

BOTANICAL SOCIETY OF THE BRITISH ISLES

WELSH BULLETIN

Editors : R. D. Pryce & G. Hutchinson

No. 77, January 2006



Photocopy of specimen of *Equisetum ramosissimum* (Branched Horsetail) at NMW ($\times 1/3$), a species new to Wales (see pp.10, 24).

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Those who have already ordered copies in advance will have their order honoured at the previous cost of £1 per issue including p & p.

Publication date of last BSBI Welsh Bulletin (No. 76) - June 2005.

EDITORIAL

I hope that you all had a pleasant and peaceful Christmas and I wish you a Happy New Year.

Although the membership's contribution to Local Change is now completed (and we eagerly await the report of the results with great interest), plant recording remains very active in the guise of the BSBI Atlas Updating Project (AUP) and the Hybrid Project, as well as many local activities. A look at the BSBI website will show how the AUP is progressing, with several Vice County Recorders having already provided extensive post-*Atlas* updates for their counties. In doing this, the BSBI has introduced the principle of *constant-effort monitoring* to botanical recording at a national scale which will reduce the need for such a concentrated effort when the time comes for publication of the next edition of the *Atlas*. It is intended to constantly update species-maps on the web as records are supplied by Recorders, in order to maintain an up-to-date and comprehensive plant database. There is obviously a great deal of scope here for all the membership to become involved. Perhaps more specialist, and not really intended as a field-based project, is the project to update Stace's *Hybridisation and the flora of the British Isles*, published in 1975. However, I am sure that there will be a flurry of activity this season amongst those with an interest in hybrids. All contributions will be gratefully received but be aware that voucher specimens will be needed to verify most taxa.

The aspiration that The BSBI Welsh Committee and CCW have had for the production of a Rare Plant Register for each Welsh vice county is now well on the way to fruition with only two vice counties not having made much headway so far. The importance of these documents to Local Authority planners and their potential for the conservation of sites in the face of development and other land-use changes cannot be overstated. If planners and developers do not know, or cannot find-out what flora and fauna exists on their sites, how can they be expected to conserve it or at least mitigate for its disturbance? And the emphasis these days is very much towards ensuring that appropriate assessments are made of each site before they are disturbed. One remit of the Local Record Centres (LRCs) that have been, or are being set-up to cover the whole of Wales, is to provide just this sort of information. Rare Plant Registers are a prime source of information for these Centres as they have invariably been written by the botanists with the best knowledge of their own local areas (i.e. the BSBI Vice County Recorders) and who are able to interpret the data in a way that the staff operating the LRC cannot hope to achieve without years of experience of surveying and becoming familiar with the area. However, the establishment of LRCs opens-up a whole suite of new problems for Recorders and whilst the Centres potentially could pass-on volumes of new plant records and provide support services to the Recorders, in practice I expect that they will become another time-consuming encumbrance with Recorders only willing or able to give-up low-resolution data in the fear that more detailed information may be misused. Rare Plant Registers hand the most important data to the LRCs on a plate!

Again we must be very grateful to Wendy McCarthy for co-ordinating the field meeting programme for the coming season, which, as usual, includes venues throughout Wales and promises to be of great interest. Also, we must thank Trevor Dines for making the arrangements for the 2006 Welsh AGM at Plas Tan-y-Bwlch, near Maentwrog, in September. Following last year's successful aquatic plant theme, this year we will concentrate on ferns and hope to have several leading fern-experts in attendance. I look forward to seeing you one or more meetings during 2006.

Richard Pryce

3 Jan 2006

**11th QUADRENNIAL MEETING
44th WELSH ANNUAL GENERAL MEETING &
24th EXHIBITION MEETING**

Friday 1st — Sunday 3rd SEPTEMBER 2006
at
PLAS TAN-Y-BWLCH FIELD STUDY CENTRE, MAENTWROG
MERIONETHSHIRE

OUTLINE PROGRAMME

This meeting will have the identification and conservation of Pteridophytes (ferns, horsetails, clubmosses) as its main theme. All levels of experience will be catered for and participants are strongly encouraged to bring their own material for determination and discussion. Please plan ahead and collect plant material (not just ferns) throughout the year for identification in the Workshops.

FRIDAY 1st SEPTEMBER

- 1.00 pm Welcome and registration
Exhibition room open for setting-up exhibits (*see below*)
- 2.00 pm Taxonomic Workshop on Ferns; afternoon tea
- 6.30 pm Evening meal at the Plas
- 8.00 pm Illustrated talk by a Pteridophyte specialist

SATURDAY 2nd

- 8.15–8.45 am Breakfast at the Plas (collect pack-lunch)
- 9.30 am Excursions to local fern-rich sites
- 2.00 pm Return to Plas Tan-y-Bwlch for afternoon tea
Taxonomic Workshop on Ferns
- 5.15 pm Welsh BSBI Annual General Meeting
- 6.30 pm Evening meal at the Plas
- 8.00 pm Illustrated talk on general botany of the area

SUNDAY 3rd

- 8.15–8.45 am Breakfast at the Plas (collect pack-lunch)
- 9.30 am Excursions to montane and mine fern-rich sites

Further details and a booking form will be included with the January mailing of BSBI News. The cost for full board accommodation from Friday evening to Sunday morning are expected to be less than £80 (DO NOT send money yet!).

We are delighted that **Summerfield Books** will also be present during the weekend with a full range of books and publications.

EXHIBITS: These are a real strength of the AGM meeting and ALL participants are strongly encouraged to bring exhibits. Details for booking exhibit space will appear on the main meeting booking form in January. Any material that will be of interest to other members is welcome - don't worry about producing a highly-polished poster!

CALENDAR OF MEETINGS 2006

Full details and procedure for booking are available in the BSBI Year Book for 2006.

SAT 17th JUN - ABERSOCH, CAERNARVONSHIRE (v.c. 49) – T. Dines & W. McCarthy

SAT 24th JUN - LAMPETER, CARMARTHENSHIRE (v.c. 44) – T. Dines

SAT 1st JUL - CLYNNOG FAWR, CAERNARVONSHIRE (v.c. 49) – T. Dines

SAT 1st JUL - COLWYN BAY, DENBIGHSHIRE (v.c. 50) – J. Green

SAT 15th JUL - BRYNBERIAN MOOR, PEMBROKESHIRE (v.c. 45) – H. Williams & S.B. Evans

SAT 22nd JUL - SAT 29th JUL - GLYNHIR MANSION, LLANDYBIE,
CARMARTHENSHIRE (v.c. 44) – R.D. Pryce

SAT 5th AUG - LLYN GWNGU, CARDIGANSHIRE (v.c. 46) – A.O Chater

SAT 12th AUG - BERWYN MOUNTAINS, MERIONETHSHIRE (v.c. 48) – S. Stille

FRI 1st - SUN 3rd SEP - WELSH AGM and EXHIBITION MEETING, PLAS TAN-Y-BWLCH and
associated field meetings (v.c. 49)

ABSTRACTS OF EXHIBITS SHOWN AT THE 23rd BSBI WELSH EXHIBITION MEETING, ST DAVID'S COLLEGE, LAMPETER, JUNE 2005

STATUS OF ARABLE SPECIES IN PLANTLIFE'S BACK FROM THE BRINK PROGRAMME IN WALES

Within Plantlife's *Back from the Brink* programme of species recovery, five arable species occur in Wales, namely:

Species	New Red List Threat Category
<i>Centaurea cyanus</i> (Cornflower)	Least Concern
<i>Galeopsis angustifolia</i> (Red Hemp-nettle)	Critically Endangered
<i>Scandix pecten-veneris</i> (Shepherd's Needle)	Critically Endangered
<i>Silene gallica</i> (Small-flowered Catchfly)	Endangered
<i>Valerianella ramosa</i> (Broad-fruited Cornsalad)	Endangered

All these are also UK BAP species. Details of currently known sites in Wales for the last four of these were displayed along with a selection of photographs. *Centaurea cyanus* was not dealt with because records of "good arable" sites have not generally been distinguished from casual records.

Galeopsis angustifolia has been recorded from 38 sites in Wales, but is now known at only two of these, an astonishing decline of 95%. The two remaining sites are Aberthaw Power Station (Vale of Glamorgan) and Pwlldu Bay (Gower). Significantly, both these sites are on

ridges of stable beach shingle and it has been lost from its arable habitat in Wales. This species appears to be especially sensitive to herbicide.

Historically, *Scandix pecten-veneris* has been recorded from 29 sites in Wales but is now known from just 3 - a decline of 90%. Two of these, Summerhouse Point and Flemingston, (both in the Vale of Glamorgan) are on farms in good arable habitats; indeed the latter is on a Tir Gofal farm. The third site (Mumbles, Gower) is peculiar as it's on a modern housing estate. Plants have appeared in a flower border for several years and the owner ensures they grow and seed every year. The estate is on the site of a farm from which *Scandix* has been recorded in the past.

Silene gallica has been recorded from 74 sites in Wales, but is now recorded from only 6 (a 93% reduction). These are at Burry Port (Carms.), Hunts Farm (Gower), Monkhill Farm (St Ishmael's, Pems.), Aber Bach (nr Fishguard, Pems.), Pwllcrochan (opposite Milford Haven, Pems.) and Pensarn (Colwyn Bay, Denbs.). These are in "good" arable habitats apart from Burry Port (where it grows on thin soil on a sea-wall) and Pensarn (where it occurs beside the railway). At two of the arable sites (Hunts Farm and Monkhill Farm) *S. gallica* occurs as part of a rich assemblage of other arable species.

Valerianella rimosa has always been rare in Wales; of the 7 recorded sites it is now known only from Hunts Farm (Gower). This population, discovered in 2002 by Andy Jones is, however, large and appears to be stable - "thousands" of plants were recorded last year. It grows at this site with other arable species (including *V. dentata*) and *Silene gallica* grows in a neighbouring field. The farm is in the Tir Gofal agri-environment scheme.

TREVOR DINES, Plantlife Wales Officer

SPREADING BELLFLOWER (*Campanula patula*) - AN ENIGMATIC TAXON IN WALES

Campanula patula has recently come to the fore as a species of conservation concern. Previously, it was classed as Scarce, being found in 44 hectads in Britain, but this simple classification masks the extent of the decline in this species. The *New Atlas* map indicates that it has been lost from 69 hectads before 1970, from 12 between 1970 and 1986, and is currently recorded from only 37 hectads - a 68% loss. However, current figures (from BSBI Vice-county Recorders, Plantlife Wales and English Nature) indicate that the total British population is only about 330 individuals. Since a continuing decline is also identified, this species is now categorised in the New Red Data List with the IUCN category of Endangered.

The decline of *C. patula* is even more evident in Wales. Of the 30 documented sites below, 15 have 1987+ records. However, of these, just 3 (in **bold**) have records since 2000.

VC	Locality	Grid Ref	Year	No of plants	Recorder
Mons	The Hatterels - Pandy Station	SO325.226	2003	1	Groucutt, M., Sheridan, G.
Mons	Cefnila	SO36.00	1935		Rickards, R.W.
Mons	Llansoy	SO4.0	1987		Evans, T.G.
Mons	Lydart	SO49.08	1998		
Mons	The Hendre	SO4.1	1987		Evans, T.G.
Mons	Tregare	SO4.1	1985		
Mons	Penrhos	SO41.11	1987		
Mons	Skenfrith,nr	SO4.2	1894		Parkinson, C.
Mons	Redbrook,Wye Valley	SO5.0	1987		
Mons	'Priory Grove Wood'	SO5.1	1940		Lewis, R.
Mons	Fiddler's Elbow	SO52.13	1992	c.10	
Mons	Upper Hael Wood	SO530.077	2000	2	
Mons	Reddings Inclosure	SO533.136	2003	4	Dines, T.D.
Mons	High Meadow Woods	SO541.132	1986		Evans, T.G., & Kitchen, M & C.
Mons	Coed-y-paen	ST33.98	1837		Conway, C.
Mons	Llangybi,nr	ST37.96	1805		Forster, E.
Mons	Gwernddu Wood	ST402.976	1987		Pollard, T. & J.
Mons	Shirenewton	ST4.9	1987		Evans, T.G.
Brecs	Crickadarn, nr	SO084.422	1984		Jervis, A.S.
Brecs	Llyswen	SO1.3			
Brecs	Llanigon	SO219.382	1989		Soan, H.
Rads	Glasbury on Wye	SO165.398	1970		Pugh, M.R.
Rads	Unknown	SO2.4	1500		anon
Rads	Dolyhir-Stanner	SO2.5	1945		Gough, T.W. & Sandwith, N.Y.
Rads	Gladestry	SO2.5	1987		
Rads	Radnor	SO2.5	1924		
Rads	Discoed	SO268.636	1951		
Rads	Knighton, Little Cwmgilla	SO268.725	1965		Richards, P.
Rads	Knill, wood	SO287.615	1977		Port, P.J.
Monts	Corndon Farm	SO307.948	1998	Few	Jones, R.A., Teearu, T.

If anyone can update or add records to this list, please let me know.

Campanula patula is generally regarded as a plant of sunny, well-drained banks in woodland glades, on tracks and roadsides and on rock outcrops. Reproduction is by seed which needs disturbance for germination. However, the seed is long-lived, allowing the plant to reappear after long absences; it was first recorded at Pandy Station (The Hatterels, Mons.) for example in 1868 - a gap of 135 years between records! Although it has been known at Corndon Farm (Monts.) on-and-off for at least 20 years, many populations are transient.

Most populations are also very small; of the 13 population counts we have, 11 are for less than 4 plants. This makes monitoring of populations very difficult. The largest known is of about 20 plants in High Meadows Wood (Mons.) in 1984, although it has been described as being "abundant" at Fiddler's Elbow (Mons.) in the past.

In Wales, it seems that the need for disturbance is one cause of decline. At Reddings Inclosure (Forest of Dean, Monmouth), it occurs in areas that were traditionally coppiced but which no longer are. More recently it has grown on forest track-sides which are disturbed periodically by large timber-extraction machines. However, these tracks are now often "scalped" to maintain a solid surface and this may have a detrimental effect on *C. patula*. Many other sites rely on the periodic collapse of track and roadside banks. If these are now being maintained in a better condition there are fewer chances for germination. At least one road-verge site (Fiddler's Elbow, Mons.) has been lost through the bank being planted with Birch trees about 10 years ago. Now that these have grown the verge is no longer mown and disturbed and *C. patula* has disappeared.

Since being identified as a species of Principal Importance for the Conservation of Biological Diversity in Wales (CRoW Act, 2003), *C. patula* has been added to the list of Plantlife's *Back from the Brink* species in Wales. Plantlife Flora Guardians have surveyed sites in Monmouthshire and we are encouraging volunteers to visit both current and old sites to look for *C. patula*. It was one such volunteer that discovered the plant in The Hatterals.

We are also working closely with Forest Enterprise in the Forest of Dean (Reddings Inclosure). A volunteer work-day was held with them in September 2004 to disturb some verge sides where the plant occurred recently, and they have offered to revert some areas of woodland back to coppice in the hope of restoring some larger populations.

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

***CREPIS BIENNIS* - A 'SCARCE' PLANT IN V.C. 50**

Present on roadsides, rough ground and 4 x 10km squares in v.c. 50. Look for achenes >4mm, unbeaked.

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

RIBES ALPINUM

An uncommon plant in the wild in Wales. It has been introduced for hedging and makes a dense non-spiny thicket. It is dioecious: all the plants traced so far in V.C. 50 have been female (collect in March for flowers).

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

WELSH VASCULAR PLANTS ASSIGNED AN IUCN THREAT STATUS

A poster display, listing the 201 taxa of Welsh vascular plants assigned an IUCN Threat Status (4 *Extinct*, 1 *Extinct in the Wild*, 11 *Critically Endangered*, 32 *Endangered*, 75 *Vulnerable*, 63 *Near Threatened* and 15 *Data Deficient*) in the new 'Vascular Plant Red Data List for Great Britain' (Cheffings & Farrell, 2005), with explanatory definitions of the IUCN Threat Categories. [see also p.18]

ANDY JONES, c/o CCW, Plas Gogerddan, Bow Street, nr Aberystwyth SY23 3EE

EQUISETUM VARIEGATUM* VAR. *WILSONI

A distinctively erect and robust specimen of *Equisetum variegatum*, determined as var. *wilsonii* (previously known only from SW Ireland); newly discovered in Wales near old lime-workings at Pentre Gwenlais (v.c. 44).

ANDY JONES, c/o CCW, Plas Gogerddan, Bow Street, nr Aberystwyth SY23 3EE

BALDELLIA RANUNCULOIDES

Three cultivated specimens of *Baldellia ranunculoides* with a table of critical characters illustrating (i) "subsp. *ranunculoides*" (originally from Broomhill Burrows, vc. 45); (ii) *B. r.* "subsp. *repens*" (originally from nr. Carmel Head, vc. 52) and (iii) a morphologically intermediate form (supposed hybrid), originally from Dowrog Common, vc. 45.

ANDY JONES, c/o CCW, Plas Gogerddan, Bow Street, nr Aberystwyth SY23 3EE

***COTONEASTER CAMBRICUS* (WILD COTONEASTER): A BRITISH NATIVE?**

Photographs were exhibited of life-sized specimens of both *Cotoneaster cambricus* (of Great Orme origin) and *Cotoneaster integerrimus* (origin the Ural mountains). Both species are being grown side by side, with the same treatment, in the garden of Mrs. J. Fryer in Hampshire, and a considerable difference could be seen in the development rate of flowers and foliage. Two keys were provided by Mrs. Fryer, one of the details separating *C. cambricus* from *C. integerrimus*, and the other showing the essential differences between the Great Orme plant and its close relatives. Also exhibited was a recent paper on *Cotoneaster cambricus* by John Osley and Tom Parry, which examines evidence on research into its genetics, morphology, growth, habit and distribution, the prehistoric record and recent historical records, concluding that the probability is that Wild Cotoneaster is a native species and recommending that the English name be changed to Welsh Cotoneaster.

WENDY MCCARTHY, 5 Tyn-y-Coed, Great Orme, Llandudno, Conwy, LL30 2QA
(with thanks to Mrs. J. Fryer and Dr. N.J.Osley)

PETASITES / TUSSILAGO

Often identified by their leaves, those of the native species *Tussilago farfara* and *Petasites hybridus* and the three introduced-naturalised species, *P. alba*, *P. japonica* and *P. fragans* are compared.

SARAH STILLE, 26 Sonning Meadows, Reading RG4 6XB

BSBI EXCURSION TO THE CZECH REPUBLIC 26 April - 6 May 2005.

Some photographs to give a flavour of this excellent trip. See also *BSBI News* No.100, pp. 58-63 (Reports of Overseas Field Meetings - 2005: Czech Republic, 26th Apr - 6th May).

SARAH STILLE, 26 Sonning Meadows, Reading RG4 6XB

**OTHER EXHIBITS SHOWN AT THE 23rd BSBI WELSH EXHIBITION MEETING
LAMPETER JUNE 2005**

Ian R. Bonner: Anglesey (v.c. 52) County Rare Plant Register - Flowering Plants and Ferns

Ian & Katharyn Callan: Winllan Wildlife Garden

Arthur O. Chater: *Festuca lemanii*

Trevor D. Dines, Plantlife Wales officer: Aquatic plants in Local Change

Richard D. Pryce: Poster: Carmarthenshire plants included in the JNCC 2005 Threatened Plant List

Barry Stewart: *Potamogeton perfoliatus* from the Afon Tywi, Carms. det. R. V. Landsdown (living material exhibited by Richard Pryce)

Sam Thomas: Leaf Mines

Summerfield Books also had books for sale via Andy Jones.

***EQUISETUM RAMOSISSIMUM* Desf. - BRANCHED HORSETAIL**

On the 23rd of September 2005 Roger James, an officer of Gwent Wildlife Trust, rang to ask me to check a horsetail found growing on a brown field site between Corporation Rd and the R. Usk, between Lilleshall St. and Gaskell St., Newport. The Firm James Blake Associates, Landscape Architects had sent Richard P. Kilshaw to do a plant survey of the site. Richard believed he had found a small patch of *Equisetum ramosissimum* and, about fifty metres away, a small number of *Scirpoides holoschoenus* (Round-headed Club-rush). Arriving early the following morning, I looked at a large area of rough grassland between a playing field and the river. Buildings separating the playing fields from the site, shown on my map, had been demolished as had several buildings on its SE side, at the end of Gaskell St. It took over half an hour for the *Scirpoides* to reveal itself, five on one side of a broad track and one on the opposite side. Another quarter of an hour before I came across 100-150m² of a horsetail I had never seen before. It was up to 75cm tall though its stem seemed weak and it leaned on its relatives or neighbouring plants. It had numerous whorls of thin but long branches on a slender stem that terminated in a cone in about one twelfth of the stems. Four stems were collected, one for the National Museum of Wales Herbarium, one for study at home and two for experts, one plant of which has now gone to The British Museum Herbarium, I understand. Convinced that it was indeed *E. ramosissimum* I sent two specimens to Clive Jermy whose response was "I have no doubt" but he passed on one plant to Patrick Aycock, BSBI Referee, who confirmed it, as did Fred Rumsey who saw it at the same time.

This plant according to the New Atlas has only two other British sites. It was found on a river bank in N. Lincolnshire in 1947 possibly originating from a ship's ballast deposited on the bank. It was found on the edge of a park in Weston-super-Mare in 1963 but not correctly identified until 1986.

As the site is to be developed, CCW, representatives of James Blake Associates, a representative of Newport City Council, Clive Jermy and myself will meet to consider translocation to a nearby safe haven of both species, and with access for the public.

The rare Club-rush had a large, healthy colony in a marsh between North and South Docks, on the opposite side of the river, discovered in 1973 by Colin Titcombe and myself. The marsh was filled in, in 1983 but a few scattered plants survived nearby. As I have been refused entry since 1996, because of security issues, the current position there is unknown. *Scirpoides holoschoenus*, though not so uncommon, has a limited number of sites in the

British Isles. Two sites occur in N. Ireland, six extant sites occur in S. Wales and one pre-1970 site which has lost its occupants. One site on the S. Coast of England, one in the Thames estuary and two extant sites on the Bristol Channel and one pre-1970 site complete the English representation. Only the two extant English Bristol Channel sites' plants are given Native status. As there are 7 sites in S. Wales and 2 of these, at least, are pre-1970 as against 3 sites on the English side of the Bristol Channel with 2 of them pre-1970, I would suggest that native could apply to the S. Wales populations just as justifiably. [For info the 'Flora of Glam.' reads 'Probably introduced. Wet places nr docks.' Records have been from the Neath area, Barry and Cardiff.]

Let us hope that co-operation between all the concerned parties will have a successful result, in the re-location of both species.

TREVOR EVANS, La Cuesta, Mounton Road, Chepstow, Gwent NP16 5BS

A CARDIGANSHIRE AFFINIS HUNT

In 2005 I was fortunate enough to have the expertise and company of Ken Trewren and Sam Thomas for four gloriously sunny and productive days from the 11th to 14th of July. Ken has been studying the *Dryopteris affinis* group for forty years and, along with Christopher Fraser-Jenkins and Anthony Pigott, has more experience of the group in Britain than anyone else, and Sam has been studying the group for several years chiefly in North Wales. The general aims of the occasion were to work out what morphotypes occurred in VC 46, to get some idea of their distributions, and to get confirmed records of *D. xcomplexa*, the hybrid between *D. affinis* and *D. filix-mas* which had up till then not been very satisfactorily recorded in the county. A more particular aim was for Ken to teach Sam and myself how to do chromosome counts, and how to use spore fertility to assess hybridity. We visited sites throughout the county, reaching the north, south-west and south-east corners, and spent long hours each evening at the microscope. We had slightly misjudged the season, as the sori on most of the material we saw had developed beyond the stage at which chromosome counts could be made, but we found enough young ones to be able to learn the techniques and to make several useful counts. What little time was left over around midnight was spent by Ken in naming the piles of material I had collected over the last ten years.

An earlier *affinis* hunt had taken place in the county in October 1996 when I had taken Anthony Pigott and Clive Jermy around sites in the north of the county for two days. On that most stimulating occasion many records of the morphotypes were made, and a large number of specimens I had collected up to that date were named, and for the first time an idea of the *affinis* situation in the county emerged. *D. xcomplexa* though was not so well understood at that time, and we had made no records of it.

There has been much controversy over how best to treat the variation within the *affinis* complex, which consists of apogamous diploids and triploids derived from hybridisation between *D. oreades* and *D. caucasica* and some other diploid species. Stace, *New Flora* (1997), Page, *The Ferns of Britain and Ireland* (1997), Hutchinson & Thomas, *Welsh Ferns* (1996) and others have followed Fraser-Jenkins in recognising three subspecies, *affinis*, *cambrensis* and *borreri*. Pigott (a now rather outdated version of whose system can be found at www.btinternet.com/~pigott/affinis.htm) and Jermy & Camus, *The Illustrated Field Guide to Ferns* (1991) (a rather simplified version) have preferred to recognise a series of informal morphotypes, of which between about five and fifteen have been recognised in Britain; these are roughly equivalent to the species in *Rubus fruticosus* agg., and, as with *Rubus*, there are in

addition many local forms which are too restricted in their distribution or too poorly defined to be worth naming. More recent opinion, including that of Trewren, is that it would be best to treat these three taxa as species, and the variation within them as subspecies and formae. A local Flora writer like myself does not need to worry too much about which interpretation is "correct", but should always record and give information in as much infraspecific detail as practicable. If one records *affinis* by the morphotypes, then someone who uses the three subspecies concept can easily make the adjustment, but the converse is not true and much potentially useful information is lost. The VC46 *affinis* can be arranged for convenience as follows:

subsp. *affinis* 2n=82 (incl. morphotypes *affinis*, *paleaceo-lobata*, *convexa*)

subsp. *cambrensis* 2n=123 (morphotype *cambrensis*)

subsp. *borreri* 2n=123 (incl. morphotypes *borreri*, *insolens*, *robusta*, *foliosa*)

A few further even more informal morphotypes, not yet so well recognised, are mentioned in the account that follows, these names being given in quotes. There are in addition two hybrids:

D. xcomplexa nothosubsp. *complexa* (*D. affinis* subsp. *affinis* x *D. filix-mas*)

D. xcomplexa nothosubsp. *critica* (*D. affinis* subsp. *borreri* x *D. filix-mas*)

The 2005 hunt began in Cwm Woods c.SN600832, secondary estate woodland with a lot of beech, just north-east of Aberystwyth. It proved a marvellous introduction and was the richest site of the whole hunt. Among clumps of *affinis*, *paleaceo-lobata*, *borreri*, *insolens* and *robusta* were several of *D. xcomplexa* nothosubsp. *complexa*, confirmed by their largely abortive spores. Only the *paleaceo-lobata* had young enough sori for a chromosome count, for which we got the diploid count 2n=82. Two forms of *borreri* were present, as in several of the later sites we visited, the normal one and a '*golden-scaled*' one. Moving on to Forestry Commission woods in the Ystwyth valley SN700717 we saw more *affinis*, *paleaceo-lobata* and *borreri*, a *D. xcomplexa* nothosubsp. *complexa* that perhaps had *paleaceo-lobata* rather than the usual *affinis* as a parent, and lunched with our backs to another fine *complexa* clump. A little further on a small rocky bluff by the road opposite Craig Golomenod SN73247201 had a fine display of *affinis*, *paleaceo-lobata* and our first *cambrensis*. Amongst *Silene uniflora* by a stream through the ruins of the Pontrhyd-y-groes lead mine SN73837223 was *cambrensis* again (later shown to have its characteristic mixture of good and abortive spores), *borreri*, *insolens* and *robusta*, as well as intermediates between these last two which we saw in other sites later. Our final stop was at Hafod, where in mixed conifer woodland below the drive SN76147301 we found among masses of *D. dilatata* and *D. filix-mas* fine *D. xcomplexa* nothosubsp. *complexa*, *affinis*, *paleaceo-lobata*, *borreri* and *insolens*, and a few plants of *D. carthusiana*.

On day two we went north, to Furnace and Cwm Einion where Ken was anxious to investigate more closely some interesting plants he had seen on the BPS meeting here in June 2003. Three big clumps in woodland between the drive and the Afon Einion just across the A487(T) from the mill SN68489520 were confirmed as *D. xcomplexa* nothosubsp. *complexa* by its abortive spores, and *affinis* and *insolens* were nearby. On the stream bank by the mill itself there was a large clump of what appeared to be a hybrid, but it was that evening counted as having 2n=123 and this, along with the arrangement of the chromosomes, indicated that it was in fact an unusual form of *borreri*. After recording *affinis*, *paleaceo-lobata*, *borreri*, *insolens* and the intermediate between the last two in the woodland at Ty'n-y-garth SN691945 up Cwm Einion, we went on to where a footpath SN69919429 led us to three clumps of a very distinctive form of *affinis*, '*black-scaled*' on the rachis, which Ken had noted here in 2003. Ken had seen this previously in south-west Ireland and Sam had seen probably the same thing in Merioneth. Like *paleaceo-lobata*, it was at a much earlier stage of development than any of the other morphotypes. We then went down to the Ynys-hir RSPB Reserve SN681962

where the quarried laneside had a good display of *affinis*, *paleaceo-lobata*, *cambrensis*, *borreri*, *robusta* and *D. xcomplexa* nothosubsp. *complexa*, and in and around a rock cutting by Ty'n-berllan SN68259633 we saw about ten clumps of a very distinctive form of *affinis* with unusually strongly toothed pinna-lobes, a good example of a probably very local form. After lunch we went to the northern boundary of the county in the Llyfnant valley, chiefly to refind *convexa* which Anthony Pigott had discovered here in 1996. It was indeed still there, some fifty clumps, under alders and on rocks by the road along some 350m of the valley SN72739751-73009745, clearly a different form from the one with paler green, broader fronds that Ken knew in Yorkshire, and clearly distinct from *paleaceo-lobata* which it has been suspected of being confused with. The '*black-scaled*' *affinis* that we had seen earlier in the day was nearby, and *affinis*, *paleaceo-lobata* (but with less crimped pinna-lobes than usual), *cambrensis*, *borreri* and *insolens* and were also along the roadside.

