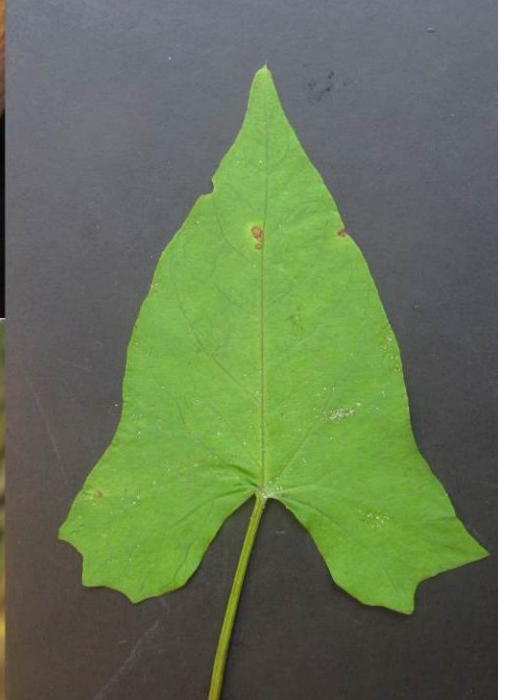


1: *Oenothera stricta* at Llanrhaeadr-ym-Mochnant, Denbighshire © Sue Swindells

1: *Oenothera stricta* records in England (v.c.1-70). See page 29.



3: Main features of *Calystegia sepium* cf. ssp. *angulata*, seaward edge of Aberffraw Dunes. © Ivor Rees. See page 20.

Front Cover: *Diphasiastrum alpinum* (Alpine Clubmoss) on coal spoil, at Pwll Du, by the Bloenge. Monmouthshire. © Steph Tvler. See page 23.

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Items for inclusion in the next Welsh Bulletin should be sent to Richard Pryce by **1 May 2018**: Pryceeco@aol.co.uk

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See www.bsbi.org.uk/wales.html for back issues. Printed versions of some back issues are still available on request @ £2.50 per issue; please contact Sally Whyman or Katherine Slade. Cheques are payable to BSBI (the BSBI Wales bank account has now closed). Future issues are available to BSBI members living outside of Wales by sending £2.50 in advance.

Goodbye to Wales

POLLY SPENCER-VELLACOTT *pollyspencervellacott@gmail.com*

By the time you read this I expect to have left Wales. It is with great sadness that I am relocating to Perthshire, Scotland, with my family, and have therefore left the Welsh Officer post. I was very glad to hear that Paul Green is returning, as I know the Welsh recorders and members will be. However, having lived in Wales for the majority of my adult life, it is a huge step for me to try another part of Britain. I look forward to meeting some Scottish botanists and continuing my involvement with the BSBI on a voluntary basis, but I will miss the Welsh botanists who I count amongst my friends. It has been a pleasure and a privilege to serve as the first Welsh Officer for the BSBI, over the past six years, and I would like to thank each and every Welsh member and recorder for this experience.

Sad News

As we go to press, we are sorry to have to convey the sad news of the death of Dr Quentin Kay on 18 December 2017. Quentin was a highly thought of genetic botanist having written many academic papers on the subject. He was also very active in BSBI being, for many years, vice-county recorder for Glamorgan (west) and a member of the BSBI Committee for Wales. He was also on the steering group which was instrumental in setting up the National Botanic Garden of Wales in Carmarthenshire.

The little church at Llanmadoc near his home at the north-western corner of Gower was packed with mourners at the funeral on 10 January with Julian Woodman, Gwynn Ellis, Tim Rich, Barry Stewart, Charles and Hillary Hipkin and me representing BSBI. Our sincere condolences are extended to Eileen and the family. A full obituary will be printed in the BSBI Yearbook in due course.

Richard Pryce

Welsh Officer's Update

PAUL R. GREEN, *11 Co Op Lane, Pembroke Dock, Pembs, SA72 6XL*
Email: paul.green@bsbi.org. Mobile: 07772 111113 Landline: 01646 689199

I started back as Welsh Officer on 18th October 2017. It was not clear sailing as I had planned to arrive in Wales on the 16th, but because of storm Ophelia, the ferries across to Wales were cancelled. Instead, I had to wait until the following day to head over to Rosslare Ferry Port. It was a strange drive as the majority of Co. Wexford was in complete darkness, with the only lights on at Rosslare Harbour. The power was out for a total of 6 days at my Irish address. At least in Pembroke Dock, I had the power on and could start to work as planned on the Wednesday. Living, as I do, within walking distance of the ferry terminal, I get a constant reminder of Co. Wexford. Nolan Transport, a lorry company for cargo and freight with their headquarters at New Ross, Co. Wexford, also have a base at Pembroke Dock, meaning I often see their lorries coming and going.

My first excursion into Wales was to call into a filling station. The cashier commented that my car had registration plates (Republic of Ireland plates) which she liked seeing because her husband was from Co. Wexford. We got chatting and it turned out that my hairdresser at Wellingtonbridge, Co. Wexford was her sister-in-law. It is a small world!

My work office is one corner of a room in my flat at Pembroke Dock. It is very convenient when doing office based work but, as I have found out, living in the very southwest corner of Wales is not very practical when it comes to using public transport. I attending the BSBI AEM in London, on 25th September and the earliest train didn't depart for London until 6.15 am while the earliest bus was at 1.15 am. It had to be the latter to enable me to arrive at the Natural History Museum, London in time to help set up the room for all the exhibits. I had prepared a display on Welsh Rare Plant Registers but attending the meeting had necessitated spending 15 hours on a bus in one day - not my idea of fun!

Over the next six months, I'm hoping I will be able to meet many of you, on field meetings around Wales. I will be leading four meetings and helping with others. I will also be out and about surveying rare species across Wales (mainly in the southwest). You are very welcome to join me at any time. Just send me an email or give me a ring and we can arrange to meet up.

BSBI Field Meetings Wales - 2018

ANDY JONES, *BSBI Field Meetings Secretary*

Many thanks to everyone who has offered to lead field meetings in 2018. Please keep your ideas coming - you do not need to be a vice-county recorder, though it is a good idea to talk to your local recorder first. Full details of all meetings are in the BSBI Yearbook for 2018.

[Date to be arranged]

Winter twigs.

Cardiganshire (v.c. 46) Aberystwyth

Leader: John Poland. Book with Andy Jones aberystwyth1234@gmail.com

Sunday 25 March

Training meeting on early spring dune species.

Pembrokeshire (v.c. 45) Freshwater West, Gupton Burrows

Leader: Paul Green

Saturday 21 April

With a *Viola* theme.

Glamorgan (v.c. 41) Port-Eynon

Leader: Paul Green

Thursday 3 May

Early spring species of short rocky turf and hopefully re-find *Trifolium subterraneum* (Subterranean Clover).

Cardiganshire (v.c. 46), Mwnt

Leader: Paul Green

Thursday 17 May

Workshop on Willows.

Carmarthenshire (v.c. 44) Llanelli Wetland Centre

For further information, please contact the BSBI Welsh Officer, Paul Green paul.green@bsbi.org. Tel: 07772111113.

Saturday 2 June

Recording/General in a mosaic of wet pasture, rush pasture, sand dunes and shingle beach.

Caernarvonshire (v.c. 49) Morfa Dinlle

Leader: Wendy McCarthy (wendorme@aol.com)

Saturday 30 June

Recording meeting for under recorded SN84 hectad: marshy grassland, streams and ancient woodland.

Breconshire (vc42) Llanwyrtyd Wells

Leader: Please book with John Crellin (jrc@floralimages.co.uk).

Saturday 30 June

An opportunity to see a wide range of sand dune and low coastal cliff species.

Anglesey (v.c. 52) Newborough Forest, Llanddwyn and Newborough Warren

Leader: Nigel Brown (n.brown@bangor.ac.uk) and other members of the local flora group on Anglesey.

Friday 20 – Monday 23 July

To update records at tetrad level for Atlas 2020.

Merioneth (v.c. 48) Caerdeon (Residential)

Leaders: Sarah Stille (mossysal@btinternet.com) and others

Monday 23 to Monday 30 July

Recording and monitoring for Atlas 2020 and the County Flora, including *Rubus* recording/training for those who are interested.

Carmarthenshire (v.c. 44) Glynhir Residential Meeting

Leaders: Rob Randall, David Earl, Kath and Richard Pryce

Tuesday 24 July

To record monad SH08S across open access land and along footpaths (some bog and upland).

Montgomeryshire (v.c. 47) Recording Meeting

Leader: Please book via Gill Foulkes (gillian.foulkes@yahoo.co.uk Tel. 01650 511821)

Friday 27 July

Recording meeting to update the site list.

Merioneth (v.c. 48) Morfa Harlech NNR

Leader: Jo Clarke. Book via Sarah Stille (mossysal@btinternet.com)

Friday 17 - Sunday 19 August

Cardiganshire (v.c. 46) Aberystwyth BSBI Wales AGM

See page 12 for more details, also on the website.

Wednesday 12 September

Peterstone Gout estuary

Monmouthshire (v.c. 35) (Recording and Training) Gwent Levels

Leaders: Steph Tyler and Elsa Wood (Contact Elsa: info@thenurtons.co.uk)

Saturday 15 September

A visit to the saltmarsh, ditches and sand-dune transition of the Dyfi Estuary.

Cardiganshire (v.c. 46) Dyfi Saltmarsh

Leader: Andy Jones (aberystwyth1234@gmail.com)

Minutes of the 2017 BSBI Wales

55th Annual General Meeting

Stamford Gate Hotel, Holywell, Flintshire
Wednesday 6th June 2017 at 8:00pm

1. **Welcome:** The Chairman, Julian Woodman welcomed everyone to Holywell.
2. **Apologies for Absence:** Ian Bonner, Gill Barter, Penny Condry, Liz Dean, Margaret Perring and Sue Spencer.
3. **Minutes of 2016 AGM:** Minutes of the 54th Annual General Meeting held at The Barn, Brecon on 13th July 2016, as printed in Welsh Bulletin No.99, were agreed by all present and signed by the Chairman as a true record of the proceedings.
4. **Matters Arising:** None.
5. **Chairman's Statement:** Julian Woodman thanked everyone involved in arranging this AGM, including organisers and field meeting leaders and extended thanks to all those attending, especially the President, John Faulkner. Julian went on to say that a full set of Rare Plant Registers will be soon available for Wales on the BSBI website and thanked Polly Spencer-Vellacott, the BSBI Welsh Officer, for all her work towards this outstanding achievement. He told those present that Andy Jones is retiring as Rare Plants Specialist from NRW and that Andy has been instrumental over the years in securing funding to employ a BSBI Welsh Officer. Andy was thanked for all his support and this prompted a round of applause. The Chairman continued by saying that NRW will employ a replacement to Andy's post. NRW acknowledges the value of the records and threatened species monitoring that BSBI provides. Julian concluded by saying that the final years of Atlas 2020 recording will, as well as involving more fieldwork, include the most important task of verifying and validating records input to the DDb.
6. **Hon. Secretary's Report:** Elsa Wood began by echoing the Chairman's thanks to all those who helped to arrange this AGM, particularly Jonathan Shanklin, Emily Meilleur and Gail Quartley-Bishop. She also thanked those who continue to work so hard to produce the Welsh Bulletin, namely Richard Pryce, Kath Slade and Sally Whyman as co-editors and said that the next issue would be number 100. At this point she asked Richard to update on the production of issue 100. He said that at least eight articles would be included

on the theme of botanical changes in Wales since the first issue appeared in 1964 as well as a substantial section new Welsh Plant Records made during 2016. He appealed for more articles from members at the meeting who might have recollections from the past. The Hon Sec. then took-over to remind those who live outside Wales that the Bulletin was available at £2.50 per copy.

