* L.
 6 *Phalaris arundinacea* L.
 6 *Poa compressa* L.
 6 *Polypogon monspeliensis* (L.) Desf.
 5 *Avena fatua* L.
 5 *Brachypodium sylvaticum* (Huds.) P. Beauv.
 5 *Bromus commutatus* Schrad.
 5 *Catabrosa aquatica* (L.) P.Beauv.
 5 *Catapodium rigidum* (L.) C.E. Hubb.
 5 *Parapholis strigosa* (Dumort.) C.E.Hubb.
 5 *Phragmites australis* (Cav.) Trin. ex Steud.
 5 *Vulpia bromoides* (L.) Gray
 4 *Agrostis vinealis* Schreb.
 4 *Elymus caninus* (L.) L.
 4 *Elytrigia atherica*
 4 *Glyceria declinata* Breb.
 4 *Helictotrichon pubescens* (Huds.) Pilg.
 4 *Poa pratensis* L.
 4 *Sasa palmata* (Burb.) Camus
 3 *Anisantha diandra* (Roth) Tutin ex Tzvelev
 3 *Anisantha madritensis* (L.) Nevski
 3 *Bromus hordeaceus* L.
 3 *Bromus secalinus* L.
 3 *Festuca gigantea* (L.) Vill.
 3 *Festuca pratensis* Huds.
 3 *Glyceria maxima* (Hartm.) Holmb.
 3 *Molinia caerulea* (L.) Moench
 3 *Phalaris canariensis* L.
 3 *Poa trivialis* L.
 3 *Semiarrundinaria fastuosa*
 3 *Vulpia myuros* (L.) C.C.Gmel.
 2 *Agrostis capillaris* L.
 2 *Agrostis capillaris* L. x *A. stolonifera* L.
 2 *Agrostis gigantea* Roth.
 2 *Alopecurus bulbosus* Gouan
 2 *Apera spica-venti* (L.) P.Beauv.
 2 *Briza maxima* L.
 2 *Bromopsis ramosa* (Huds.) Holub
 2 *Bromus racemosus* L.
 2 *Dactylis glomerata* L.
 2 *Festuca arenaria* Osbeck
 2 *Festuca ovina* L. ssp. *ovina*
 2 *Festuca rubra* L. ssp. *junceae* (Hack.) K.Richt.
 2 *Festuca rubra* L. ssp. *megastachys* Gaudin
 2 *Festuca rubra* L. ssp. *rubra*
 2 *Glyceria maxima* (Hartm.) Holmb. 'Variegata'
 2 *Phalaris arundinacea* L. var. *picta*
 2 *Phalaris paradoxa* L.
 2 *Phleum bertolonii* DC.
 2 *Poa humilis* Ehrh. ex Hoffm.
 2 *Puccinellia maritima* (Huds.) Parl.
 1 *Agrostis canina* L.
 1 *Agrostis castellana* Boiss. & Reuter
 1 *Aira praecox* L.
 1 *Arrhenatherum elatius* (L.) P.Beauv.
 1 *Arrhenatherum elatius* var. *bulbosum*
 1 *Avena sterilis* L. ssp. *ludoviciana*
 1 *Brachypodium pinnatum* (L.) P.Beauv.
 1 *Bromopsis erecta* (Huds.) Fourr.
 1 *Bromopsis inermis* (Leyss.) Holub.
 1 *Bromus carinatus* H. & A. var. *marginatus*
 1 *Bromus hordeaceus* L. ssp. *ferronii*
 1 *Bromus inermis* (Leyss.) Holub
 1 *Bromus interruptus* (Hackel) Druce
 1 *Calamagrostis epigejos*, (L.) Roth
 1 *Digitaria ciliaris* (Retz.) Koeler
 1 *Digitaria sanguinalis* (L.) Scop.
 1 *Echinochloa colona* (L.) Link
 1 *Echinochloa frumentacea* Link
 1 *Elytrigia x laxa* (Fr.) Kerguelen
 1 *Elytrigia x obtusiuscula* (Lange) Hyl.
 1 *Fargesia murielae* (Gamble) T.P. Yi
 1 *Festuca lemanii* Bastard
 1 *Festuca ovina* L.
 1 *Festuca rubra* L. ssp. *commutata* Gaudin
 1 *Helictotrichon pratense* (L.) Besser
 1 *Holcus lanatus* L.
 1 *Holcus mollis* L.
 1 *Hordeum europaeus* (L.) Jess. ex Harz
 1 *Hordeum distichon* L.
 1 *Hordeum murinum* L.
 1 *Melica altissima* L.
 1 *Melica nutans* L.
 1 *Paraphoclis inurva* (L.) C.E.Hubb.
 1 *Pleioblastus simonsii* (Carriere) Nakai
 1 *Poa annua* L. forma *purpurea* M.L.Grant
 1 *Polypogon viridis* (Gouan) Breistr.
 1 *Pseudosasa japonica*
 1 *Puccinellia distans* (Jacq.) Parl.
 1 *Sasaella ramosa* (Makino) Makino
 1 *Setaria adhaerens* (Forssk.) Chiov.
 1 *Setaria parviflora* (Poir.) Kerguelen
 1 *Setaria verticillata* (L.) P.Beauv.
 1 *Stipa tenuissima* Trin.
 1 *Zea mays* L.