Day three started with a long drive to the extreme south-west to investigate the Teifi woodlands. Along the roadside, in a wooded quarry and in two steep ravines by Cwm Du near Coedmore c.SN195444, *affinis*, *borreri*, *robusta*, intermediates between *robusta* and *insolens* and several plants of *D. xcomplexa* nothosubsp. *complexa* were in fine form; *insolens* itself, in contrast to its abundance in the woodlands in the north of the county, was conspicuously absent. Some further suspected hybrids proved to be just *D. filix-mas*. We counted 55 clumps of *D. aemula* here, its largest colony in the county. Our next site, Gwachal Dwmlo SN258424, some way up-river, was the only real dud of the hunt, with only *affinis* and *borreri*, but the next, Coed Cwm-du in Cwm Cou SN309439, was one of the best. The very steep slopes above the Afon Ceri were clothed with *Luzula sylvatica* and had a canopy of *Quercus petraea*, and a damp, more base-rich rocky stretch of slope provided variety. *D. dilatata* and *D. filix-mas* were abundant, and among them *affinis*, *borreri* (including two very distinctive variant forms), a very small amount of *insolens*, *D. xcomplexa* nothosubsp. *complexa* and at last the other form of this hybrid, nothosubsp. *critica*, which we had been looking for for the last two and a half days, with abortive spores and much more *borreri*-like in appearance than nothosubsp. *complexa*. There was also a distinctive form of *affinis* with '*truncate-based*' fronds, that had in earlier years been collected in other parts of the south of the county. As a finale we treated ourselves to a viewing of the county's only colony of *Melittis melissophyllum*, finding two vegetative plants and three with inflorescences in young fruit, though apparently not setting seed.

Our last day was devoted to the south-east and some more upland areas, though we started at Falcondale Lake near Lampeter SN567498 where in damp woodland by the outflow stream we found *affinis*, *borreri*, *insolens* and *robusta* and their intermediate, and *D. xcomplexa* nothosubsp. *complexa*. A couple of other hybrid-like plants were later shown under the microscope to be just odd forms of *borreri*. Round the other side of the lake along the road through Upper Forest SN574497 we found a very choice display of interesting well-grown forms. A dense growth of *convexa* stretched along the west bank of the road, but the form with paler green, broader fronds familiar to Ken in Yorkshire and not the one we had seen two days earlier in the Llyfnant. A chromosome count of this Upper Forest *convexa* showed it to be diploid, with $2n=82$, thus clearly belonging within subsp. *affinis*. The '*black-scaled*' *affinis* was again there, as well as ordinary *affinis*, *borreri* and a huge clump of *cambrensis*. Across the road were several plants with remarkably strongly toothed pinna-lobes that did not seem to belong to any recognised morphotype. We then went through Lampeter, crossed the Teifi into the alien territory of VC44 but soon re-entered VC46 at Cellan and drove into more upland country. At a shaded roadside lunch-stop above the village SN614480 we found *affinis*, *paleaceo-lobata*, *borreri* and *D. xcomplexa* nothosubsp. *critica* and then ascended to 350m altitude 4km to the east SN64634829. Here on the heathy roadside bank was the same

convexa we had seen in Upper Forest, as well as a few plants of *affinis*. Descending along the Roman Road to 290m altitude, about 2km south-east of Llanfair Clydogau c.SN638497, in an area of heathy roadside banks, *Salix* scrub and conifer plantations we had out last and rather confusing stop. There were scattered clumps of *affinis* and *cambrensis*, and a few of *paleaceo-lobata* and *borreri*. Among *Salix* bushes east of the road there was a plant that after much deliberation seemed best considered a strange form of *affinis*. There was an equally puzzling clump on a bank at the edge of a small pasture SN63575015 which was ultimately put down as a form of *cambrensis* with unusually toothed pinna-lobes.

Ken and Sam collected a number of lateral crowns of the more interesting or problematical plants for growing on and further investigation, and numerous voucher fronds were collected for the NMW Cardiff herbarium. We ended up with ten new hectad records for the hybrids, a useful contribution to the BSBI's hybrid project, and added a vast amount to the information on the distribution of the morphotypes and their variation in the county. Ken and Sam both got valuable further experience of *affinis* in general. Sam and I learnt how to count *Dryopteris* chromosomes. Lucky the County Recorder and Flora-writer who can be out in the field and work in the evenings with two such knowledgeable, stimulating and enjoyable companions. The BSBI Wales Committee is planning for their 2006 AGM to be based in Gwynedd and to have an emphasis on *Dryopteris*, and a good range of *affinis* morphotypes should be seen on the field meetings.

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SOME HIGHLIGHTS OF BOTANICAL RECORDING IN PEMBROKESHIRE IN 2005

The year began well with the discovery of a single Yellow Horned-poppy (*Glaucium flavum*) at Pwll Gwaelod, Dinas Cross, SN005399, on 2nd April in an open sandy area disturbed 2 winters earlier. It had not been seen here since recorded by the late Tommie Warren Davis in 1969. On 8th May about 40 plants of Henbane (*Hyocyamus niger*), were found in the same area of old sand dunes, which had experienced earthmoving works in 2004. It had been found, at Pwll Gwaelod, by the late Margaret Patterson, in 1975 following another period of disturbance, this time associated with the sea defence works of 1973/74. A single plant managed to set seed in 1975. Henbane had been recorded, by Margaret, between 1947 and 1951, at a time when the tiny dunes were regularly disturbed by grazing horses and cattle. Henbane is well known for this pattern of long dormancy followed by a brief flourish of growth after disturbance. This cycle has occurred at other locations in Pembrokeshire, for example at Pickleridge in Dale, when it appeared during wartime disturbance in 1941 and then disappeared until 1974 when it was found after major sea defence works and again in 1980 following more disturbance. Following the rediscovery at Pwll Gwaelod the author approached Jane Hodges of the Pembrokeshire Coast National Park and all the plants were left to flower and set seed. Most seed had dropped from the capsules by September before the rank vegetation, along with the skeletal remains of the henbane, was cut. There are currently between 4 and 6 locations in Pembrokeshire, all on sandy ground near the coast, where henbane appears at irregular intervals.

On 16th April, whilst accompanying an advance party for a British Bryological Society (BBS) visit, a single clump of Hard Shield-fern (*Polystichum aculeatum*) was found at Ffynone Wood, SN243382, in the Cych valley. It was growing below an old track on a steep slope and is isolated, as is often the case, because no other plants could be found in the vicinity. This is the first definite record of the fern in Pembrokeshire for about 15 years. Not far away was

Solomon's-seal (*Polygonatum multiflorum*), just starting to flower. This plant is widespread in wooded hedgerow banks in parts of north-east Pembrokeshire and although the New Atlas treats all our records as non native there may well be a case to argue otherwise. When the main BBS party arrived, in early June, the hybrid between Narrow Buckler-fern and Broad Buckler-fern (*Dryopteris x deweveri*) was found with both parents in the forest of Canaston Wood at SN059142.

In 2005 a major effort was made by the author, and his wife Ann, to record and photograph the locations and count the number of Prostrate Broom (*Cytisus scoparius* subsp. *maritimus*) plants growing on the Pembrokeshire cliffs. The survey started in May and finished in October. About 2,400 plants were counted over 8 days of fieldwork but two lengths of cliff on the Marloes peninsula, visited prior to 2005, need revisiting to gauge numbers. Earlier visits had used broad abundance classes rather than individual counts. The northernmost colonies were near Trevine, with other small populations either side of Solva but its stronghold is the Marloes/Dale peninsula where some unstable cliff slopes are covered with superb stands of this very prostrate bush. There are no colonies south of or within Milford Haven. Interestingly there were very few locations where more upright bushes of Broom (*C. scoparius* subsp. *scoparius*) co-existed with typical prostrate specimens. Wind-shaped, upright populations exist in the north of the county at places such as Cemaes Head and Pwllideri, Strumble Head where previous recorders had erroneously described them as the prostrate subspecies.

Another plant that received more attention in 2005 was Subterranean Clover (*Trifolium subterraneum*). 1000's of flowering plants were found in very short horse- and rabbit-grazed turf at Y Gribyn, Solva, on 14th May at SM807242. On 8th May *T. subterraneum* was found at West Dale in very short south facing rabbit-grazed turf at SM800059. A previously recorded colony at Clegyr Boia, near St. Davids, was recorded in detail. It was growing on the rocky margins of an unmade track and a minor road between SM737250/738251 on 20th June. Julie Webber also found lots of it at Upper Porthmawr, St Davids in mid June.

In May Julie made one of the finds of the year when she discovered a new inland colony of Pale Dog-violet (*Viola lactea*) in the north of the county at Craig Rhosyfelin, Crosswell on a steep south-east facing slope of gorse and heather at SN116360. There were about a 100 plants present in the heath, which was regularly burnt and grazed by ponies. Pale Dog-violet was also flowering in quantity along with Heath Dog-violet (*V. canina*) on National Trust cliff land at Penanglas, Goodwick where its abundance was first reported by Tony and Viv Lewis. The heathland on the cliffs had been severely burnt on 22nd June 2004.

Moonwort (*Botrychium lunaria*) is currently only known from two locations in the county. It is still present at Plumstone Mountain, where it was re-found, by Jon Hudson, in 2003 after a gap of 70 years. 19 fertile fronds were counted in May 2005 and Pale Dog-violet (*V. lactea*) was also found in grazed heathland nearby, at SM916222.

A major disappointment of 2005 was to discover in May that the Sea Stock (*Matthiola sinuata*) found on an eroding sand cliff in October 2004 had been washed away by winter storms. It had been growing at SS126994 on the dune front at Tenby's south beach.

An exciting find in August was the discovery by Sam Bosanquet and S. Smith of a previously unknown 8 x 8 metre stand of flowering Great Fen-sedge (*Cladium mariscus*) in the fen of Castlemartin Corse at SR897997. We only have one other location for this fine sedge in the county.

Recording of arable weeds again demonstrated the quality of the county for these threatened plants that feature so strongly in the 2005 Vascular Plant Red Data List for Great Britain. In July Clive Hurford found a new site for Dwarf Spurge (*Euphorbia exigua*) along the edge of a brassica crop at Lambeeth SM930012. The highlight was, however, the discovery of a Small-flowered Catchfly (*Silene gallica*) colony in a main crop potato field. It was in the Angle peninsula by the coast path at SM870034. With this addition, the plant is currently present at three locations in Pembrokeshire where it is counted each year with the help of Stuart Devonald.

Matt Sutton found 4 extra Pillwort (*Pilularia globulifera*) populations in the St Davids and Marloes peninsulas in 2005. Each find was at locations where he had steered recent management in a direction to favour this minute fern. Shallow pools with fluctuating water levels had been dug on sites not too distant from other populations of pillwort and in winter wet habitats grazed by cattle or ponies.

Another success of 2005 was Ann and Stephen Coker's work on Autumn Lady's-tresses (*Spiranthes spiralis*). In previous years they had adopted Field Gentian (*Gentianella campestris*) and Green-winged Orchid (*Orchis morio*) and visited most of their current and old locations to census the populations. They count the number of flowering spikes within ten-metre squares located using GPS and produce density dot maps at this scale amply supported by digital images. These can be overlain on Ordnance Survey maps or air photographs. In 2004 they counted 27,834 Green-winged Orchid spikes in 978 ten-metre squares in Pembrokeshire with a maximum of 405 spikes in one square. They counted even more flowers of Field Gentian! Next year they will finish Autumn Lady's-tresses and move on to record Marsh Helleborine (*Epipactis palustris*) in equal detail.

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COMMENT ON V.C.46 PLANT RECORDS 2005

The only new county records of natives have been of a few species of *Hieracium*, resulting from David McCosh's revision of material in NMW, and of four uncommon *Euphrasia* hybrids, specimens of which were determined by Alan Silverside at the Preston Montford recorders' conference. The *Dryopteris xcomplexa* records are described in detail elsewhere. New alien taxa include *Senecio inaequidens*, a plant that we may well see a lot more of in the future, *Potentilla recta* and *Echinops bannaticus*. Other rarities with the *Senecio* at Ynys-las included *Thlaspi arvense* and *Chenopodium murale*. Second records were made of *Persicaria capitata*, another species on the move, and *Duchesnea indica*. *Bromus commutatus* put in one of its rare appearances. *Spartina xtownsendii* is proving to be more widespread than previously realised, and *Saxifraga tridactylites* was found at two inland sites.

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RECORDER'S REPORT FOR FLINTSHIRE, V.C.51 FOR 2005

The main item on the agenda in Flintshire in 2005 was the preparation of the County Rare Plants Register. Three of us, Delyth Williams, Joe Phillips and myself have been involved, and the work is almost complete. We are grateful to Trevor Dines for his guidance and we hope that he will soon be able to steer the work through the labyrinth of BSBI publication and printing.

Three things have loomed large as a result of this work:

Firstly, the complexity of determining a plant's status continues to exercise everyone's mind, while new (and hopefully better) systems of designation are continually being devised.

Secondly, the change of emphasis from 'how rare?' to 'how threatened?' is certainly relevant but not always easy to measure.

Thirdly, the importance of keeping track to those plants which we have identified in the Register. Many of these have not been monitored since they were recorded for the *Flora of Flintshire* some twenty years ago. That's our next job! I made a start during September by looking for *Narthecium ossifragum* (Bog Asphodel) (which occurs in only a handful of sites in Flintshire) at a site which I had not visited since 1980, and was delighted to see that it was doing well and under no apparent threat. I was hoping against hope to find *Wahlenbergia hederacea* (Ivy-leaved Bellflower) in a nearby area (where it was recorded in 1909) but no luck!

With co-operation between BSBI, N. Wales Wildlife Trust and Plantlife, good progress has been made in conserving *Dianthus armeria* (Deptford Pink) at its only site in the county, in one of our limestone nature reserves. It's the old story of controlling invasive scrub.

In July, we organised a BSBI Field Meeting on the dunes at Talacre near Prestatyn. It was an enjoyable and useful day, and a report has been sent for publication in *BSBI News*.

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ANGLESEY PLANTS IN 2005

The 2005 season has resulted in a smaller number of records for publication in this Bulletin; but some satisfying rediscoveries of species not seen for several years. This is timely, as it has allowed them to be added to the final draft of Anglesey's Rare Plant Register, the first edition of which should be available early in 2006.

The new A55 dual carriageway and its associated habitats continued to provide the bulk of the most exciting discoveries, through the work of Richard Birch, as ecologist acting for UK Highways, the managers of the road. The *Parentucellia viscosa* (Yellow Bartsia), first noted in 2003, has continued to expand to some 20 plants on the road bank near Caergeiliog. Even more interesting was the confirmation of a small colony of *Teucrium scordium* (Water Germander), first observed in 2004, on the drawn down margin of one of the balancing ponds near Bryngwran. Deciding on the status of these two has been difficult; but, in the absence of any evidence of known introduction, they are being treated as probably native.

The *Galinsoga quadriradiata* (Shaggy Soldier) recorded in 2004 from the side of the carriageway near Gwalchmai could not be found this year, so confirming that as a casual. However, in contrast, *Lactuca serriola* (Prickly Lettuce), first seen in 2004, has expanded to several plants at two localities near Valley, we now expect this to continue to spread, as it has done further east.

Blackstonia perfoliata (Yellow-wort) has been known on Anglesey since at least 1895, but only ever from the sandy margins of Red Wharf Bay, and in recent years restricted to a few plants in one or two small sandy fields - so the two new discoveries this year were unexpected. Richard Finch reported it as quite frequent in a disused quarry near Pentre Berw, with the appearance of being native, while very vigorous looking plants were reported from

around the entrance to the Re-cycling Centre at Gwalchmai, with every appearance of having been sown there. Has any reader noticed Yellow-wort growing from seed mixtures?

Rediscoveries include *Carex pseudocyperus* (Cyperus Sedge) from its only Anglesey locality at the RSPB Valley Lakes reserve, it had been first noted there in 1895, but had not been seen for the last few years. Likewise *Carex vesicaria* (Bladder-sedge) was re-found by Sam Thomas in The Dingle at Llangefni. Bladder-sedge was also found in small quantity in one of the ponds constructed beside the new A55 near Gwalchmai and in great quantity in a pond near Llanlleiana. Another welcome re-discovery by Sam Bosanquet was of two flowering plants of *Coeloglossum viride* (Frog Orchid) at the North Wales Wildlife Trust's Cors Goch NNR. This means it is now known from just three locations on Anglesey, all in the SH48 hectad, and in two of these the number of flower spikes is in single figures only.

Publication of the new Red Data List in 2005 has highlighted the decline in many arable plants, resulting in the ranking of *Spergula arvensis* (Corn Spurrey) as Vulnerable, and *Stachys arvensis* (Field Woundwort) as Near Threatened. It was pleasing therefore in looking at ten or so arable fields this summer to find these two species present in every one, and to see *Kickxia elatine* (Sharp-leaved Fluellen) in two of them – perhaps intuitively only interesting looking fields were examined!

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IUCN THREAT LISTING OF WELSH VASCULAR PLANTS

The Vascular Plant Red Data List for Great Britain (Cheffings & Farrell, 2005) represents a departure from the old Red Data Books and Scarce Plant analyses. Instead of rarity, measured by 10-km square thresholds, this exercise evaluates the threat to all well-recognised species, subspecies and – for the first time – hybrids in Britain, using the standardised IUCN guidelines (IUCN, 2001). In total, the new Red List identified a significant threat to 497 taxa of vascular plants in Britain, of which 201 taxa are recorded from Wales (see summary, Table 1):

Table 1	Britain	Wales
Extinct	10	4
Extinct in Wild	5	1
Critically Endangered	35	11
Endangered	90	32
Vulnerable	220	75
Near Threatened	98	63
Data Deficient	39	15
Total	497	201

A full list of all the threatened plants found in Wales is shown in Table 2 (extinct taxa in italics), together with a summary of the IUCN criteria, as applied in this case. This Welsh list offers considerable scope for comment – and revision. About 16% of threatened plants, for instance, or at least 23 taxa, come from arable habitats (including *Galeopsis segetum*, listed here as “Extinct”) and there is also a strong representation of plants associated with open woodland / woodland edge (22 or more taxa), grazing marshes (c.16 spp.) and seasonally parched, rocky soils (c.13 spp.). Other groups of threatened plants are found mainly in disturbed damp heaths, restricted coastal habitats (eg. sand / shingle interface) and certain kinds of wetland (eg. drainage ditches), etc. but there is probably just as much variety within the list as any underlying theme. Each of these taxa has a unique threat profile or reasons for

its decline and there is an urgent need for more autecological data to reverse these worrying trends – starting, perhaps, with the most critically threatened plants.

Several other conservation priorities also emerge from this List. A number of taxonomic uncertainties and questionably native plants, for instance, are held in a separate annex to the full document, (not listed here but see

http://www.jncc.gov.uk/pdf/pub05_speciesstatusvpredlist3_web.pdf) together with some insufficiently well-mapped species and subspecies. This “Waiting List” includes several very interesting Welsh taxa such as ‘*Dactylorhiza incarnata* subsp. *pulchella*’, *Stachys alpina* and *Pilosella peleteriana* subsp. *subpeleteriana* and is, in effect, an important set of research priorities. The majority of the more critical taxa (eg. *Dryopteris affinis* subsp., *Hieracium* spp. and *Ranunculus auricomus* agg.) were also not assessed for this Red List, although a range of bramble species (*Rubus fruticosus* agg.) and dandelions (*Taraxacum* spp.) were judged rare enough to be threatened – although not by strict IUCN criteria. These include five Welsh brambles (*Rubus aquarum*, *R. dasycoccus*, *R. hirsutissimus*, *R. melanocladus* & *R. trelleckensis*) and one species of Welsh dandelion (*Taraxacum breconense*). The significantly high threat status of some other microspecies that were evaluated for the Red List (especially eyebrights, *Euphrasia* spp.) clearly demonstrates the need to apply this assessment to all taxonomically difficult groups.

Finally, the absence of several very rare plants from the list is largely due to their observed stability and the low risks associated with their habitats. So, for example, the few plants of Killarney Fern (*Trichomanes speciosum*) in very isolated ravines are less threatened than the many populations of Corn Spurrey (*Spergula arvensis*). In principle, the new Red List will supplement, not supplant the existing Red Data Book and the mechanisms for conserving rarity (eg. SSSIs and NNRs) will coexist with those for threat (eg. BAP). This list does indicate, however, the considerable amount of work this could entail.

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Table 2

Extinct taxa in italics.

EXTINCT (EX): no reasonable doubt that the last individual has died, after exhaustive surveys in known and/or expected habitat at appropriate times throughout its historic range.

EXTINCT IN THE WILD (EW): known to survive only in cultivation after exhaustive surveys (as above).

CRITICALLY ENDANGERED (CR): the best available evidence indicates that it is facing an extremely high risk of extinction in the wild, based on observations of less than 50 mature individuals; a declining population of less than 250 mature individuals or at just one site; and/or an observed or estimated decline in its Area of Occupancy* and/or Extent of Occurrence* of $\geq 80\%$ between the two Atlas observation periods (1930-60 and 1987-99).

ENDANGERED (EN): the best available evidence indicates that it facing a very high risk of extinction in the wild, based on observations of less than 250 mature individuals; a declining population of less than 2,500 mature individuals or its presence in 5 or fewer sites; and/or an observed or estimated decline in its Area of Occupancy and/or Extent of Occurrence of $\geq 50\%$ between the two Atlas observation periods (1930-60 and 1987-99).

VULNERABLE (VU): the best available evidence indicates that it is facing a high risk of extinction in the wild, based on observations of less than 1,000 mature individuals; a declining population of less than 10,000 mature individuals or its presence in 10 or less sites; and/or an observed or estimated decline in its Area of Occupancy and/or Extent of Occurrence of $\geq 30\%$ between the two Atlas observation periods (1930-60 and 1987-99).

NEAR THREATENED (NT): the best available evidence indicates that it is close to qualifying for a threatened category in the near future, based on observations of less than 10,000 individuals; a declining population in 30 or fewer sites and/or an observed or estimated decline in its Area of Occupancy and/or Extent of Occurrence of $\geq 20\%$ between the two Atlas observation periods (1930-60 and 1987-99).

DATA DEFICIENT (DD): insufficient distribution / abundance data to assess the risk of extinction but some evidence to indicate that a threatened classification may be appropriate.

* See Cheffings & Farrell, 2005 pp. 13-22 for a more detailed explanation of these terms and their application to British vascular plants and <http://www.iucn.org/themes/ssc/red-lists.htm> for a full version of the Criteria.

Cotoneaster integerrimus	CR	Anthemis arvensis	EN
<i>Eryngium campestre</i>	CR	Asparagus prostratus	EN
Galeopsis angustifolia	CR	Campanula patula	EN
<i>Galium tricornutum</i>	CR	<i>Carex depauperata</i>	EN
Juniperus communis subsp.		Centaurium scilloides	EN
hemisphaerica	CR	Dianthus armeria	EN
Lolium temulentum	CR	Euphrasia anglica	EN
Ranunculus arvensis	CR	Euphrasia pseudokernerii	EN
Scandix pecten-veneris	CR	Liparis loeselii	EN
Scleranthus perennis subsp.		Lithospermum arvense	EN
perennis	CR	Lycopodiella inundata	EN
Sorbus domestica	CR	Lythrum hyssopifolium	EN
Sorbus leyana	CR	<i>Melampyrum sylvaticum</i>	EN
		Mentha pulegium	EN
		Minuartia hybrida	EN

Monotropa hypopitys		Fallopia dumetorum	VU
subsp. hypophegea	EN	Gagea bohemica	VU
subsp. hypopitys	EN	<i>Galium parisiense</i>	VU
Neotinea ustulata	EN	Galeopsis speciosa	VU
<i>Orobanche artemisiae-campestris</i>	EN	Gentianella campestris	VU
Potamogeton compressus	EN	Gentianella uliginosa	VU
Potentilla rupestris	EN	<i>Groenlandia densa</i>	VU
Ranunculus tripartitus	EN	<i>Herminium monorchis</i>	VU
Rumex rupestris	EN	Hordeum marinum	VU
Saxifraga cespitosa	EN	Hydrocharis morsus-ranae	VU
Scleranthus annuus		Hyoscyamus niger	VU
subsp. annuus	EN	Hypochoeris glabra	VU
Silene gallica	EN	Juncus capitatus	VU
Sorbus eminens	EN	Lloydia serotina	VU
Sorbus leptophylla	EN	Matthiola sinuata	VU
<i>Torilis arvensis</i>	EN	Melittis melissophyllum	VU
Valerianella dentata	EN	Misopates orontium	VU
Valerianella rimosa	EN	Myosurus minimus	VU
Woodsia ilvensis	EN	Myriophyllum verticillatum	VU
		Oenanthe fistulosa	VU
Allium oleraceum	VU	Ophrys insectifera	VU
Anthemis cotula	VU	Orobanche purpurea	VU
Arabis petraea	VU	Papaver argemone	VU
Artemisia campestris	VU	Persicaria minor	VU
Blysmus compressus	VU	<i>Persicaria mitis</i>	VU
Bromus secalinus	VU	Petrorhagia nanteuillii	VU
Bupleurum tenuissimum	VU	Platanthera bifolia	VU
Carex acuta x aquatilis	VU	Poa glauca	VU
Carex curta x paniculata		Polystichum lonchitis	VU
(C. x ludibunda)	VU	Potamogeton alpinus x crispus	
Carex dioica x echinata		(P. x olivaceus)	VU
(C. x gaudiniana)	VU	<i>Potamogeton crispus x praelongus</i>	
Carex divisa	VU	(P. x undulatus)	VU
Cephalanthera longifolia	VU	Potamogeton natans x polygonifolius	
Cerastium alpinum	VU	(P. x gessnacensis)	VU
Chamaemelum nobile	VU	Pseudorchis albida	VU
Chenopodium bonus-henricus	VU	<i>Puccinellia fasciculata</i>	VU
Chenopodium murale	VU	Salsola kali subsp. kali	VU
Chrysanthemum segetum	VU	Saxifraga hypnoides	VU
Cicendia filiformis	VU	Scorzonera humilis	VU
Clinopodium acinos	VU	Silene conica	VU
Cuscuta epithymum	VU	Silene noctiflora	VU
Dactylorhiza viridis	VU	Sorbus minima	VU
Daphne mezereum	VU	Spergula arvensis	VU
Equisetum arvense x telmateia		Stellaria palustris	VU
(E. x robertsii)	VU	Tephrosieris integrifolia	
Euphrasia cambrica	VU	subsp. maritima	VU
Euphrasia rivularis	VU	Trifolium strictum	VU
Euphrasia rostkoviana		Vicia bithynica	VU
subsp. montana	VU	Viola lactea	VU
Euphrasia rostkoviana		Wolffia arrhiza	VU
subsp. rostkoviana	VU	Zostera noltei	VU

Anacamptis morio	NT	Rosa agrestis	NT
Anagallis minima	NT	Ruppia cirrhosa	NT
Arum italicum subsp. neglectum	NT	Salvia pratensis	NT
Asplenium obovatum	NT	Senecio cambrensis	NT
Asplenium septentrionale	NT	Silene nutans	NT
Asplenium trichomanes		Sorbus anglica	NT
subsp. pachyrachis	NT	Spiranthes spiralis	NT
Baldellia ranunculoides		Stachys arvensis	NT
subsp. ranunculoides	NT	Teesdalia nudicaulis	NT
Cardamine impatiens	NT	Tuberaria guttata	NT
Carex diandra	NT	Tuberaria guttata	NT
Carex muricata subsp. muricata	NT	Veronica serpyllifolia	
Cerastium arcticum	NT	subsp. humifusa	NT
Cerastium pumilum	NT	Vicia orobus	NT
Cirsium tuberosum	NT	Viola canina	NT
Colchicum autumnale	NT	Viola tricolor	NT
Cynoglossum officinale	NT	Viola tricolor subsp. tricolor	NT
Cyperus longus	NT	Wahlenbergia hederacea	NT
		Woodsia alpina	NT
Cytisus scoparius		Zostera marina	NT
subsp. maritimus	NT		
Dianthus deltoides	NT	Baldellia ranunculoides	
Draba aizoides	NT	subsp. repens	DD
Drosera anglica	NT	<i>Dactylorhiza incarnata</i>	
Eriophorum gracile	NT	subsp. ochroleuca	DD
Euphorbia exigua	NT	Dactylorhiza purpurella	
Filago vulgaris	NT	subsp. cambrensis	DD
Frankenia laevis	NT	Epipactis dunensis	DD
Genista anglica	NT	Euphrasia arctica	
Genista pilosa	NT	subsp. borealis	DD
Hymenophyllum wilsonii	NT	Euphrasia confusa	DD
Hypericum linariifolium	NT	Euphrasia micrantha	DD
Hypericum montanum	NT	Euphrasia ostenfeldii	DD
Hypochaeris maculata	NT	Euphrasia tetraquetra	DD
Juncus compressus	NT	Gymnadenia densiflora	DD
Lathyrus palustris	NT	Mentha suaveolens	DD
Lychnis viscaria	NT	<i>Rumex acetosa subsp. hibernicus</i>	DD
<i>Mertensia maritima</i>	NT	Salicornia nitens	DD
Meum athamanticum	NT	Stellaria nemorum	
Minuartia verna	NT	subsp. montana	DD
Neottia nidus-avis	NT	Utricularia intermedia sens.str.	DD
Orobanche rapum-genistae	NT		
Pilosella peleteriana	NT	<i>Saxifraga rosacea</i>	
Pilularia globulifera	NT	subsp. rosacea	EW
Platanthera chlorantha	NT		
Potamogeton friesii	NT	<i>Caucalis platycarpus</i>	EX
Potamogeton praelongus	NT	<i>Euphorbia peplis</i>	EX
Potentilla argentea	NT	<i>Galeopsis segetum</i>	EX
Radiola linoides	NT	<i>Otanthus maritimus</i>	EX

WELSH PLANT RECORDS – 2005

Welsh Plant Records are compiled by Gwynn Ellis, 41 Marlborough Road, Roath, Cardiff, CF23 5BU, from reports of BSBI vice-county Recorders to whom records should preferably be sent. Plants are listed for each vice-county in the order of D.H. Kent's *List of Vascular Plants of the British Isles* (1992), and *Supplements 1 & 2* (1996 & 2000), the number in those lists preceding the name, so that names changed since 1996 can be given without giving the former name. Latin names also follow Kent (1992) and *Supplements 1 & 2* or, if not in that list, the *Vice-county Census Catalogue* (2003), the 2nd edition of C.A. Stace's *New Flora of the British Isles* (1997). E.J. Clement & M.C. Foster's *Alien Plants of the British Isles* (1994) or T.B. Ryves, E.J. Clement & M.C. Foster's *Alien Grasses of the British Isles* (1996). Authorities for Latin names are not given unless the name is not in any of these works. English names are those in *English Names of Wild Flowers* ed. 2 (1986) by Dony *et al.* or, if not in that list, Stace (1997), Clement & Foster (1994) or Ryves, Clement & Foster (1996). English names enclosed by square brackets do not occur in any of these books but have been used elsewhere. Welsh names are those in *Planhigion Blodeuol, Conwydd a Rhedyn*, published by Cymdeithas Edward Llwyd (2003).