7. Welsh Officer's Report: Polly Spencer-Vellacott reported that she has provided continued support for the Welsh VCRs, including informal support, help with RPRs, Mapmate, DDB and organising training courses. These courses covered *Euphrasia* (Chris Metherell), *Dryopteris* (Fred Rumsey) – due to be repeated in autumn 2017 and a use and validation course of the DDB for VC Recorders. There had been considerable progress in supplying records to the DDB and she thanked the VC Recorders and Tom Humphrey. There are now 2.8 million records from Wales on the DDB and 1.7 million of those are post 2000 records. Polly went on to say that progress for the Atlas was good and could be measured by the number of “smarties” (a “smartie” being a current record (red dot) for a species in a 10km square). She spoke about the event celebrating the completion of the project to provide a RPR for every county in Wales, which had taken place at Aberystwyth University which had involved her in interviews for BBC Radio Wales and on TV, in Welsh. Updates to the older RPRs will also be completed soon. She mentioned the need to survey rare species and would provide Threatened Plant Project forms to VCRs. Finally, she thanked the VCRs, NRW, Andy Jones and BSBI for their support and, in response, the Chairman thanked Polly for all her excellent work.

8. Election of Officers and Committee Members:

The following continue in their posts as officers of the Committee for Wales: Julian Woodman as Chairman, Stephanie Tyler as Vice Chairman and Elsa Wood as Hon. Secretary. The Meetings Secretary, Sarah Stille was standing down and Andy Jones had offered to take-on this role. Although the Welsh Treasurer's post had lapsed due to funds now being held centrally, Liz Dean still played a vital role liaising with central BSBI. Only one member of the Committee, Ian Bonner, was due for re-election this year but he wished to retire and the gathered members expressed their sincere thanks to Ian for all his work on the committee over many years. It was proposed that the Officers and Committee members be re-elected *en-bloc*. This was proposed by Richard Pryce and seconded by Emily Meilleur.

The Committee now comprises:

Chairman:	Julian Woodman
Vice Chairman:	Stephanie Tyler

Secretary:	Elsa Wood
Treasurer:	Liz Dean
Bulletin Co-editors:	Richard Pryce (co-opted: Katherine Slade & Sally Whyman)
Meetings:	Andy Jones
Minutes:	Kath Pryce
Members:	Steve Chambers, Liz Dean, Stephen Evans, Sue Spencer, Sarah Stille, Kate Thorne, Delyth Williams and Ray Woods.
NRW Observer:	vacant
Plantlife Representative:	Colin Cheesman

9. Any Other Business:

1. Polly invited bookings for Wendy McCarthy's *Rubus* meeting on Llyn, as there were still a few places left.
2. Next year's AGM 2018 would take place in Ceredigion. It was suggested that a location near to rail or bus connections would be helpful.

The meeting concluded at 8:35pm.

Welsh AGM 2017 held in Holywell, Flintshire

JONATHAN SHANKLIN

(This is an abstract taken from Jonathan Shanklin's report on the Annual summer meeting that will appear in BSBI News).

The 55th Welsh AGM was held at the Stamford Gate Hotel in Holywell as part of the BSBI Annual summer meeting.

Before the AGM meeting itself on the evening of Wednesday 6th June, there was an announcement from the President, John Faulkner. He explained how the President's award was made for a major contribution to the understanding of the flora and that it could be award for a book, paper or other piece of research. He noted how useful the BSBI DDb was for exploring the flora at all scales and that he was delighted to award the prize to Tom Humphrey.

The organised field trips were to Gronant dunes on the coast in the morning and to the limestone escarpment of Graig Fawr in the afternoon. At the dunes

a good assemblage of plants including *Filipendula vulgaris* (Dropwort), *Vulpia fasciculata* (Dune Fescue), *Eryngium maritimum* (Sea Holly) and *Oenanthe lachenallii* (Tubular Water-dropwort) were recorded.

The afternoon visit to the limestone yielded goodies such as *Epipactis atrorubens* (Dark-red Helleborine), *Veronica spicata* (Spiked Speedwell), *Juniper communis* (Juniper) and *Helianthemum oelandicum* (Hoary Rock-rose).

There were several exhibits on view during the course of the meeting. Polly Spencer-Vellacot had a display about her grandfather A.G. “Geoffrey” Spencer, who had inspired her into botany and on the Welsh Rare Plant Registers. Martyn Stead had a display on Polypods, which helped many to understand the differences between the species. Jeremy Ison had a poster about the flora and vegetation of Ramsey Island/Ynys Dewi, whilst Jonathan Shanklin had one showing excerpts from some diaries from the Great War, which mentioned flowers from around Llandudno. John Edmondson, who lives locally, also had a display of second-hand and antiquarian books (Acanthophyllum Books)

The speakers who filled the evening and afternoon slots included David Earl demonstrating his on-line bramble key that he is developing; Jonathan Shanklin on Scientific Discovery from the Great War to the Antarctic ozone hole and Goronwy Wynne on the history of botanical recording in Flintshire.

Those who stayed on for the last two days split into groups of four and did recording for Atlas 2020 in some under-recorded tetrads in the county. The 50 participants between them made records of 836 species from 30 tetrads.

After the ASM was over, more than 7400 records were digitised. Most cards had at least one post 2000 hectad record and quite a few included plants rare in the county. Some had new post 2000 county records, but how many actual county records were made will require further verification by the county recorder.

Our thanks go to Jonathan Shanklin for organising such a successful and interesting AGM and ASM.

BSBI Annual Summer Meeting & 56th Welsh AGM & 36th Welsh Exhibition Meeting

Friday 17 - Sunday 19 August
Cardiganshire (v.c. 46) Aberystwyth

Talks, workshops and exhibits will reflect the very special character of Cardiganshire and we offer very comfortable accommodation (at Aberystwyth University), good transport links and much else besides at this popular seaside resort.

Field meetings to include arable fields at the nearby Institute of Biological, Environmental and Rural Sciences (IBERS) - the former Plant Breeding Station - and pteridophyte-rich metal mines at Esgair Hir / Esgair Fraith.

Watch out for more information on the BSBI Wales'
webpage: bsbi.org/wales

Anglesey Plants in 2017

IAN BONNER, *Joint vice-county recorder for Anglesey, v.c.52*
Email: bonner@caetrefor.co.uk & n.brown@bangor.ac.uk

This year has seen changes in the recorder-ship with Hugh Knott retiring as Joint Recorder, but continuing as a field recorder and Nigel Brown is welcomed back in his place.

2017 started with the New Year Plant Hunt, which included finding *Geranium columbinum* (Long-stalked Crane's-bill) in flower on the coast, just west of Aberffraw.

Confirmation was received from Ian Denholm & Richard Bateman of the June 2016 record of the hybrid between *Dactylorhiza purpurella* (Northern Marsh-orchid) and *Dactylorhiza traunsteineroides* (Narrow-leaved Marsh-orchid) on Cors Bodeilio NNR, SH5000.7755 by Nigel Brown. The single flowering plant was growing with both parents in a calcareous mire. This is a scarce

hybrid, indeed this would appear to be the first confirmed record from Wales (Stace *et al.* 2015).

Also carried forward from 2016 was the inputting of several thousand additional monad records, mainly collected by Debbie Evans, who has contributed a truly formidable number of records to the database.

Another significant block of data came from Martyn Stead with his 2016/17 winter survey of *Polypodium* (Polypodies), collecting some 650 specimens which he determined as follows:

- *Polypodium interjectum*: 414 (62%)
- *Polypodium vulgare*: 178 (27%)
- *Polypodium cambricum*: 4 (0.6%)
- *Polypodium vulgare* x *P. interjectum* = *P. x mantoniae*: 63 (9.5%)
- *Polypodium vulgare* x *P. cambricum* = *P. font-queri*: 1 (0.15%)
- *Polypodium interjectum* x *P. cambricum* = *P. shivasiae* : 1 (0.15%)

Of particular interest were the 63 records of the hybrid *P. x mantoniae*, confirming R.H. Robert's view that, though easily overlooked, this was a common plant along roadside banks across the island.

Several visits have been to update details of some of the rarer and scarcer Anglesey species, especially those not seen since before 2000. Amongst these in April, *Ranunculus tripartitus* (Three-lobed Crowfoot) (image 15 on back cover) was reconfirmed on the wet section of the coastal path near Rhoscolyn, SH26.75; at Tre Wilmot SSSI, Holyhead, SH22.81 and Salbri Bog SSSI, SH37.88 - all quite healthy populations. However, at nearby Llyn Hafodol SSSI, SH39.88, only one/two plants were noted - probably due to the lack of the usual cattle trampled mud.

Still in April six plants of *Helleborus viridis* (Green Hellebore) were counted in the woods at Porthamel NWWT Reserve, SH50.68, at what is now its only Anglesey location.

Ranunculus auricomus (Goldilocks Buttercup) was also still scattered through the small wood by the shore of the Menai Strait at Moel y Don, SH51.67 and along the mound at Lleiniog Castle, SH61.79, but could not be re-found in the nearby woods by the Afon Lleiniog in Llangoed, the area now dominated by *Allium ursinum* (Ramsons) and *Lamium galeobdolon* ssp. *argentatum* (Garden Yellow Archangel). The best population is still along the verge of the minor road from Cichle to Glan-yr-afon, SH598.793.

A visit to Fedwr Fawr refound the tiny population of *Antennaria dioica* (Mountain Everlasting) (image 13 on back cover) in SH60.82, about 50

inflorescences in an area of 40 x 20 sq. cm., but the small population on the National Trust's nearby Bryn Offa site, SH57.91, appeared to have been destroyed by gorse removal, despite the site being well known to the Trust and visited by two of their staff in 2012.

Encouragingly at Fedwr Fawr about 36 stems of *Huperzia selago* (Fir Clubmoss) were counted in a 10m x 10m block of heathland, more than had been seen for many years. However, it is easily overlooked and this visit benefited from many pairs of eyes during a Flora Group visit. Apart from a small population on Mynydd Bodafon, *H. selago* has disappeared from all its other Anglesey localities. Later in the year at Fedw Fawr some 30 plants of *Selaginella selaginoides* (Lesser Clubmoss) were counted on the wet heath, the last record from here was in 1961 – this was the last date here too for *Drosera rotundifolia* (Round-leaved Sundew), but this was not re-found.