Carex × *deserta* : A Rare Hybrid of the Atlantic Biogeographic Zone

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The hybrid sedge *Carex* × *deserta* Merino seems to be very rare in Britain and Ireland (with only two recorded sites) although its parents, *C. binervis* and *C. laevigata*, are both widespread and often grow together. The first record of *Carex* × *deserta*, made by Arthur Chater in 1961, was from Ffridd yr Erw, near Tremadog, Caernarfonshire, where he found two non-fertile plants. The second record was found by Ian Green on Dunkery Beacon, Exmoor (v.c. 5) in 1999 (Green, 1999); in this case, apparently, with a low degree of fertility (Jermy et al., 2007).

Native hybrids were included, for the first time, in the new Vascular Plant Red Data List for Great Britain (Cheffings & Farrell, 2005) and *C. × deserta* was assigned the IUCN Threat Category “Vulnerable” on the basis of its very restricted occurrence. It was not, however, included in the first Red Data List for Wales (Dines, 2007) and the Caernarfonshire population seems to have attracted no further interest after the original record. In view of this uncertainty and a general lack of information about the hybrid, I made a series of exploratory visits to the v.c. 49 site for *C. × deserta* between May and September 2008. Fortunately, the locality is right next to a minor road

(and near my regular route between Aberystwyth and Bangor). Even better, Arthur Chater had made an exceptionally detailed sketch map of the area where he found the two original plants (see image on page 28). Unfortunately, these searches were unsuccessful, despite finding abundant *C. binervis* and scattered *C. laevigata* and most of the species originally recorded for the site. If it was not overlooked, the hybrid seems to have disappeared here, perhaps through natural mortality, perhaps as a result of management practices, such as grazing.

Fortunately, the status of *C. × deserta* was raised at a Plantlink Cymru meeting attended by Rod Gritten (the retiring Snowdonia National Park Ecologist), who decided to revisit the site in June 2009 with his successor, Dafydd Roberts. After also failing to discover the hybrid in its historic site, Rod took a lateral approach and cast around for suitable habitat. Without any published information on the ecology of *C. × deserta*, he looked out for anything unusual. The site is classic “ffridd”, a mixture of bracken, acid grassland, gorse and heath with scattered trees (mainly hawthorn and rowan), rock outcrops and flushed areas. Ffridd is increasingly seen as a habitat category in its own right, for

example in the proposed 'Glastir' agri-environment prescriptions. Rod noticed an ash tree on a small cliff nearby which he thought might indicate differing geology and, approaching it, found that the outcrop had indeed been quarried previously for some rock or mineral. Next to this Rod and Dafydd found at least three large clumps of a sedge intermediate in appearance between *C. laevigata* and *C. binervis*, on the edge of a *Molinia*-dominated flush. These plants fitted the new description of *C. × deserta* in Jermy *et al.*, 2008 and were subsequently confirmed from specimens by Arthur Chater.