The following symbols are used:

* to indicate a new v.c. record

+ to indicate a new or updated hectad record

† indicates archaeophyte; ‡ indicates neophyte; ♂ indicates casual

†‡♂ before the species number: to indicate that the species is regarded as an archaeophyte, neophyte or casual in at least somewhere in the British Isles.

†‡♂ before the record: to indicate a species which although a native, archaeophyte or neophyte at least somewhere in the British Isles, is not so in the locality recorded

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

□ to indicate an update to a rare or scarce taxon

∅ to indicate that the taxon is now believed to be extinct in the locality cited

In general, only records which update the *Vice-county Census Catalogue* (2003) or the *New Atlas of the British & Irish Flora* (2002) will be listed. Other records are included at the discretion of the vice-county recorder. The minimum grid reference is to a hectad but, if supplied by the recorder, references to a 1km or even a 100m square may be included. A letter in parentheses following a grid reference indicates a tetrad.

The Vice-county Recorders from 1/12/2005 are:

MONMOUTH, v.c. 35; Mr T.G. Evans, La Cuesta, Mounton Road, Chepstow, Monmouthshire NP16 5BS

GLAMORGAN, v.c. 41 (West); Dr Q.O.N. Kay, West Cwm Ivy, Llanmadoc, Gower, Swansea SA3 1DG

GLAMORGAN, v.c. 41 (East); Mr J. Woodman, c/o CCW, Unit 4, Castelton Court, Fortran Road, Cardiff CF3 0LT

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

RADNOR, v.c. 43; Vacant

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

PEMBROKE, v.c. 45; Mr S.B. Evans, Glan-y-Mor, Dinas Cross, Newport, Pembrokeshire SA42 0UQ

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

MONTGOMERY, v.c. 47; Mrs M. Wainwright, Troy, 1 Green End, Oswestry, Shropshire SY11 1BT and Dr A.K. Thorne (all correspondence to Mrs Wainwright)

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

CAERNARFON, v.c. 49; Mrs W.N. McCarthy, 5 Tyn-y-coed, Great Orme, Llandudno, Conwy LL30 2QA

DENBIGH, v.c. 50; Mrs J.A. Green, Coed Duon, Tremerchion, St Asaph, Denbighshire LL17 0UH

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

ANGLESEY, v.c. 52; Dr N.H. Brown, Treborth Botanic Garden, University College of North Wales, Bangor, Gwynedd LL57 2RQ and Mr I.R. Bonner (all correspondence to Dr Brown)

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

- *4/1.2. *Equisetum ramosissimum* (Branched Horsetail) (Marchrawnen Ganghennog). In rough grass, a brownfield site, NW of Spytty Pill, Newport, ST3235.8748, R.P. Kilshaw, 2005, conf. T.G. Evans, A.C. Jermy, P.J. Acock & F.J. Rumsey. 1st Welsh record. Translocation is being considered.
- 4/1.9. *Equisetum telmateia* (Great Horsetail) (Marchrawnen Fawr). Several m² on slope of sea wall (an unusual habitat). Goldcliff Pill, ST3832.9203, T.G. Evans & C. Titcombe, 2005.
- 5/1.1. *Ophioglossum vulgatum* (Adder's-tongue) (Tafod y Neidr). Four plants, meadow near Church Farm, SO462.019, G. Bode, 2005.
- 5/2.1. *Botrychium lunaria* (Moonwort) (Lloer-redynen). c.40 plants, wet heath, Varteg, SO263.068, A. & E.G. Wood, 2005.
- 28/13.12. *Ranunculus lingua* (Greater Spearwort) (Llafnlys Mawr). ‡In pond by the side of B4293, S of Llanishen, SO473.025, C.Titcombe, 1999-2005. Like all recent records it has been planted.
- 46/17.3. *Spergularia marina* (Lesser Sea-spurrey) (Troellig Arfor Bach). Abundant on central reservation of A449, at Celtic Manor Hotel roundabout, ST360.897, T.C.G. Rich, 2005.
- 47/1.15. *Persicaria mitis* (Tasteless Water-pepper) (Y Dinboeth Ddi-flas). 10-20 plants, mostly white, in channel that takes flood water, under normally dry arch of Monmouth road bridge over Wye, SO512.126, T.G. Evans, C. Titcombe & H.V. Colls, 2005. This 2nd extant site was recorded here c.35 years ago by A.O. Chater.
- 51/1.10. *Hypericum humifusum* (Trailing St John's-wort) (Eurinnlys Ymdaenol). c.50 plants in rough, weedy sandy field left untended, between Little Hadnock and the R. Wye, SO533.151; +c.20-30 plants on sandy (ORS) felled wood path, Wentwood, ST4246.9451; both T.G. Evans & C. Titcombe, 2005. The first site is a typical habitat for the plant and the second an unusual one for it.
- 51/1.16. *Hypericum elodes* (Marsh St John's-wort) (Eurinnlys y Gors). †1-2m² in a small woodland pond other plants present suggest it was planted, Wentwood, ST427.946, T.G. Evans & C. Titcombe, 2005.
- ‡60/CUC.pcp. *Cucurbita pepo* (Marrow) (Maro). One fruiting plant on newly constructed road verge in company with a variety of ephemeral weed species, Pillgwenlly, Newport, ST321.869, R.D. Pryce, 2005.
- 62/14.6. *Cardamine impatiens* (Narrow-leaved Bitter-cress) (Berwr Chwerw Culddail). 100s of plants on track, in Ravensnest Wood, ST507.998 to 507.000, T.G. & U.T. Evans & C. Titcombe, 1997; 2 plants above and to W of disused quarry, Blackcliff, ST532.984, T.G. Evans & C. Titcombe, 1997; 14 plants, on woodland track, Church Grove, ST525.996; 5 plants above and to W of disused quarry, Blackcliff, ST531.987; both T.G. Evans. 2005.
- *‡62/14.qui. *Cardamine quinquefolia* (a coralroot). 1 small clump on R. Usk bank, Abergavenny, SO/292.139, J.S. Rees, 2005, det. T.G. Evans. John Rees had suggested it was *C. bulbifera*. There were 7 plants with flowering spikes and at least 3 non-flowering plants among brambles and tree saplings near the top of a short gully which drained Castle Meadows's flood water into the Usk. Each stem bore a whorl of 3 pinnately-lobed leaves, each leaf had 2-3 pairs of lanceolate leaflets irregularly toothed and a solitary terminal one; the stem terminated in a cluster of 4-petaled, purple flowers; the corolla was c.15mm long with sepals 5-6mm long; the scales on the rhizome were c.3mm long. My *Flora Europaea* Vol. 1 *Cardamine* key led straight to it. My c.12 year-old copy of *Plant Finder* had no mention of it. George Hutchinson's last year's copy had between 20 and 30 suppliers of the plant, but how did it get to such an unlikely spot
- 67/1.1a. *Monotropa hypopitys* subsp. *hypophegea* (Yellow Bird's-nest) (Cytwl), 9 flowering spikes, under beech, Blackcliff, ST534.985, T.G. Evans, 2005. This is the only v.c. site and numbers vary each year, there appeared to be none last year, but under the many saplings they are not easy to see.
- 75/28.1×9. *Sorbus × thuringiaca* (*S. aucuparia* × *S. aria*) (a hybrid whitebeam). 1 tree c.8m tall knocked over by a beech, but alive, Piercefield Cliffs, ST5362.9612, T.C.G. Rich, 2005.
- 75/28.12. *Sorbus eminens*. [Wye Valley Whitebeam] (Cerddinen Mynwy). 1 tree, on Far Harkening Rock, SO5410.1508, T.C.G. Rich, 2005.
- 75/28.14. *Sorbus porrigentiformis*. [Spreading Whitebeam] (Cerddinen Ymledol). 1 tree, Cliff Wood, Mounth, ST5079.9389, T.C.G. Rich, 2005.

- 75/28.8. *Sorbus anglica* [English Whitebeam] (Cerddinen Lloegr). 1 tree overhanging the R. Wye, Piercefield Cliffs, ST5362.9612, T.C.G. Rich, 2005.
- 75/28.9×24. *Sorbus* × *vagensis* (*S. aria* × *S. torminalis*) (a hybrid whitebeam). 1 tree, Lady Park Wood, SO5469.1439; 1 tree, Cliff Wood, Mounton, ST5076.9408; 1 large tree with suckers, Lovers' Leap, ST5235.9669; all T.C.G. Rich, 2005.
- 77/19.24. *Trifolium squamosum* (Sea Clover) (Meillionen y Morfa). About 100 patches, grassy foreshore, W of the causeway bringing the M4 ashore at Caldicot, ST481.870, T.G. Evans & C. Titcombe, 2005. There has been a big resurgence of this plant where grazing has been restricted along the sea wall and the grassy areas between it and the Severn.
- 77/4.4. *Astragalus glycyphyllos* (Wild Liquorice) (Llaethwyg Licoris). This is one of two ailing extant sites, it is around the top edge of Heston Brake, a megalithic burial mound, ST505.887, T.G. Evans & C. Titcombe, 2005. In 2005 only one plant was found by T.G. Evans & C. Titcombe, though the farmer assured me several were present earlier in the year. About 20 plants were found in 1992.
- 77/8.1. *Lotus glaber* (Narrow-leaved Bird's-foot-trefoil). More than 5 patches, on the grassy foreshore just W of the causeway bringing the M4 ashore at Caldicot, ST481.870, T.G. Evans & C. Titcombe, 2005. Wade (1970) gave only one site, Newport Docks, W. Whitwell 1881 and himself 1968. It has now spread along the coast as far as Caldicot with numerous sites.
- ‡78/1.1. *Hippophae rhamnoides* (Sea-buckthorn) (Rhafnwydden y Môr). Between 50 and 100 plants towards the E end of the Wetlands Reserve, Uskmouth, ST33.82, T.G. Evans, C. Titcombe & D.J. Upton, 2005. A planting that the Reserve Management might live to regret.
- 87/1.1. *Viscum album* (Mistletoe) (Uchelwydd). Just 1 bunch, high up on an oak tree, *Quercus* × *rosacea*, Gwehelog Common, SO3820.0423, T.G. Evans & C. Titcombe, 2005. It is the only v.c. oak bearing mistletoe.
- 91/2.7. *Euphorbia serrulata* (Upright Spurge) (Llaethlys Syth). Over sixty plants among piles of earth and stones and piles of aggregate, just north of Millbrook Garden Centre and the Trothy Brook, SO5019.1126, T.G. Evans & C. Titcombe, 2005; 500-1000 plants where Douglas Firs had been clear-felled the year before, W of Livox Forestry Houses, ST534.976-535.978, T.G. Evans, 2005. B. Johnson first showed me plants on this site in the 1940s, when they were frequent on paths.
- 94/1.1. *Linum bienne* (Pale Flax) (Llin Culddail). Side of Minnetts Lane, ST449.888, G. Bode, 2005.
- 107/19.3. *Oenanthe pimpinelloides* (Corky-fruited Water-dropwort) (Cegiden Mynwy). 3 plants, grassy verge bank, Tynewydd, ST272.915, T.G. Evans, 2005. It is the only Welsh site and the plant is living on the edge.
- 107/19.7. *Oenanthe aquatica* (Fine-leaved Water-dropwort) (Cegiden-y-dŵr Fanddail). Ten plants, E end of Llanfoist Farm Pond, SO295.129, T.G. Evans & C. Titcombe, 2005. 1st sign of this plant in the pond since 1994.
- 108/3.4. *Centaurium pulchellum* (Lesser Centaury) (Y Ganrhi Goch Fach). c.30 plants, roadside and bank near revetment 840, MOD, Caerwent, ST4.9, C. Titcombe, 2004; 500-1000 plants over 300m of woodland trackside, Wentwood, ST4364.9448, C. Titcombe & T.G. Evans, 2005. This has raised the extant site number from 1 to 3 and with surprising numbers of plants per site.
- ‡124/1.1. *Verbascum blattaria* (Moth Mullein) (Pannog y Gwyfyn). 1 plant on the edge of a pile of stony earth, N of Millbrook Garden Centre and Trothy Brook, SO5019.1126, T.G. Evans & C. Titcombe, 2005. 1st recent record.
- 124/1.12. *Verbascum lychnitis* (White Mullein) (Pannog Wen). ‡About 100 flowering plants and c.100 non-flowering rosettes, on old railway ballast, Severn Tunnel Junction (defunct). ST457.874, A.S. Lewis, V. Lewis, T.G. Evans & C. Titcombe, 2005. A big expansion of the colony from 4 in 2002.
- ‡124/12.1. *Kickxia elatine* (Sharp-leaved Fluellen) (Llysiau Llywelyn). 3 plants under fence, Jingle St Bridge, Wonastow, SO4754.1069, H.V. Colls, T.G. Evans & C. Titcombe, 2005.
- †124/12.2. *Kickxia spuria* (Round-leaved Fluellen) (Llysiau-Llywelyn Deilgrwn). c.10 plants, road/stream side, Jingle St Bridge, Wonastow, SO4754.1069, H.V. Colls; T.G. Evans & C. Titcombe, 2005. 1st hectad and first new site since 1986.
- 124/23.1. *Parentucellia viscosa* (Yellow Bartsia) (Gorudd Melyn). ϕ>30 plants, disturbed ground, adjacent offices, Mamhilad, SO3127.0249, E.G. Wood, 2005.

- 125/2.10. *Orobancha minor* (Common Broomrape) (Gorfanhadlen). 12 spikes, small paddock, Shirefield, ST466.897, T.G. Evans, 2004.
- 135/6.1. *Cirsium eriophorum* (Woolly Thistle) (Ysgallen Wlanog). c.40 plants on grassy bank, on Carboniferous Limestone, Upper Grange Farm, Dancing Hill, Magor, ST428.887, D.J. Upton, 2005.
- 135/28.6a. *Hieracium umbellatum* subsp. *umbellatum* (a hawkweed) (Heboglys). Two roadside/ woodland patches, the longer 17m near Laurel Cottage, Kemys Graig, ST38.92, C. Titcombe, 2005.
- 152/6.1. *Scirpoides holoschoenus* (Round-headed Club-rush) (Clwbfrwynen y Coed). †6 plants, in rough grassland, just NW of Spytty Pill, left bank of R. Usk, Newport, ST3232.8740, R.P. Kilshaw, 2005. 2nd record. This is on the opposite side of the river from the large colony discovered between N and S Dock in 1973.
- 153/47.3. *Alopecurus bulbosus* (Bulbous Foxtail) (Cynffonwellt Oddfog). c.100,000 on grassy foreshore, just to the west of the causeway that brings the M4 ashore at Caldicot, ST487.872, T.G. Evans & C. Titcombe, 2005; c.100 plants, grassy foreshore, below Park Redding Woods, Bulwark, ST543.920, T.G. Evans, 2005. A large part of the foreshore between this site and the Wye Bridge (M48) has been cut off from the spring tides by the building of a sea wall reducing the population of 100s of thousands in 1991 to zero in 2005.
- 153/47.4. *Alopecurus aequalis* (Orange Foxtail) (Cynffonwellt Melyngoch). Abundant, on western half of Penpergwm Pond, SO322.099, T.G. Evans & C. Titcombe; Zero plants around pond, N. of Moorcroft Cottage, SO518.094, T.G. Evans; both 2005.
- †153/68.1. *Echinochloa crus-galli* (Cockspur) (Cibogwellt Rhydd). †1 plant, between pavement and road, at exit to Castle Car Park, Chepstow, ST535.942, T.G. Evans, 2005.
- †153/70.pum. *Setaria pumila* (Yellow Bristle-grass) (Cibogwellt Melyn). †1 plant, between pavement and road, at entrance to Castle Car Park, Chepstow, ST535.942, T.G. Evans, 2005.
- 162/14.1. *Anacamptis pyramidalis* (Pyramidal Orchid) (Tegeirian Bera). 1 plant in the bushes, exactly where it was last year, N of the Blaenavon Railway Museum car park, SO2341.0950, a GPS correction to grid reference; 1 plant side of rough road, leading to Forest Walks car park, ST420.947, both T.G. Evans & C. Titcombe, 2005.
- 162/7.1. *Spiranthes spiralis* (Autumn Lady's-tresses) (Troellig yr Hydref). 11 plants on grassy paths, Chepstow Cemetery, ST529.927, E. Thompson, 2004; 33 plants on grassy paths and lawn between graves, Chepstow Cemetery, ST5.9, E. Thompson & T.G. Evans, 2005.

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

- +1/4.1. *Diphysastrum alpinum* (Alpine Clubmoss) (Cnwp-fwsogl Alpaidd). Small cliff, N slope of Fan Nedd, SN922.196, M. & C. Porter, 2005.
- +17/3.5. *Dryopteris aemula* (Hay-scented Buckler-fern) (Marchredynen Bêr). Base of boulder in woodland near Elan village, SN92.64, R.G. Woods, 2005.
- *†40/2.rub. *Alnus rubra* (Red Alder) (Gwernen Goch). Glasfynydd Plantation, SN8.2, R.G. Woods, 2004. 1st record.
- +45/3.1c. *Montia fontana* subsp. *amportitana* (Blinks) (Porpin y Ffynnon). River shingle, S of Talybont Reservoir, SO088.177, M. & C. Porter, 2005.
- +45/3.1d. *Montia fontana* subsp. *chondrosperma* (Blinks) (Porpin y Ffynnon). Limestone grassland, Cwm Glaisfer near Llangynidr, SO148.167, M. & C. Porter, 2005.
- +†46/7.3. *Cerastium tomentosum* (Snow-in-summer) (Clust-y-llygoden y Felin). Waste ground, Bwlch, SO146.223, W.J.H. Price & M. Porter, 2005.
- *†46/25.6. *Dianthus barbatus* (Sweet-William) (Penigan Barfog). Waste ground, Bwlch, SO146.223, W.J.H. Price & M. Porter, 2005. 1st record.
- +46/5.4. *Stellaria neglecta* (Greater Chickweed) (Gwlyddyn-y-dom Mawr). Road verge, 2km W of Llanddew, SO039.314; +Lane verge/hedge, 1.5km SW Llandefallte, SO097.346; both M. & C. Porter, 2005.

- *‡47/3.1. *Fagopyrum esculentum* (Buckwheat) (Gwenith yr Hydd). ♂Road verge, 1km E of Bronllys, SO149.355, M. & C. Porter, 2005. 1st record.
- +‡47/5.3. *Fallopia baldschuanica* (Russian Vine) (Clymog Rwsia). Roadside verge, Llangorse, SO134.274, M. & C. Porter, 2005.
- +51/1.16. *Hypericum elodes* (Marsh St John's-wort) (Eurinllys y Gors). Flush, Cefn Sychbant, SN984.101, T.C.G. Rich, 2005.
- +‡57/1.11×12×alt. *Viola* × *wittrockiana* (*V. lutea* × *V. tricolor* × *V. altaica*) (Garden Pansy) (Trilliw'r Gerddi). ♂Waste ground, Penderyn, SN939.087; +♂River shingle, 3km W of Hay-on-Wye, SO198.408; both M. & C. Porter; +♂Waste ground, Bwlch, SO146.223, W.J.H. Price & M. Porter;; all 2005.
- +61/2.11×12. *Salix* × *multinervis* (*S. cinerea* × *S. aurita*) (a hybrid willow). Forestry plantation, 4km SW of Trecastle, SN845.249, M. & C. Porter, 2005.
- +‡62/7.1. *Erysimum cheiranthoides* (Treacle-mustard) (Triagl Arfog). Grass ley, 3km N of Llanywern, SO098.312, M. & C. Porter, 2005.
- +62/12.1×2. *Rorippa* × *sterilis* (*R. nasturtium-aquaticum* × *R. microphylla*) (Hybrid Water-cress) (Berwr-y-dŵr Croesryw). Roadside stream, Llyswen, SO133.380, M. & C. Porter, 2005.
- +62/12.3. *Rorippa islandica* (Northern Yellow-cress) (Berwr Melyn Gogleddol). Waste ground, Builth Wells, SO040.511, M. & C. Porter, 2005.
- +‡62/15.5. *Arabis caucasica* (Garden Arabis) (Berwr-y-cerrig yr Ardd). Road verge, Llangynidr, SO168.196, M. & C. Porter, 2005.
- +‡62/38.1. *Hirschfeldia incana* (Hoary Mustard) (Mwstard Llwyd). River bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.
- +‡73/1.3. *Crassula helmsii* (New Zealand Pigmyweed) (Corchwyn Seland Newydd). Moorland pool, Mynydd Illtyd, SN986.270, M. & C. Porter, 2005.
- *‡73/3.2×3. *Spiraea* × *billardii* (*S. alba* × *S. douglasii*) (Billard's Bridewort) (Erwain Billard). Bank of R. Wye, Builth Wells, SO035.513, M. & C. Porter, 2005. 1st record.
- *‡75/8.2. *Rubus tricolor* (Chinese Bramble) (Llwyn Mwyar Trilliw). Beside track in open woodland, 1.5km SW Penderyn, SN935.072, M. & C. Porter, 2005. 1st record.
- +75/15.2. *Agrimonia procera* (Agrimony) (Llyisiau'r-dryw Pêr). Road verge, 2km E of Sennybridge, SN942.295, M. & C. Porter, 2005.
- +‡75/3.1×3. *Spiraea* × *pseudosalicifolia* (*S. salicifolia* × *S. douglasii*) (Confused Bridewort) (Ffug Erwain-dail-helyg). Field hedge, 2km S of Elan Village, SN934.638, M. & C. Porter, 2005.
- +77/14.4. *Vicia sylvatica* (Wood Vetch) (Ffachysen y Coed). Cliffs, Cefn Sychbant, SN985.096, T.C.G. Rich, 2005.
- +77/19.23. *Trifolium arvense* (Hare's-foot Clover) (Meillionen Gedennog). ♂Track in forestry plantation, 4km SW of Trecastle, SN845.248, M. & C. Porter, 2005. Casual at this site.
- +‡77/23.3. *Cytisus striatus* (Hairy-fruited Broom) (Banhadlen Godflewog). Roadside scrub, Clydach Dingle, SO190.128, A. & V. Lewis, 2005.
- *‡77/PHA.vul. *Phaseolus vulgaris* (French Bean) (Ffeuen Ffrengig). Canal verge, Brecon, SO047.282, A. & V. Lewis, 2005. 1st record.
- +‡84/4.1. *Oenothera glazioviana* (Large-flowered Evening-primrose) (Melyn-yr-hwyr Mawr). Shingle along R. Usk near Scethrog, SO106.244, M. & C. Porter, 2005.
- +‡85/1.2. *Cornus sericea* (Red-osier Dogwood) (Cwyrosyn Cochfrig). Industrial Estate road verge, Brynmawr, SO199.114; +Shingle along R. Usk near Scethrog, SO106.244; both M. & C. Porter, 2005.
- *‡85/1.3. *Cornus alba* (White Dogwood) (Cwyrosyn Rhisgl Coch). Roadside Scrub, Bronllys, SO151.345, A. & V. Lewis, 2005.
- +‡91/2.15. *Euphorbia cyparissias* (Cypress Spurge) (Llaethlys Cypreswydd). Wall of churchyard, Defynnog, SN925.278, A. & V. Lewis, 2005.
- +‡100/1.1. *Rhus typhina* (Stag's-horn Sumach) (Siwmac). Road verge, Llyswen, SO133.379, M. & C. Porter, 2005.
- +‡102/1.3. *Oxalis corniculata* (Procumbent Yellow-sorrel) (Suran Orweddol). River bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.

- +‡102/1.6. *Oxalis stricta* (Upright Yellow-sorrel) (Suran Felen Unionsyth). River bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.
- +103/1.9. *Geranium sanguineum* (Bloody Crane's-bill) (Pig-yr-aran Ruddgoch). ‡Garden escape on river bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.
- *‡106/1.1. *Hedera colchica* (Persian Ivy) (Iorwg Persia). Road bank, 2km S of Llangattock, SO204.166, S.P. Chambers, 2005. 1st record.
- +‡107/21.1. *Foeniculum vulgare* (Fennel) (Ffenigl). Roadside verge, Llangorse, SO134.274, M. & C. Porter, 2005. 1st recent record.
- +107/44.1a. *Daucus carota* (Wild Carrot) (Moronen y Maes). †Casual on river shingle, Builth Wells, SO044.512, M. & C. Porter, 2005.
- +‡110/8.1. *Solanum nigrum* (Black Nightshade) (Codwarth Du). Roadside verge, Llangorse, SO134.274, M. & C. Porter, 2005.
- +‡110/7.1. *Lycopersicon esculentum* (Tomato) (Tomato). †Shingle along R. Usk near Scethrog, SO106.244; +‡R. Usk bank, 1km S of Glangrwyney, SO245.162; both M. & C. Porter, 2005.
- +‡115/1.1. *Phacelia tanacetifolia* (Phacelia) (Ffaselia). †Road verge, 1km E of Bronllys, SO149.355, M. & C. Porter, 2005.
- +‡117/1.1. *Verbena officinalis* (Vervain) (Y Ferfain). River shingle, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.
- +‡118.4.1c. *Lamiastrum galeobdolon* subsp. *argentatum* (Variegated Yellow Archangel) (Marddanhadlen Felen Arianddail). Road verge, 2km W of Llanddew, SO040.308, M. & C. Porter, 2005.
- +118/1.5×6. *Stachys* × *ambigua* (*S. sylvatica* × *S. palustris*) (Hybrid Woundwort) (Briwlys Croesryw). Hedgerow, Sennybridge, SN923.285, M. & C. Porter, 2005.
- +118/10.4. *Scutellaria minor* (Lesser Skullcap) (Cycyllog Bach). Moorland, Twyn Gof 1km N of Gwenddwr, SO062.442, M. & C. Porter, 2005.
- +‡124.1.10. *Verbascum speciosum* (Hungarian Mullein) (Pannog Hwngaria). Road verge, Brecon, SO033.284, A. & V. Lewis, 2004. 1st record.
- +‡124/7.1. *Antirrhinum majus* (Snapdragon) (Trwyn y Llo). River bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.
- +‡124/13.3. *Linaria purpurea* (Purple Toadflax) (Llin-y-llyffant Porffor). Waste ground, Bwlch, SO146.223, W.J.H. Price & M. Porter, 2005.
- +‡124/16.20. *Veronica polita* (Grey Field-speedwell) (Rhwyddlwyn-y-maes Llwyd). River bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.
- *‡124/DIA.int. *Diascia integerrima* (Twinspur). †Waste ground, Penderyn, SN939.087, M. & C. Porter, 2005. 1st Welsh record.
- *‡124/SUT.cor. *Sutera cordata* (Bacopa). †River bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005, det. G.M. Kay, 1st record.
- +‡129/7.2. *Lobelia erinus* (Garden Lobelia) (Bidoglys yr Ardd). †River bank near Scethrog, SO105.247; +‡River bank, 3km W of Hay-on-Wye, SO198.408; both M. & C. Porter, 2005.
- +‡129/1.10. *Campanula poscharskyana* (Trailing Bellflower) (Clychlys Ymlusgot). Rocks beside R. Wye, Builth Wells river bridge, SO043.512, M. & C. Porter, 2005.
- +130/6.7. *Galium mollugo* (Hedge Bedstraw) (Briwydd y Clawdd). Road verge, Pont Gihirych, SN886.211, A. & V. Lewis, 2005.
- +‡131/6.2. *Lonicera nitida* (Wilson's Honeysuckle) (Gwyddfid Wilson). †Waste ground, Penderyn, SN939.087, M. & C. Porter, 2005.
- +‡135/22.1. *Lactuca serriola* (Prickly Lettuce) (Letusen Bigog). Industrial Estate road verge, Brynmawr, SO199.114, M. & C. Porter, 2005. 1st recent record.
- +‡135/22.2. *Lactuca virosa* (Great Lettuce) (Letusen Chwerw). Edge of arable field near Crickhowell, SO213.187, M. Ayers, 2005.
- +‡135/44.1. *Conyza canadensis* (Canadian Fleabane) (Amrhydlwyd Canada). River bank, 3km W of Hay-on-Wye, SO198.408, M. & C. Porter, 2005.
- +‡135/58.lac×max. *Leucanthemum* × *superbum* (*L. lacustre* × *L. maximum*) (Shasta Daisy) (Y Llygad-lllo Mwyaf). Waste ground, Penderyn, SN939.087, M. & C. Porter, 2005.