Both species were found later in September at Cors Goch Nature Reserve during a field meeting with members of the Wildflower Society, as part of their AGM in Llandudno (image 12 of *Drosera rotundifolia* on back cover).

On nearby Bwrydd Arthur SH58.81, *Helianthemum oelandicum* (Hoary Rock-rose) was just coming into flower in early May on the south facing limestone outcrops, though invading Ivy and scrub will threaten the site unless further management is undertaken fairly soon. Also seen were *Avenula pratensis* (Meadow Oat-grass) at what is probably its only Anglesey location, and *Arabis hirsuta*, (Hairy Rock-cress) a plant that has declined markedly in recent years.

In early June a Flora Group visit to the limestone just west of the NWWT Mariandrys reserve re-found the small population of *Potentilla tabernaemontani* (syn. *P. neumanniana*) (Spring Cinquefoil) at its only Anglesey locality in SH59.80 and intermixed with it about 20 plants of *Trifolium scabrum* (Rough Clover), (image 17 on back cover) the first record from the east side of Anglesey.

Continuing the search for plants with no post 2000 records, Jane and Ivor Rees re-found *Calystegia soldanella* (Sea Bindweed) in small quantity in dunes at Glan Halen, near Llanddona, at the east end of Red Wharf Bay, the first record from this coast since 1970. More excitingly, still on the east coast, it was found in the small area of dune at Traeth Lligwy, Moelfre, SH49.87 – a new hectad record. Also in the dune at Lligwy was a single plant of *Eryngium maritimum* (Sea-holly) – another reconfirmation of a pre-2000 record. In late June, a large population of *Euphrasia officinalis* ssp. *anglica* (English Eyebright) was found on Newborough Warren straddling SH41.64 & 42.64 close to the path from Llyn Rhos-ddu to the seashore, the first confirmed

record from Anglesey since 1956 (image 14 on back cover).

Publication in 2017 of the new BSBI Handbook on Violas has stimulated some new records. Several *Viola odorata* (Sweet Violet) clumps were determined to varietal level with both var. *dumetorum* and var. *imberbis* being noted. In the past there has been a reluctance to record the hybrid between *Viola riviniana* (Common Dog-violet) and *Viola reichenbachiana* (Early Dog-violet) because of the variability of the parents, but stimulated by the new book records of *Viola x bavarica* have been forthcoming this year. More significantly *Viola x scabra*, the hybrid between *Viola odorata* (Sweet Violet) and *Viola hirta* (Hairy Violet) was found by Jane & Ivor Rees near Llanidan in SH49.65. It was confirmed by both Michael Foley & Michael Porter and as well as a new vice-county record, may well be the first post-2000 Welsh record.

Staying with violets, Ivor Rees has sent in two pictures of the results of heathland management on the RSPB's Penrhosfeilw Common Reserve, near South Stack, Holyhead. The first from March 2015 shows a recent, rather drastic looking, scrub-cleared area being viewed by Peter Marren, James Robertson & Ian Bonner, the second in May 2017 demonstrates the benefit, a healthy growth of *Viola lactea* (Pale Heath-violet).

A colony of *Allium ampeloprasum* var. *ampeloprasum* (Wild Leek) has been known from the roadside at Ty Mawr, SH21.81 on Holy Island since at least 1970. However, in 2017 a single flower spike of a Wild Leek found by J & I Rees amongst bramble and bracken near Porth Tywyn-mawr, Llanfwrog, SH290.849 has been confirmed by Paul Green as the endemic *A. ampeloprasum* var. *babingtonii* - a first county record.

A surprise find on a Flora Group visit to the coast near Llandonna was a plant of Juniper, thought to be *Juniperus communis* ssp. *communis* but a horticultural form. The only other Anglesey records are from Holyhead Mountain, though it does grow only some 12km away on the Great Orme.

An exciting Stonewort find by Tristan Hatton-Ellis of Natural Resources Wales, was *Lamprothamnium papulosum* (Foxtail Stonewort) growing in the Inland Sea, just north of Four Mile Bridge, in shallow water with *Zostera noltei* (Drawf Eelgrass) and *Ruppia* (Tasselweed) probably a first Welsh record.

An end of season rediscovery by James Robertson was of *Hypericum hirsutum* (Hairy St John's-wort) in a limestone field wall at the Cors Goch NWWT reserve, SH50.81. It had been noted in 2010 on limestone rocks in the grounds of Cae Trefor, Tynyngogl, SH50.82, where it was inclined to spread and had probably been present for several years. Otherwise, this was a plant only

recorded on limestone ledges in a former quarry at Brynsiencyn, SH49.67 by R.H. Roberts in 1973 and thought to be lost due to quarry infilling.

Dactylorhiza praetermissa (Southern Marsh-orchid) was first confirmed in the vice-county at Plas Newydd in 2013 during the BSBI AGM. It has taken until 2017 for the second record - from Plas Cadnant, Menai Bridge, SH55.73, a single spike in the woodland garden, found by Nigel Brown.

Another orchid of interest was *x Dactyloдения st-quintinii*, the intergeneric hybrid between *Dactylorhiza fuchsii* (Common Spotted-orchid) and *Gymnadenia borealis* (Heath Fragrant-orchid) found and determined by David Nelson at the foot of the limestone scarp on Cors Goch, SH50.81 in June. The only other recent record is from Cors Erddreiniog in 2002.

A hybrid new to Anglesey was *Galeopsis x ludwigii* the cross between *G. bifida* (Bifid Hemp-nettle) *x G. tetrahit* (Common Hemp-nettle) just a single plant, on a gravelly trackside near Cefni Reservoir, Llangefni, found by Nigel Brown.

Among new neophyte taxa were *Allium roseum* (Rosy Garlic) a clump by the coastal path, Red Wharf Bay, SH530.814, 2016 and a clump by the B5110 between Brynteg and Llangefni, SH476.783, 2017, both found by Nigel Brown. Also *Cyrtomium fortunei* (Fortune's Holly-fern) (image 16 on back cover) established in the forestry plantation to the south-east of Mynydd Bodafon, SH47.84, Hugh Knott and *Eleagnus x submacrophylla* (*E. macrophylla* (Broad-leaved Oleaster) *x E. pungens* (Spiny Oleaster), Lleiniog, SH62.79, Nigel Brown, planted just above the shoreline.

Day lilies have been noted along the shoreline of Llyn Llywenan, SH34.82 before, but this year Debbie Evans determined them as *Hemerocallis lilioasphodelus* (Yellow Day-lily). Other Day-lily records have been of *H. fulva* (Orange Day-lily).

Frankenia laevis (Sea-heath) has been known on the silty/sandy shore of the Crigyll Estuary, Rhosneigr, since 1965 and has spread locally to occur in parts of four monads. However, this year Chris Metherell has reported finding it at Newborough, SH39.63.

All the records received so far are in the BSBI database and in late November, the BSBI issued maps at monad and tetrad level to show progress towards Atlas 2020 for each vice-county. The Anglesey priority over the remaining two years of the Atlas project will be to re-find native taxa that have not yet been recorded since before 2000 and to progress the validation of records in the Distribution Database (DDb). We will also continue to welcome any records at the monad level, especially for the scarcer taxa in the Rare Plant Register

More photographs of the Anglesey flora can be seen on Hugh Knott's website "A Flora of Anglesey": www.cambriaflora.net

Thanks are due as always to all those who have supplied records in 2017 and especially to Nigel Brown for organising eight meetings of the Flora Group and to the Group members for their help in compiling this note.

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Meirionnydd recording 2017

SARAH STILLE, *vice-county recorder for Merionethshire, v.c.48*

We have had a full programme of meetings throughout the year, thanks to contributions from Heather Garrett, Rhiannon Cottrell and Jo Clark, who have arranged and led field meetings to the slate quarries in Blaenau Ffestiniog (Jo) and Abergynolwyn (Heather) and to Coed Cymerau and Peniarth (Rhiannon). Andrew Graham has also stepped into the breach leading walks at Maesmeillion above Llangower and at Abertafol. As a result, our recording efforts have surpassed those of 2016 and to date we have over 6,500 records for the year on the BSBI's database, with more still to come as I write.

The annual Caerdeon residential recording meeting was also a great success with the highest turnout so far – 15 people came for the long weekend in July and apart from the awfully wet first day, the weather was kind to us. Ten of these botanists had been before so we must be getting the right mixture of companionable activity and serious botany, and I hope we haven't put off any of the newcomers! We made well over 3000 records, many of them in previously unvisited squares and had some interesting visits to relatively unknown parts of the county. Full reports will be appearing on the BSBI website in due course if anyone wants to read what we get up to – and maybe join us in 2018, either as a resident or just for a day.

We have not had records quite as earth-shattering as the *Hammarbya* (Bog Orchid) find of last year, but have found some interesting new plants, including a first for Merioneth, albeit a casual, *Echinochloa crus-galli* (Cockspur), on a roadside in Maentwrog. (This is a grass which turns up in ruderal sites but which is rather uncommon in Wales. I was shown it years ago

by Trevor Evans in a market garden near Abergavenny). We also found *Setaria viridis* (Green Bristle-grass) there, a new hectad record, but a plant which has also been refound this millennium at Barmouth - maybe someone had been emptying out their bird feeders!

Martyn Stead and Graeme Kay found *Rumex x dufftii*, the hybrid Dock between *R. obtusifolius* (Broad-leaved dock) x *R. sanguineus* (Wood Dock) subsequently confirmed by John Akeroyd, while staying at Caerdeon, and Gill and Peter Foulkes found *Saxifraga tridactylites* (Rue-leaved Saxifrage), in a new site. It is has now declined in Meirionnydd away from the coast, though it used to grow alongside *Draba muralis* (Wall Whitlow-grass) on a wall in Llandderfel village. The saxifrage seems to have quite disappeared there, and the *Draba* is now struggling since the wall was repaired a few years ago. However, David Elias has turned up a new site, in his garden, where it was probably imported on a plant pot!

The Elias family is doing well for records as Gethin has continued to send sightings from his RSPB reserve at Tanrallt above Cwm Prysor. This year's star was *Galium boreale* (Northern Bedstraw), in a new site, though not a new hectad. The sheer rocks of Craig Aderyn there surely deserve surveying, (perhaps by drone?) as quite a few calcicoles have been recorded on the volcanic rocks there.

Sam Bosanquet enhanced his family holiday with a find of *Ruppia maritima* (Beaked Tasseleweed) on the Artro estuary and Tom Knight made a new hectad record for *Dactylorhiza purpurella* (Northern Marsh-orchid) on the lower slopes of the Rhinog Mountains. Clive Lovatt with Andy Jones and Martyn Stead found *Amsinckia micrantha* (Common Fiddleneck) at Aberdyfi. Although this plant is listed for Merioneth in Flowering Plants of Wales, this appears to be the first documented record in the vice-county. *Polypogon monspeliensis* (Annual Beard-grass) was also found there by Clive and Andy, is also a vice-county first.