Quite probably, as Rod inferred, the presence of *C. × deserta* at Ffridd yr Erw is linked to this geology and / or disturbance-history. The species list includes fairly base-demanding plants, such as *Phegopteris connectilis*, *C. flacca* and *Carex hostiana* (the latter recorded in 1961 but not refound in 2008-9) . On the 'mine' workings beside *C. × deserta* there was a small population of *C. pallescens*, which was not found in the local vicinity. At the same time genetic factors must also be involved in the appearance of this hybrid. The newly discovered *C. × deserta* and the plants c.300 m away evidently came from quite a prolific seed-source. This might suggest that at least one plant of *C. laevigata* or *C. binervis* was especially receptive to the other's pollen.

hybridisation in this section of *Carex* and debate exists about whether both species even belong to the same section. Recent work indicates, however, that *C. × deserta* can arise when certain chromosome races of *C. laevigata* and *C. binervis* coincide, perhaps with a geographic element (Luceño & Castroviejo, 1991). *C. laevigata*, in particular, has a range of ploidy levels (from $2n = 69$ to $2n = 80$) that increase from north to south down its narrow Atlantic or 'Temperate Oceanic' distribution, from Scotland to southern Spain (Morocco?). This is slightly unexpected, as southern Spain is the probable source for ancestral populations and a higher chromosome number is generally thought to be a derived character.

Carex × deserta was found at one site in northern Portugal, with a *C. laevigata* cytotype termed "unstable $n = 36$ " ($2n = 72$) and a 'typical' $2n = 74$ *C. binervis*. This is interesting because the one non-Iberian population of *C. laevigata* sampled for this study was from Llanbedrog, Llŷn (about 25 km WSW of Ffridd yr Erw) and this had a chromosome count of $2n = 71$, deviating from the previously recorded ("stable") $2n = 72$ (Davies, 1956). This aneuploid number and the hybrid occurrence nearby (and in Exmoor) could indicate affinities between certain *C. laevigata* populations in west Britain and others towards the south of its range.

There is relatively little information on

As with many sedge hybrids, there is

considerable room for research. It is also a possibility that *C. x deserta* could be overlooked in suitable habitat elsewhere. At Ffridd yr Erw the best field character was the sexual sterility of specimens (the stamens remaining tightly enclosed within the glumes and no ripe fruits discovered) but this might not be absolute (Jermy et. al., 2007) and is also a subject for closer study.

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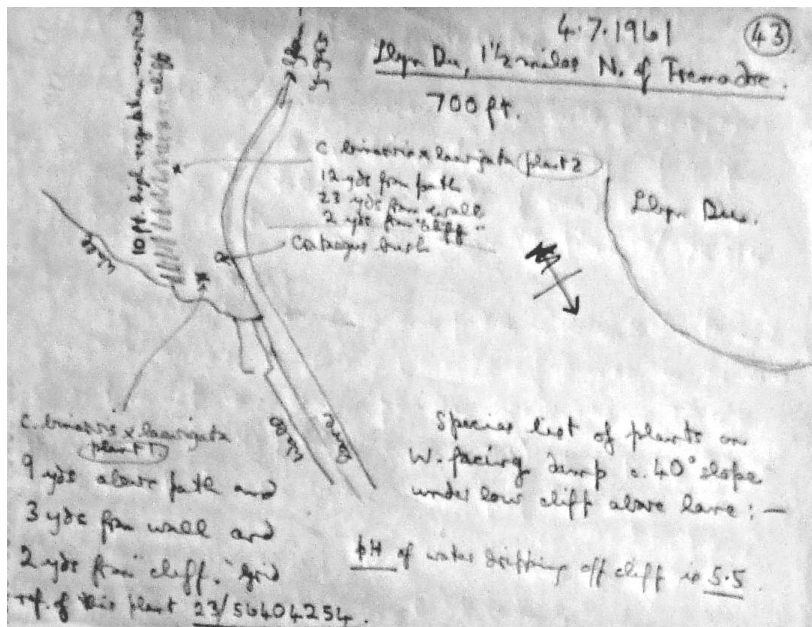
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An extract from A.O. Chater's field notes of the first record of *Carex x deserta* from Britain and Ireland.

PLANTLIFE WALES NEWSLETTER No.10

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PLANTLIFE
our plants our planet our future

The Ghost Orchid Declaration

As Britain's only conservation charity dedicated to saving wild plants and their habitats, Plantlife has a strong campaigning role. Unlike our action to conserve species on the ground, our policy work normally sits behind the scenes, being conducted in meetings with government and a wide range of other agencies and environmental organisations. Such policy work includes consultations on the new Glastir agri-environment scheme, the release of invasive non-native species into the wild, and the new BAP framework for Wales.