- +‡135/73.1. *Calendula officinalis* (Pot Marigold) (Melyn Mair). ♂Waste ground, Penderyn, SN951.080, M. & C. Porter, 2005.
- +‡135/74.1. *Ambrosia artemisiifolia* (Ragweed) (Bratlys). Roadside verge, Llangorse, SO134.274, M. & C. Porter, 2005. 2nd record.
- *‡147/7.1. *Arisarum proboscideum* (Mousetailplant) (Cynffon Llygoden). Shaded rough ground, Gurnos, SN778.094, A. & V. Lewis, 2005.
- +148/2.1. *Lemna gibba* (Fat Duckweed) (Llinad Crythog). Oxbow pool near Scethrog, SO105.248, M. & C. Porter, 2005.
- +151/1.13×14. *Juncus* × *surrejanus* (*J. articulatus* × *J. acutiflorus*) (a hybrid rush). Rough grassland, 1.5km SW Penderyn, SN936.076, M. & C. Porter, 2005.
- +151/1.6. *Juncus foliosus* (Leafy Rush) (Brwynen Ddeiliog). Edge of pool, small quarry 2km S of Elan Village, SN931.633; +Ditch in forestry plantation, W of Talybont Reservoir, SO097.193; + Oxbow pool, 3km W of Hay-on-Wye, SO198.408; all M. & C. Porter, 2005.
- +152/16.44×46. *Carex* × *fulva* (*C. hostiana* × *C. viridula*) (a hybrid sedge). Moorland, Waun Hirwaun 3km NW of Gwenddwr, SO048.453, M. & C. Porter, 2005.
- +152/16.8b. *Carex muricata* subsp. *lamprocarpa* (Small-fruited Prickly-sedge) (Hesgen Bigog Hwyr). Lane bank, Sennybridge, SN925.283, M. & C. Porter, 2005.
- +153.12.9. *Festuca vivipara* (Viviparous Sheep's-fescue) (Peiswellt Bywhiliog). Rocky outcrops, N slopes of Fan Nedd, SN923.196, M. & C. Porter, 2005.
- +‡153/14.3. *Vulpia myuros* (Rat's-tail Fescue) (Peisgwellt y Fagwyr). River shingle, S of Talybont Reservoir, SO088.177, M. & C. Porter, 2005.
- +153/59.4. *Hordeum secalinum* (Meadow Barley) (Haidd y Maes). Waste ground, Bwlch, SO146.223, W.J.H. Price & M. Porter, 2005.
- *‡158/24.ccp. *Allium cepa* (Onion) (Nionyn). Shingle along R. Usk near Scethrog, SO106.244, M. & C. Porter, 2005. 1st record.
- +162/5.1. *Neottia nidis-avis* (Bird's-nest Orchid) (Tegeirian Nyth Aderyn). Shaded road verge, 2km W of Llanddew, SO03.31, M. & C. Porter, 2005.
- +162/18.2×4. *Dactylorhiza* × *hallii* (*D. maculata* × *D. praetermissa*) (a hybrid orchid). Rough wet meadow, Glyn perfedd, SN952.093, M. & C. Porter & S. Marshall, 2005.

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

- +*Chara vulgaris* var. *papillata* (Common Stonewort). Artificial pond in coastal dunes, Starfish Pond, Pembrey Forest, SN391.015, R.D. & K.A. Pryce, 2005, NMW, det. N.F. Stewart, Three collections from different parts of this pond on this date.
- +*Chara contraria* var. *contraria* (Opposite Stonewort). Pond in limestone quarry, Crwbin, SN477.134, I.K. Morgan & R.N. Stringer, 2004, det. A. Hale.
- +*Chara vulgaris* var. *vulgaris* (Common Stonewort). Pond in limestone quarry, Crwbin, SN477.134, I.K. Morgan & R.N. Stringer, 2001, det. N.F. Stewart.
- +*Chara vulgaris* var. *hispidula* (Common Stonewort). Artificial pond in coastal dunes, 'Jim Davies Pond', Pembrey Burrows, SS423.994, BSBI meeting, 2005, NMW, det. N.F. Stewart. With *C. vulgaris* var. *papillata*.
- +1/1.1. *Huperzia selago* (Fir Clubmoss) (Cnwpl-fwsogl Mawr). One plant only on acid summit crag, Craig-y-Moch, Cynnant valley, SN807.448, BSBI meeting, 2005.
- +‡2/1.2. *Selaginella kraussiana* (Krauss's Clubmoss) (Cnwpl-fwsogl Krauss). Locally abundant over area of c.5×4m in damp, humid area shaded from the S by buildings on sparsely vegetated mown ground, Bishop's Palace garden, Abergwili (Carmarthen Museum), SN440.210, R.D. & K.A. Pryce, 2005.
- +4/1.3. *Equisetum variegatum* (Variegated Horsetail) (Marchrawnfen Fraith). Edge of pool in old sandstone quarry, Glyngwernen, Llanelli, SN534.025, I.K. Morgan, 2001, NMW. Few plants but increased to c.1×0.3m by 2005.

- +17/1/1×2. *Polystichum* × *bicknellii* (*P. setiferum* × *P. aculeatum*) (a hybrid shield-fern). One plant in ravine woodland, Penygraig Goch, near Myddfai, SN742.223, BSBI meeting, 2005, det. A.O. Chater & S.J. Thomas.
- +17/3.2×3. *Dryopteris* × *complexa* nothosubsp. *complexa* (*D. filix-mas* × *D. affinis* subsp. *affinis*) (a hybrid male-fern). Acid rock scree below quarry face, Glandy Quarry, SN166.287, BSBI meeting, 2005, det. A.O. Chater & S.J. Thomas.
- +17/3.3b. *Dryopteris affinis* subsp. *cambrensis* (Scaly Male-fern) (Marchredynen Euraid). Vegetating quarry spoil, Glandy Quarry, SN167.287, BSBI meeting, 2005, det. A.O. Chater & S.J. Thomas. Also at SN1670 2874.
- *17/3.3con. *Dryopteris affinis* morphotype *convexa* (Scaly Male-fern) (Marchredynen Euraid). Acid boundary bank, Glandy Farm, SN167.287, BSBI meeting, 2005, det. A.O. Chater & S.J. Thomas. 1st record of morphotype. Also recorded on the same date on acid bank at SN1680 2899 and at Glandy Quarry SN1670 2874.
- *17/3.3pal. *Dryopteris affinis* morphotype *paleaceo-lobata* (Scaly Male-fern) (Marchredynen Euraid). Hedgebank, Tireithin, Bancffosfelen, SN493.127, BSBI meeting, 2003, det. A.O. Chater & S.J. Thomas. 1st record of morphotype.
- +‡20/5.1×2. *Larix* × *marschlinsii* (*L. decidua* × *L. kaempferi*) (Hybrid Larch) (Llarwydden Groesryw). Planted in forestry plantation, adjacent to Glandy Farm, SN166.291, BSBI meeting, 2005.
- +27/1.1. *Ceratophyllum demersum* (Rigid Hornwort) (Cyrnddail Caled). ‡Northern end of disused reservoir, Lower Cwmoernant Reservoir, Carmarthen, SN419.213, P. Selby & R.D. Pryce, 2002, NMW, det. G. Hutchinson.
- +28/3.2. *Helleborus viridis* (Green Hellebore) (Crafanc-yr-arth Werdd). ‡Clump 3-4×2m, S of Aberdeunant, SN577.258, G. Cunliff, 2005.
- *‡30/1.4. *Papaver rhoeas* cv (Shirley Poppy). ♂Locally frequent on disturbed roadside by new Southern Distributor Road, Burry Port, SN460.012, V. & A. Lewis, 2005.
- *‡31/5.7. *Fumaria officinalis* var. *minor* (Common Fumitory) (Mwg-y-ddaear Cyffredin). Disturbed ground in derelict boat yard, Burry Port Harbour, SN442.004, R.D. Pryce & K.A. Cottingham, 2002, NMW, det. G. Hutchinson. 1st record of variety.
- *‡36/1.1b. *Urtica dioica* subsp. *galeopsisifolia* (Fen Nettle). Rubbish tip, old quarry N of Beacon Bog, SN31N, C. Cheffings, M. Godfrey & A.R. Vickery, 2005. 1st Welsh record for subspecies.
- *‡40/2.1×2. *Alnus* × *hybrida* (*A. glutinosa* × *A. incana*) (a hybrid alder). Self sown, with both parents in vicinity, amongst shrub plantings, Wildfowl & Wetlands Trust Centre Penclacwydd, Llanelli, SS533.986, Llanelli Naturalists, 1999, det. I.K. Morgan; +One self sown plant in shrub plantings around disused car park, both parents planted in vicinity, Ffos-las former opencast site, Trimsaran, SN451.059, BSBI meeting, 2005, det. A.O. Chater & S.J. Thomas. 1st & 2nd records.
- +‡40/2.rub. *Alnus rubra* (Red Alder) (Gwernen Goch). One self sown plant in vicinity of shrub plantings around disused car park, Ffos-las former opencast site, Trimsaran, SN452.060, BSBI meeting, 2005, det. A.O. Chater. 2nd record.
- +‡43/1.13. *Chenopodium ficifolium* (Fig-leaved Goosefoot) (Troed-yr-ŵydd Dail Ffigys). Rank weedy soil bund, Eve's powerline yard, W of Llanddowror, SN234.120, R.D. Pryce; +Felin Newydd, E of Abernant, SN32L, C. Cheffings, M. Godfrey & A.R. Vickery; both 2005.
- +‡45/2.2. *Claytonia sibirica* (Pink Purslane) (Porpin Pinc). ♂Abundantly self-sowing garden weed, 9, Ralph Terrace, Llanelli, SS504.997, A. Ratcliffe, 2005, det. R.D. Pryce.
- +45/3.1d. *Montia fontana* subsp. *chondrosperma* (Blinks) (Porpin y Ffynnon). Mown amenity grassland, N of West Inner Harbour, Burry Port, SN443.006, BSBI AGM field meeting, 2005, NMW, det. G. Hutchinson.
- +46/17.4. *Spergularia rubra* (Sand Spurrey) (Troellig Arfor Coch). Craig Llywel, Crychan Forest, SN838.373, I.K. Morgan, 2005.
- +47/8.13×19. *Rumex* × *pratensis* (*R. crispus* × *R. obtusifolius*) (Meadow Dock) (Tafol y Maes). Farmyard area, Glandy Farm, SN163.289, BSBI meeting, 2005.
- *47/8.14×15. *Rumex* × *ruhmeri* (*R. conglomeratus* × *R. sanguineus*) (a hybrid dock). Growing with both parents in disturbed dunes in vicinity of new pond near the inland control tower, R.A.F. Pembrey Sands, Tywyn Burrows, SN375.049; +Growing with both parents in wet meadow, Felin-



Above: Members attending the 2005 BSBI Welsh AGM are instructed in aquatic plant identification by Richard Lansdown at Denmark Farm on one of the Saturday field excursions. Photo: Ian Bennallick.
Below: Another group await in anticipation as Andy Jones 'fishes' for upland aquatic plants from Llyn Hir, one of the Teifi Pools, on Sunday following the Welsh AGM. Photo: Richard Pryce.





Above: *Scirpoides holoschoenus*
(Round-headed Club-rush) and, right:
specimens of *Equisetum ramosissimum*
(Branched Horsetail), between
Corporation Road and the River Usk,
Newport, v.c. 35.
See '*Equisetum ramosissimum* Desf. –
Branched Horsetail'.
Photos: Trevor Evans.





Left: *Cytisus scoparius* subsp. *maritimus* (Prostrate Broom) in flower at Trehill, Marloes, v.c. 45, on 8th May 2004.

Lower left: Old Prostrate Broom plant north of Musselwick Sands, Marloes, v.c. 45, on 30th May 2005.

Below: Large dome-shaped Prostrate Broom at Kete, Dale, v.c. 45, on 8th June 2005.

See 'Some highlights of botanical recording in Pembrokeshire in 2005'. Photos: Stephen Evans.



Far left: Sam Thomas, *Dryopteris affinis* morphotype *complexa* and Ken Trewren, Upper Forest, Lampeter, v.c. 46, 12th July 2005.

See 'A Cardiganshire *affinis* Hunt'. Photo: Arthur Chater.

Left: Dr Gabriel Hemery, BSBI Director of Development, photographing *Anacamptis morio* (Green-winged Orchid), discovered at a new site by Burry Port Harbour during the BSBI AGM based at Ferryside, v.c. 44, but since destroyed by the construction of a temporary bund to hold dredged silt from the harbour.

See 'Welsh Plant Records - 2005'. Photo: Richard Pryce.

Right: A fertile coning shoot of *Lycopodiella inundata* (Marsh Clubmoss) at Brynberian Moor, Pembrokeshire, v.c. 45, in September 2004.
Photo: Trevor Dines.



PLANTLIFE

Below: A very hardy group of Plantlife Flora Guardians and BSBI members attempt to survey Marsh Clubmoss in appalling conditions at Llyn Cwmffynnon, Caernarfonshire, v.c. 49, in November 2005.
Photo: Trevor Dines.



- y-Coed farm, near Taliaris, SN646.268; both BSBI meeting, 2005, det. A.O. Chater & H.J. Killick, 1st & 2nd records.
- +‡047/3.1. *Fagopyrum esculentum* (Buckwheat) (Gwenith yr Hydd). †In Tir Gofal 'Wildlife Crop' field, Acheth isaf, near Brechfa, SN594.353, I.K. Morgan, 2003, NMW, conf. G. Hutchinson. Several self sown plants persisting to following year when recorded by R.D. Pryce *et al.* in 2004.
- +51/1.10. *Hypericum humifusum* (Trailing St John's-wort) (Eurinllys Ymdaenol). Bynea, SS59J, J.A. Green & M. Godfrey, 2005.
- +57/1.9a. *Viola palustris* subsp. *palustris* (Marsh Violet) (Fioled y Gors). Rushy meadow, NE of Ystrad-fai, SN523.044, H.J. Killick, 2005.
- +61/2.4. *Salix triandra* var. *hoffmanniana* (Almond Willow) (Helygen Dribrigerog). By River Tywi, W of Capel Dewi, SN448.203, B. Stewart, 2005, NMW, det. G. Hutchinson. 2nd record.
- +61/2.9×10. *Salix* × *sericans* (*S. viminalis* × *S. caprea*) (Broad-leaved Osier) (Helygen-wiail Lydanddail). Shrub plantings, Nant-y-Ci, W of Fferws Hill, Tycroes, SN603.117, I.K. Morgan, 2005, NMW, det. G. Hutchinson.
- +61/2.9×11. *Salix* × *smithiana* (*S. viminalis* × *S. cinerea*) (Silky-leaved Osier) (Helygen Dail Sidan). One bush by access track to Cynnant Farm, SN808.441, BSBI meeting, 2005.
- *62/10.2. *Matthiola sinuata* (Sea Stock) (Murwyll Arfor). One plant (in flower) on yellow dunes, Ginst Point, Laugharne, c.SN32.08, J. & C. Rees, 2005. 1st record.
- *62/12.1×2. *Rorippa* × *sterilis* (*R. nasturtium-aquaticum* × *R. microphylla*) (Hybrid Water-cress) (Berwr-y-dŵr Croesryw). Abundant (parent species not seen) in ditched stream across field, Cwrtbrynbeirdd, near Trapp, SN665.180, det. A.O. Chater G.M. Kay & H.J. Killick; +Abundant in drainage ditch by farmstead, Cynnant Farm, SN810.444; both BSBI meeting, 2005. 1st & 2nd records.
- +62/12.3. *Rorippa islandica* (Northern Yellow-cress) (Berwr Melyn Gogleddol). +‡Former refuse tip, Cors Helyg, Rhosaman, SN741.135, I.K. Morgan & R.D. Pryce, 1991, NMW; +‡One plant in very weedy, disturbed area used for storing soils, etc., Traveller's Rest Road Construction Site, Carmarthen, SN382.190, R.D. Pryce, 2002; +‡Several plants on spoil derived from pipe-line construction, Gwndwn bach, Four Roads, SN458.092, BSBI meeting, 2004; +‡Frequent by farmhouse in gravelly farmyard, Penygraig Goch, near Myddfai, SN745.224, V. & T. Lewis & R.D. & K.A. Pryce, 2004, NMW, conf. G.Hutchinson; +‡At least four plants in gravelly hardstanding in gateway, Penllwyn isaf, Llannon, SN524.092, R.D. & K.A. Pryce, 2005; +‡Occasional on track to farm, Access track to Cynnant Farm, SN809.407, BSBI meeting, 2005.
- +62/12.5. *Rorippa sylvestris* (Creeping Yellow-cress) (Berwr Melyn Ymlusgol). Plant c.1×1m on river shingle, upper Gwendraeth Fawr, Blaenhirwaun Colliery site, Cefneithin, SN546.132, R.D. Pryce & K.A. Cottingham, 2001, NMW, det. G. Hutchinson.
- +62/22.2. *Erophila verna* s.s. (Common Whitlowgrass) (Llysiau'r-bystwn Cynnar). +Track through coastal dunes, Pembrey Forest, SN394.021; +Old quarry, Furnace Quarry, Llanelli, SN503.017; +Old limestone quarry, N of Blaenpant, SN577.160; +Pavement weed, N of roundabout, Llandeilo: A40/B4302 junction, SN633.233; +Vacant ground, E of Morfa Roundabout, Morfa, Llanelli, SS519.988; all I.K. Morgan, 2005, NMW, det. T.C.G. Rich.
- +62/22.3. *Erophila glabrescens* (Glabrous Whitlowgrass) (Llysiau'r-bystwn Llyfn). Waste ground, Kidwelly, SN406.068; +Vacant ground, E of Morfa Roundabout, Morfa, Llanelli, SS519.988; both I.K. Morgan, 2005, NMW, det. T.C.G. Rich.
- +‡62/28.1. *Thlaspi arvense* (Field Penny-cress) (Codywasg y Maes). One plant only, near Llandeilo Roundabout, SN633.233, I.K. Morgan, 2005.
- +‡62/35.2. *Sinapis alba* (White Mustard) (Mwstard Gwyn). †In Tir Gofal 'Wildlife Crop' field, Acheth isaf, near Brechfa, SN594.353, I.K. Morgan, 2003, NMW, conf. G. Hutchinson. One plant persisting or self-sown, recorded the following year by R.D. Pryce *et al.*
- *‡63/1.2. *Malva alcea* (Greater Musk-mallow) (Hocysen-fwsg Fawr). †Three plants, Shidenyn farmyard and road verge between Felin Newydd and Penygaer Farm, SN352.231, C. Cheffings, M. Godfrey & A.R. Vickery, 2005.
- +69/6.1. *Anagallis tenella* (Bog Pimpernel) (Gwlyddyn-Mair y Gors). Locally abundant in NVC M29 soakway, Glandy Farm, SN164.289, BSBI meeting, 2005.

- *‡71/HYD.mac. *Hydrangea macrophylla* (Hydrangea) (Trilliw ar Ddeg). ♂One plant in fly-tipped rubbish on vacant ground, WDA development site, Delta Lake, Machynys, SS508.986, G. Hutchinson, I.K. Morgan & R.D. Pryce, 2004; +♀Beacon Bog tetrad, SN31N, C. Cheffings, M. Godfrey & A.R. Vickery, 2005. 1st & 2nd records.
- *‡74/1.1×chi×ros. *Astilbe* × *arendsii* (*A. japonica* × *A. chinensis* × *A. rosea*) (Red False-buck's-beard). Several flowering plants in disused silica quarry, Mynydd-y-Garreg, Kidwelly, SN435.085, V. & A. Lewis, 2005. 2nd record.
- +75/8.28. *Rubus scissus* (a bramble). W of Hermon, SN35.30, G. Hutchinson & R.D. Pryce, 1994, **NMW**, det. A. Newton.
- *75/8.32. *Rubus vigorosus* (a bramble). Edge of *Molinia* dominated grassland, Penygraig Goch, near Myddfai, SN743.225, BSBI meeting, 2005, det. M. Porter. 1st record. Occasional at this farm.
- +75/8.34. *Rubus albionis* (a bramble). Disused railway siding, Pensarn Road, Carmarthen, SN412.185, G. Hutchinson, 1987, **NMW**, det. A. Newton.
- *‡75/9.7. *Potentilla recta* (Sulphur Cinquefoil) (Pummalen Dalsyth). One plant at base of hedge, Ty'r-waun, Pwll, Llanelli, SN470.013, I.K. Morgan, 2005. 1st record.
- +75/9.13×14. *Potentilla* × *suberecta* (*P. erecta* × *P. anglica*) (a hybrid cinquefoil). Felin Newydd, E of Abernant, SN32L, C. Cheffings, M. Godfrey & A.R. Vickery, 2005.
- +75/21.4×12. *Rosa* × *irregularis* (*R. arvensis* × *R. canina*) (a hybrid rose). Bynea, SS559.989, J.A. Green & M. Godfrey, 2005, det. G.M. Kay.
- +75/22.11. *Prunus padus* (Bird Cherry) (Coeden Geirios yr Adar). Self sown from plantings in woodland margins, S of Cross Hands, SN569.110, V. & A. Lewis, 2005.
- +75/28.7. *Sorbus intermedia* (Swedish Whitebeam) (Cerddinen Sweden). Limestone aggregate surfaced development plateau, Morfa, Llanelli, SS512.985, R.D. Pryce, 2004. Several young plants self sown from nearby plantings. Previously reported by I.K. Morgan. Also self sowing from nearby plantings at SS5125 9863 and a single self-sown plant recorded by Llanelli Naturalists on the sand dunes of North Dock Spit LNR at SS5000 9864 on 26/5/2005 (det. G. Hutchinson, **NMW**).
- +‡75/32.11×18. *Cotoneaster* × *suecicus* 'Coral Beauty' (Swedish Cotoneaster cultivar). One strong bush to about 2m growing through chain-link fence, boundary of Whitland Creamery site, SN203.164, R.D. Pryce & K.A. Cottingham, 2002, **NMW**, det. G. Hutchinson. 2nd record although predates first (31/5/03, Pwll, Llanelli)
- +‡75/32.18. *Cotoneaster conspicuus* (Tibetan Cotoneaster) (Cotoneaster Tibet). ♂One small shrub recently cleared by council workmen (but leaving roots), self sown in slipway wall, Carmarthen Quay, SN409.197, R.D. Pryce & K.A. Cottingham, 2002, **NMW**, det. G. Hutchinson. 3rd record but first of self-sown plant.
- +‡75/32.33. *Cotoneaster simonsii* (Himalayan Cotoneaster) (Cotoneaster Simons). Felin Newydd, E of Abernant, SN350.229, C. Cheffings, M. Godfrey & A.R. Vickery, 2005.
- +‡75/32.35. *Cotoneaster rehderi* (Bullate Cotoneaster) (Cotoneaster Deilgyrch Rehder). Planted in shrubbery, Prince Phillip Hospital, Llanelli, SN515.012, R.D. Pryce, 2002, **NMW**, det. G. Hutchinson.
- +‡75/32.mai. *Cotoneaster mairei* (Maire's Cotoneaster) (Cotoneaster Maire). ♂One self-sown bush by wall of derelict locomotive shed on factory site, Old Castle Works, Llanelli, SN498.001, R.D. Pryce, 2005, **NMW**, det. G. Hutchinson. 2nd record.
- 76/ENT.gig. *Entada gigas* (Sea-bean). Amongst drift on high-tide mark on sandy beach, Cefn Sidan, Pembrey, SN3.0, L. Hinder, 2001, **NMW**, det. G. Hutchinson. 2nd record for SN3.0. Comm. P. Hinder (father).
- +77/7.1. *Anthyllis vulneraria* (Kidney Vetch) (Plucen Felen). One cream-flowered plant, c.0.5×0.5m in size, on unstable, near-vertical, shaly, sea cliff, W of Telpyn Point between Marros and Amroth, SN180.073, R.D. & K.A. Pryce, 2005.
- *77/16.3. *Ononis spinosa* (Spiny Restharrow) (Tagaradr Pigog). ‡Sparsely vegetated opencast spoil, Ffos-las former opencast site, Trimsaran, SN453.062, I.K. Morgan, 1999. ?Introduced in seed mix; †One plant on vegetating verge of new road, self sown presumably from plants introduced to the

- Millennium Coastal Park c.250m away, Southern Distributor Road, Burry Port, southern side, SN450.004, R.D. Pryce, 2005. 1st & 2nd records.
- +‡77/18.2. *Medicago sativa* subsp. *sativa* (Lucerne). Frequent along c.50m of road verge, Llangadog, SN691.284, V. & A. Lewis, 2005.
- +81/1.3b. *Lythrum portula* subsp. *longidentata* (Water-purslane) (Troed y Gywen). *Molinia* dominated acid grassland, Glandy Farm, SN167.291, BSBI meeting, 2005, det. A.O. Chater.
- +‡82/36.1. *Erucastrum gallicum* (Hairy Rocket) (Roced Flewog). ♂One plant in very weedy area of disturbed area used for storing soils, etc, Traveller's Rest road construction site, Carmarthen, SN382.190, R.D. Pryce, 2002, NMW, det. T.C.G. Rich. 3rd record.
- +‡84/1.12. *Epilobium brunnescens* (New Zealand Willowherb) (Helyglys Seland Newydd). On quarry track, Glandy Quarry, SN162.287, BSBI meeting, 2005.
- *84/1.2×8. *Epilobium* × *floridulum* (*E. parviflorum* × *E. ciliatum*) (a hybrid willowherb). Working limestone quarry, Cilrychen Quarry, Llandybie, SN616.166, A.O. Chater, K.A. Cottingham & R.D. Pryce, 2001; +Rushy area in field, Cwrtbrynybeirdd, near Trapp, SN665.178, BSBI meeting, 2005; both det. A.O. Chater. 1st & 2nd records.
- *84/1.3×6. *Epilobium* × *aggregatum* (*E. montanum* × *E. obscurum*) (a hybrid willowherb). One plant at woodland edge, Penygraig Goch, near Myddfai, SN743.225, BSBI meeting, 2005, det. A.O. Chater. 1st record.
- +84/1.3×8. *Epilobium* × *interjectum* (*E. montanum* × *E. ciliatum*) (a hybrid willowherb). Wet meadow, Felin-y-Coed farm, near Taliaris, SN643.266, BSBI meeting, 2005, det. A.O. Chater & H.J. Killick. 3rd record.
- +84/1.6×8. *Epilobium* × *vicinum* (*E. obscurum* × *E. ciliatum*) (a hybrid willowherb). Wet meadow, Felin-y-Coed farm, near Taliaris, SN643.266, BSBI meeting, 2005, det. A.O. Chater & H.J. Killick. 6th record.
- *84/1.8×9. *Epilobium* × *fossicola* (*E. ciliatum* × *E. palustre*) (a hybrid willowherb). Rushy area in field, Cwrtbrynybeirdd, near Trapp, SN665.178; +Edge of willow scrub, Pwll Fly Ash Lagoon SSSI, SN471.010; both BSBI meeting, 2005, det. A.O. Chater. 1st & 2nd records.
- +‡84/5.1. *Fuchsia magellanica* (Fuchsia) (Ffiwsia). ♂Felin Newydd, E of Abernant, SN32L, C. Cheffings, M. Godfrey & A.R. Vickery, 2005.
- +84/6.1×2. *Circaea* × *intermedia* (*C. luteiana* × *C. alpina*) (Upland Enchanter's-nightshade) (Llyisiau-Steffan yr Ucheldir). Large patch at base of lane to Garn-big, SN584.159, I.K. Morgan, 2005.
- +‡93/2.1. *Parthenocissus quinqueflora* (Virginia-creeper) (Dringwr Fflamgoch). ♂Strong mound c.2m across with garden waste at edge of lay-by, SE end of Saron, SN603.122, I.K. Morgan, 2005, NMW, det. G. Hutchinson.
- ‡102/1.4. *Oxalis exilis* (Least Yellow-sorrel) (Suran Felen Fach). Self sown and locally frequent in vicinity of quarantine glass-houses, also in glass house borders and plant-pots, National Botanic Garden of Wales, Middleton, Llanarthne, SN520.184, BSBI AGM field meeting, 2005, det. A.O. Chater.
- +‡102/1.6. *Oxalis stricta* (Upright Yellow-sorrel) (Suran Felen Unionsyth). ♂One self sown plant only on river shingle, Felin-y-Coed farm, near Taliaris, SN646.269, BSBI meeting, 2005, det. A.O. Chater & G.M. Kay.
- +‡103/1.14. *Geranium pyrenaicum* (Hedgerow Crane's-bill) (Pig-yr-aran y Gwrych). One plant in flower by small lay-by on road verge of A40, Pont Gam, Gwydderig Valley between Llandoverly and Halfway, SN805.345, R.D. Pryce, 2004, NMW.
- +‡107/41.2. *Heraclium mantegazzianum* (Giant Hogweed) (Efwr Enfawr). ♂Cors Farlais tetrad, SN63S, C. Cheffings & G. Moss, 2005.
- ‡110/04.1. *Hyocyanus niger* (Henbane) (Llewgy yr Iâr). ‡Disturbed ground on building site, Mynyddy-Garreg, Kidwelly, SN422.077, V. & A. Lewis, 2004. Rosettes seen in 2004, a dozen plants in flower on 6/7/2005.
- *111/3.2a. *Calystegia sepium* subsp. *sepium* f. *colorata* (a variety of Hedge Bindweed) (Taglys y Perthi). Field margins, Felin-y-Coed farm, near Taliaris, SN647.269, BSBI meeting, 2005, det. A.O. Chater. 1st record for variety. Frequent in this locality to the exclusion of f. *sepium*.