My work as vice-county recorder has been constrained by often-postponed knee surgery so special thanks to all the leaders and all members of the Meirionnydd Nats team and to everyone else who worked hard to contribute to our records. The public is generally so very willing to help and I can recall only one landowner who greeted us with suspicion and almost-hostility. Thank you, everyone else – and especially for all the help with access and those lifts, cups of tea and general interest in what we and BSBI are doing to record and conserve plants in the county.

Bindweed on the coast of Anglesey (v.c. 52) resembling *Calystegia sepium* subsp. *angulata* Brummitt

E. IVOR S. REES, *Lahti, Mount Street, Menai Bridge, Anglesey LL59 5BW*

This note is to alert Welsh botanists to possible occurrences of some American bindweed taxa on western coasts. Pink flowered *Calystegia sepium* (Hedge Bindweed) occurring on or near the Welsh coast have in recent years usually been recorded as *Calystegia sepium* subsp. *roseata* Brummitt. This is despite morphological differences between colonies that sometimes seem greater than might be expected if they all belonged to a single and stable taxonomic entity. Variation is also apparent between colonies with very pale pink flowers referred to as *C. sepium sepium* f. *colorata*.

Using evidence from DNA studies to disentangle the relationships of *Calystegia* spp. in Britain and Ireland, Brown et al (2009) showed that the two pink flowered subspecies of *C. sepium* (subsp. *roseata* & *spectabilis*) were derived from hybrids between the white flowered native of western Europe, subsp. *sepium*, and pink subspecies native to other continents.

C. sepium subsp. *roseata* arose from hybridisation with *C. sepium* subsp. *americana*. The later taxon is native to eastern North America, but it also occurs in the Azores (Brummitt, 1972). Brown et al (2009) pointed out that the distribution pattern suggested that in many cases the American taxon, contributing to the hybrid may have crossed the ocean by natural means. Many records of subsp. *roseata* in the BSBI database are from locations widely scattered along western coasts from Donegal to Wexford and from Tremadog Bay to Cornwall. More locally in Wales, most of the records are clustered around the southwest facing arcs of Carmarthen Bay and the northern part of Cardigan Bay. Both sections of coast have low-lying ground behind the beaches so drifted propagules reaching the shores might sometimes be carried further onto the land during storm surges. By implication, if *C. sepium* subsp. *americana* could have survived the west to east trans-oceanic crossing then others of the three *C. sepium* subspecies native to North America might perhaps also have done so. The account below relates to a bindweed colony that appears to resemble one of these other North American subspecies. Nevertheless, given the difficulty of confident determination of some bindweeds, the lack of an expert Referee for the genus and without supporting DNA evidence, any identification must be regarded as only provisional.

Near the seaward edge of Aberffraw dunes (Anglesey, v.c. 52) a patch of very pale pink flowered *Calystegia sepium* was found on 17th July 2017 and examined in more detail on 7th August 2017. First impressions were that it clearly differed from typical *C. sepium* subsp. *sepium* particularly in leaf shape. The colony spread for c.15 m and was trailing over dense vigorously growing *Ammophila arenaria* (Marram Grass) within c.20 m of the line to which the fore-dune had been cut back by storm surges in winter 2013/14. The location, at SH 3540 6804, is away from any of the usual paths to the beach or those parts of these extensive dunes that are familiar to many botanists.

The main features noted in the field, on closer examination of samples and shown on photos (see image 3 on inside front cover) were:

Stems glabrous and red/brown coloured.

Leaves triangular; apex attenuate with a mucro; lateral margins entire with slight incurves just above the basal lobes; basal lobes with 2 or sometimes 3, distinct angular points; leaf sinus wide, rounded in some, but V shaped in others; angle between V lobes c75-80 degrees when leaves flattened. Petiole glabrous except for a few very fine hairs in the adaxial groove and on the ridges to either side of the groove, these hairs barely visible except under the microscope.

Corolla trumpet slightly larger than in subsp. *sepium* from the same habitat; colour very pale pink / off white; noticeably different at a distance from subsp. *sepium* in both size and colour.

Bracteoles apex caudate, margins apart on one side and just touching on the other; keel obvious but bracteoles not markedly saccate; auricles on lower margins extending below the keel by about 2/3 the width of the pedicel. Pedicel glabrous with slight straight wing ridges.

Growth form, trailing over marram grass with little twining round stems and leaves of the grass. In places trailing across bare sand.

The above description best fits the characteristics of *Calystegia sepium* subsp. *angulata* Brummitt set out in the accounts of and key to *C. sepium* subspecies which Brummitt (in prep.) drafted for the multivolume Flora of North America before he died. That particular volume has not, yet, been published. Spaulding (2013) in his paper on bindweeds in Alabama and the adjoining States included a key largely based on Brummitt's draft, with some additional information. Leaves from the Aberffraw colony were very similar in shape to those on several herbarium specimens labelled by Brummitt as subsp. *angulata*, including the holotype in the Smithsonian (viewed as on-line

images). *Calystegia sepium* subsp. *angulata* is native to parts of the eastern side of North America from the Carolinas north to Newfoundland. Among the habitats it occurs in are coastal marshes, which would be liable to storm surge flooding during hurricanes.

To conclude, a succession of meteorological and oceanographic events may occur that might, on very rare occasions allow parts of brackish tolerant plants to cross the Atlantic and establish in Britain and Ireland. Nevertheless, it must be stressed that, in the present example, identification of a particular subspecies remains tentative.

Acknowledgements

As Referee for *Calystegia* Dick Brummitt was very helpful when I first came across the white form of *C. soldanella*. His encouragement made me look at bindweeds as more interesting than just garden invaders. His expertise in the taxonomy of the genus is sorely missed. I am also most grateful to Dan Spaulding for providing access to a copy of the draft section, which Brummitt had prepared for the Flora of North America. As of November 2017, that volume in the series has yet to be published.

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Specimens of new plants from Monmouthshire (2017 AGM abstract)

STEPHANIE J TYLER, *Joint vice-county recorder for Monmouthshire*

On 2nd June whilst doing a Waterways Breeding Bird Survey along the River Monnow at Osbaston near Monmouth (in SO41W), I encountered about 50 plants of an umbellifer with which I was unfamiliar. At first, I thought they could be *Oenanthe pimpinelloides* (Corky-fruited Water Dropwort) which had been found less than 1km away on Vauxhall Meadows in Monmouth by Pat Johns about 10 years ago and identified by Trevor Evans. The very narrow leaves, almost entire lack of bracts below the umbels and hollow stems confused me though. I showed Elsa Wood the plants some days later and we agreed it had to be an *Oenanthe* and we decided that it must be *O. silaifolia* (Narrow-leaved Water Dropwort). I let Heather Colls know of its location and she visited the site and was in agreement.

O. silaifolia has not been recorded in Monmouthshire v.c.35 or elsewhere in Wales but it does grow in the Lugg Meadows in Herefordshire.

On 16 June, I returned to the site to collect some forming fruit and, according to Stace, they are indeed *O. silaifolia*, the first record for Wales. I will collect a plant to check the rootlets and shape of tubers.

The second plant I brought to the AGM was an *Allium* that I found on 9 May, not yet in flower, but with broad leaves. Many plants were growing at the edge of a track near White Castle (SO31T) and I collected one so that I could grow it on at home. When it flowered, it was clearly *Allium scorodoprasum* (Sand Leek). It was presumably a garden throw-out which had become established, rather than native, although the species does occur in northern England. This record is the first for Monmouthshire.

More new 2017 records in v.c.35 including a clubmoss and more wintergreens

STEPH TYLER & ELSA WOOD, *Joint vice-county recorders for Monmouthshire, v.c.35*

An exciting new species in 2017 for v.c.35 was *Diphasiastrum alpinum* (Alpine Clubmoss) found by Steve Williams on re-vegetating coal spoil (see front cover image). He discovered two patches each c.1m square at Pwll Du, by the Bloreng, where *Huperzia selago* (Fir Clubmoss) and *Lycopodium clavatum* (Stagshorn Clubmoss) also grow.

During the early part of the year Adrian Wood and EW found a patch of *Pyrola* species (Wintergreen) in a gully by the A449 between Llantrissant and Coldra in ST3893 and subsequent visits by AW, EW, SJT and Shelley Cross showed it to be *P. rotundifolia* (Round-leaved Wintergreen), a rare plant in v.c.35. For a photo of *P. rotundifolia*, see image 10 on inside back cover. Previous records were from 2004 in Lasgarn Quarry (Steve Williams) in SO2703 and at the old Alpha Steel works at Newport (SJT) in July 2009 in ST3394. Then in May 2017 when surveying around Bryn Bach Country Park near Tredegar in SO1209 with Phoebe Williams and Shelley Cross, SJT found another patch of wintergreen under low willows. On a return visit on 4 July it was showing flower buds and then when Phoebe Williams and Chris Reed went back again a few weeks later the flowers clearly showed it to be also *P. rotundifolia*. Steve Williams then found a third patch of the species under willows at Cleppa Park, Duffryn, Newport, in ST2884 in late July and he confirmed the continued existence of the species at Lasgarn Quarry.

In late October 2017, Sam Bosanquet found another patch of *Pyrola* on coal waste under larches near Manmoel in ST1602 in the extreme west of the county. This may be *P. minor* (Common Wintergreen) rather than *P. rotundifolia* but a visit in July 2018 will determine which species and given the substrate the latter seems more likely.

Pyrola minor is rare in the vice-county, with records only on limestone at Wyndcliff (ST5297) and in a limestone quarry at Cwmnyscoy near Pontypool (ST2899).

Where else will *P. rotundifolia* or *P. minor* turn up? They were both considered Rare in Trevor Evans' 2007 Rare Plant Register with *P. minor* then found in three locations, all in ST5297, and *P. rotundifolia* in just one. The latter species has however, after at least three new sites were discovered this

year on coal or industrial waste, now moved to being Locally Scarce (4-10 locations).

Amongst other second vice-county records was an alien grass from North America, *Panicum capillare* (Witch Grass) that was found by SJT & EW in profusion on the shores of Llandegfedd Reservoir in ST3399 on 30 August. A strange addition to the 2017 finds was *Cuscuta campestris* (Yellow Dodder) (see image 9 on inside back cover), which turned up in Ian Rabjohn's garden at Penallt in SO5210 in late August. A previous record of this North American parasitic species was in a garden at St. Maughans in SO4617 in September 2010.