These are of course all essential, but are not exactly agenda setting. Given the upcoming elections and the need to put plants and fungi at the centre of conservation once more, Plantlife launched the Ghost Orchid Declaration in the Houses of Parliament in October (www.plantlife.org.uk). This is essentially a manifesto for plants, a clear statement of facts to show how plants have become marginalised in the UK conservation scene today. Many people no longer look at plants as wildlife in their own right, but as a sort of attractive backdrop to our more

charismatic birds and animals. Our flora is the least protected, invested in and acknowledged part of our wildlife. Yet plants are the fundamental building blocks of all ecosystems - if plants and fungi are doing well, everything else has a much better chance of surviving. If we get their conservation right, all other wildlife has a much better chance of flourishing. The Declaration tackles three key issues that we believe need urgent attention and offers some practical solutions to securing plant conservation in the future.

Why the worry?

In Great Britain, one-in-five of our vascular plants is threatened with extinction. This alarming figure has been criticised in the past and requires some justification. It is not plucked from the air but based on the *Vascular Plant Red Data List* published by JNCC in 2005. This list has been updated (see www.jncc.gov.uk/page-1752) following the initial assessment of risk to our flora by a panel of 10 expert botanists from BSBI, JNCC, the Country Agencies and Plantlife. Of the 2176 taxa currently assessed, 45 (2.1%) are Critically Endangered, 101 (4.6%) are Endangered and 307

(14.1%) are Vulnerable. This gives 20.8% of taxa under threat, or just over one-in-five.

In Wales, the situation is slightly better. Using the Red Data List compiled by Plantlife Wales and BSBI in 2008, of the 1467 taxa currently assessed, 50 (3.4%) are Critically Endangered, 64 (4.4%) are Endangered and 142 (9.7%) are Vulnerable. This gives 17.5% of taxa under threat, or just over one-in-four.

Extinctions are another way to look at the threats facing our flora. In Great Britain, 26 species (1.2%) have become extinct since 1804. In Wales, 38 species (2.6%) are recorded as extinct since 1800. This higher figure reflects the fact that species are steadily disappearing from across our landscape, but these losses show up first when looking at a smaller area (Wales being smaller than GB). Taking this a step further, the loss of species from individual vice-counties is sometimes even more alarming. In some intensively farmed English vice-counties, such as Northamptonshire, Lincolnshire and Gloucestershire, around one species was recorded is being lost every year in the period 1900-1995. Wales, being less intensively farmed, fares better with Monmouthshire topping the league having lost 72 species since recording began in the county. Caernarfonshire has lost 55 species since 1800 and Anglesey 54, but other counties have low extinction rates, such as

Carmarthenshire (24 species since 1800) and Cardiganshire (21 species since 1800).

How do these levels of threat compare to other taxonomic groups? Red Data Lists are not available for all groups, so another way of looking at the situation is to compare the number of species selected as UK Biodiversity Action Plan priority species. The new lists, published in 2008, clearly show that there are more plants and fungi of conservation concern than any other group (see figure 1, page 3).

Key Issue 1: Investment in plants

Despite the large proportion of threatened plants and fungi and the fact that they form the fundamental building blocks of all habitats, they are not proportionally represented by conservation resources. If expenditure by JNCC and the specialist charities in 2008 was shared amongst the relevant BAP species, the graph above would appear as shown in (see figure 2, page 3).

This is obviously a very crude way of representing reality, but it does prove a genuine point. Conservation resources are focused on vertebrates. In order to redress this imbalance, and given the limitations of these financially difficult times, we are therefore calling for governments, agencies, conservation organisations, councils and trusts to **plant-proof** all biodiversity projects. This means that before *any* wildlife project or work is funded or