- +116/4.3. *Symphytum tuberosum* (Tuberous Comfrey) (Cyfardwf Glorog). ‡Patch c.3sq.m in limestone woodland, Banc-y-Mansel Quarry, Foelgastell, SN532.150, V. & A. Lewis, 2005.
- +118/1.5×6. *Stachys* × *ambigua* (*S. sylvatica* × *S. palustris*) (Hybrid Woundwort) (Briwlys Croesryw). Clochyrie, SN528.049, H.J. Killick, 2005.
- +‡118/5.6. *Lamium amplexicaule* (Henbit Dead-nettle) (Marddanhadlen Goch Ddeilgron). Felin Newydd, E of Abernant, SN32L, C. Cheffings, M. Godfrey & A.R. Vickery, 2005.
- +‡118/12.1. *Ajuga reptans* var. *atropurpurea* (Bugle) (Bugle). ♂On spoil heap in old silica quarry, Mynydd-y-Garreg, Kidwelly, SN436.085, V. & A. Lewis, 2005. 2nd record.
- +‡118/13.1. *Nepeta cataria* (Cat-mint) (Mintys y Gath). ♂One large plant, subsequently killed by herbicide, at base of wall, rear of Swansea Road, Llanelli, SN513.006, I.K. Morgan, 2005.
- +‡118/2.1a. *Ballota nigra* (Black Horehound) (Marddanhadlen Ddu). At edge of disused, vegetating tarmac car-park, Pembrey Burrows Local Nature Reserve, SS414.993, BSBI AGM field meeting, 2005. 1st recent record.
- +118/23.5. *Mentha pulegium* (Pennyroyal) (Brymlys). ♂Two plants on restored opencast site in sparsely vegetated spoil, Garnant Golf course, SN683.129, A. Stevens, 2005, conf. R.D. Pryce. Also frequent over an area of sparsely vegetated spoil c.3×4m at SN6839 1278.
- +120/1.6. *Callitriche brutia* s.l. (Pedunculate Water-starwort) (Brigwlydd Coesog). Pond, on N side of '1000yd straight', Pendine Ranges, SN265.083, R.D. Pryce, 2002, NMW, det. R.V. Lansdown, determinable to sensu lato only.
- +120/1.7. *Callitriche brutia* subsp. *lacustris* (Intermediate Water-starwort) (Brigwlydd Canolig). Occasional in backwater with *C. stagnalis*, River Bran, Llanfair-ar-y-Bryn, Llandovery, SN772.352, R.D. Pryce, 2004, NMW, det. N.F. Stewart.
- +‡124/1.5. *Verbascum phlomoides* (Orange Mullein) (Pannog Oren). Several plants, two flowering, in sandy grassland, Pembrey Harbour, SN435.002, V. & A. Lewis, 2005.
- *‡124/13.mar. *Linaria maroccana* (Annual Toadflax) (Llin-y-llyffant Morocco). Waste ground, Burry Port Harbour, SN443.003, V. & A. Lewis, 2005. 1st record. With *Centaurea cyanus*, *Viola tricolor* subsp. *tricolor*, *Sedum album* and *S. rupestre*.
- +‡124/15.1. *Erinus alpinus* (Fairy Foxglove) (Clychau'r Tylwyth Teg). ♂Several plants, self-sown from established plants in wall above, in gravel surface below stone wall, Llwyn Ifan, Porthyrhyd, SN525.152, R. & R. Wallis, K.A. Cottingham and R.D. Pryce, 2002; +56 plants in full flower, mostly on south-facing side of stone boundary wall, back lane off Goring Road, Llanelli, SN504.006, I.K. Morgan, 2005.
- +‡124/16.19. *Veronica agrestis* (Green Field-speedwell) (Rhwyddlwyn-y-maes Gwyrdd). Several plants growing on gravelly car park with *V. polita* and *V. persica*, Kidwelly Quay, SN398.064, Llanelli Naturalists meeting, 2005, NMW, det. G. Hutchinson & R.D. Pryce.
- *124/16.9. *Veronica scutellata* var. *scutellata* (Marsh Speedwell) (Rhwyddlwyn Culddail y Gors). *Molinia* dominated acid grassland, Glandy Farm, SN167.290, BSBI meeting, 2005, det. A.O. Chater. 1st record for the variety.
- +124/20.1. *Euphrasia rostkoviana* [Common Eyebright] (Effros Blodau Mawr). Mynydd Figin tetrad, SN63A, C. Cheffings, M. Godfrey & G. Moss, 2005.
- 124/20.1b. *Euphrasia rostkoviana* subsp. *montana* [Mountain Eyebright] (Torfagi Mynyddog). About 100 plants over area c.10×10m, near hedge in dry mesotrophic grassland field headland, Penygraig Goch, near Myddfai, SN747.225, Wildlife Trust for South and West Wales meeting, coll: R.D. Pryce, 2005, NMW, det. G. Hutchinson. 2nd record for subsp. (not a new hectad record).
- +124/20.9. *Euphrasia confusa* [Dwarf Eyebright] (Effros Gliniog). Occasional in short, dry, formerly dune grassland, Ferry Point, Llansteffan, SN362.115, K.A. & R.D. Pryce, 2002, NMW, det. G. Hutchinson.
- 124/23.1. *Parentucellia viscosa* (Yellow Bartsia) (Gorudd Melyn). c.10 plants in restored opencast site on sparsely vegetated spoil, Garnant Golf course, SN683.129, A. Stevens, 2005, conf. R.D. Pryce. A few plants last seen at this location (the only inland site in the vice-county) in 1992; about 50 plants were present when they first appeared in 1991.

- +‡124/4.2×3. *Mimulus × robertsii* (*M. guttatus × M. luteus*) (Hybrid Monkeyflower) (Blodyn-mwnici Croesryw). One plant on river shingle, Felin-y-Coed farm, near Taliaris, SN646.269, BSBI meeting, 2005, det. A.O. Chater. 4th record. Another plant on a shoal further downstream.
- 130/03.1. *Sherardia arvensis* (Field Madder) (Mandon Las yr Ŷd). Weedy flowerbed/sculpture, Llanelli, North Dock Millennium Coastal Park Office, SS496.999, R.D. & K.A. Pryce, 2004. Sculpture in need of maintenance - includes piles of cockle shells, chippings, rope, boulders, buoys and driftwood but now very weedy. Several separate plants of *Sherardia arvensis*; Edge of path on mown grassland at reed-screen observation point, New Grounds, National Wetlands Centre, Penclacwydd, Llanelli, SS533.985, R.D. Pryce & B. Stewart, 2004.
- +‡133/1.2. *Valerianella carinata* (Keeled-fruited Cornsalad) (Gwylaeth-yr-oen Ffrwythau Rhychog). Two or three plants growing on wall behind yacht club house, Llansteffan Yacht Club, SN365.104, 2004; +Three plants at edges of pavement, Carmarthen, Old Station Yard, SN415.199, 2005; +Locally abundant in pavement cracks and wall footings, Pont-Tyweli, by Fire Station, SN415.402, 2005, NMW, conf. G. Hutchinson; all R.D. & K.A. Pryce.
- +135/06.3×9. *Cirsium × forsteri* (*C. dissectum × C. palustre*) (a hybrid thistle). One plant only in *Molinia* dominated grassland, Penygraig Goch, near Myddfai, SN741.226, BSBI meeting, 2005, det. A.O. Chater & R.D. Pryce. 4th record.
- [‡135/1.1. *Echinops sphaerocephalus* (Glandular Globe-thistle) (Ysgallen Bengrwn). The 1998 record from Pembrey Country Park, SN406.010 published in *Welsh Bulletin* 76: 33 (2005) was redet. by G. Hutchinson, 2005, as *Echinops bannaticus*. NMW (see below).]
- ‡135/1.3. *Echinops bannaticus* (Blue Globe-thistle) (Ysgallen Bengron Las). On SW facing sandy bank, Pembrey Country Park, SN406.010, 1998; +South-facing woodland edge on stable coastal dune, Pembrey Country Park, NW of riding stables, SN407.011, 2005, NMW, det. G. Hutchinson. The 1998 record was published in error as *E. sphaerocephalus* (*Welsh Bulletin* 76: 33 (2005)); + Large clump at edge of cultivated area in small, informal, gravel car park, S of Craig Fawr, Troserch, Llangennech, SN546.043, I.K. Morgan, 2005, NMW, det. G. Hutchinson. A throw-out or deliberate planting? 1st & 2nd records.
- *135/16.1. *Leontodon autumnalis* var. *coronopifolius* (Autumn Hawkbit) (Peradyl yr Hydref). Neutral grassland, Felin-y-Coed farm, near Taliaris, SN644.270, BSBI meeting, 2005, det. A.O. Chater. 1st record for variety.
- +‡135/22.1. *Lactuca serriola* (Prickly Lettuce) (Letusen Bigog). One plant on disturbed roadside by new Southern Distributor Road, Burry Port, SN454.005, V. & A. Lewis, 2005; +One herbicided plant over 1m tall growing in angle between house wall and side road. Felinfoel, Llanelli, SN515.019, I.K. Morgan, 2005. 1st record localised to SN50 although Hamer reported the species from 'Llanelli' in 1912 which could have been from this hectad.
- 135/22.2. *Lactuca virosa* (Great Lettuce) (Letusen Chwerw). †Self sown from introduced plants in several locations in non-public area between medicinal herb garden and quarantine glass-houses, National Botanic Garden of Wales, Middleton, Llanarthne, SN520.183, BSBI AGM field meeting, 2005.
- +135/25.22. *Taraxacum rubicundum* (a dandelion) (Dant y Llew). Disturbed coastal dunes, Ferryside, SN367.106, G. Hutchinson & R.D. Pryce, 2004, NMW, det. A.J. Richards. 3rd record. Llanelli Naturalists meeting.
- +135/25.55. *Taraxacum bracteatum* (a dandelion) (Dant y Llew). Few plants in disturbed ground in palisade-fenced compound to E of East Inner Harbour, Burry Port, SN446.003, BSBI AGM field meeting, 2005, det. Bert Reid & R.J. Pankhurst; + Occasional plants widespread over dune grassland, Pembrey Burrows Local Nature Reserve, SS412.995, BSBI AGM field meeting, 2005, det. Bert Reid.
- +135/25.83. *Taraxacum unguilobum* (a dandelion) (Dant y Llew). Shale bank by farm track, Penlan Argoed Farm, Carmarthen, SN412.214, R.D. & K.A. Pryce, 2004, NMW, det. A.J. Richards.
- +135/25.90. *Taraxacum hamiferum* (a dandelion) (Dant y Llew). Shady footpath bank on coastal cliff, S of Llanstephan, SN348.099, R.D. Pryce & K.A. Cottingham, 2002, NMW, det. A.J. Richards.

- +135/25.99. *Taraxacum quadrans* (a dandelion) (Dant y Llew). By footpath at edge of bramble thicket on right bank of Afon Gwili, Bronwydd, SN417.246, R.D. & K.A. Pryce, 2005, NMW, det. A.J. Richards.
- +135/25.121. *Taraxacum cordatum* (a dandelion) (Dant y Llew). Weed in lane between houses, Station Road, Llangennech, SN562.015, R.D. Pryce, 2004, NMW, det. A.J. Richards.
- +135/25.126. *Taraxacum dahlstedtii* (*T. stenoglossum* Brenner) (a dandelion) (Dant y Llew). Site of demolished power station, Burry Port, SN452.003, R.D. & K.A. Pryce, 2004, NMW, det. A.J. Richards.
- +135/25.143. *Taraxacum insigne* (a dandelion) (Dant y Llew). Fasciated weed in lane between houses, Station Road, Llangennech, SN562.015, R.D. Pryce, 2004, NMW, det. A.J. Richards.
- +135/25.146. *Taraxacum lacerifolium* (a dandelion) (Dant y Llew). Edge of rye-grass silage field, Penlan Argoed Farm, Carmarthen, SN412.219, R.D. & K.A. Pryce, 2004, NMW, det. A.J. Richards.
- *135/25.155. *Taraxacum leucopodium* (a dandelion) (Dant y Llew). Moderately fertile and well drained grazing/hay field, some winter grazing, no record of recent ploughing, Waunygwiall Fach Farm, Four Roads, SN447.086, A. Stevens, 2004, NMW, det. A.J. Richards. 1st record. Good material of this scarce plant.
- +135/25.172. *Taraxacum oblongatum* (a dandelion) (Dant y Llew). Weed in lane between houses, Station Road, Llangennech, SN562.015, R.D. Pryce, 2004, NMW, det. A.J. Richards.
- +135/25.209. *Taraxacum lepidum* (a dandelion) (Dant y Llew). Weed in lane between houses, Station Road, Llangennech, SN562.015, R.D. Pryce, 2004, NMW, det. A.J. Richards. 2nd record.
- +†135/5.1. *Leycesteria formosa* (Himalayan Honeysuckle) Bachgen Llwm). At least one large plant in flower on vacant ground on NW side of platform at south-western end of station, Llandovery Station, SN762.344, R.D. & K.A. Pryce, 2005.
- +135/62.10×11. *Senecio* × *ostenfeldii* (*S. jacobaea* × *S. aquaticus*) (a hybrid ragwort). Beacon Bog tetrad, SN31N, C. Cheffings, M. Godfrey & A.R. Vickery, 2005.
- *†135/62.3. *Senecio inaequidens* (Narrow-leaved Ragwort) (Creulys Gulddail). About 3 large plants in disturbed ground at E end of site, Burry Port Southern Distributor Road construction site, SN453.004, I.K. Morgan, 2005, NMW.
- *†135/79.2. *Helianthus tuberosus* (Jerusalem Artichoke) (Blodyn-yr-haul Oddfog). One large plant, c.2m across, in derelict ground used as council ash tip in 1960s, site of proposed new rugby stadium, near Pemberton, Llanelli, SS530.999, I.K. Morgan, 2005, NMW.
- +†135/80.2. *Galinsoga quadriradiata* (Shaggy-soldier) (Galinsoga Blewog). †One plant only as weed in vegetable garden, Brynhawddgar, Cilsan, SN598.232, D. Smith, 2005, NMW.
- +142/1.15. *Potamogeton bertholdii* (Small Pondweed) (Dyfrllys Bach). +Rare in backwater, River Bran. Llanfair-ar-y-Bryn, Llandovery, SN772.352, R.D. Pryce, 2004, NMW, det. N.F. Stewart; +Occasional with abundant *Juncus bulbosus* (aquatic form) in small conservation pond in rush-dominated field, Penygraig Goch, near Myddfai, SN743.224, BSBI meeting, 2005, det. A.O. Chater.
- +142/1.9. *Potamogeton perfoliatus* (Perfoliate Pondweed) (Dyfrllys Trydwl). Patch c5×3m growing on a riffle at about 70cm depth (water level quite low at time of record) in River Tywi, Barley Mount meander, Llanarthne, SN527.211, B. Stewart, 2005, NMW, det. R.V. Lansdown. Associates include *Ranunculus penicillatus* ssp. *penicillatus* and *Fontinalis antipyretica*.
- +147/5.2. *Arum italicum* (Italian Lords-and-Ladies) (Pidyn-y-gog Eidalaid). Large clumps dumped from gardens by old railway, Pontyberem, SN50.11, I.K. Morgan & R.N. Stringer; +One large and several smaller clumps, Furnace, SN504.016, I.K. Morgan; both 2005.
- *151/1.13×14. *Juncus* × *surrejanus* (*J. articulatus* × *J. acutiflorus*) (a hybrid rush). *Molinia* dominated acid grassland, Glandy Farm, SN164.289; +Frequent in rushy field (with both parents), Cwrwbrynybeirdd, Near Trapp, SN665.180; both BSBI meeting, 2005, det. A.O. Chater. 1st records.
- *151/1.17. *Juncus conglomeratus* var. *subuliflorus* (Compact Rush) (Brwynen Bellennaidd). Several plants in wet woodland, Penygraig Goch, near Myddfai, SN743.225, BSBI meeting, 2005, det. A.O. Chater. 1st record for variety.

- +151/1.26. *Juncus effusus* var. *subglomeratus* (a variety of Soft-rush) (Brwynen Babwyr). Rush-dominated field, Glandy Farm, SN167.291, BSBI meeting, 2005, det. A.O. Chater.
- +151/1.26×27. *Juncus* × *kern-reichgeltii* (*J. effusus* × *J. conglomeratus*) (a hybrid rush). Rush-dominated field, Glandy Farm, SN167.291, BSBI meeting, 2005.
- +152/16.18. *Carex dioica* (Dioecious Sedge) (Hesgen Ysgar). Several colonies in M24 and M5 acid grassland, *Hypericum elodes*, *Wahlenbergia hederacea* and *Carum verticillatum* in vicinity, Glandy Farm, SN164.289, S.D.S. Bosanquet & D. Reed, 2004. Also at SN166.291 and SN166.290.
- +152/16.44. *Carex hostiana* (Tawny Sedge) (Hesgen Felynllywd). *Molinia* dominated acid grassland, Glandy Farm, SN164.289, BSBI meeting, 2005.
- +152/16.44×46. *Carex* × *fulva* (*C. hostiana* × *C. viridula*) (a hybrid sedge). *Molinia* dominated wet, acid grassland, Tireithin, Bancffosfelen, SN490.127, BSBI meeting, 2003, det. A.O. Chater. Several plants in various locations in extensive areas of this habitat; +Rare in *Molinia* dominated wet, acid grassland (with both parents), Gwndwn bach, Four Roads, SN458.089, BSBI meeting, 2004, det. R.D. Pryce; +*Molinia* dominated acid grassland, Glandy Farm, SN164.289, BSBI meeting, 2005, det. A.O. Chater; +c.6 plants in area of about 1sq.m in *Molinia* dominated wet, acid grassland, Llwynteg, Lannon, SN559.083, R.D. Pryce, 2005, NMW; +Rare (with both parents) in fen meadow, Cwrtbrynybeirdd, near Trapp, SN666.179, BSBI meeting, 2005, det. A.O. Chater.
- +152/2.2a. *Trichophorum cespitosum* subsp. *germanicum* (Deergrass) (Clwbfrwynen y Mawn). *Molinia* dominated acid grassland, Glandy Farm, SN164.289, BSBI meeting, 2005, det. A.O. Chater. 1st record for hectad for subspecies.
- +152/3.4. *Eleocharis multicaulis* (Many-stalked Spike-rush) (Ysbigfrwynen Gadeiriog). Rushy meadow, NE of Ystrad-fai, SN523.044, H.J. Killick, 2005.
- +153/16.1. *Danthonia decumbens* (Heath-grass) (Glaswellt y Rhos). Recolonising dry heath on periphery of quarry, Glandy Quarry, SN167.287, BSBI meeting, 2005.
- +153/20/1. *Catabrosa aquatica* (Whorl-grass) (Brigwellt Troellennog). At least three stands, largest c5m×1m, in well vegetated drainage channel, Dyfatty, Burry Port, SN457.010, R.D. Pryce, 2005, NMW. 3rd recent record.
- *‡153/25.cil. *Melica ciliata* var. *atropurpurea* (a melick). Several plants, self-sown from cultivated plants nearby, in cobbled/gravelled farmyard, Glynhir Mansion, Llandybie, SN639.152, BSBI meeting, 2004, det. G.M. Kay.
- +‡153/28.3. *Avena fatua* (Wild Oat) (Ceirchen Wylt). †Self-sown, Clochyrrie, SN528.049, H.J. Killick, 2005.
- *‡153/45.1. *Apera spica-venti* (Loose Silky-bent) (Sidanwellt). †One plant only in disturbed, sparsely vegetated ground, Dyfatty, Burry Port, SN460.096, BSBI meeting, 2005, NMW, det. G.M. Kay. 1st record.
- +153/50.2. *Bromus commutatus* (Meadow Brome) (Pawrwellt y Ddôl). Semi-improved pasture, Felin-y-Coed farm, near Taliaris, SN643.266, BSBI meeting, 2005, det. G.M. Kay & H.J. Killick. 7th record.
- +‡153/52.5. *Anisantha madritensis* (Compact Brome) (Pawrwellt Cryno). †Locally abundant on edges of concrete farmyard, by ruined farmhouse and along drive to new farmhouse, Muddlescwm Farm, Kidwelly, SN420.059, A. Stevens, K.A. Pryce & R.D. Pryce, 2005, NMW, conf. G.Hutchinson. 2nd record.
- +153/63.1a. *Molinia caerulea* subsp. *caerulea* (Purple Moor-grass) (Glaswellt y Gweunydd). *Molinia* dominated acid grassland, Glandy Farm, SN163.287, BSBI meeting, 2005, det. A.O. Chater; +Cors Farlais tetrad, SN63S, C. Cheffings & G. Moss, 2005. 2nd & 3rd records for subspecies.
- +153/63.1b. *Molinia caerulea* subsp. *arundinacea* (Purple Moor-grass) (Glaswellt y Gweunydd). Cors Farlais tetrad, SN63S, C. Cheffings & G. Moss, 2005.
- *‡153/FAR.mul. *Fargesia murielae* (Umbrella Bamboo). Originally planted, now naturalised and spreading on bank clothed in tall herb and bramble to W of larger of two ponds, Penarth Ganol, Pumsaint, SN649.401, K.A. & R.D. Pryce, 2005, NMW, det. G. Hutchinson. 1st record for naturalised plant (away from coastal amenity plantings).

- *‡153/PAN.mil. *Panicum miliaceum* (Common Millet) (Miled). †In Tir Gofal 'Wildlife Crop' field, Acheth isaf, near Brechfa, SN594.353, I.K. Morgan, 2003, NMW, conf. G.Hutchinson. 1st record. Not persisting.
- *‡153/ZEA.may. *Zea mays* (Maize) (India-corn). In Tir Gofal 'Wildlife Crop' field, Acheth isaf, near Brechfa, SN594.353, I.K. Morgan, 2003, NMW, conf. G.Hutchinson. 1st record. Not persisting.
- +‡157/1.1. *Pontederia cordata* (Pickerelweed). One clump spreading vegetatively from shallows of pond on to damp grassland, water attenuation pond established during recent Traveller's Rest road junction improvement, near Llanllwch, Carmarthen. SN387.191, V. & A. Lewis 2005.
- +158/19.4. *Scilla verna* (Spring Squill) (Seren y Gwanwyn). Two plants, one with c.25 and the other with 2 flowering stems, on crest of cliff in limestone grassland, Dolwen Point, Pendine, SN233.078, I.K. Morgan & R.N. Stringer, 2005, NMW. 1st record since E.B.G. Jones' c.1950 record from Llanstephan.
- *‡158/24.5. *Allium subhirsutum* (Hairy Garlic) (Garleg Blewog). ‡3 clumps associated with *A. vineale* in disturbed ground at edge of platform, Ferryside railway station, SN366.104, G. Hutchinson, 2005, NMW. 2nd Welsh record.
- *‡159/02.5. *Sisyrinchium striatum* (Pale Yellow-eyed-grass) (Sisirinciwm Melyn Mawr). Established on colliery tip, S of Y Garth, near Ammanford, SN619.133, I.K. Morgan, 2005, NMW, det. G. Hutchinson.
- +‡160/1.glo. *Yucca gloriosa* (Spanish-dagger). One plant apparently self-sown, but no obvious source and no other garden outcasts present, on grassy road verge. Penybanc, Ammanford, SN620.240, V. & A. Lewis, 2005.
- +162/14.1. *Anacamptis pyramidalis* (Pyramidal Orchid) (Tegeirian Bera). One plant only on roadside verge, mown around with great precision by council verge maintenance gang, Penprys, Llanelli, SN545.017, R.D. Pryce, 2005.
- Ø162/20.3. *Anacamptis morio* (Green-winged Orchid) (Tegeirian y Waun). Two plants only on vegetated ballast of former sidings area, Burry Port Harbour, SN446.044, BSBI AGM field meeting, 2005. 1st record for tetrad, extending range of species in v.c. eastwards by c.1km but site destroyed in November 2005 by construction works in contravention of ecological management advice commissioned by land managers.
- +162/23.3. *Ophrys apifera* (Bee Orchid) (Tegeirian y Wenynen). One plant on road verge, Pont Abraham Roundabout between Cross Hands and Hendy, SN576.072, M.D. Atkinson, 2004.

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

- +004/1.7. *Equisetum sylvaticum* (Wood Horsetail) (Marchrawnyn y Coed). +Woodland edge, Canaston Wood, SN075.143, J. Hudson, 2004; +Flush, edge of Brynberian Moor, SN102.341, S. & A. Coker, 2005; Flush SW of Carngoedog, SN122.328, S.B. Evans, 2005.
- +011/1.1×2. *Polypodium* × *mantoniae* (*P. vulgare* × *P. interjectum*) (a hybrid polypody). Walls, Lawrenny Newton Farm, SN031.073, P. Acock, M. Rickard & BBS, 2005.
- +017/1.2. *Polystichum aculeatum* (Hard Shield-fern) (Gwrychredynen Feddal). One clump, wooded slope below track, SE of Ty-coch Cottage, Ffynone Wood, SN243.382, S. Evans, P. Acock & M. Rickard, 2005.
- +017/3.8×9. *Dryopteris* × *deweveri* (*D. carthusiana* × *D. dilatata*) (a hybrid buckler-fern). Woodland, SW of Blackpool Mill, SN058.142, P. Acock, M. Rickard & BBS, 2005.
- *‡024/1.1. *Laurus nobilis* (Bay) (Llawrwydden). A single bush - presumably bird sown, wet woodland, Penally, SS121.997, S.B. Evans, 2005. 1st record.
- +028/13.22. *Ranunculus trichophyllus* (Thread-leaved Water-crowfoot) (Crafanc-y-frân Feinddail). Potato irrigation reservoir, The Falls, St. Brides, SM805.113, S.B. & A.E. Evans, 2005.
- +030/4.1. *Glaucium flavum* (Yellow Horned-poppo) (Pabi Corniog Melyn). One plant flowered and fruited in disturbed sandy area, Pwll Gwaclod, Dinas Cross, SN005.399, S.B. & A.E. Evans, 2005. Last seen here in 1969.

- +031/4.1. *Ceratocarpus claviculata* (Climbing Corydalis) (Mwg-y-ddaear Dringol). Edge of scrub, on the ridge top of Y Gribyn, Solva, SM806.242, S.B. & A.E. Evans, 2005.
- +031/5.1. *Fumaria capreolata* (White Ramping-fumitory) (Mwg-y-ddaear Gwyn). Edge of coastal scrub, Limekilns, Lower Solva, SM804.241, S.B. & A.E. Evans, 2005.
- +031/5.5b. *Fumaria muralis* subsp. *boraei* (Common Ramping-fumitory) (Mwg-y-ddaear Amrywiol). A turnip field on the corner opposite the entrance to Felin-y-gigfran, Crosswell, SN120.369, S.B. Evans, 2005.
- +031/5.7. *Fumaria officinalis* (Common Fumitory) (Mwg-y-ddaear Cyffredin). Disturbed ground, on banks associated with major roadworks on the A477, east of Bangeston Hall, SM997.029, S. Bosanquet, 2005.
- +043/1.6. *Chenopodium rubrum* (Troed-yr-ŵydd Coch). +Manure heap, Kilpaison Dunes, SM897.009, S.B. Evans; +Manure heap, south of Caerau farm, Rhosycaerau, nr. Goodwick, SM917.373, S.B. & A.E. Evans; both 2005.
- +043/3.8. *Atriplex laciniata* (Frosted Orache) (Llygwyn Ariannaid). +Strandline, Pickleridge, Dale, SM812.070; +Strandline, north of Little Furzenip, Freshwater West, SR884.998; both S.B. & A.E. Evans, 2005.
- +043/8.1. *Salsola kali* (Prickly Saltwort) (Helys Pigog). Strandline, Coppet Hall beach, Saundersfoot, SN140.053, S.B. Evans 2005; Strandline, Freshwater West, SR884.998, S.B. & A.E. Evans, 2005.
- +044/1.1. *Amaranthus retroflexus* (Common Amaranth) (Blodyn Amor). A single plant, farmyard, Gupton Farm, Castlemartin, SR894.989, S. Bosanquet, 2005.
- +046/10.1. *Sagina nodosa* (Knotted Pearlwort) (Corwlyddyn Clymog). Floor of disused sand quarry, Kilpaison Dunes, SM900.008, S.B. Evans, 2005.
- +046/10.3. *Sagina subulata* (Heath Pearlwort) (Corwlyddyn Mynawydauidd). Sea-cliff Sleekstone, Broad Haven, SM859.144, S.B. & A.E. Evans, 2000.
- +046/20.11. *Silene gallica* (Small-flowered Catchfly) (Gludlys Amryliw). 27 plants, corner of main crop potato field, Coast Path, Angle Peninsula, SM870.034, S.B. & A.E. Evans, 2005.
- +051/1.10×11. *Hypericum humifusum* × *linariifolium* (a hybrid St John's-wort). One plant in bare ground of stripped field, Outer Heath, Trehill, Marloes, SM763.084, M. Sutton, 2005.
- +057/1.7. *Viola lactea* (Pale Dog-violet) (Fioled Welw). c.100 plants, burnt heath on steep slope, Craig Rhosyfelin, Crosswell, SN116.360, J. Webber, 2005.
- +062/39.1. *Cakile maritima* (Sea Rocket) (Hegydd Arfor). +Sandy foreshore, West Dale Bay, SM799.059, S.B. & A.E. Evans; +Sandy foreshore, Lower Solva, SM805.242, S.B. Evans; both 2005.
- +065/13.1. *Vaccinium oxycoccus* (Cranberry) (Llygaeren). Basin mire in old sinkhole/doline, Forestry plantation west of Ludchurch, SN130.105, S. Bosanquet, 2005.
- +069/8.1. *Samolus valerandi* (Brookweed) (Claerlys). Stream discharge over sea-cliff, Aberceiddy, SM795.310, S.B. & A.E. Evans, 2000.
- +073/5.12. *Sedum acre* (Biting Stonecrop) (Briweg Boeth). Rocky patch in sea-cliff grassland, Dinas Fach, Brawdy, SM825.228, S.B. & A.E. Evans, 2005. Native situation.
- +075/12.1. *Duchesnea indica* (Yellow-flowered Strawberry) (Llwyn Mefus Melyn). Widespread in, short grassland, Penally, SS117.991, T. Harrison, 2005.
- +075/21.16. *Rosa sherardii* (Sherard's Downy-rose) (Rhosyn Sherard). +Hedgebank at western extremity of, Dowrog Common, SM766.264, S.B. & A.E. Evans, 2004; +Roadside hedgebank on north side of minor road, east of Garn Turne Rocks, SM983.271, S.B. Evans, 2005.
- +077/8.4. *Lotus subbiflorus* (Hairy Bird's-foot-trefoil) (Pysen-y-ceirw Flewog). 4 plants, bare ground, Pits Field, Marloes, SM777.078, M. Sutton, 2005.
- +077/10.3. *Ornithopus perpusillus* (Bird's-foot) (Troed yr Aderyn). Sea-cliff, near the Howney Stone, Lower Broadmoor, SM820.128, S.B. & A.E. Evans, 2005.
- +077/19.1. *Trifolium ornithopodioides* (Bird's-foot Clover) (Corfeillionen Wen). Very short grazed acidic grassland over rock, Y Gribyn, Solva, SM807.242, S.B. & A.E. Evans, 2005. An associate of *Trifolium subterraneum*.
- +077/19.20. *Trifolium striatum* (Knotted Clover) (Meillionen Rychog). Bare ground, Pits Field, Marloes, SM777.078, M. Sutton, 2005. An associate of *Lotus subbiflorus*.