Inland locations for Vernal Squill/Seren y Gwanwyn (*Scilla verna*) in Pembrokeshire

STEPHEN EVANS, *vice-county recorder for Pembrokeshire, v.c.45*

Scilla verna (Vernal Squill) is a well-known and much admired coastal plant of the sea-cliffs of Pembrokeshire. In late May, its dense flowers create drifts of light blue colours over many of the more exposed salt-drenched cliffs with particularly extensive populations in the maritime grasslands on the grazed limestone cliffs of Castlemartin and Stackpole in the south of the county. In addition, it can be found scattered on the larger sand dunes especially where these form extensive elevated systems adjacent to sea-cliffs as at Freshwater West, Stackpole and Whitesands.

It is absent from more sheltered sea-cliffs where there is little or no coastal heath and where maritime grassland is limited to a narrow slither sandwiched between the foreshore and dense bracken or scrub or woodland. There are no records from Tenby round to the border with Carmarthenshire at Amroth. Its distribution within Milford Haven is instructive as it is limited to the most prominent headlands in the entrance as far as South Hook Point in the north, and Popton Point in the south. These are the headlands that receive the larger waves driven by winds and swells from the west and south-west that reach into the 3km wide mouth of the Haven. As would be expected it is on all the main offshore islands.

Inland populations in Wales

What may not be widely known is that there are a number of isolated colonies of *S. verna* away from the coast. The furthest inland population at Treffgarne

Rocks is 11km from the nearest open coast. These ‘inland’ sites are on shallow soils around rock outcrops in ericaceous vegetation or amongst sparse bracken. The origin of these inland populations has puzzled me. Are they, as I suspect, ancient relicts of areas that remained open during the maximum extent of tree cover at the climatic optimum since the last Ice Age? The alternative is that they are more recent arrivals, perhaps carried inland by birds or mammals. Unfortunately, pollen studies within Pembrokeshire peat deposits do not seem to have helped as *S. verna* does not feature. In 2000, having seen similar isolated populations inland on Anglesey and also across the Menai Straits in Caernarfon at Goetre Isaf at SH556697, I wrote to the late Dick Roberts to seek his view on the origin of the inland Anglesey sites. He replied “*With regard to your views on the ‘inland sites’ of Scilla verna, my own views over the years have been like them exactly – and have, in the end, reached no firm conclusion!*” He went on to say, “*Certainly, the populations at such distances from the coast make one think in terms of ‘relict area’ rather than bird transport of seeds or bulbs!*”

The Pembrokeshire inland populations

As would be expected, *S. verna* extends inland away from the cliff edge in places where there are extensive rocky areas. In the far west of the St. David’s peninsula, it can be found on shallow soils on isolated rocky outcrops such as Carn Warpool (SM7496 2485), Clegyr-Boia (SM7370 2506), Carn Poeth (SM7319 2567), Carn Trefeiddan (SM729 250) and Carn Rhosson (SM7275 2517). These localities are between one and two kilometres from the coast from which they are separated by improved agricultural land. As a result of St. David’s extreme climate, an hyperoceanic climate, some of these rock outcrops with *S. verna* also have other maritime species such as *Armeria maritima* (Thrift), *Silene uniflora* (Sea Campion) and *Spergularia rupicola* (Rock Sea-spurrey). *Plantago maritima* (Sea Plantain) is another maritime species which extends up to 3km inland but surprisingly does not grow on any of these rock outcrops. Instead it grows in open areas and tracks on flat or gently sloping wet heathland sometimes with Red List species such as *Cicendia filiformis* (Yellow Centaury), *Radiola linoides* (Allseed), *Viola lacteal* (Pale Dog-violet) and *Chamaemelum nobile* (Chamomile).

The most inland Pembrokeshire populations of *S. verna* occur on a ridge of heathland and rocky tors from Dudwell Mountain north-east to Treffgarne Rocks where they were first recorded in low numbers in 1972 and 1973 by Tommie Warren Davis and Jack Donovan. It is still at Treffgarne Rocks at about 90m above sea level at SM9545 2478 where it was last seen by Robert

Shaw in 2015 on a path near Maiden Castle. However, it has not been re-found at Dudwell where it was growing at about 150m in what is now overgrown heath. Some 7km south of Dudwell a population was found at Sutton Mountain common by John Comont in 1979. It was in a limited area of rocky heath by a small quarry with an outlier c.150m away under Bracken which covers large areas of the largely ungrazed common. It has persisted into 2017 when it was seen by Jon Hudson on the edge of a footpath at SM8972 1553. This isolated population is about 4km inland from the coast at Broad Haven.

The largest Pembrokeshire inland populations are in the north of the county where the high ground of Carningli Common and Dinas Mountain reaches close to the sea at Newport and Dinas Cross. In 1998 Jean Buchanan noticed more than 200 plants growing on thin soil on and around low boulders in freely draining heath at 200m above sea level on Y Bryn, at Dinas Mountain (at SN011 379) about 2km from the cliff coast. In 2007, she found a further smaller population 3km to the east by Carn Ffoi, on Carningli Mountain (at SN046 377) at the same altitude and same distance from the sea. Both populations were on the lower slopes of the mountain ridge that reaches a maximum of 330m.

For several years, the author has examined the large *S. verna* population on Y Bryn, Dinas Mountain. This area of common land is of particular interest as, although it has not been grazed during the last 45 years, it has been burnt nearly every winter since 1973. The *Calluna vulgaris/Ulex gallii* heath – H8 in National Vegetation Classification terms – is bisected by a minor road and several unmade tracks so the burns have been limited in extent each year. Nearly all of the c.18ha heathland has been burnt over 3- or 4-year cycles. In the first summer after a winter burn few *S. verna* plants re-appear but many flower in the second summer with fewer by the third year when the heath of *Calluna vulgaris* (Heather) and *Ulex gallii* (Western Gorse) with some *Molinia caerulea* (Purple Moor-grass) has re-grown over the top of the low growing *S. verna* plants. A typical count of flower numbers was 18 in 2003 in the first year after a burn. These few plants were growing by the edge of tracks or around small boulders where the fire had been less intense. In the second growing season after the burn 1,060 flowering spikes were counted in the same areas whilst in 2005, in the third year after the fire, flowering spike numbers dropped to 126. In some years areas where the winter burn had been much less intense, low numbers of flowering plants, as well as many non-flowering rosettes, could be seen during the first season of growth. It is of interest that the same burn areas at Y Bryn also have thriving *Viola lactea* populations and just like *S. verna*, numbers of flowering plants tend to peak in

the second year after a burn. *V. lactea* is known to prosper following management of heathland by winter patch burning.

Speculation on the possible origins of these inland *Scilla verna* populations.

All of the *S. verna* populations away from the coast are in shallow soiled rocky slopes with most being close to rock outcrops or tors. There are however many other tors and shallow soiled areas without *S. verna*. Most of these are further inland at more elevated altitudes. Those *S. verna* populations nearer the most exposed coast also grow with other maritime higher plants whilst those further away often grow with or near *V. lactea* populations.

An explanation for this disjunct distribution could be that *S. verna* was more widespread before woodland cover spread over most of Pembrokeshire as the climate warmed after the last Ice Age. After all, it is a species that reaches as far north as the Lofoten Islands in Norway. Tree cover would later have shaded out inland populations except where there were shallow freely draining soils around rock outcrops and more open stunted woodland growth. At the highest elevations on Mynydd Prescelly and Carningli, soils would perhaps have become too wet for *S. verna* to survive. Man's first attempts at farming by cutting and burning and livestock grazing would have maintained open conditions suitable for its continued growth at drier, lower, inland refugia. It is clear from examining *S. verna* populations in Pembrokeshire that it tolerates, if not benefits from grazing and burning. There is also the currently emerging view that woodland cover was less complete than palynological/pollen study evidence would suggest owing to the creation and maintenance of extensive glades by large herbivores such as deer. Such a wood pasture landscape might have allowed species such as *S. verna* to persist in many more inland locations only to retreat later to isolated areas of rocky ground where heathland management by burning and rough grazing by the livestock kept conditions suitable. Of course, before the recent intensification of agriculture there could have been many other isolated *S. verna* populations around smaller rock outcrops or even on other shallow soiled and summer droughted areas.

The alternative view is that some agency or other has transported seeds, or even bulbs, to these inland locations from the huge coastal populations. There is no doubt that late summer and early autumn storms around an exposed cliff coast act as superb re-distributors of seed and this combined with the super abundance of a wide range of micro-niches of varying soil depths may well account for the continuously varied and colourful show of cliff flowers that

attracts so many visitors to Pembrokeshire. As an aside; the photograph on the cover of Western Gorse *Ulex gallii* heath on the 3rd edition of Clive Stace's 'New Flora of the British Isles' was taken at St. David's Head!

Because of the weight of *S. verna* seeds it is unlikely that late summer or autumn winds would have been powerful enough to take the seeds far inland. The colonies within 1-2km of the coast at St. David's could, perhaps have arisen this way and the presence of other maritime species with the *S. verna* would suggest that wind or birds could be responsible although the seeds of these other species are much lighter. Birds could clearly have carried seeds or bulbs much further inland and mammals likewise. There have been several thousand years for chance events like these to have moved *S. verna* inland. Man and his livestock, including horses, are another possibility and, until recently, nearly all sand dunes and coastal slopes were much valued for grazing and *S. verna* could well have been present in many unimproved fields at coastal farms. It is quite likely that on occasions, livestock would have been taken from these coastal farms onto, for example, the inland hill slopes of Dinas and Carningli Mountains. Seed could then have been transported on their hooves. Longer livestock movements by drovers and their horses would have taken animals further inland and one could speculate that they might have rested on some of the areas of unenclosed common land such as that at Treffgarne and Dudwell.

So it seems that unless others can come up with definite evidence we are destined, in Dick Roberts words of 17 years ago, to reach "*no firm conclusion!*" as to the origin of these isolated inland *Scilla verna* populations of Pembrokeshire.

New and interesting in v.c.50 Denbighshire: *Oenothera stricta* (Fragrant Evening Primrose)

DELYTH WILLIAMS, *BSBI Vice-county Recorder for Denbighshire (v.c.50)*

A record new to a vice-county must be something special. Well, is it? Most new records these days seem to be sub-species of a taxon already known from a vice-county, or aliens spreading from adjacent vice-counties, or obvious garden escapes, or re-recordings of native taxa long since recorded previously, or records that seem to arrive from nowhere?

Sue Swindells, a longstanding recorder for v.c.50 and other vice-counties in Wales as well as those on the other side of the border, sent me some photos of *Oenothera stricta* (Fragrant Evening Primrose). I had never seen it before. The identification, unlike most *Oenotheras*, is not difficult and was confirmed by the arrival of a specimen. The plant was found at SJ125 260 Llanrhaeadr-ym-Mochnant on 14th July 2017 (see image 1 on inside front cover), ‘16 plants right on the edge of the road in a dry sunny location at the foot of low stone walls in front of a row of cottages’. Sue spoke to an inhabitant of the cottages, who said that they had not escaped from gardens or been planted. They had ‘just arrived by themselves’, had been there for two years or more and were now spreading along the road in front of the neighbours’ gardens. Asked where she thought the plants may have come from, the inhabitant showed Sue where she first saw the plant ‘about four years ago, about half a mile away on the road verge’, at SJ1326 along the same road. No sign of them there now though. No stately gardens or any other kind of garden there either.