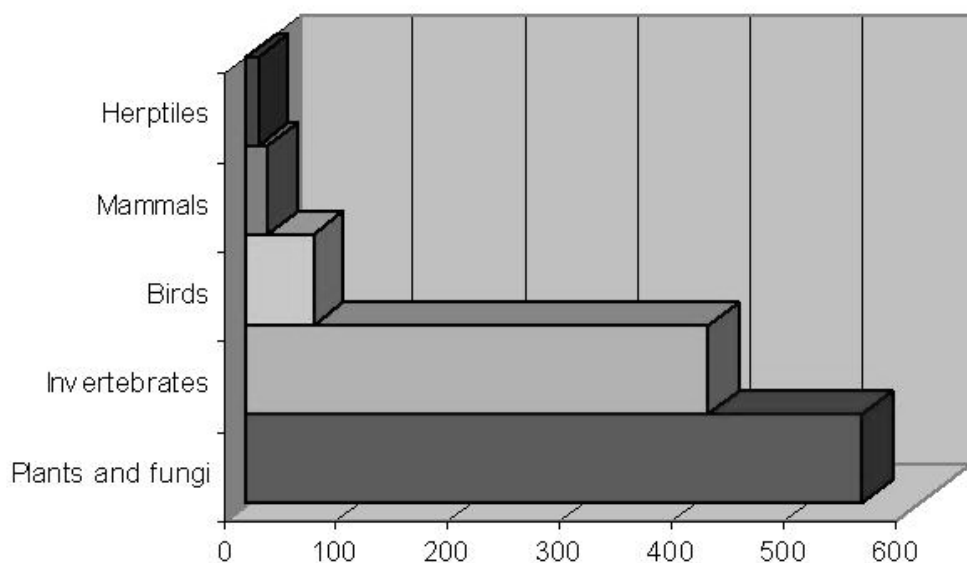
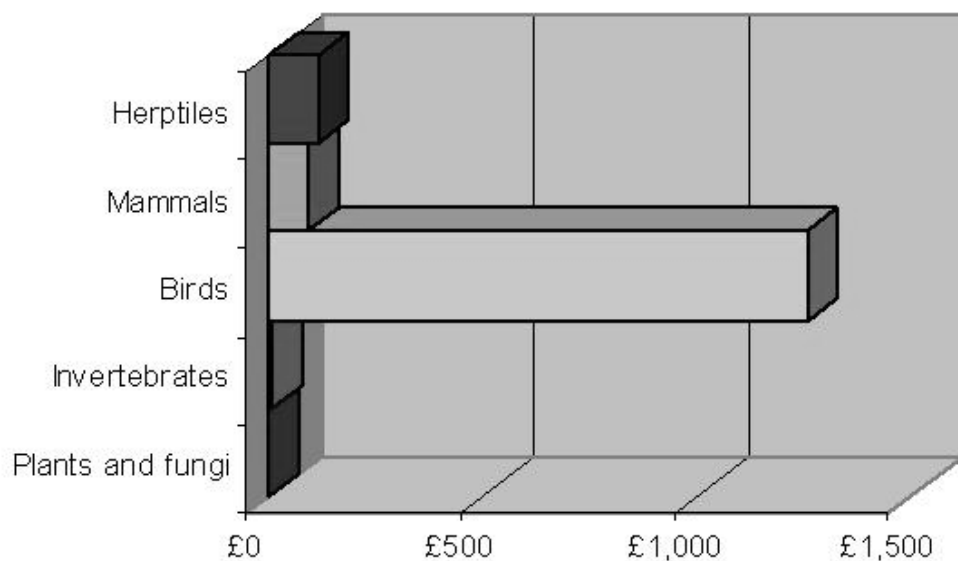


Figure 1 : Number of BAP species / Taxonomic Group (see text page 2)



**Figure 2 : Resources expended as a proportion of BAP species (£K)
Taxonomic Group (see text page 2)**

undertaken the needs of native wild plants is taken into account, given equal priority and considered as the long-term and sustainable solution to the welfare of all other wildlife. It's a matter of everyone talking responsibility for plants and a reallocation of existing resources to reflect where the genuine priorities lie.

Key Issue 2: Protection for Plants

The protected sites network (including SSSIs, NNRs and SACs) is failing wild plants. There is currently no requirement for protected sites to protect BAP priority species that occur on them, unless if they are scheduled as named features of the site. Across the country, plants and fungi on SSSIs are suffering from poor understanding, monitoring and management. Llyn Cwm Bychan in Merionethshire, for example, was scheduled for its population of *Lycopodiella inundata*, but a lack of grazing led to the species demise and it has not been recorded there since 1999. Although CCW figures indicate that 64% of plant and fungi features on SSSIs are in favourable condition, most habitat features are in unfavourable condition. Thus just 22% of acid grassland, 20% of calcareous grassland, 19% of neutral grassland and 14% of dwarf shrub heath are in favourable condition. The status of bog and dunes is especially dire, with just 7% and 6% in favourable condition respectively.