- +077/19.25. *Trifolium subterraneum* (Subterranean Clover) (Meillionen Ymguddiol). 100's to low 1,000's of flowering plants, very short-grazed, acidic grassland over rock, Y Gribyn, Solva, SM807.242, S.B. & A.E. Evans, 2005.
- +†091/2.10. *Euphorbia exigua* (Dwarf Spurge) (Corlaethlys). Frequent, edge of Brassica crop, Lambeeth Farm, Pembroke River, SM930.012, C. Hurford, 2005.
- +107/20.1a. *Aethusa cynapium* subsp. *cynapium* (Fool's Parsley) (Geuberllys). Disturbed ground, Glasfryn, St David's, SM759.254, S.B. Evans, J. Webber, 2005.
- +108/5.2. *Gentianella campestris* (Field Gentian) (Crwynllys y Maes). Limestone sea-cliff, Linney Down, SR885.959, S. & A. Coker, 2004. Abundant at numerous locations in the area.
- +†110/4.1. *Hyocyamus niger* (Henbane) (Llewyg yr Iâr). About 40 plants, disturbed sandy areas, Pwll Gwaelod, Dinas Cross, SN005.399, S.B. & A.E. Evans, 2005. Last seen here following disturbance in 1975.
- +‡110/9.1. *Datura stramonium* (Thorn-apple) (Afal Dreiniog). Two plants flowering and fruiting, disturbed ground by side of bramble path, Old Esso refinery, SM871.067, J.W. & J. Donovan, 2005.
- +‡115/1.1. *Phacelia tanacetifolia* (Phacelia) (Ffaselia). Three fields of grassland improved with Cotswold rye-grass, Penberry Farm, St David's, SM771.292, E. Jamieson, 2005.
- +‡116/4.1×2. *Symphytum* × *uplandicum* (Russian Comfrey) (Cyfardwf Rwsia). +Disturbed ground, Glasfryn, St. David's SM759.254 S.B. Evans & J. Webber; +Tall herbs on edge of mown area, St. Brides Haven, SM802.109, S.B. & A.E. Evans; both 2005.
- +‡116/8.1. *Pentaglottis sempervirens* (Green Alkanet) (Llysliau'r-gwrid Gwyredd). Roadside hedgebank, Aber Hescwm, Dinas Cross, SM999.385, S.B. & A.E. Evans, 2005.
- +†118/1.8. *Stachys arvensis* (Field Woundwort) (Briwllys y Tir Âr). A turnip field on the corner opposite the entrance to Felin-y-gigfran, Crosswell, SN120.369, S.B. Evans, 2005.
- +‡118/16.1. *Melissa officinalis* (Balm) (Balm). Pavement weed, Main Street, Pembroke, SM985.014, M. Stribley, 2005.
- +‡124/13.3. *Linaria purpurea* (Purple Toadflax) (Llin-y-llyffant Porffor). ♂Dry bank, Pwll Melyn car park, Upper Solva, SM799.244, S.B. & A.E. Evans, 2005.
- *124/20.5×9. *Euphrasia artica* × *confusa* (a hybrid euphrasia). Base-rich flushes, Newgale Farm, Newgale, SM851.226, M. Sutton, 2003, det. A. Silverside. 1st record.
- +124/25.1. *Pedicularis palustris* (Marsh Lousewort) (Melog y Waun). Flush, Ysgeifiog Moor, Carnhedryn, SM806.278, S. Bosanquet, 2003.
- +129/1.15. *Campanula rotundifolia* (Harebell) (Clychau'r Eos). Dunes/calcareous grassland, Linney Burrows, SR893.972, S. & A. Coker, 2005.
- +‡135/43.4. *Erigeron karvinskianus* (Mexican Fleabane) (Amrhydlywyd y Cerrig). ♂Pavement weed, Main Street, Pembroke, SM985.014, M. Stribley, 2005.
- +†135/59.1. *Matricaria recutita* (Scented Mayweed) (Amranwen Bêr). A few plants in former arable field, Castle Morris, SM897.316, S.B. Evans, 2005.
- +141/1.1. *Triglochin palustre* (Marsh Arrowgrass) (Saethbennig y Gors). Fairly dense patch of c.20 x 4 metres, streamside flush on sea-cliff, Madoc's Haven, Nolton Haven, SM859.179, J. Hudson, 2005.
- +141/1.2 *Triglochin maritimum* (Sea Arrowgrass) (Saethbennig y Morfa). Stream outfall near top of beach, Marloes Sands, SM781.076, S.B. & A.E. Evans, 2000.
- +151/1.25×26. *Juncus* × *diffusus* (a hybrid rush). Scattered in ungrazed rush pasture, Goodwick Moor, Fishguard, SM946.374, S. Bosanquet, D. Reed & S. Smith, 2005.
- +151/2.6. *Luzula multiflora* (Heath Wood-rush) (Coedfrwynen Luosben). On wide, species-rich heathy roadside verge, opposite the National Trust car park, Kete, Dale Peninsula, SM803.043, S.B. & A.E. Evans, 2005.
- +152/14.1. *Cladium mariscus* (Great Fen-sedge) (Corsfrwynen Lem). 8 metre square flowering stand, ungrazed tall fen, Castlemartin Corse, SR897.997, S. Bosanquet & S. Smith, 2005.
- +152/16.43. *Carex extensa* (Long-bracted Sedge) (Hesgen-yr-heli Bractau Hir). Sea-cliff ledges, Renney Slip, Marloes, SM760.086, S.B. Evans, 2000.

- +153/14.1. *Vulpia fasciculata* (Dune Fescue) (Peisgwellt y Twyni). Floor of disused sand quarry, Kilpaison Dunes, SM900.008, S.B. Evans, 2005.
- +153/18.12. *Poa nemoralis* (Wood Meadow-grass) (Gweunwelt y Coed). Slate retaining wall by woodland track, Penpedwast, Eglwysrw, SN123.391, S.B. & A.E. Evans, 2005.
- +†153/28.3. *Avena fatua* (Wild-oat) (Ceirchen Wyllt). +Arable, Renney Slip, Marloes, SM761.086, S.B. Evans, 2000; +Arable, Great Castle Head, St Ishmaels, SM847.061, S.B. & A.E. Evans, 2001.
- +†153/38.3. *Phalaris canariensis* (Canary-grass) (Pefrwellt yr Adar). ♂About 10 plants as pavement weed, Main Street, Pembroke, SM985.014, M. Stribley, 2005.
- +†153/70.1. *Setaria viridis* (Green Bristle-grass) (Cibogwelt Gwyrddlas). Dry bank, Pwll Melyn car park, Upper Solva, SM799.244, S.B. & A.E. Evans, 2005.
- *†153/71.san. *Digitaria sanguinalis* (Hairy Finger-grass) (Byswelt Blewog). At least 4 plants as pavement weed, eastern side of Western Cleddau river, Haverfordwest Town, SM954.158, A.O. Chater, S. Bosanquet & C.D. Preston, 2005, NMW. 1st record.
- +†153/24.7. *Allium triquetrum* (Three-cornered Garlic) (Garllig Trianglog). +Churchyard, Brawdy Churchyard, SM858.240; +Tracks and paths, Harbour Village, Goodwick, SM948.391; both S.B. & A.E. Evans, 2005.
- +†159/5.8. *Iris foetidissima* (Stinking Iris) (Gellesgen Ddrewllyd). Woodland, Coed Cwm Gloyne, Felindre Farchog, SN103.394, S.B. Evans, 2004.
- +162/7.1. *Spiranthes spiralis* (Autumn Lady's-tresses) (Troellig yr Hydref). Dunes/calcareous grassland, Brownslade Burrows, SR898.986, S. & A. Coker, 2005.
- +162/14.1. *Anacamptis pyramidalis* (Pyramidal Orchid) (Tegeirian Bera). A single spike, species-rich grey dune, Newport Dunes, SN052.402, M.J. Buchanan, 2005. 1st record for the dunes.
- +162/18.3. *Dactylorhiza incarnata* (Early Marsh-orchid) (Tegeirian-y-gors Cynnar). Flush in wet heath, Ambleston Common, SM995.260, S.B. Evans, 2005.

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- +7/1.1. *Cryptogramma crispa* (Parsley Fern) (Rhedynen Bersli). At least 600 clumps on scree, 800m E of Brynchwyth, Ponterwyd, SN7605.8018, A.O. Chater, 2005. By far the largest population in the county.
- +17/3.2×3. *Dryopteris × complexa* nothosubsp. *complexa* (*D. filix-mas* × *D. affinis* subsp. *affinis*) (a hybrid male-fern). Roadside in mixed woodland, Cwm Du, Coedmore, SN1961.4451; +Wooded slope above stream, Coed Cwm Du, Cwm Cou, SN3079.4282; both K. Trewren, S.J. Thomas & A.O. Chater, 2005.
- *17/3.2×3. *Dryopteris × complexa* nothosubsp. *critica* (*D. filix-mas* × *D. affinis* subsp. *borreri*) (a hybrid male-fern). Wooded ravine, Llyfnant Valley, 300m SW of Cwmrhaidr, SN752.960, T.D. Dines & A.O. Chater, 1997, NMW, det. K. Trewren; +Steep wooded slope, Coed Cwm Du, Cwm Cou, SN3090.4283, K. Trewren, S.J. Thomas & A.O. Chater, 2005, NMW. 1st and 2nd records.
- +17/3.2×3. *Dryopteris × complexa* nothosubsp. *complexa* (*D. filix-mas* × *D. affinis* subsp. *affinis*) (a hybrid male-fern). Alder wood, just W of Falcondale Lake, SN5670.4985; +Mixed woodland, Cwm Woods, SN5991.8341 & SN6006.8328, NMW; +Mixed woodland, by reservoir 400m W of Trawsgoed PO, SN661.726, NMW; +Mixed woodland, across road from Furnace mill, SN6848.9520, NMW; +Mixed woodland, above road 1.3km E of Pont Llanafan, SN7000.7172, NMW, all K. Trewren, S.J. Thomas & A.O. Chater, 2005.
- +17/3.8×9. *Dryopteris × deweveri* (*D. carthusiana* × *D. dilatata*) (a hybrid male-fern). Old peat cuttings, Rhos Rydd, SN575.737, A.O. Chater, 2005.
- +28/13.18. *Ranunculus hederaceus* (Ivy-leaved Crowfoot) (Crafanc-y-frân Dail Eiddew). Pond made in 1990, 150m W of Ystrad Meurig castle, SN701.676, A.O. Chater, 2005.
- +†30/1.4. *Papaver rhoeas* (Common Poppy) (Pabi Coch). Waste ground, Ynys-las boatbuilding yard, SN616.932, A.O. Chater, 2005.

- +†43/1.12. *Chenopodium murale* (Nettle-leaved Goosefoot) (Troed-yr-Ŵydd Dail Danadl). ♂Several plants on waste ground, Ynys-las boatbuilding yard, SN616.932, A.O. Chater, 2005, NMW. 1st record since 1932.
- 45/3.1a. *Montia fontana* subsp. *fontana* (Blinks) (Porpin y Ffynnon). Grassland, Ynys Fergi, Borth, SN614.896, S.P. Chambers, 2005.
- 45/3.1c. *Montia fontana* subsp. *amportitana* (Blinks) (Porpin y Ffynnon). Marshy pasture, Denmark Farm, Betws Bledrws, SN584.537, A.O. Chater & W. McCarthy, 2005.
- +†47/1.7. *Persicaria alexicaulis* (Red Bistort) (Y Ganwraidd Goch). Scrub on drive verge, Upper Lodge, Hafod, SN7701.7381, A.O. Chater & P.A. Smith, 2005.
- +†47/1.cap. *Persicaria capitata* (Pink-headed Persicaria). ♂Pavement cracks, Lampeter College, SN5799.4830, R.A. Jones, 2005.
- +†53/1.7. *Malva neglecta* (Dwarf Mallow) (Corhocysen). Waste ground, Ynys-las boatbuilding yard, SN616.932, A.O. Chater, 2005.
- +†57/1.11×12×alt. *Viola* × *wittrockiana* (*V. lutea* × *V. tricolor* × *V. altaica*) (Garden Pansy) (Trilliw'r Gerddi). ♂Disturbed ground, MoD site, Aber-porth, SN2481.5242, A.O. Chater, NMW; ♂Waste ground, Ynys-las boatbuilding yard, SN615.932, S.P. Chambers; both 2005.
- +61/2.10×11. *Salix* × *reichardtii* (*S. caprea* × *S. cinerea*) (a hybrid willow). By disused railway, 200m S of Teifi bridge, Ystrad Meurig, SN708.662, A.O. Chater, 1999, NMW.
- +61/2.16. *Salix repens* (Creeping Willow) (Corhelygen). Old peat cuttings, SE arm of Rhos Rydd, SN575.737, A.O. Chater, 2005.
- +61/2.2×3. *Salix* × *rubens* (*S. alba* × *S. fragilis*) (Hybrid Crack-willow) (Helygen Frau Groesryw). Presumably planted, roadside embankment, S side of main road bridge in Llanfarian, SN590.776, A.O. Chater, 1992; +Presumably planted, Scrub, Devil's Bridge railway station, SN738.770, A.O. Chater, 1995; +Presumably planted, old plantation, Rhos Fawr Plantation, Bow Street, SN6173.8420, 2005; all A.O. Chater, NMW, conf. R.D. Meikle.
- +61/2.2×3. *Salix* × *rubens* nothovar. *basfordiana* (*S. alba* var. *vitellina* × *S. fragilis*) (Hybrid Crack-willow) (Helygen Frau Groesryw). Presumably planted, River bank, Pont Pen-y-bont, Llanbadarn Fawr, SN5946.8035, A.O. Chater, 1992, NMW, det. R.D. Meikle.
- †62/28.1. *Thlaspi arvense* (Field Penny-cress) (Codywasg y Maes). ♂Waste ground, Ynys-las boatbuilding yard, SN615.932, S.P. Chambers, 2005.
- +62/34.5. *Brassica nigra* (Black Mustard) (Mwstard Du). ♂Waste ground, Ynys-las boatbuilding yard, SN616.932, A.O. Chater, 2005.
- +†74/7.1. *Tolmiea menziesii* (Pick-a-back-plant) (Crydlys). Damp, wooded slope, Gwenffrwd valley, 1.5km NNE of Tre'r-ddol, SN670.933, A.O. Chater, 2005.
- +74/5.19. *Saxifraga tri-dactylites* (Rue-leaved Saxifrage) (Tormaen Tribys). Colony 3×3m on vertical wall of old barn, Dolgoch, Brongest, SN3177.4467, S.D.S. Bosanquet & A.O. Chater; +On flat roofs and pathsides, Lampeter College, SN579.483, A.O. Chater & I. J. Bennallick; both 2005.
- +†75/8.11. *Rubus cockburnianus* (White-stemmed Bramble) (Miaren Goeswen). Roadside hedgebank, Bryn-hir, 2km S of Llangeitho, SN622.577, A.O. Chater, 2005, NMW.
- *†75/9.7. *Potentilla recta* (Sulphur Cinquefoil) (Pumnaalen Dalsyth). Streambank, by level crossing, Llanbadarn Fawr, SN5990.8071, A.O. Chater, 2005, NMW. 1st record.
- +†75/12.1. *Duchesnea indica* (Yellow-flowered Strawberry) (Llwyn Mefus Melyn). Colony 4×4m in wooded dingle, Penglais, Aberystwyth, SN5965.8202, A.O. Chater, 2005.
- +75/15.2. *Agrimonia procera* (Agrimony) (Llysiau'r-dryw Pêr). Waste ground, University campus, Llanbadarn Fawr, SN596.813, S.P. Chambers, 2005.
- +75/21.12×13. *Rosa* × *dumalis* (*R. canina* × *R. caesia*) (a hybrid rose). Field hedge, 400m WNW of Highmead, SN497.432, R. Maskew & A.O. Chater, 2005.
- +75/21.12×16. *Rosa* × *rothschildii* (*R. canina* ♀ × *R. sherardii* ♂) (a hybrid rose). Roadside hedgebank, 500m WNW of Cwrtnewydd crossroads, SN483.481, R. Maskew & A.O. Chater, 2005, NMW.
- +75/21.12×19. *Rosa* × *toddiae* (*R. canina* × *R. micrantha*) (a hybrid rose). Hedge of trunk road, 200m SW of Pont Llyfiant, SN703.976, A.O. Chater, 2000, NMW, det. R. Maskew.

- +75/21.16×17. *Rosa* × *perthensis* (*R. sherardii* ♀ × *R. mollis* ♂) (a hybrid rose). River bank, opposite Cwm Rheidol lead mine, SN729.780, S.P. Chambers, 2005, det. R. Maskew.
- +‡77/15.9. *Lathyrus latifolius* var. *latifolius* (Broad-leaved Everlasting-pea) (Ytbysen Fythol Lydanddail). Among *Ammophila* on roadside bank, Ynys-las Dunes, SN6108.9408, A.O. Chater, 2005, NMW.
- +‡77/17.2. *Melilotus albus* (White Melilot) (Yr Wydro Wen). ♂Sand quarry, Penparc, SN201.486, A.O. Chater, 2005.
- +‡77/18.2c. *Medicago sativa* subsp. *sativa* (Lucerne) (Maglys Rhuddlas). ♂Grassy slope by beach, Tan-y-bwlch, Aberystwyth, SN5798.8052, A.O. Chater, 2005.
- +‡79/2.2. *Myriophyllum aquaticum* (Parrot's-feather) (Pluen Parot). Artificial pond, NW corner of Aberystwyth golf course, SN5900.8308, A.O. Chater, 2005.
- +84/1.5. *Epilobium tetragonum* (Square-stalked Willowherb) (Helyglys Pedronglog). Damp grassland, Coed Garthenor, Olmarch, SN633.556, R. J. Williams, 2005.
- +‡84/4.1. *Oenothera glazoviana* (Large-flowered Evening-primrose) (Melyn-yr-hwyr Mawr). Disturbed ground, Capel Afan, Llanafan, SN6840.7194, A.O. Chater, 2005.
- ‡91/2.17. *Euphorbia characias* (Mediterranean Spurge) (Llaethlys Môr y Canoldir). Road verge by shrubbery, University campus, Llanbadarn Fawr, SN253.519, C.D. Preston & A.O. Chater, 2005.
- †91/2.9. *Euphorbia lathyris* (Caper Spurge) (Llaethlys Caprys). ♂Waste ground, Ynys-las boatbuilding yard, SN615.932, S.P. Chambers, 2005.
- +103/1.7. *Geranium pratense* (Meadow Crane's-bill) (Pig-yr-aran y Weirglodd). ‡Clump on verge of trunk road, 1km SW of Llanrhystud, SN530.688, A.O. Chater, 2005.
- +†103/2.2. *Erodium moschatum* (Musk Stork's-bill) (Pig-y-crëyr Fwsg). Disturbed roadside verge, above Cribach Bay, MoD site, Aber-porth, SN253.519, C.D. Preston & A.O. Chater, 2005.
- 107/2.1. *Sanicula europaea* (Sanicle) (Clust yr Arth). Track in conifer forest, Nantyrarian, SN717.817, S.P. Chambers, 2005.
- +107/28.4. *Apium inundatum* (Lesser Marshwort) (Dyfrforonen Fach). Stony shore of old mine reservoir, 300m SE of Llantrisant church, SN728.746, A.O. Chater, 2005.
- +†109/1.1. *Vinca minor* (Lesser Periwinkle) (Perfaigl Fach). ‡Roadside banks, Penbonthrydybeddau, SN358.546, A.O. Chater, 2005.
- ‡110/2.1. *Lycium barbarum* (Duke of Argyll's Teaplant) (Ysbeinwydden Hardd). ♂Waste ground, Ynys-las boatbuilding yard, SN615.932, S.P. Chambers, 2005.
- +‡116/3.1. *Pulmonaria officinalis* (Lungwort) (Llysiau'r Ysgyfaint). Nine patches in mixed woodland, Just W of Penbonthrydybeddau bridge, SN3580.5467, A.O. Chater, 2005. First recorded here by Salter pre-1935.
- +‡116/8.1. *Pentaglottis sempervirens* (Green Alkanet) (Llysiau'r-gwrid Gwyrrd). Wood margin, 200m W of Devil's Bridge railway station, SN738.770, A.O. Chater & P.A. Smith, 2005.
- ‡118/5.2. *Lamium maculatum* (Spotted Dead-nettle) (Marddanhadlen Fraith). Waste ground, Ynys-las boatbuilding yard, SN625.932, S.P. Chambers, 2005.
- +118/23.1. *Mentha arvensis* (Corn Mint) (Mintys yr Âr). Fallow trial plots, IGER, Plas Gogerddan, SN631.835, A.O. Chater, 2005, NMW. An occasional weed here.
- +†124/12.1. *Kickxia elatine* (Sharp-leaved Fluellen) (Llysiau-Llywelyn). On gravelly graves, chapel graveyard, Rhydyppennau, SN628.863, A.C. Williamson, 2004. The only recent record N of Aberystwyth.
- +‡124/16.25. *Veronica longifolia* (Garden Speedwell) (Rhwyddlwyn Hirddail). Waste ground, Rhippinnlwyd, Sarnau, SN305.504, A.O. Chater, 1993, NMW.
- +124/20.3×1. *Euphrasia anglica* × *E. rostkoviana* (a hybrid eyebright). Rank hay meadow, Gwarlleth, Blaenpennal, SN6128.6369, A.O. Chater, 2004, NMW, det. A.J. Silverside.
- *124/20.5×1. *Euphrasia arctica* × *E. rostkoviana* (a hybrid eyebright). Horse-grazed pasture with bracken, below road 1km SE of Devil's Bridge, SN747.763, A.O. Chater, 2003, NMW, det. A.J. Silverside. 1st record.
- +124/20.5b. *Euphrasia arctica* subsp. *borealis* [Arctic Eyebright] (Effros yr Arctig). An eglanular form on uncut grassy verge of trunk road, 1km SSW of Eisteddfa Gurig, SN793.830, A.O. Chater, 2003, NMW, det. A.J. Silverside.

- *124/20.5b×19. *Euphrasia* × *venusta* (*E. arctica* subsp. *borealis* × *E. scottica*) (a hybrid eyebright). Flush on S-facing grassy slope, 200m W of Nant-llwyd, Soar y Mynydd, SN7811.5240, A.O. Chater, 2003, **NMW**, det. A.J. Silverside. 1st record.
- *124/20.7×1a. *Euphrasia nemorosa* × *E. rostkoviana* subsp. *rostkoviana* (a hybrid eyebright). Grassy working area in conifer forest, Bryn Du-bach, 3km SSE of Llanddewi-Brefi, SN678.527, A.O. Chater, 2003, **NMW**, det. A.J. Silverside. 1st record.
- *124/20.7×8. *Euphrasia nemorosa* × *E. pseudokernerii* (a hybrid eyebright). Gravelly verge of FC road by lead mine, with both parents growing nearby, Mynach Vale, 3km E of Devil's Bridge, SN772.775, A.O. Chater, 2003, **NMW**, det. A.J. Silverside. 1st record.
- +124/20.9×1a. *Euphrasia confusa* × *E. rostkoviana* subsp. *rostkoviana* (a hybrid eyebright). Sheep-grazed acidic turf, E of stream, 400m ESE of Soar y Mynydd, SN788.05309, A.O. Chater, 2003, **NMW**, det. A.J. Silverside.
- +†124/9.1. *Misopates orontium* (Weasel's-snout) (Y Trwyn-y-llo Lleiaf). ♂Waste ground, Ynys-las boatbuilding yard, SN616.932, A.O. Chater, 2005.
- +125/2.2. *Orobanche rapum-genistae* (Greater Broomrape) (Gorfanhadlen Fawr). Gorse edge on pasture slope, 200m WNW of Gwynfryn, Llancynfelyn, SN6424.9193, J.P. Lyons, 2005.
- +‡131/2.3. *Viburnum tinus* (Laurustinus) (Gwifwrnwydden y Gaeaf). Copse, E side of Primrose Hill, Llanbadarn Fawr, SN6005.8102, A.O. Chater, 2005, **NMW**.
- +133/1.1. *Valerianella locusta* (Common Cornsalad) (Gwylaeth yr Oen). Road verge, walls and gardens, N end of Capel Dewi, SN453.429, A.O. Chater, 2005.
- +133/2.1. *Valeriana officinalis* (Common Valerian) (Llysiau Cadwgan). Ditch, NW part of MoD site, Aber-porth, SN240.523, A.O. Chater, 2005.
- *‡135/1.3. *Echinops bannaticus* (Blue Globe-thistle) (Ysgallen Bengron Las). ♂One plant in alleyway, self-sown from nearby garden, N of High Street, Lampeter, SN576.481, C.M. Overton, 2005, **NMW**, det. A.O. Chater.
- +†135/17.1. *Picris echioides* (Bristly Ox-tongue) (Tafod-y-llew Gwrychog). Dominant over ½ acre of disturbed ground, W of County Council offices, Aberaeron, SN4525.6258, A.O. Chater, 2005, **NMW**.
- +135/21.4b. *Sonchus asper* subsp. *glaucescens* (Prickly Sow-thistle) (Llaethysgallen Arw). One plant on waste ground, Ynys Edwin, Eglwys-fach, SN678.962, A.O. Chater, 2005.
- *‡135/28.115. *Hieracium scotostictum* (a hawkweed) (Heboglys). Roadside banks, Derwen-fach, Llandygydd, SN242.436, A.O. Chater & P.A. Smith, 1998, **NMW**, det. D.J. McCosh. 1st record. Escaped from cultivation in adjacent garden
- +135/28.14. *Hieracium suberocatum* (a hawkweed) (Heboglys). Streamside rocks, Nant Rhuddnant, 2.5km up from confluence with Nant Merin, SN794.782, E. J. McDonnell & K. Pollock, 1995, **NMW**, det. D.J. McCosh.
- *135/28.29. *Hieracium placherophylloides* (a hawkweed) (Heboglys). Ungrazed rocky river bank, Afon Pysgotwr Fawr, 300m SE of Bryn-glas, SN738.511, A.O. Chater, 1995, **NMW**, det. D.J. McCosh. 1st record.
- +135/28.29. *Hieracium placherophylloides* (a hawkweed) (Heboglys). Damp cliff, Nant Rhuddnant, 2.5km up from confluence with Nant Merin, SN797.783, A.O. Chater & P.A. Smith, 1996, **NMW**, det. D.J. McCosh.
- *135/28.5bla. *Hieracium vagum* f. *bladonii* (a hawkweed) (Heboglys). Dry, acidic roadside cliff, 700m ENE of Pont Rhyd-y-groes, SN748.730, 1993; +Roadside banks, by B4333 near Blaenwaun, 2km SE of Aber-porth, SN273.504, 1994, both A.O. Chater, **NMW**, det. D.J. McCosh.
- +135/28.ang. *Hieracium anglorum* (a hawkweed) (Heboglys). Dry, E-facing rocks above Llyn Brianne, 2.7km SSE of Soar y Mynydd, SN798.510, A.O. Chater, 1985, **NMW**, det. D.J. McCosh.
- *‡135/28.asp. *Hieracium asperatum* (a hawkweed) (Heboglys). Ballast of disused railway in cutting, behind Penyrangor, Aberystwyth, SN581.808, A.O. Chater, 1993, **NMW**, det. D.J. McCosh. 1st record. Previously det. as *H. pollichiae* by P.D. Sell in 1994. Site now destroyed.
- *135/28.avi. *Hieracium avicola* (a hawkweed) (Heboglys). Roadside hedgebank, 600m WSW of chapel, Trefenter, SN601.685, A.O. Chater, 1998, **NMW**, det. D.J. McCosh. 1st record.