The plant originates from Chile and according to the New Atlas 2000 (Preston *et al*, 2002), was first cultivated in Britain in 1790. It was first recorded from the wild in the Channel Islands in 1847 and subsequently on mainland Britain in 1852. According to Clement and Foster (1994) it is an established wool alien and garden escape, naturalised on dunes in southern England and Wales and in the Channel Islands.

It is a large, showy plant, not easily missed and unlikely to be over recorded. Looking at the distribution map of this plant in Wales and England (see image 2 on inside front cover), and given that the location is nowhere near the sea at an altitude of 180m, well away from other populations, one does wonder how it got to Llanrhaeadr-ym-Mochnant and from whence it came. Suggestions, please!

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Brecknock Botany Recording Group - An important lesson learned

JOHN CRELLIN

Exploring the Nant Sere in the valley below Cribyn in 2017 was a rewarding day for our recording group. We managed to get down to the river, something which we had given up on when we went there in 2016 (we visited later in the year than in 2017). We were pleased to make a good list of records including several patches of Beech Fern (see image 7 on inside back cover).

But I had to make yet another visit later in 2017 (October) just to catch up on something we very nearly missed altogether. I was aware of walking through a patch of “*Equisetum fluviatile*” which was duly called and ticked off as we made our way up the river bank admiring the primroses and other delights. However, Alan Bateman who was with us that day wasn’t so sure and took a sample. What he sent me the next day – ever so politely - was a perfect scan of an *Equisetum hyemale* stalk.

So I learned:

- Always consider habitat – this wasn’t typical *fluviatile* habitat – squelchy yes but not really where *E. fluviatile* normally grows.
- Give it a proper look, and feel – this was hollow like *E. fluviatile* to a quick squeeze, but a little more investigation would have revealed the rough texture. And, of course, a “proper look” would have seen the very distinctive sheaths.

This was an entirely new site for a vice-county with only two other sites known from v.c.42.

Image 6 and 8, on the inside back cover, are of the Nant Sere in National Trust owned woodland with *Equisetum hyemale* (Rough Horsetail) growing from about where the photo was taken up to where Anne is photographing it above.

Are you identifying your native Ivies correctly?

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Until a few years ago, it was easy recording ivy. You could be lazy and just record it as *Hedera helix*, not bothering to see which of the two subspecies it was: subsp. *helix* or subsp. *hibernica*. However, once the two subspecies were raised to species level, it became more complicated as, if you don't want to identify your ivy, you should record it as *H. helix* agg.

Up until 2016, I thought I had a grip on the hair character used for identifying purposes. It was easy! How wrong I was: what I thought was a stalked hair, certainly wasn't.

While I was on the Isles of Scilly, I noticed how white the hairs looked on the ivy there. Getting the hand-lens out to look, I realised I had never seen hairs on ivy like that before. The following year (2017), I was in Greece and the ivy on the plant list I had been given, was *Hedera helix* (Common Ivy). Being inquisitive, I decided I would see if the ivy had been named correctly. Sure enough it had.

As well as being the BSBI Welsh Officer, I'm the Vice-county Recorder for Co. Wexford. From my experience on the Isles of Scilly and in Greece, I checked out all the sites I had given 6 figure grid references for *Hedera helix* (Common Ivy) in Co. Wexford. As expected, all had to be renamed as *Hedera hibernica* (Atlantic Ivy), the only native ivy in Ireland.

Hairs

Hedera hibernica (Atlantic Ivy) – hairs sit flat on the underside of leaves and on the stems of young shoots. They look like minute starfish. The colour in books is described as yellowish-brown or brown, although this is a little misleading as the hairs can be brown, brown in the centre of the star and a dirty white on the arms of the star. Alternatively, the whole star can be a dirty white.

Hairs on *H. hibernica* can become loose, making them look as though they are standing clear of the leaf or stem surface, which also gives the impression they are standing on a stalk.

Hedera helix (Common Ivy) – the hairs all have stalks and look like a minute palm tree. They are a pure crystal white.

Which part of the ivy plant to look for the hairs

One must only look at the young growth of the plant that is either creeping on the ground or at the base of a tree, i.e. stems that are creeping prostrate. Look at the hairs on the underside of the young leaves and those on the stems of the young shoots. Once the stems start to climb upwards, the hairs on them shouldn't be used for identifying ivy. These stems are changing into the mature form of ivy that will flower, and have a different morphology to non-flowering stems.

Welsh Distribution

H. hibernica – the only native ivy recorded in the *Flora of Cardiganshire* (Chater, 2010) is *H. hibernica*. From my experience, this would also be true for Pembrokeshire. The same is likely for all counties on the western side of Wales.

H. helix - this is likely to be a rare ivy in Wales. If native, it will only be found along the eastern side of Wales. It is possible, as for Ireland, that *H. helix* is only a rare garden escape in Wales.

Please note, that currently the BSBI DDb online maps show both species common over most of Wales.

Conclusion

There is going to be a lot of work over the next two years if we are to know the true distribution of both *Hedera hibernica* (Atlantic Ivy) and *Hedera helix* (Common Ivy) ready for the publication of Atlas 2020. I'm happy to help with identifying any ivies that anybody would like assistance with.

Reference

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Scleranthus annuus (Annual Knawel) in Carmarthenshire

RICHARD PRYCE, *Vice-county Recorder for Carmarthenshire (v.c.44)*

There are only eleven past records of *Scleranthus annuus* (Annual Knawel) from Carmarthenshire and in the 39 years that I have been the BSBI County Recorder, I have only seen it three times. This year's discovery of thousands of plants growing on a track near Laugharne was therefore quite a surprise! See image 11 on inside back cover.

The first vice-county record according to May (1967) is "*Pencader &c*" (cf. SN4436) attributed to T.W. Barker but I am unable to find this record listed in Barker's *The Natural History of Carmarthenshire* (1905) or in his notes on the *Rarer Flowering Plants of Carmarthenshire* (1909). May also includes an undated but probably c.1955 record of a "*weed of cultivation at Rhandirmwyn*" (SN7743) made by Mrs I.M. Vaughan (IMV) and another undated (probably early 1950s) record by Mrs M. Barnes from the "*River Cothi at Island Farm, Crugybar*" (SN6436). There is also an *S. annuus* specimen in NMW collected by Miss Mary Barnes from "*Near the Maerdy, nr. Llandeilo*" (SN6531), dated 7th June 1950. This throws open the question as to whether Mrs M. Barnes and Miss M. Barnes were one and the same person or, perhaps, mother and daughter? As far as I am aware, all other Carmarthenshire M. Barnes records refer to "Mrs" and the majority of the not inconsiderable number of them are from either Taliaris or Maerdy (only about 3km apart) with a few from other places in the area. So I think we can be fairly sure that the Island Farm and Maerdy records refer to different plants as the collector(s?) were local to the district and unlikely to have mixed-up localities. Something that might have been the case if they were visiting just briefly.

There is no further mention of *S. annuus* until 1971 when IMV and Brian Reely recorded it growing in the north-west of the county at "*upland farm*" Garreg-wen, Trelech (SN2831), although Garreg-wen is at only about 225m! Brian farmed Garreg-wen and was a very good botanist, supplying many records from his very under-recorded part of the county in the early years of the Flora Project, but sadly died very young in the late 1980s. Andy Jones revisited the farm in 2008 but was unable to find any suitable habitat for *Scleranthus*, let alone the plant itself.

IMV then recorded "2 or 3 plants only" in 1976 "in upland pasture with *Ulex europaeus*" at Cencoed Uchaf, near Llanelli (SN4703) and, in 1977, "one small stand on limestone spoil heaps" at Capel Dyddgen Quarry, Crwbin (SN4612). Also in 1977, she recorded it on the Afon Tywi at Dolgarreg near Llandovery (SN7331). The entry in her notebook reads "*Shingle has wide areas of Ulex europaeus with scant Scoparius [sic]; two plants seen of Silene maritima doubtless water borne from Rhandirmwyn and one plant of Scleranthus annuus.*"

John Rees reported the species from Pendine Burrows (cf. SN2407) in 1986 but this record was never substantiated.

John Killick's was the next record, made during the 1996 BSBI Carmarthenshire Annual Recording Meeting based in Llandovery. On 7th June he recorded "*several hundred plants growing in several groups on NW side of farm entrance track on raised, dry, rocky bank; well sheep grazed*" at Penlan Telych Farm, near Myddfai (SN7833). George Hutchinson and I visited the site a month later on 4th July to collect a specimen for NMW noting the plant to be "*locally abundant on dry, acid, rocky, trackside bank in very short, mossy turf over an area of about 5m x 3m*". This was the first time I had seen the species. Kath Pryce and I revisited the site on 9th July 2008 but were disappointed to find no *Scleranthus* although we noted that "*the habitat didn't seem to have changed significantly but perhaps was less disturbed and less sheep-scuffed*".

During the 2007 Glynhir Recording Week, the coast at the extreme southwestern corner of Carmarthenshire was visited by Arthur Chater, John Poland, George Hutchinson, Kath and myself. We walked from Amroth, along the coast path to east of Telpyn Point. On our return we followed the path through Telpyn Farm (SN1807) where, at a gravelly-surfaced, rocky track junction, we came across 32 plants of *S. annuus* growing in two groups, in company with a few plants each of *Stachys arvensis* (Field Woundwort) and *Spergula arvensis* (Corn Spurrey) with *Coronopus squamatus* (Swine-cress) and *Geranium rotundifolium* (Round-leaved Crane's-bill) nearby. This was a traumatic discovery as there was constant shooting from the adjacent clay-pigeon range as well as the loud, aggressive barking of the guard-Alsatians which, mercifully, were caged! Needless to say the specimen for NMW was collected hurriedly!