CCW and their partners are addressing this situation, but we urge Government

to put more resources into the management and monitoring of SSSIs. We very much welcome CCWs Upland Framework - a 100-year vision for management of upland SSSIs in Wales - and would like this model to be extended to other habitats. We also welcome initiatives such as the reduction of grazing from upland sites such as Cwm Idwal and the Carneddau and again hope that such schemes can be initiated elsewhere.

Key Issue 3: Working Landscapes

The vast majority of our lowland and upland landscape is either farmed or forested. Grasslands, arable fields, heathlands, moorlands and woodlands are the backbone of our countryside and where most of our wildlife finds a home. Balancing the needs of wildlife and productivity is challenging and all too often wildlife comes second. Agri-environment schemes are of course the main mechanism to protect and restore wildlife in the wider countryside. As we saw in the last edition of the Welsh Bulletin, Tir Gofal is largely failing to protect priority plant species: the scheme is delivering just 84ha of uncropped fallow margin (the most beneficial prescription for arable plant species), and of over 120 sites in Wales for priority heathland plants, just two are covered by Tir Gofal agreements with heathland prescriptions. Plantlife is undertaking more detailed monitoring of the scheme at the moment (thanks to a partnership with RSPB and other conservation organisations) so we'll have a better

assessment of the situation on-the-ground soon, but it's clear that unless all prescriptions deliver the needs of plants (another case for plant-proofing) and that these prescriptions are taken up in the right places, the scheme will largely fail, not just for plants but for all wildlife.

The new agri-environment scheme for Wales, Glastir, is being drawn up at the moment. Given the level of consultation over the entry-level prescriptions and the design of the higher-level scheme with CCW and conservation organisations we are confident that the new scheme has the potential to deliver. The problem will be sufficient resources being available to encourage farmers into the scheme.

Woodlands represent another challenge in our productive landscape. We increasingly see our woodlands fenced-off and left unmanaged, resulting in a closure of the forest canopy. In Britain, the proportion of continuous canopy has increased from 51% in 1947 to 97% in 2002. As formerly commonplace activities such as coppicing become largely extinct at a landscape level, the traditional mosaic of woodland habitats - successional coppice, open glades and forest rides - has become replaced by dark, bramble-ridden woodland which is unable to support a wide diversity of wildlife. Not only have plants, such as *Campanula patula* (Spreading Bellflower), suffered as a result, but key woodland birds have declined by

50% since 1994 and woodland butterfly populations by 74% since 1990.

The main problem with our wider countryside is that we have lost the diversity of management that leads to a diversity of wildlife. When *Galeopsis segetum* (Downy-hemp Nettle) was last recorded from a farm near Bangor, Gwynedd in 1975, a local farmer's daughter recalled how each small farm had fields of oats, barley and potatoes, as well as pasture for livestock and woodland for fuel and fodder. Mourning the loss of the hemp-nettle, she added, "of course, there were red squirrels and corncrake around here in those days too". Today the whole farm, like so many in the area and throughout Wales, bears a mantle of permanent, improved pasture.

The Ghost Orchid

Although the Ghost Orchid Declaration contains messages for everyone, it is aimed primarily at politicians and policy makers. In order to give the report a memorable and evocative title, we chose the Ghost Orchid as an emblem. With no sightings for 23 years, this had been classified as Extinct by the JNCC-convened panel of botanical experts that published the Red Data List. It cannot be grown in a botanical garden and its seeds cannot be stored in a deep-freezer. It thus represented the loss of species that depend on a living landscape that is managed sympathetically for plants. This is the focus of the Declaration -

providing the right conditions for native plants in our countryside today. By a frightening coincidence, news of the reappearance of the Ghost Orchid in Herefordshire reached us the day after our report was launched. Hindsight is a marvellous thing; we did consider carefully the use of Ghost

Orchid and its potential for reappearance, but we never imagined it would coincide so precisely. However, it remains our rarest and most enigmatic species and one plant doesn't constitute a recovery, so it remains a fitting emblem for our call to arms for the conservation of our wild plants.

Images on opposite page :

Above : Glandular pedicels and involucre bracts of *Hieracium adelphicum* © T.C.G. Rich. (see pages 20-21)

Below : Diffuse inflorescence of *Hieracium adelphicum* © T.C.G. Rich. (see pages 20-21)

Images on the back cover : Two contrasting grasslands in the Elan Valley visited as part of the 2009 Builth Wells AGM © R.D. Pryce (see pages 11-14 for abstracts of the exhibits shown at this meeting)