- *135/28.con. *Hieracium consociatum* (a hawkweed) (Heboglys). Ballast of disused railway, Aberbachnog, 2km E of Llandysul, SN373.403, A.O. Chater, 1985, NMW, det. D.J. McCosh. 1st record.
- *135/28.deg. *Hieracium deganwyense* (a hawkweed) (Heboglys). Mortared walls of wheelpit of ruined lead mine, Nantycreuau mine, 4km E of Ponterwyd, SN789.802, A.O. Chater, 1991, NMW, det. D.J. McCosh. 1st record. Previously det. as *H. scoticum* by P.D. Sell in 1994
- +†135/35.1. *Inula helenium* (Elecampane) (Marchalan). Scrub, across road from Gwenlli church, SN3926.5350, A.O. Chater, 2005.
- +135/43.6. *Erigeron acer* (Blue Fleabane) (Amrhydlwyd Glas). Sand quarry, Penparc, SN201.486, A.O. Chater, 2005, NMW.
- +†135/59.1. *Matricaria recutita* (Scented Mayweed) (Amranwen Bêr). Road verge, 100m NW of Bwa-drain, SN7141.7979, A.O. Chater, 2005.
- *†135/62.3. *Senecio inaequidens* (Narrow-leaved Ragwort) (Creulys Gulddail). øEight plants on waste ground, Ynys-las boatbuilding yard, SN616.932, A.O. Chater, 2005, NMW. 1st record.
- +†135/79.1. *Helianthus annuus* (Sunflower) (Blodyn yr Haul). øWaste ground, Ynys-las boatbuilding yard, SN616.932, A.O. Chater, 2005.
- +142/1.14. *Potamogeton obtusifolius* (Blunt-leaved Pondweed) (Dyfrillys Dail Aflym). Frequent in lake, Llyn Frongoch, SN722.752, A.O. Chater, 2005.
- +†148/2.4. *Lemna minuta* (Least Duckweed) (Llinad Bach). Co-dominant with *L. minor* and *Azolla* in ditches, W of Llangorwen and N of Afon Clarach, SN599.839, A.O. Chater, 2005.
- +152/16.64. *Carex aquatilis* (Water Sedge) (Hesgen y Dŵr). Abundant around artificial pond made in 1990, in pasture 150m WNW of Ystrad Meurig castle, SN701.676, A.O. Chater, 2005. Not introduced.
- +152/7.1. *Schoenoplectus lacustris* (Common Club-rush) (Llafwrwynen). Two colonies in ox-bow, 100m E of Glanyrafon Bridge, SN6105.8060, A.O. Chater, 2005, NMW. Recorded here by Salter in Wade (1952).
- 153/50.2. *Bromus commutatus* (Meadow Brome) (Pawrwellt y Ddôl). Disturbed bank, Science Park, Llanbadarn Fawr, SN598.813, S.P. Chambers, 2005, **hb SPC**, det. L. Spalton.
- †153/59.2a. *Hordeum murinum* subsp. *murinum* (Wall Barley) (Haidd y Mur). Roadside verge, Capel Bangor Station, SN649.798, S.P. Chambers, 2005.
- 153/67.1×3. *Spartina* × *townsendii* (*S. maritima* × *S. alterniflora*) (Townsend's Cord-grass) (Cordwellt Townsend). ‡Brackish ditch, N side of B4353 road at S end of Borth, SN6088.8898, C.M. Forster Brown, 1998, det. A.O. Chater. Previously recorded erroneously as *S. anglica*; ‡Salt marsh, Nantferwig, Teifi estuary, SN166.483, A.O. Chater, 2005, NMW.
- +†153/70.ver. *Setaria verticillata* (Rough Bristle-grass) (Cibogwellt Troellog). øColony 14m long by footpath, Aberystwyth railway station, SN586.813, A.O. Chater, 2005, NMW.
- +155/1.1. *Typha latifolia* (Bulrush) (Cynffon y Gath). Lead mine reservoir, 800m E of Brynchwyth, Ponterwyd, SN7593.7999, A.O. Chater, 2005.
- +†158/32.2. *Galanthus elwesii* (Greater Snowdrop) (Eirlys Elwes). Planted and naturalised in grass verge of walk, Plas Crug, Aberystwyth, SN586.815, A.O. Chater, 2005, NMW.
- +†158/33.3×5. *Narcissus* × *incomparabilis* (*N. poeticus* × *N. pseudonarcissus*) (Nonesuch Daffodil) (Cenhinen-Bedr Anghymharol). By upland ruin, Hengwm Annedd, Pumlumon, SN797.893, A.O. Chater, 2005, NMW. Naturalised here for over 70 years.
- 162/18.2×4. *Dactylorhiza* × *hallii* (*D. maculata* × *D. praetermissa*) (a hybrid orchid). One spike in rough pasture, Glanrhyd, Heol y Bowls, SN2680.4684, S.P. Chambers, 2005, conf. I. Denholm.

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

- †43/1.8. *Chenopodium polyspermum* (Many-seeded Goosefoot) (Troed-yr-Ŵydd Amlhadog). Locally frequent on soil mounds, farm sales outlet S of Welshpool, SJ222.056, S.P. Chambers, 2005. 3rd record. An uncommon weed of waste ground in Monts.
- †62/28.1. *Thlaspi arvense* (Field Penny-cress) (Codywasg y Maes). Disturbed ground and soil mounds near farm, S of Welshpool, SJ222.056, S.P. Chambers, 2005. A weed of cultivation, occasional in eastern Monts.
- ‡100/1.1. *Rhus typhina* (Stag's-horn Sumach) (Siwmac). One young stem coming up through soil-mound, farm sales outlet S of Welshpool, SJ222.056, S.P. Chambers, 2005. 1st record.
- 124/1.9. *Verbascum nigrum* (Dark Mullein) (Pannog Dywyll). One plant on dry terrace just inside reserve, Roundton Hill Nature Reserve, SO293.947, S.P. Chambers, 2005.
- ‡135/43.4. *Erigeron karvinskianus* (Mexican Fleabane) (Amrhydlwyd y Cerrig). †Two plants in cracks between paving stones, Co-op car park, Machynlleth, SH749.007, S.P. Chambers, 2005. 2nd record.

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

- 4/1.7. *Equisetum sylvaticum* (Wood Horsetail) (Marchrawnen y Coed). In quantity in Afon Caletwr near Llandderfel, SH9.3, S.E. Stille; +Wet place by roadside, Coed y Bedo, Cefniddwysarn, SH9.4, P.M. Benoit; both 2005.
- 5/2.1. *Botrychium lunaria* (Moonwort) (Lloer-redynen). 9 stems in old pasture above Llanbedr, SH5.2, P.M. Benoit & A.O. Chater, 2005.
- +15/2.5. *Asplenium trichomanes* subsp. *trichomanes* (Maidenhair Spleenwort) (Duegredynen Gwallt y Forwyn). Crevices in mountain rocks above Rhosygwaliau, SH9.3, P.M. Benoit & S.E. Stille, 2004. 1st recent record for hectad.
- +‡34/9.2. *Quercus cerris* (Turkey Oak) (Derwen Twrci). One sapling on bank of Afon Dwryd, Maentwrog, SH6.4, P.M. Benoit, 2005.
- +45/3.1b. *Montia fontana* subsp. *variabilis* (Blinks) (Porpin y Ffynnon). Pasture, Ynys Llanfihangel-y-Traethau, SH5.3, 2000, 1st recent record for hectad; +By Afon Tryweryn, Rhydyfen, SH8.3, 2002; both P.M. Benoit; +By River Alwen, Corwen, SJ0.4, 2003; +Wet ground, at Carrog, SJ1.4, 2004; both P.M. Benoit & S.E. Stille; +By Afon Dwryd, Maentwrog, SH6.4, P.M. Benoit, 2005. This is by far the commonest of the *Montia fontana* subspecies in Merioneth – indeed in the hill country often the only one.
- +45/3.1c. *Montia fontana* subsp. *amportitana* (Blinks) (Porpin y Ffynnon). Wet place near Sylfaen, NE of Barmouth, SH6.1, P.M. Benoit, 2002, 1st recent record for hectad; +Gwaith Powdwr North Wales Wildlife Trust reserve, SH6.3, P.M. Benoit & J.M. Maynard, 2004; +Turf over wet rocks by track above Llanbedr, SH6.2, P.M. Benoit & A.O. Chater, 2005.
- +‡46/22.1. *Saponaria officinalis* flore pleno (Soapwort) (Sebonllys). Car park at SE end of Llanuwchllyn, SH8.2, P.M. Benoit, 2005.
- *62/12.3. *Rorippa islandica* (Northern Yellow-cress) (Berwr Melyn Gogleddol). ‡Occasional to locally frequent on rough ground beside river and concrete footpath all way down to footbridge on E bank of Afon Glaslyn below Ynys-lleian, Beddgelert, SH5.4, S.P. Chambers, 2005, conf. A.O. Chater. 1st record and new to N. Wales.
- +62/22.2. *Erophila verna* var. *praecox* (Common Whitlowgrass) (Llysiau'r-bystwn Cynnar). Disused Bala – Ffestiniog railway track, SH7.3, S.E. Stille & J. Clark, 2004.
- +62/28.1. *Thlaspi arvense* (Field Penny-cress) (Codywasg y Maes). †One plant by car par where imported soil was dumped, Beach Road, Harlech, SH5.3, Gerallt Jones, 2001.
- 75/21.5. *Rosa spinosissima* (Burnet Rose) (Rhosyn Bwrned). Hen Ddolgain, Trawsfynydd, SH7.3, Gerallt Jones, 2002. An unusual inland, upland record for v.c. 48, where it is normally a duneland plant.

- *75/22.4×5. *Prunus* × *fruticans* (*P. spinosa* × *P. domestica*) (a hybrid plum). By track on edge of sand dunes near Coleg Harlech, SH5.3, N.E. & R. Sherlock, 1998, checked against *BSBI News* 78:38-39 and passed by K.W. Page. 1st record.
- +75/27.1. *Malus sylvestris* s.s. (Crab Apple) (Coeden Afalau Surion). One large tree with white flowers by track near Arthur's Quoit above Dyffryn Ardudwy, SH6.2, P.M. Benoit & J.M. Maynard; +One large tree in field by River Dee, Llandderfel, SH9.3, P.M. Benoit, A. Seddon & I. Willis; both 2005.
- +‡75/32.23. *Cotoneaster simonsii* (Himalayan Cotoneaster) (Cotoneaster Simons). One bush in pasture near track above Llanbedr, SH6.2, P.M. Benoit & A.O. Chater, 2005.
- +81/1.3. *Lythrum portula* (Water-purslane) (Troed y Gywen). Seasonally dried-up pool, Bryn Penllyn, Llandrillo, SJ0.3, S.E. Stille, 2005.
- ‡107/8.1. *Myrrhis odorata* (Sweet Cicely) (Creithig Bêr). A fine colony surviving in sheep pasture, field below the N side of the A5 road near Llidiart-y-parc, SJ1.4, S.P. Chambers, 2005.
- 107/28.4. *Apium inundatum* (Lesser Marshwort) (Dyffrforonen Fach). Seasonally dried-up pool, Bryn Penllyn, Llandrillo, SJ0.3, S.E. Stille, 2004.
- +‡109/1.1. *Vinca minor* (Lesser Periwinkle) (Perfagl Fach). ‡In quantity on the floor of woodland at Llugwy, Pennal, SN7.9, P.M. Benoit, 2005.
- +118/1.1. *Stachys officinalis* (Betony) (Cribau San Ffraid). Old pastures, in two places above Llanbedr, SH5.2, P.M. Benoit, A.O. Chater & R.H. Gritten, 2005. 1st recent record for hectad.
- ‡118/4.1. *Lamium galeobdolon* subsp. *argentatum* (Yellow Archangel) (Mârdanhadlen Felen). Well naturalised in fertile woodland in the Glen of Arran, Dolgellau, SH7.1, P.M. Benoit & J.M. Maynard, 2005.
- +‡124/2.2. *Mimulus guttatus* (Monkeyflower) (Blodyn Mwnci). Bank of River Dee, Llandderfel, SH9.3, P.M. Benoit, A. Seddon & I. Willis, 2005.
- +124/16.11. *Veronica anagallis-aquatica* (Blue Water-speedwell) (Graeanllys y Dŵr). Several fine plants again in marshy ground on Morfa Dyffryn, SH5.2, P.M. Benoit, 2002. 1st record since 1981 in this the only Merioneth station.
- +125/2.2. *Orobancha rapum-genistae* (Greater Broomrape) (Gorfanhadlen Fawr). 29 fine spikes among *Ulex europaeus* and *Pteridium aquilinum* in bushy place in pasture above Dyffryn Ardudwy, SH5.2, Heather Jones, 2005. A notable rediscovery of a site last recorded c.1944.
- *‡131/1.1. *Sambucus racemosa* (Red-berried Elder) (Ysgawen Aeron Coch). Edge of plantation, beside the Bala – Llangynog road near Llandderfel, SH981.352, D.O. Elias, 2005. 1st record. Known here for 2 or 3 years.
- +‡135/27.6. *Pilosella aurantiaca* (Fox-and-cubs) (Clust-y-llygoden Euraid). Frequent in Llanelltyd churchyard, SH7.1, P.M. Benoit & J.M. Maynard, 2004; +Car park at SE end of Llanuwchllyn, SH8.2; +Frequent on side of main road at Llanycil near Bala, SH9.3; both P.M. Benoit, 2005.
- 135/62.15. *Senecio vulgaris* var. *hibernicus* (Groundsel) (Creulys). Foot of wall beside A5 E of Glyndyfrdwy, SJ1.4, S.P. Chambers, 2005, Half the plants with ray florets and half without (var. *vulgaris*).
- +‡135/71.3. *Petasites albus* ♀ (White Butterbur) (Alan Bach). Large colony on verge and hedgebank of parking place opposite the church at Llanymawddwy, SH9.1, A.O. Chater, 2005. 1st record of the female plant.
- +‡135/71.4. *Petasites fragrans* (Winter Heliotrope) (Alan Pêr). A patch on the side of the main road between Bala and Llanycil, SH9.3, P.M. Benoit, 2005. Probably recently introduced with soil used in landscaping the roadside. Not recorded previously for this or any adjacent hectad.
- +‡135/80.2. *Galinsoga quadriradiata* (Shaggy-soldier) (Galinsoga Blewog). ♂Weed in flower beds, public gardens, Dolgellau, SH7.1, P.M. Benoit, 2004 & 2005; +♂One plant on gravelly edge of Afon Alwen, Llangar, SJ0.4, P.M. Benoit & S.E. Stille, 2005.
- +137/4.1. *Alisma plantago-aquatica* (Water-plantain) (Llyriad y Dŵr). Ditch in meadow by the Dee at Llandderfel, SH9.3, P.M. Benoit, A. Seddon & I. Willis, 2005.
- +153/10.3. *Bromus racemosus* (Smooth Brome) (Pawrwellt Llyfn). ♂On muckheap in field by track NW of Minffordd, SH5.3, S.P. Chambers, 2004.

- +153/12.10. *Festuca filiformis* (Fine-leaved Sheep's-fescue) (Peiswellt Meinddail). Hummocks in bog near Penyrallt, Cefniddwysarn, SH9.4, P.M. Benoit, 2005.
- +‡158/20.3×2. *Hyacinthoides* × *massartiana* (*H. hispanica* × *H. non-scripta*) (a hybrid bluebell) (Clychau'r-gog Croesryw). A number of plants on bank of Afon Wnion, Y Marian, Dolgellau, SH7.1, P.M. Benoit, 2005.
- +162/3.4. *Epipactis helleborine* (Broad-leaved Helleborine) (Y Galdrist Lydanddail). A flowering stem plus 3 other stems, at Cefn Prys, Llanuwchllyn, SH8.3, D.O. Elias, 2004.
- +162/18.2a. *Dactylorhiza maculata* subsp. *ericetorum* (Heath Spotted-orchid) (Tegeirian Brych y Rhos). Boggy ground by stream above Dyffryn Ardudwy, SH5.2, P.M. Benoit, 2005. 1st recent record for hectad.
- +162/18.3×5. *Dactylorhiza* × *latirella* (*D. incarnata* × *D. purpurella*) (a hybrid marsh-orchid). Several plants, with both parents, in dune slack, Morfa Dyffryn, SH5.2, P.M. Benoit & R.H. Gritten, 2005.

CAERNARFON, v.c. 49 (comm. W. McCarthy)

- +‡2/1.2. *Selaginella kraussiana* (Krauss's Clubmoss) (Cnw-p-fwsogl Krauss). Meadow near Bodysgallen woods, Llandudno, SH80.79, W. McCarthy, 2005.
- +4/1.7. *Equisetum sylvaticum* (Wood Horsetail) (Marchrawnyn y Coed). Flushed grassland, in Cwm Idwal, SH64.59, W. McCarthy, 2005.
- +15/2.5×8. *Asplenium* × *alternifolium* (*A. trichomanes* × *A. septentrionale*). Moel yr Ogof, SH5.4, M. Jannink & B. Laney, 2005.
- +28/13.17b. *Ranunculus ficaria* subsp. *bulbilifer* (Lesser Celandine) (Llygad Ebrill). +Under trees, Porth Penrhyn, Bangor, SH59.72; +Footpath edge, Little Orme, SH81.82; both W. McCarthy, 2005.
- +39/4.5×6. *Quercus* × *rosacea* (*Q. petraea* × *Q. robur*) (a hybrid oak). Lower slope, of Moel y Gest, Porthmadog, SH55.38, J. Lowell, 2005.
- +47/1.6. *Persicaria bistorta* (Common Bistort) (Llysiu'r Leidr). North shore, of Llyn Gwynant, SH64.52, W. McCarthy & M. Stead, 2005.
- +50/1.1. *Elatine hexandra* (Six-stamened Waterwort) (Gwybybyr Chwebrigerog). Several flowering plants washed-up, at Llyn Nanlile Uchaf, SH51.52, W. McCarthy, 2005.
- +50/1.2. *Elatine hydropteris* (Eight-stamened Waterwort) (Gwybybyr Wythfrigerog). Around eastern edge, of Llyn Nanlile Uchaf, SH51.52, W. McCarthy & S. Thomas, 2005.
- +‡5/1.4. *Hypericum hircinum* (Stinking Tutsan) (Dail-y-Beiblau Drewllyd). Cracks in concrete around electricity sub-station, Bryn Morfa, Llandudno Junction, SH80.77, W. McCarthy, 2005.
- +53/2.1. *Lavatera arborea* (Tree-mallow) (Hocyswydden). Disturbed ground by field gate, Dolgarrog, SH77.66, W. McCarthy, 2005.
- *‡53/4.1. *Alcea rosea* (Hollyhock) (Hocysen Fendigaid). 1 plant in concrete sea-wall near Little Orme, Penrhyn Bay, SH82.81, W. McCarthy, 2005. 1st record.
- +55/1.3. *Drosera intermedia* (Oblong-leaved Sundew) (Gwlithlys Hirddail). Peaty flush, at base of Moel y gest, Porthmadog, SH55.37, W. McCarthy & M. Stead, 2005.
- +‡62/28.1. *Thlaspi arvense* (Field Penny-cress) (Codywasg y Maes). Disturbed soil mound, Uwchmynydd, Aberdaron, SH14.25, W. McCarthy, 2005.
- *‡70/1.2. *Pitiosporum tenuifolium* (Kohuhu) (Llywyn Cohwhw). Established in wood above track to, Menai Strait, Bangor, SH58.73, S.P. Chambers, 2005. 1st record.
- +‡73/1.3. *Crassula helmsii* (New Zealand Pigmyweed) (Corchwyn Seland Newydd). +In two field ponds and a garden pond, Tan y Bwlch, Bethesda, SH60.65; +In all 3 ornamental ponds in, Penrhyn Castle grounds, Bangor, SH6.7; both M.A.R. & C. Kitchen, 2005.
- +‡73/5/17. *Sedum dasyphyllum* (Thick-leaved Stonecrop) (Briweg Dewddail). Roadside wall, Dolgarrog, SH76.67, W. McCarthy, 2005.
- +75/9.13×14. *Potentilla* × *suberecta* (*P. erecta* × *P. anglica*) (a hybrid cinquefoil). Steep grass embankment near Afon Conwy, Llanrwst, SH79.62; +road-side bank near St Cybi's Well, Llanybi, SH42.41; both W. McCarthy, 2005, conf. Dr B. Harold.

- +75/21.12×13. *Rosa* × *dumalis* (*R. canina* × *R. caesia*) (a hybrid rose). Limestone slope near pier, Great Orme, SH78.82, W. McCarthy, 2005, det. R. Maskew.
- +‡75/28.21. *Sorbus croceocarpa* (Orange-berried Whitebeam) (Cerddinen Ffrwythau Saffrwm). NWWT reserve, Bryn Pydew, SH81.79; +Limestone hill, Nant y Gamar, Llandudno, SH8081; both W. McCarthy, 2005, conf. A.O. Chater.
- +77/14.8. *Vicia tetrasperma* (Smooth Tare) (Ffacbysen Lefn). Banks of lane, to Porth Meudwy, Aberdaron, SH16.25, W. McCarthy & M. Stead, 2005.
- *‡77/14.fab. *Vicia faba* (Broad Bean) (Ffeuen y Gerddi). Disturbed ground near new superstore, Porthmadog, SH56.38, Caerns. recording group, 2005. 1st record.
- +77/15.2. *Lathyrus nissolia* (Grass Vetchling) (Ytbysen Feinddail).‡3 plants on site of demolished factory, Llandudno Junction, SH80.77, W. McCarthy, 2005.
- +‡77/17.4. *Melilotus indicus* (Small Melilot) (Yr Wydro Blodau Mân). Disturbed ground by field gate, Dolgarrog, SH77.66, W. McCarthy, 2005.
- *‡77/PIS.sat. *Pisum sativum* (Garden Pea) (Pysen yr Ardd). Disturbed ground near new superstore, Porthmadog, SH56.38, Caerns. recording group, 2005. 1st record.
- +‡94/1.2. *Linum usitatissimum* (Flax) (Llin). ‡Disturbed ground near new superstore, Porthmadog, SH56.38, Caerns. recording group, 2005.
- +‡102/1.14. *Oxalis incarnata* (Pale Pink-sorrel) (Suran Welw). On roadside bank, Penmaenmawr, SH71.76, W. McCarthy & M. Stead; +Woodland edge, Marl woods, SH80.78, NWWT group; both 2005.
- +103/1.4. *Geranium rotundifolium* (Round-leaved Crane's-bill) (Pig-yr-aran Grynndail). ‡Spontaneous garden weed, Bethel, SH53.64, T. Dines, 2005.
- *‡107/1.ran. *Hydrocotyle ranunculoides* (Floating Pennywort) (Dail-ceiniog Arnofiol). Organic farm pond and surrounding land, Llanybi, SH43.40, D. Thorpe, 2005. 1st record.
- +107/28.4. *Apium inundatum* (Lesser Marshwort) (Dyfforonen Fach). Afon Ogwen near Bethesda, SH63.64, W. McCarthy & M. Stead, 2005.
- +‡110/9.1. *Datura stramonium* (Thorn-apple) (Afal Dreiniog). Derelict farm-yard, Tal y bont, Bangor, SH61.70, W. McCarthy & M. Stead, 2005.
- *‡118/1.2. *Stachys byzantina* (Lamb's-ear) (Clust yr Oen). On dumped soil in field, Pydew, SH81.79, W. McCarthy, 2005.
- +118/1.5×6. *Stachys* × *ambigua* (*S. sylvatica* × *S. palustris*) (Hybrid Woundwort) (Briwlys Croesryw). Edge of Llyn Nantlle Uchaf, SH51.52, J.A. Green, 2005.
- +118/10.2. *Scutellaria galericulata* (Skullcap) (Cycyllog). Banks of, Llyn Nantlle Uchaf, SH51.52, W. McCarthy & M. Stead, 2005.
- +‡118/16.1. *Melissa officinalis* (Balm) (Balm). 2 clumps at edge of cycle-track, Glasinfryn, SH59.68, W. McCarthy, 2005.
- +118/23.1×3. *Mentha* × *gracilis* (*M. arvensis* × *M. spicata*) (Bushy Mint) (Mintys Culddail). Shore of Llyn Nantlle Uchaf, SH51.52, W. McCarthy, 2005.
- +‡124/1.2. *Verbascum virgatum* (Twiggy Mullein) (Pannog Fain). 2 plants on disturbed ground by railway station, Llandudno, SH78.81, W. McCarthy, 2005.
- +124/2.2. *Scrophularia auriculata* (Water Figwort) (Gwrnerth y Dŵr). Near church, Coed yr Eglwys, Penmorfa, SH54.40, W. McCarthy & M. Stead, 2005.
- +‡124/4.2. *Mimulus guttatus* (Monkeyflower) (Blodyn Mwnei). Ditch near railway line, Bryn Morfa, Llandudno Junction, SH80.77, W. McCarthy, 2005.
- +128/2.6. *Utricularia minor* (Lesser Bladderwort) (Chwysigenddail Bach). Flushed grassland to E of Afon Wen near Bryncir, SH44.43, C. Forster-Brown, 2005.
- +‡135/17.1. *Picris echioides* (Bristly Ox-tongue) (Tafod-y-llew Gwrychog). Disturbed ground by Afon Erch, Pwllheli, SH38.35, W. McCarthy & M. Stead, 2005.
- *‡135/22.1. *Lactuca serriola* (Prickly Lettuce) (Letusen Bigog). Roadside bank, Penrhyn Bay, SH81.81, M. Stead, 2005. 1st record.
- *‡135/29.1. *Gazania rigens* (Treasureflower) (Blodyn Trysor). ‡Pavement edge near Beach café, Penrhyn Bay, SH82.81, W. McCarthy, 2005. 1st record.

- +135/62.1×10. *Senecio* × *albescens* (*S. cineraria* × *S. jacobaea*). ‡Roadside near houses near Bethesda, SH61.67, W. McCarthy, 2005.
- +‡135/73.1. *Calendula officinalis* (Pot Marigold) (Melyn Mair). †Disturbed ground near new superstore, Porthmadog, SH56.38, Caerns. recording group, 2005.
- +‡135/79.1. *Helianthus annuus* (Sunflower) (Blodyn yr Haul). Disturbed ground near new superstore, Porthmadog, SH56.38, Caerns. recording group, 2005.
- +‡135/80.2. *Galinsoga quadriradiata* (Shaggy-soldier) (Galinsoga Blewog). Disturbed ground by field gate, Dolgarrog, SH77.66, W. McCarthy & M. Stead, 2005.
- +‡147/5.2b. *Arum italicum* subsp. *italicum* (Italian Lords-and-Ladies) (Pidyn-y-gog Eidalaid). Roadside bank, Llangybi, SH43.40; +Roadside near Coed Tyn-llan, Penmorfa, SH54.40; both W. McCarthy & M. Stead, 2005.
- +‡151/1.2. *Juncus tenuis* (Slender Rush) (Brwynen Fain). Track by, Elephants' Cave, Great Orme, SH77.82, W. McCarthy, 2005.
- +151/1.21. *Juncus acutus* (Sharp Rush) (Brwynen Lem). 1 clump on sandy grassland by harbour, Pwllheli, SH38.34, R.A. Jones, 2005.
- +152/16.31. *Carex pendula* (Pendulous Sedge) (Hesgen Bendrom). At path-side, Pen y Garreg lane, Little Orme, SH81.81, W. McCarthy, 2005.
- +152/9.1. *Eleogiton fluitans* (Floating Club-rush) (Clwbfiwynen Arnofiol. Around eastern edge of, Llyn Nantlle Uchaf, SH51.52, W. McCarthy, 2005.
- +153/12.1. *Festuca pratensis* (Meadow Fescue) (Peiswellt). Bank of lane near Bugeulus Fawr, Aberdaron, SH18.28, W. McCarthy, 2005.
- +153/16.2. *Puccinellia distans* (Reflexed Saltmarsh-grass) (Gwellt-y-morfa Atblygedig). Several plants on site of demolished factory, Llandudno Junction, SH8077, W. McCarthy, 2005.
- +153/18.6. *Poa angustifolia* (Narrow-leaved Meadow-grass) (Gweunwellt Culddail). Many plants in small clumps, Porth Penrhyn, Bangor, SH59.72, W. McCarthy, 2005.
- +153/24.1. *Glyceria maxima* (Reed Sweet-grass) (Melyswellt y Gamlas). River bank, Dolwyddelan, SH73.52, J. & H. Lowell, 2005.
- +153/24.4. *Glyceria notata* (Plicate Sweet-grass) (Melyswellt Plygedig). Ditches near, Cilmeitin Farm, Glanwydden, SH80.79, W. McCarthy, 2005.
- +153/26.1. *Helictotrichon pubescens* (Downy Oat-grass) (Ceirchwellt Blewog). Grassy cliffs near the sea, Porth Oer near Aberdaron, SH16.29; +Along cycle track, Brynceir, SH47.44; both W. McCarthy, 2005.
- +‡153/68.1. *Echinochloa crus-galli* (Cockspur) (Cibogwellt Rhydd). †Disturbed ground near new superstore, Porthmadog, SH56.38, W. McCarthy & M. Stead, 2005.
- +‡153/PAN.mil. *Panicum miliaceum* (Common Millet) (Miled) †Disturbed ground by field gate, Dolgarrog, SH77.66, W. McCarthy, 2005.
- +158/20.2×3. *Hyacinthoides* × *massartiana* (*H. non-scripta* × *H. hispanica*) (a hybrid bluebell) (Clychau'r-gog Croesryw). Recorded in squares, SH5.7 & SH8.7, W. McCarthy, 2005.
- +‡158/23.2. *Muscari armeniacum* (Garden Grape-hyacinth) (Clychau Dulas yr Ardd). Grass bank near tram-way, Great Orme, SH77.82, J. Benson, 2005.
- +162/5.1. *Neottia nidis-avis* (Bird's-nest Orchid) (Tegeirian Nyth Aderyn). c.25 plants in limestone woodland, Glanwydden, SH80.79, W. McCarthy, 2005.
- +162/18.2. *Dactylorhiza maculata* (Heath Spotted-orchid) (Tegeirian Brych y Rhos). Grassy cliffs near the sea, Porth Oer near Aberdaron, SH16.29, W. McCarthy & M. Stead, 2005.
- +162/18.3a. *Dactylorhiza incarnata* subsp. *incarnata* (Early Marsh-orchid) (Tegeirian-y-gors Cynnar). Grassy cliffs near the sea, Porth Oer near Aberdaron, SH16.29, W. McCarthy & M. Stead, 2005.