The discovery by Martyn Stead and Delyth Williams on 1st July 2017 was also made during the Glynhir Recording meeting. They were tetrad bashing in the Laugharne area with Andy Jones (who had left them to cover other areas in the square) and came across the plants whilst walking along the track which accesses Hugden Hill from the south side at Broadway (SN2910). Hugden is one of the 100-acre fields of the medieval three-field communal farming system which is still practiced at Laugharne and still retains a few areas of unimproved grassland habitat although, what is not now improved and reseeded, is mostly scrubbed-over. Martyn and Delyth found thousands of *Scleranthus* plants growing in the “bare sandstone farm track between scrub and hayfields, dense population in middle of track 1m – 2m wide x 300m long, decreasing in abundance after 200m towards the downhill [SE] end of the track”. They duly filled-in a Threatened Plant Project form on which they recorded associate species and particulars of the population, which were invaluable in enabling Kath and me to visit the site on 25th July to ‘marvel’ at it for ourselves and to take record photographs. Many of the plants were in flower but few had yet started to set seed and, in several places, had spread on to adjacent field headlands on both sides of the track. We also found a subsidiary population of around 100 plants, about 100m to the south, scattered over a length of about 10m, further down the same track. There were no associate species of any particular note but species of most interest included *Anagallis arvensis* (Scarlet Pimpernel), *Aphanes australis* (Parsley Piert), *Euphrasia* cf. *nemorosa* (cf. Woodland Eyebright), *Gnaphalium uliginosum* (Marsh Cudweed), *Lotus corniculatus* (Common Bird's-foot Trefoil), *Matricaria discoidea* (Pineappleweed), *Odontites vernus* (Red Bartsia), *Ononis repens* (Common Restharrow), *Rhinanthus minor* (Yellow-rattle), *Sagina apetala* (Annual Pearlwort), *S. procumbens* (Procumbent Pearlwort), *Veronica arvensis* (Wall Speedwell) and *Veronica serpyllifolia* (Thyme-leaved Speedwell). Occasionally along the trackside banks, plants of *Knautia arvensis* (Field Scabious) were in full flower.

Scleranthus annuus is likely to have always been rare in Carmarthenshire as suitable frequently disturbed arable land is also relatively rare, although two records are from river shingle, which is a constantly disturbed habitat where it might be expected to occur more regularly. It is very likely that the plant is more common than the frequency of records suggests as it is small, inconspicuous, often occurs in small populations (although not necessarily so, as the 2017 discovery proves), and therefore, is easily overlooked. In addition,

the number of recorders in the county is very small and they are unable to check all likely habitats.

The species is designated as "Endangered" on the Red List for Great Britain (Cheffings & Farrell 2005) and is designated "Least Concern" on the Welsh Red List (Dines 2008) in which the species was not analysed. It was re-found at only 35% of pre-selected sites during the recent BSBI Threatened Plant Project (Walker *et al*, 2017). However, as the Carmarthenshire records illustrate, *Scleranthus annuus* is a species that is likely to turn-up at new sites whilst being lost from those where soil disturbance has ceased or was just a rare occurrence.

My thanks to Sally Whyman for sending me details of the Carmarthenshire collections of *Scleranthus annuus* lodged in NMW.

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Changing, Early and ‘Doubtful’ Forget-me-nots

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The critical features of Forget-me-nots (*Myosotis* spp.) are actually quite hard to remember and we often have to use a key. Additionally, there are now several newly-described taxa – at least for Britain and Ireland – and, just to confuse matters, no agreement over their identity in our two most recent Floras.

To look at just the two spring annual species (that readers will most likely see first in 2018), Sell and Murrell (2009) retain the two subspecies of Early Forget-me-not: *M. ramosissima* subsp. *ramosissima* and subsp. *globularis* described in earlier British and Irish Floras (e.g. Clapham, Tutin & Moore, 1987). Whereas Stace (2010) notes the possibility of a third, subsp. *lebelii* “said to be intermediate” – but indicates that all “scarcely merit... varietal status”. It is more or less the same thing with Changing Forget-me-not, where Sell and Murrell stay with *M. discolor* subsp. *discolor* and subsp. *dubia* that Stace says “often occur together and deserve at most varietal status”.

These views might simply reflect the relative ‘splitting’ and ‘lumping’ tendencies of the two Floras but there could also be significant differences in variation within *M. discolor* and *M. ramosissima*, just as there are real and interesting differences between the two species. Despite their very similar appearance the spring annual Forget-me-nots are probably not closely related. Sell and Murrell say that *M. ramosissima* “run[s] into” *M. arvensis* and *M. sylvatica* and can be “difficult to distinguish on precise characters” whereas *M. discolor* s.l. is always identifiable, at least when flowering, on the shape and size of its pollen (Sell & Murrell, 2009) – see image 4 below. This difference sets *M. discolor* apart from other British *Myosotis* spp., with their uniformly small, subcylindrical pollen, and (who knows?) perhaps even in a

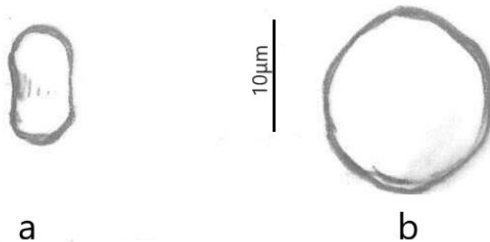


Image 4: Pollen Grains: **a** *Myosotis ramosissima* **b** *Myosotis discolor* ssp. *discolor*; after a drawing by Peter Benoit, *pers. comm.* to Arthur Chater May 2002.

subgenus of its own.

And the difficulties in sometimes identifying *M. ramosissima* s.l., on the other hand, could also extend to its internal divisions and Stace (2010) is not alone in questioning the supposed subspecies. ‘Flora iberica’ (Castroviejo et al, 2012) sinks subsp. *globularis* within a broader subsp. *gracillima* that, it says, “seem to hybridise [with subsp. *ramosissima*] in France, where intermediate plants occur”. And the more recent ‘Flora Gallica’ (Tison & Foucault, 2014) simply states that subsp. *globularis* has been “cited in error for France”, adding that *M. ramosissima* subsp. *ramosissima* is a “very variable taxon” that forms “intermediates with subsp. *lebelii*”.

None of this really inspires much confidence – despite several records of *M. ramosissima* subsp. *globularis* from Wales (including one from Guilsfield, vc47, by Franklyn Perring in 1989). And, in practice, the keys in Sell & Murrell (2009) and Stace (2010) do not always seem to work. A sample of Early Forget-me-not from the Great Orme, vc49, for instance, collected in April 2017 combined features of “subsp. *ramosissima*” (calyx lobes >2.5mm and (?) broadly triangular) with “subsp. *globularis*” (flowering to the base of stem, nutlets with an indistinct rim at the apex – but also around the whole edge). We could perhaps call these plants *M. ramosissima* subsp. *lebelii* (new to Britain and Ireland) or, on balance, decide that they are more like a variety, following Stace (2010)

By contrast, the divisions within *M. discolor* seem to be reflected in the Sell and Murrell taxonomy and there is good evidence for two relatively consistent and well-defined subspecies, at least in parts of Wales (Chater, 2010). The European literature adds further depth to this picture (see Table of Subspecies characters on page 39) and, indeed, the latest French views (Tison & Foucault, 2014) actually revive an earlier description of ‘*M. discolor* subsp. *dubia* (Arrond.) Blaise’ as a distinct – but often overlooked – species: *Myosotis dubia* Arrond.¹, or “*Myosotis douteux*” (translating as perhaps ‘Doubtful’ or ‘Dubious Forget-me-not’!).

¹ Taxon longtemps méconnu, réhabilité par BLAISE (*C.R. Hebd. Séances Acad. Sci. Paris, sér. D*, **268**. 2682-2685, 1969); l’origine allopolyploïde de *M. discolor* interdit en principe le regroupement spécifique; les difficultés apparentes de détermination sont probablement dues, outre le mauvais affichage des caractères morphologiques (notamment chez les xéromorphoses), au fait que, aujourd’hui, beaucoup de populations de *M. dubia* sont attribuées à *M. discolor* qui semble en fait plus R en Fr.

Table: Subspecies characters in *Myosotis discolor*

<i>Myosotis discolor</i> subsp. <i>dubia</i> (<i>M. dubia</i> ?)	<i>Myosotis discolor</i> subsp. <i>discolor</i>
<i>Characters from Sell & Murrell and Stace:</i>	
Corolla at first creamy-white	Corolla at first pale yellow [(r) golden-yellow]
Corolla ≤ 2 mm	Corolla ≥ 2 mm (<i>up to 4mm</i> , Stace)
Topmost 2 leaves alternate	Topmost 2 leaves subopposite
Western Europe	European temperate
2n=24	2n=72, ?64
<i>Additional characters from Flora Gallica:</i>	
At least 8 cauline leaves	Generally 4-5 cauline leaves
Calyx pyriform	Calyx campanulate
Mature calyx teeth convergent (divergent when pressed)	Mature calyx teeth not convergent
Pedicel 1-2mm*	Calyx always sessile*
2 subterminal cymes unequal (1 in stunted plants), often less than half the height of the mature plant	2 subterminal cymes normally subequal, at least half the height of the mature plant
<i>Additional characters from Flora Iberica:</i>	
Corolla blue or blue-violet at anthesis	Corolla blue, blue-violet or pink at anthesis
Nutlets (0.8)1-1.2 x 0.6-0.8mm	Nutlets 1-1.2 x 0.7-0.9mm

* *Flora Iberica* illustrates and describes a 1.5-2(3)mm pedicel for *M. discolor* s.l. and for *M. discolor* subsp. *discolor* (see image 5e, page 40) and a preliminary examination of British material suggests that length of pedicels is not an informative character.

The disagreement between Stace and Sell & Murrell over spring-annual *Myosotis* subspecies suggests that they have not been especially well-studied in Britain and Ireland, at least in comparison to other parts of the species' range. And, certainly, there could be more to learn here about their habitats, distribution and phenology – perhaps especially in populations of *M. discolor* s.l. It would be particularly interesting to test some of the key characters mentioned in European Floras (see image 5 below and Table of Subspecies characters on p39) and several British authors indicate that the two *M. discolor* subspecies have a quite separate and distinct ecology eg.: “subsp. *discolor*...[on] dry, sandy or peaty ground...[and] conspicuous...on ultrabasic rocks”; “subsp. *dubia*...[on] damp, base-poor pastures, moorland edges and muddy tracks, often with *Juncus bufonius*” (Silverside, 1998). Chater (2010), however, found that “(c)olonies of the two often grow close together”...[in Cardiganshire], “in most of the same habitats” but he acknowledges that “mixed [colonies] have not been seen” and says elsewhere (quoted pers. comm. in Sell & Murrell, 2009) that their ecology is hard to understand.

Altogether, the spring-annual Forget-me-nots seem like a good subject for further investigation and an interesting start to the coming field season. I would be very pleased to receive material (including pressed flowers from which pollen can be extracted) of *M. discolor* s.l. and also *M. ramosissima* from Wales, with the aim of presenting an exhibit at the 2018 AGM.