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

- +14/2.1. *Phegopteris connectilis* (Beech Fern) (Rhedyneyn Gornio). Abandoned garden, Llangernyw, SH869.669, J.A. Green, 2005.
- +26/1.1. *Nymphaea alba* (White Water-lily) (Alaw). †Planted and established in garden pond, Llangollen, SJ203.434, J. Lawton-Roberts, 2002.
- +28/13.26. *Ranunculus fluitans* (River Water-crowfoot) (Crafanc-y-frân yr Afon). River Dee, Llangollen, SJ199.432, J. Lloyd Roberts, 2005.
- +31/5.1. *Fumaria capreolata* (White Ramping-fumitory) (Mwg-y-ddaear Gwyn). Footpath, Colwyn Bay, SH875.787, J.A. Green, 2005. 1st record since 1960.
- *‡32/1.occ×ori. *Platanus* × *hispanica* (*P. occidentalis* × *P. orientalis*) (London Plane) (Planwydden Llundain). Streamside, Alyn Waters County Park, Wrexham, SJ319.549, BSBI group, 2005, NMW. 1st record.
- +‡36/3.1. *Soleirolia soleirolii* (Mind-your-own-business) (Mam Miloedd). Bare soil in garden, Denbigh, SJ065.664; +Garden, St George, SH973.758; both J.A. Green, 2005. 2nd & 3rd records.
- +‡39/4.2. *Quercus cerris* (Turkey Oak) (Derwen Twrci). Woodland near houses, Colwyn Bay, SH842.787, J.A. Green, 2005.
- *‡39/4.3. *Quercus ilex* (Evergreen Oak) (Derwen Fythwyrdd). Self sown in deciduous woodland, Colwyn Bay, SH842.787, W. McCarthy, 2005. 1st record.
- +‡40/3.1. *Carpinus betulus* (Hornbeam) (Oestrwydden). Managed woodland, Colwyn Bay, SH843.785, J.A. Green, 2005.
- +46/7.10. *Cerastium diffusum* (Sea Mouse-ear) (Clust-y-llygoden Arfor). Sandy ground, Bersham, Wrexham, SJ312.481, K. Thorne, 2005.
- +46/17.3. *Spergularia marina* (Lesser Sea-spurrey) (Troellig Arfor Bach). Sea defences, Colwyn Bay, SH865.787, J.A. Green, 2005.
- +46/17.4. *Spergularia rubra* (Sand Spurrey) (Troellig Arfor Coch). Sandy ground, Bersham, Wrexham, SJ312.481, K. Thorne, 2005.
- +‡47/3.1. *Fagopyrum esculentum* (Buckwheat) (Gwenith yr Hydd). Bare ground, Gresford, SJ346.536, B. Formstone, 2005. 1st record since 1930.
- +51/1.15. *Hypericum montanum* (Pale St John's-wort) (Eurinllys Gwelw). Rocky limestone grassland, Eryrys, SJ201.570, J.A. Green, 2005.
- +51/1.16. *Hypericum elodes* (Marsh St John's-wort) (Eurinllys y Gors). Moorland flush, Esclusham Mountain, SJ240.509, J. Lawton-Roberts, 2003.
- +61/2.16. *Salix repens* (Creeping Willow) (Corhelygen). Alyn Waters Country Park, Wrexham, SJ316.551, J.A. Green, 2005.
- +‡62/17.1. *Lunaria annua* (Honesty) (Swllt Dyn Tlawd). Roadside, St George, SH968.751, J.A. Green, 2005.
- +‡75/8.9. *Rubus spectabilis* (Salmonberry) (Miaren Oren). Estate woodland, Hafodunas, Llangernyw, SH869.668, J.A. Green, 2005.
- *75/21.4×16. *Rosa arvensis* × *R. sherardii* (a hybrid rose). Hedge, small lane, St George, Abergele, SH967.757, M. Stead, 2005, NMW, det. R. Maskew. 1st record.
- +‡75/32.13. *Cotoneaster lacteus* (Late Cotoneaster) (Cotoneaster Diweddar). Top of slate wall, Llanrwst, SH795.622, W. McCarthy, 2005, det. J. Fryer. 2nd record.
- +‡75/32.37. *Cotoneaster dielsianus* (Diels' Cotoneaster) (Cotoneaster Diels). Quarry, Llandulas, SH912.777, W. McCarthy, 2003. 2nd record.
- *‡75/32.39. *Cotoneaster franchetii* (Franchet's Cotoneaster) (Cotoneaster Franchet). Quarry, Llandulas, SH913.777, 2003; +Managed wood, Colwyn Bay, SH845.784, 2005; both W. McCarthy. 1st & 2nd records.
- *‡75/32.40. *Cotoneaster sternianus* (Stern's Cotoneaster) (Cotoneaster Stern). Quarry, Llandulas, SH912.777, W. McCarthy, 2003. 1st record.
- +77/15.8. *Lathyrus sylvestris* (Narrow-leaved Everlasting-pea) (Ytbyesen Fythol Gulddail). †Grassland in public park, Wrexham, SJ317.547, BSBI group, 2005, det. S. Burton.

- +77/19.8. *Trifolium fragiferum* (Strawberry Clover) (Meillionen Fefusaidd). Grassland, Pentre Mawr Parc, Abergele, SH943.786, J.A. Green, 2005. 1st recent record.
- +82/1.2. *Daphne laureola* (Spurge-laurel) (Clust yr Ewig). Roadside wood, Graigfechan, SJ148.548, R. Whitehead, 2003.
- +84/1.3×8. *Epilobium* × *interjectum* (*E. montanum* × *E. ciliatum*) (a hybrid willowherb). Roadside, Ysbyty Ifan, SH850.492, J.A. Green, 2005, NMW, det. A.O. Chater. 2nd record.
- *84/1.7. *Epilobium roseum* (Pale Willowherb) (Helyglys Gwelw). Roadside, Pwllglas, SJ126.554, J.A. Green, 2005. 1st record.
- *‡102/1.8. *Oxalis articulata* (Pink-sorrel) (Suran Ruddgoch). Garden escape, St George, SH973.758, J.A. Green, 2005. 1st record.
- +107/16.1. *Berula erecta* (Lesser Water-parsnip) (Panasen-y-dŵr Gulddail). Lake edge, Erddig, SJ332.486, M. Rogers, 2005.
- +‡115/1.1. *Phacelia tanacetifolia* (Phacelia) (Ffaselia). Weedy field, Lanbedr Dyffryn Clwyd, SJ141.599, R. Whitehead, 2005, det. J.A. Green.
- +‡116/4.4. *Symphytum grandiflorum* (Creeping Comfrey) (Cyfardwf Lusg). Deciduous wood, Wrexham-Erddig NT estate, SJ328.483, J.A. Green, 2005, det. G. Kay.
- +118/1.5×6. *Stachys* × *ambigua* (*S. sylvatica* × *S. palustris*) (Hybrid Woundwort) (Briwllys Croesryw). Riverside, Llandulas, SH909.787, J.A. Green, 2005.
- +‡124/13.3. *Linaria purpurea* (Purple Toadflax) (Llin-y-llyffant Porffor). Ruined building, Colwyn Bay, SH833.802, J.A. Green, 2005.
- +‡129/1.10. *Campanula poscharskyana* (Trailing Bellflower) (Clychlys Ymlusgol). Edge of lane, Colwyn Bay, SH833.802, W. McCarthy, 2005.
- +130/6.3. *Galium uliginosum* (Fen Bedstraw) (Briwydd y Fign). Moorland, Esclusham Mountain, Minera, SJ250.507, BSBI group, 2005.
- +‡135/35.1. *Inula helenium* (Elecampane) (Marchalan). Laneside, Hanmer, SJ437.385, J.A. Green, 2005.
- +‡135/44.1. *Conyza canadensis* (Canadian Fleabane) (Amrhydlwyd Canada). +Railway yard, Llanrwst, SH794.622, W. McCarthy; +Disused gravel quarry, Wrexham, SJ357.559, J. Smith; both 2005.
- +135/48.3. *Tanacetum vulgare* (Tansy) (Tansi). Roadside, St George, SH965.755, J.A. Green, 2005.
- +135/62.12. *Senecio crucifolius* (Hoary Ragwort) (Creulys Lwyd). Grassland, Llandulas, SH917.778, J.A. Green, 2005.
- *‡135/62.3. *Senecio inaequidens* (Narrow-leaved Ragwort) (Creulys Gulddail). Garage forecourt, Denbigh, SJ054.669, J.A. Green, 2005. 1st record.
- +‡135/69.1. *Doronicum pardalianches* (Leopard's-bane) (Llyisiau'r Llewpart). Estate woodland, Hafodunas, Llangernyw, SH869.666, J.A. Green, 2005.
- +135/81.1. *Bidens cernua* (Nodding Bur-marigold) (Graban Gogwydd). Oxbow lake, Llanrwst, SH782.627, J.A. Green, 2005.
- *152/16.67×69. *Carex* × *decolorans* (*C. nigra* × *C. bigelowii*) (a hybrid sedge). Grassy summit, Cadair Bronwen, SJ078.346, S. Stille, 2005, NMW, det. A.O. Chater, M. Porter & R.W. Corner. 1st Welsh record.
- +152/16.7. *Carex spicata* (Spiked Sedge) (Hesgen Ysbigog Borffor). Roadside, St George, SH972.758, J.A. Green, 2005.
- +153/12.2. *Festuca arundinacea* (Tall Fescue) (Peiswellt Tal). Roadside, St George, SH970.746, J.A. Green, 2005.
- +153/21.1. *Catapodium rigidum* (Fern-grass) (Gwenithwellt Caled). Sandy ground, Bersham, Wrexham, SJ312.481, K. Thorne, 2005.
- +154/1.1c. *Sparanium erectum* subsp. *neglectum* (Branched Bur-reed) (Cleddlys Canghennog). Riverside, Llandulas, SH909.787, J.A. Green, 2005. 1st record since 1911.
- +‡158/20.3. *Hyacinthoides hispanica* (Spanish Bluebell) (Clychau'r-gog Sbaenaidd). Public park, Abergele, SH944.782, J.A. Green, 2005.
- +162/18.4. *Dactylorhiza praetermissa* (Southern Marsh-orchid) (Tegeirian-y-gors Deheuol). Grassland, Eglwyseg, SJ220.473, J. Lawton-Roberts, 2003.

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

- *‡29/1.9. *Berberis darwinii* (Darwin's Barberrry) (Pren Melyn Darwin). On established coastal dunes away from houses, Talacre, SJ12.85, J. Phillips, 2005. 1st record.
- *53/2.0lb×thu. *Lavatera* × *clementii* (*L. olbia* × *L. thuringiaca*) (Garden Tree-mallow) (Hocswyddden yr Ardd). Established garden throwout on waste ground, Mold, SJ238.644, J. Phillips, 1997; +Garden escape on public footpath, 2.4km NE of St Asaph, SJ054.757, J.A. Green, 2003. 1st & 2nd records.
- +‡61/1.1. *Populus alba* (White Poplar) (Poplysen Wen). Large suckering thicket behind coastal dunes, Talacre, SJ123.849, G. Wynne, 2005.
- +61/1.3a. *Populus nigra* subsp. *betulifolia* (Black-poplar) (Poplysen Ddu). Multi-stemmed 'thicket' behind dunes, Talacre, SJ123.849, G. Kay, 2005.
- +61/2.9×10. *Salix* × *smithiana* (*S. viminalis* × *S. caprea*) (Broad-leaved Osier) (Helygen-wiail Lydanddail). Dunes, Presthaven sands, Gronant, SJ100.846, G. Wynne, 2005.
- 74/10.1. *Parnassia palustris* (Grass-of-Parnassus) (Brial y Gors). Several hundred plants in flower on *Molinia*-dominant mire, Naid-y-march, Pantasaph, SJ160.749, M. Brummage, 2005.
- +‡75/32.34. *Cotoneaster bullatus* (Hollyberry Cotoneaster) (Cotoneaster Deilgrych). Rough ground on limestone (houses nearby). Leete path between Nant Alyn & Cilcain Hall, SJ19.65, G. Wynne, 2003. 2nd record.
- +75/35.8. *Crataegus laevigata* (Midland Hawthorn) (Draenen Wen Lefn). Hedge, Rhuddlan, SJ029.798, G. Wynne, 2003. 2nd record. Accepted as native as no evidence of recent plantings.
- +‡91/2.15. *Euphorbia cyparissias* (Cypress Spurge) (Llaethlys Cypreswydd). Coastal dunes, Presthaven sands, Gronant, SJ099.845, G. Wynne, 2005. 1st recent record for hectad
- +110/8.1. *Solanum nigrum* (Black Nightshade) (Codwarth Du). ‡Garden weed, Cilcain, SJ185.652, G. Harvey, 2005.
- *‡122/1.3. *Buddleja globosa* (Orange-ball-tree) (Coeden-fêl Peli Oren). Naturalised, Leete path, 1.6km SW of Rhydymwyn, SJ195.657, G. Wynne, 2003. 1st record.
- +125/2.10. *Orobancha minor* (Common Broomrape) (Gorfanhadlen). Waste industrial ground, Rhuddlan, SJ021.780, G. Wynne, 2003.
- *138/2.1. *Stratiodes aloides* (Water-soldier) (Milwr y Dŵr). Planted in pond, Tremeirchion, SJ093.732, J.A. Green, 2003. 1st record.
- *‡153/68.1. *Echinochloa crus-galli* (Cockspur) (Cibogwellt Rhydd). ‡Reclaimed industrial site, Rhydymwyn, SJ205.668, G. Wynne, 2003. 1st record.
- +‡153/70.pum. *Setaria pumila* (Yellow Bristle-grass) (Cibogwellt Melyn). ‡Reclaimed industrial site, Rhydymwyn, SJ205.668, G. Wynne, 2003. 1st record since 1917.
- +158/13.1. *Convallaria majalis* (Lily-of-the-valley) (Lili'r Dyffrynnoedd). Probable relic of cultivation, well-established, coastal dunes, Talacre, SJ118.849, G. Wynne, 2005. 3rd post-1970 record.
- 162/13.1. *Platanthera chlorantha* (Greater Butterfly-orchid) (Tegeirian Llydanwyrrdd). 132 flowering spikes on limestone grassland / scrub, Pantmwyn, SJ195.650, M. Brummage, 2005.

ANGLESEY, v.c. 52 (comm. N.H. Brown & I.R. Bonner)

- +10/2.1. *Trichomanes speciosum* (Killarney Fern) (Rhedynen Cilarne). Gametophyte under overhanging rocks in stream valley, Llangefni Dingle, SH454.761, S. Thomas, 2005, 2nd record.
- +17/3.2×3. *Dryopteris* × *complexa* (*D. filix-mas* × *D. affinis*) (a hybrid Male-fern). Deciduous woodland edge, Lligwy Wood, SH493.857, S. Thomas, 2005, **hb IRB**.
- +28/13.21. *Ranunculus baudotii* (Brackish Water-crowfoot) (Crafanc-y-frân y Morfa). Shallow water body near coast, Glyn Dwr, Valley, SH283.794, I.R. Bonner, 2005, **hb IRB**, conf. A.O. Chater.
- +45/3.1.d. *Montia fontana* subsp. *chondrosperma* (Blinks) (Porpin y Ffynnon). Wet grassland, Rhuddlan Fawr, SH489.814, I.R. Bonner, 2005.

- +‡62/11.3. *Barbarea intermedia* (Medium-flowered Winter-cress) (Berwr-y-gaeaf Canolig). Two plants in disused limestone quarry, Mariandyrys, SH604.809, D. Evans, 2005. 1st noted in 2004, 2nd record.
- +‡72/2.3. *Ribes nigrum* (Black Currant) (Llwyn Cwrens Duon). Willow scrub, Llyn Rhos-ddu, Newborough, SH426.648, I.R. Bonner & S. Priest, 2005.
- +75/9.14×15. *Potentilla* × *mixta* (*P. anglica* × *P. reptans*) (Hybrid Cinquefoil) (Pummalen Groesryw). Rocky outcrop, Breakwater Country Park, Holyhead, SH23.83, S. Thomas, 2003.
- +‡79/2.2. *Myriophyllum aquaticum* (Parrot's-feather) (Pluen Parot). Pool, Breakwater Country Park, Holyhead, SH23.83, S. Thomas, 2003.
- +‡99/1.1. *Acer platanoides* (Norway Maple) (Masarnen Norwy). Young tree, not knowingly planted in woodland, Coed Newydd, Lligwy, SH491861, C. Aron, 2005.
- +108/4.1. *Blackstonia perfoliata* (Yellow-wort) (Y Ganrhi Felen). ‡ Presumably introduced on surround to Recycling Centre, Gwalchmai, SH383.764, I.R. Bonner; + Source unknown, but widely scattered and presumed to be native in disused quarry, Graig Fawr, Pentre Berw, SH478.727, R. Finch; both 2005.
- +113/2.1. *Nymphoides peltatus* (Fringed Water-lily) (Lili'r-dŵr Eddiög). ‡ Open water, SH342.774, R. Birch, 2005. 2nd record; origin unknown.
- 116/4.3. *Symphytum tuberosum* (Tuberous Comfrey) (Cyfardwf Glorog). ‡ Limestone outcrop, Marianglas Common, SH505.845, I.R. Bonner, 2005, **hb IRB**, conf. A.O. Chater. Hectad update.
- *118/11.3. *Teucrium scordium* (Water Germander) (Chwerwyls y Dŵr). Presumably native on pool margin, Bryngwran, possibly introduced by wildfowl, SH349.768, R. Birch, 2005. 1st Welsh record.
- *‡135/22.1. *Lactuca serriola* (Prickly Lettuce) (Letusen Bigog). Roadside gravel, Valley, SH286.789, R. Birch, 2005. 2nd plant at SH2895.7867.
- +‡148/2.4. *Lemna minuta* (Least Duckweed) (Llinad Bach). Pool, by A55 near Anglesey Aluminium, SH259.808, I.R. Bonner, 2005.
- +152/16.29. *Carex vesicaria* (Bladder-sedge) (Hesgen Chwysigennaidd). Locally plentiful in pool, Llanlleiana, SH384.947, I.R. Bonner, 2005.
- *152/16.65×68. *Carex* × *prolixa* (*C. acuta* × *C. elata*) (a hybrid sedge). Fen, Cors Castell, SH49.80, R.H. Roberts, 1982?, **NMW**, det. A.C. Jermy. 1st record. From an un-named herbarium sheet passed on by Mrs Roberts.
- +153/55.1. *Elymus caninus* (Bearded Couch) (Marchwellt y Coed). Hedgerow, Malltraeth Marsh, SH461.717, G. Radford, 2003. Record extracted from the Anglesey Hedgerow survey
- 162/17.1. *Coeloglossum viride* (Frog Orchid) (Tegeirian y Broga). Calcareous grassland, Cors Goch NNR, SH498.813, S. Bosanquet, 2005. Unclear if this is a new location, or a re-discovery of the 1950-70s location, though this was usually cited as being in SH50.81.
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PLANTLIFE WALES
NEWSLETTER - 3

PLANTLIFE

Living up to it's name - *Lycopodiella inundata*

Lycopodiella inundata (Cnwp-fwsogl y Gors, Marsh Clubmoss) is not a common plant in Wales. While its decline here has not been as dramatic as that in England and some parts of Scotland, it nonetheless remains rare and is vulnerable to extinction at some of its sites. Plantlife Flora Guardians have been surveying this species in Wales. Recently a group of volunteers exceeded the call of duty in doing this, realising just how appropriate the epitaph *inundata* is in doing so.

Status in Britain

Lycopodiella inundata was once found in widely scattered sites throughout Britain. However, the Vice-county Census Catalogue lists it as not having been recorded since 1970 in an astonishing 38 Vice-counties. It is now extinct in East Anglia, the whole of the English Midlands and SE Scotland, and only just hangs on in SW England and the Lake District. The scale of this decline is revealed in the *New Atlas*, which shows losses from 178 hectads. Only 64 hectads (26%) have records dated from 1987 onwards. However, it is interesting to note that 67% of the losses occurred before 1970. Indeed, most losses were before 1930 and were largely due to the agricultural improvement of lowland wet heath.

Since 1998, *L. inundata* has been the subject of a UK Biodiversity Action Plan (www.ukbap.org.uk) and part of the Plantlife *Back from the Brink* programme of species recovery. Detailed analysis of the *New Atlas* data has shown that its range has reduced by 59% and this, combined with a continuing decline identified by BAP and Plantlife, means that it qualifies as Endangered in the *New Red List* (Cheffings & Farrell, 2005).

Welsh populations of *L. inundata*

Below is an inventory of all known sites in Wales. Both historical and modern sites are included, those with records since 2000 are in bold. Records were compiled from information supplied by Vice-county Recorders and a CCW Species Status Report (Evans & Hand, 1999). If anyone has information on additional sites, or more up-to-date records from any of those listed below, please do let me know!

Vice-county	Locality	Grid Ref	Year first recorded	Year last recorded	Protection	Trend
Pembs.	Brynberian Moor	SN1034 to SN1234	1931	2005	SSSI	Stable
Pembs.	Carn Goedog	SN128338	1982	1982		
Pembs.	N. of Carn Goedog	SN130340	1979	1979		
Pembs.	Afon Glunmaen	SN141343	1982	1982		
Merioneth	Llanmawddwy Dingle	SH81	1900	1900		
Merioneth	Llyn Cwm Bychan	SH645313	1915	1999	SSSI	Lost?
Merioneth	(unlocalised)	SH72	1930	1930		
Caerns.	Helyg	SH693597	1999	2005	SSSI	Declining
Caerns.	Llyn Cwmffynnon	SH648561	1999	2005	SSSI	Stable
Caerns.	Tal-y-braich	SH693603	1999	2005	SSSI	Declining
Caerns.	Capel Curig	SH7258	1695	1695		
Caerns.	Cors Bodgynydd	SH766596	1961	1999	SSSI	Lost?

Of the 12 known sites, only 4 are currently known to support plants; the status of two others is currently uncertain (*see below*).

Extant Populations

There are three main areas for *L. inundata* in Wales, two in Snowdonia and one on the flanks of the Preseli Mountains in Pembrokeshire. This latter is by far the longest recorded site, having been known there for 74 years. The earliest records for the current Snowdonia sites is 1999, although it was recorded in the Capel Curig area in 1695. All the sites are being monitored, by both BSBI Vice-county Recorders and Flora Guardians.

Survey problems

One of the big problems with monitoring *Lycopodiella inundata* is in deciding what to counting. The prostrate vegetative shoots branch and also produce upright cone-bearing shoots. The fertile shoots persist for just a few months, but vegetative ones live for several seasons, the older portions dying away while the growing tips continue creeping across the surface. After a few years large mats of shoots can form and it's impossible to determine where one "individual" begins and another ends. Sometimes, just a few isolated plants are found, but more often, tens of plants grow together. These can be counted as "patches" or "mats", but it is more useful to try and count the number of shoots, with all those physically connected together being counted as one (a pencil helps determine connections between plants!). This does, however, take time and some practice (lots of volunteers help too). In areas with hundreds of plants, it's easier to count the number within a quadrat and estimate the total population from this. The number of cones can also be counted, but since coning is very variable year-to-year and not every shoot produces a cone, this is not a good way of estimating population size.

A further complication comes with where the plants grow. Since many sites are extremely wet or even flooded in the autumn or winter, and plants are easiest to spot when they are coning in the late summer, August or September are perhaps the idea months for survey. Leaving it late is not a good idea. This year, a group of eight volunteers gathered on the 5th November to survey three sites in north Wales. During the time we were out in the mountains (4 hours), over 1in. of rain fell in gale-force winds (see photograph) - the worst weather on any field meeting I can remember! Although we re-found sites and estimated changes in population size, it was impossible to count plants. Gold stars to all the participants though, who were not only determined to complete the work but also remained jovial throughout!

Llyn Cwmffynnon, Caernarfonshire

This site lies between Pen-y-Pass and Glyder Fawr, and at 390 meters is the highest known population in Britain. Around the shore of this large oligotrophic lake are various flushes and wet areas, and it is in some of these that *Lycopodiella* grows. The geology of the area is complex, with various Ordovician dolerites, siltstones, tuffs and sandstones being exposed. Typically plants are found scattered on bare, peaty substrates, although they are also often found in open vegetation nearby. These microsites are usually flat and are always extremely wet, being kept open by inundation either by lake water or by small rivulets flowing into the lake. In summer the sites dry out slightly, but they never become completely dry. The plants are therefore reliant on inundation to keep competing vegetation down. Grazing and poaching (the trampling of mud by livestock) is also important in keeping some sites open, but appears to be less important at this site.

L. inundata here is found in M16 (*Erica tetralix* - *Sphagnum compactum* wet heath), M17 (*Trichophorum cespitosum* - *Eriophorum vaginatum* blanket mire) and M21 (*Narthecium ossifragum* - *Sphagnum papillosum* valley mire) vegetation communities (Evans & Hand, 1999). Regular associates include *Calluna vulgaris* (Heather), *Carex viridula* subsp. *oedocarpa* (Common Yellow Sedge), *Drosera rotundifolia* (Round-leaved Sundew), *Molinia caerulea* (Purple Moor-grass), *Narthecium ossifragum* (Bog Asphodel), *Rhynchospora alba* (White Beak-sedge) and *Sphagnum compactum*.

At least five separate populations have been recorded from around Llyn Cwmffynnon, mostly from the northern or south-western shores. Some of these are small and transient, while others are large and appear to be persistent. The largest population, discovered in 2002, is some way away from the lake shore, in an area of extremely wet valley mire. There is insufficient monitoring data to assess long-term trends, but the following gives an idea of short-term changes in populations.

Population number	1999 (numbers of plants)	2002 (numbers of plants)	2005 (estimated trend)
1	6	0 (searched, not found)	
2	99	610	slight decrease
3	150	0 (searched, not found)	
4	large number	460	stable
5		1225	stable

Helyg and Tal-y-braich, Caernarfonshire

These two populations are more-or-less opposite each other on either side of the Ogwen Valley (Nant y Benglog). The Tal-y-braich site (to the north of the road), is on a quite steep, flushed south-facing moorland slope. Despite the 30° angle, the vegetation is of M17

Trichophorum cespitosum - *Eriophorum vaginatum* blanket bog, perhaps indicating how heavily flushed it is. *L. inundata* grows in these flushed areas, but the site is more vegetated than Llyn Cwmffynnon, although the associates are similar. Plants also grow on the edge of a ditch at the base of the slope. When surveyed in 1999, when 14 plants were recorded, the site was well grazed and heavily poached, with areas of bare peat being exposed. In 2002, 269 were recorded and the site was still well grazed. This year we found much less evidence of grazing, and much less open peat. A thorough survey could not be held because of the weather but the plant appears to have declined at this site due to the lack of grazing.

On the other side of the valley, *L. inundata* occurs in very similar conditions, but this time on a less steep, north-facing slope. Plants occur in wet, flushed M6 *Carex echinata* - *Sphagnum recurvum* mire, with very similar associates to the other sites. However, most plants occur on the eroded edge of a track rather than in the denser vegetation on the slope. The track is kept open by walkers, livestock and machinery. In 1999, 336 plants were counted. In 2002 this had dropped to 194, and this year we found less than 20. The population is clearly declining but the reasons are uncertain. The track seems to be more heavily used by walkers and machinery and much of the bare peat is now more or less liquefied, perhaps making it unsuitable. The level of disturbance might just be too high. Future monitoring of the site will need to examine the state of the habitat as well as the numbers of plants.

Cors Bodgynydd, Caernarfonshire

This well known North Wales Wildlife Trust reserve lies in the Gwydyr Forest, 6km east of Capel Curig, and consists of a complex of bogs and heaths. First recorded here in 1961, *L. inundata* has not been found since 1999, mainly because the bare peat on which it grew have become overgrown through a lack of grazing. Unfortunately, arranging grazing on this remote upland site has proved impossible. However, the Wildlife Trust has organised new bare-peat patches to be excavated by mini-digger this year and the site will be monitored carefully in the future.

Llyn Cwm Bychan, Merionethshire

This site is a heavily grazed boggy area at the east end of Llyn Cwm Bychan (5 km east of Harlech). *L. inundata* grows in a wet flush with sphagnum and sundews (M21 *Narthecium ossifragum* - *Sphagnum papillosum* valley mire, Evans & Hand, 1999). The 1999 record was the first since 1920. Only 13-15 individuals were found, but the site has not (to my knowledge) been visited since and updating the record and assessing the condition of the site is a priority.

Brynberian Moor, Pembrokeshire

At least 11 populations of *L. inundata* are scattered over a 3 km stretch of Brynberian Moor, which lies 8 km SE of Newport on the NW flanks of the Preseli Mountains. The moor is heavily sheep grazed and the plants grow in bryophyte-rich springs and rills, especially where these are crossed by sheep-tracks or have historically been disturbed by vehicles or have been eroded to leave bare peat surfaces. Associates are similar to the North Wales sites, and include *Carex viridula* subsp. *oedocarpa* (Common Yellow Sedge), *Drosera intermedia* (Oblong-leaved Sundew), *Molinia caerulea* (Purple Moor-grass), *Narthecium ossifragum* (Bog Asphodel) and *Rhynchospora alba* (White Beak-sedge). Again, some plants grow on bare peat, while others grow amongst other vegetation or on *Sphagnum* moss.

The plant has been known here since 1931, and regular and detailed population counts are undertaken by Steven Evans (Vice-county Recorder and Flora Guardian). All the Pembrokeshire sites listed in the inventory are part of “Brynberian Moor”, but the three not

shown in bold are to the south and east of the remaining sites. Although one small population in the west may also have disappeared, the others appear to be largely stable, notwithstanding the usual fluctuations that seem to be typical of this species. As long as grazing levels on the moor remain as they are, remaining populations should persist.

Welsh *Lycopodiella inundata* in a British context

Apart from having Britain’s highest population, *L. inundata* in Wales is notable in occupying two subtly different habitats. The majority of sites are on well-flushed acidic moorland, growing on or near bare peat that has been poached or disturbed by vehicles, erosion or cutting. In this way, these sites resemble those in southern England, especially the New Forest, where *L. inundata* typically occurs on heathland trackways. The Llyn Cwmffynnon population, however, grows around the edge of a lake and annual winter flooding is the chief mechanism by which the substrate is kept open. In this case there are more similarities with many Scottish populations, which are classically found around lochs.

Why is this species not more widespread in Wales? It may well be under-recorded (populations are often small and easily overlooked), but there must be hectares of apparently suitable habitat across the country. It is likely that there are unknown details of microhabitat, soil chemistry, climate and management history that limit its distribution.

Future work

As well as monitoring all known populations regularly, the status of the Merioneth population needs to be ascertained. Management at Cors Bodgynydd and Tal y Braich also needs to be addressed, although for the latter it is uncertain why the species is declining. It would be good to investigate the loss of populations from the edges of Brynberian Moor (especially to the east and south of remaining populations) and re-introduce appropriate management should this be the reason for their loss.

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