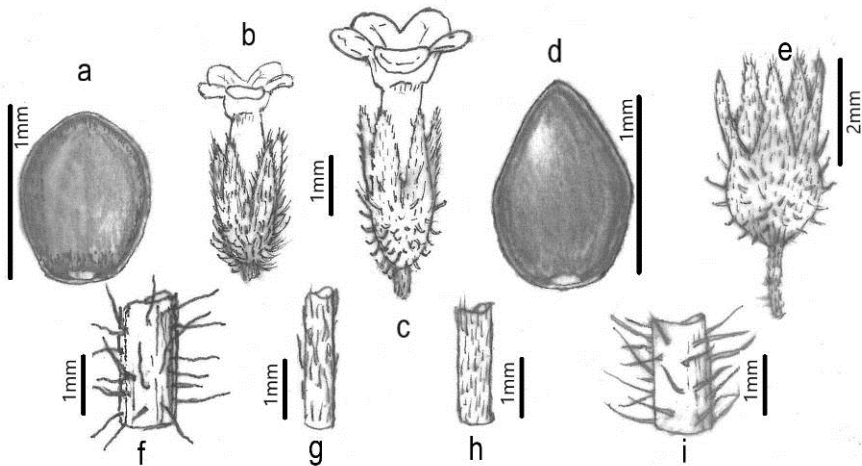


Image 5: a, b, f & g: nutlet, flower, lower stem & upper stem of *M. discolor* subsp. *dubia*; c, d, e, h & i: flower, nutlet, calyx at fruiting, upper stem and lower stem of *M. discolor* subsp. *discolor* (after illustration on p523 of Castroviejo et al., 2012).

Acknowledgments: Thanks to John Crellin for firing my interest in this subject and Arthur Chater for answering most of my questions.

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Correction to Welsh Plant Records 2016 – Flint, v.c. 51

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Those who scrutinized the Welsh Plant Records for Flintshire published in Welsh Bulletin no. 100 (August 2017) may have noticed some curious and irrelevant comments on some records. The original recorders soon noticed some serious inconsistencies, and closer investigation revealed that the grid references, place names and comments did not match the taxa, dates and recorders. Unfortunately, the spreadsheet containing the new hectad records, which I had extracted from the DDb to assist Emily, was scrambled, and I must accept responsibility for this. I apologise sincerely to all affected.

FLINT, v.c.51

*c1-1-glo **Chara globularis** (Fragile Stonewort). Talacre, SJ1240 8494, Emily Meilleur & Gail Quartly-Bishop, 6th Jun 2016, natterjack toad ponds.

- +007/3.1. **Adiantum capillus-veneris** (Maidenhair Fern) (Briger Gwener). Waterfall on limestone, Dyserth Waterfall, SJ057 792, Gail Quartly-Bishop, 15th Feb 2017.
- +011/1.1×2. **Polypodium ×mantoniae** (**P. vulgare** × **P. interjectum**). Tremerchion, SJ08720 73089, M.O. Stead, conf. Confirmed 12/6/16 by Rob Cooke, 18th Feb 2016; (+) Berthengam, SJ11438 79794, M.O. Stead, conf. Confirmed 12/6/16 by Rob Cooke, 8th Mar 2016; (+) Hafod-dew, SJ16389 73564, M.O. Stead, conf. Confirmed 12/6/16 by Rob Cooke, 27th Jan 2016; (+) Pentre-bach, SJ22676 61914, M.O. Stead, conf. Confirmed 12/6/16 by Rob Cooke, 28th Mar 2016; (+) Alltami, SJ26260 65834, M.O. Stead, conf. Confirmed 12/6/16 by Rob Cooke, 12th Feb 2016.
- +011/1.2. **Polypodium interjectum** (Intermediate Polypody) (Llawredynen Ganolig). Industrial Estate, SJ32453 70174, M.O. Stead, 16th Feb 2016.
- +015/2.1. **Asplenium adiantum-nigrum** (Black Spleenwort) (Duegredynen Goesddu). Point of Ayr, SJ13 83, Jonathan Shanklin, 24th May 2016.
- +017/1.1×2. **Polystichum ×bicknellii** (**P. setiferum** × **P. aculeatum**). Nercwys, SJ23 60, Jonathan Shanklin, 13th Feb 2016.
- +017/3.03b. **Dryopteris cambrensis**. Afon Conwy, SJ2313 6931, Jonathan Shanklin, 29th Jul 2016, one plant on stream side. Pinnae show 'ladder', pinnules curve, indusia various.
- +031/5.03. **Fumaria bastardii** (Tall Ramping-fumitory) (Mwg-y-ddaear Grymus). Prestatyn, SJ063 831, Emily Meilleur, 14th May 2016.
- *‡042/8.2. **Carpobrotus edulis** (Hottentot-fig) (Ffigysen yr Hotentot). Rhyl, SJ01 82, Jonathan Shanklin, 6th Oct 2016; (*) Rhyl, SJ02 82, Jonathan Shanklin, 6th Oct 2016; (*) Prestatyn, dunes, SJ05 83, Jonathan Shanklin, 6th Oct 2016.
- +043/1.06. **Chenopodium rubrum** (Red Goosefoot) (Troed-yr-^ydd Coch). Northop Hall C, SJ25 66, Jonathan Shanklin, 6th Sep 2016; (+) Northop Hall C, SJ26 66, Jonathan Shanklin, 6th Sep 2016.
- +‡043/1.13. **Chenopodium ficifolium** (Fig-leaved Goosefoot) (Troed-yr-^ydd Dail Ffigys). Rhyl, SJ0274 8226, Jonathan Shanklin, 6th Oct 2016, new earth bund between A548 and golf course; (+) Treuddyn, SJ25 57, Jonathan Shanklin, 8th Oct 2016; (+) Northop Hall C, SJ2588 6632, Jonathan Shanklin, 6th Sep 2016, on farm rubbish heap, with *C. album* and *C. rubrum*.
- +046/10.8. **Sagina maritima** (Sea Pearlwort) (Corwlyddyn Arfor). Northop, SJ24 68, Jonathan Shanklin, 29th Jul 2016, a548 verge.
- +061/2.05. **Salix purpurea** (Purple Willow) (Helygen Gochlas). Tanlan Banks, SJ1249 8330, Jonathan Shanklin, 24th May 2016, off road to sewage works - status uncertain.
- +061/2.10×11. **Salix caprea** × **S. cinerea** = **S. ×reichardtii**. Tan-lan, SJ12 82, Jonathan Shanklin, 24th May 2016.

- +062/11.1. **Barbarea vulgaris** (Winter-cress) (Berwr-y-gaeaf). Rhyl, SJ02 82, Jonathan Shanklin, 6th Oct 2016, new earth bund between A548 and golf course; (+) Point of Ayr, SJ12 83, Jonathan Shanklin, 24th May 2016.
- +†062/30.5. **Lepidium ruderae** (Narrow-leaved Pepperwort) (Pupurlys Culddail). A55, Coed Lllys, SJ22 69, Jonathan Shanklin, 29th Jul 2016.
- +†062/33.1. **Diplotaxis tenuifolia** (Perennial Wall-rocket) (Roced-y-muriau Meinddail). Ffynnongroyw, SJ130 825, Jonathan Shanklin, 24th May 2016, one plant by field entrance on north side of A548.
- *062/42.1.b. **Raphanus raphanistrum subsp. maritimus** (Sea Radish) (Rhuddygl Arfor). Ffrith Beach, dunes, SJ03 82, Jonathan Shanklin, 6th Oct 2016; (*) Prestatyn, dunes, SJ05 83, Jonathan Shanklin, 6th Oct 2016, occasional (eg SJ05578355).
- *‡074/03.1. **Bergenia crassifolia** (Elephant-ears) (Clustiau Eliffant). Nercwys, SJ237 602, Jonathan Shanklin, 13th Feb 2016, dumped in wood. Surviving.
- +075/08.06.163. **Rubus vestitus**. Mold, SJ24 63, Jonathan Shanklin, 10th Feb 2016.
- +075/20.2. **Aphanes australis** (Slender Parsley-piert) (Troed-y-dryw Main). Point of Ayr, SJ12 83, Jonathan Shanklin, 24th May 2016, brownfield of old colliery site.
- +075/21.17. **Rosa mollis** (Soft Downy-rose) (Rhosyn Blewog). Treuddyn, SJ24 56, Jonathan Shanklin, 8th Oct 2016.
- *‡075/22.12. **Prunus serotina** (Rum Cherry) (Coeden Geirios Rým). Treuddyn, SJ2480 5767, Jonathan Shanklin, 8th Oct 2016, orange hairs at vein intersections below.
- *‡075/35.05. **Crataegus persimilis** (Broad-leaved Cockspurthorn) (Draenen Wen Lydanddail). Northop, churchyard, SJ246 685, Jonathan Shanklin, 29th Jul 2016, planted.
- *‡089/1.1×per. **Ilex ×altaclerensis (I. aquifolium × I. perado)** (Highclere Holly) (Celynnen Highclere). Mold, SJ23 62, Jonathan Shanklin, 10th Feb 2016, planted at side of A494.
- *‡103/1.17. **Geranium macrorrhizum** (Rock Crane's-bill) (Pig-yr-aran Wreiddfawr). Northop, churchyard, SJ246 685, Jonathan Shanklin, 29th Jul 2016, self-sown on wall. Established.
- +103/2.1. **Erodium maritimum** (Sea Stork's-bill) (Pig-y-crëyr Arfor). Northop Hall C, SJ2703 6733, Jonathan Shanklin, 6th Sep 2016, several plants on south verge of A55.
- +103/2.3. **Erodium cicutarium** (Common Stork's-bill) (Pig-y-crëyr). Talacre rabbit lawn & natterjack ponds, SJ123 849, Emily Meilleur & Gail Quartly-Bishop, 23rd Apr 2016; (+) Mostyn Dock, SJ156 809, Emily Meilleur & Gail Quartly-Bishop, 23rd Apr 2016.

- *107/44.1.c. **Daucus carota subsp. gummifer** (Sea Carrot) (Moronen Arfor). Greenfield Dock, SJ199 779, Emily Meilleur & Gail Quartly-Bishop, 23rd Apr 2016.
- +111/3.2.a. **Calystegia sepium subsp. sepium**. Treuddyn, SJ24 57, Jonathan Shanklin, 8th Oct 2016; (+) Northop, SJ23 68, Jonathan Shanklin, 29th Jul 2016; (+) Northop Hall C, SJ25 66, Jonathan Shanklin, 6th Sep 2016; (+) Northop, SJ25 68, Jonathan Shanklin, 29th Jul 2016; (+) Northop Hall, SJ27 67, Jonathan Shanklin, 6th Sep 2016; (+) Penyffordd, SJ29 61, Jonathan Shanklin, 1st Aug 2016.
- +111/3.2×4. **Calystegia sepium × C. silvatica = C. ×lucana**. Llanfynydd, SJ27 56, Jonathan Shanklin, 8th Oct 2016.
- *‡116/06.3. **Anchusa azurea** (Garden Anchusa) (Llysiau'r-gwrid Glas). Point of Ayr, SJ1280 8374, Jonathan Shanklin, 24th May 2016, one plant on old colliery site.
- *‡116/12.2. **Amsinckia micrantha** (Common Fiddleneck) (Amsincia). Prestatyn, y Ffrith, SJ04 82, Jonathan Shanklin, 6th Oct 2016.
- *‡118/01.2. **Stachys byzantina** (Lamb's-ear) (Clust yr Oen). Nercwys, church, SJ234 604, Jonathan Shanklin, 13th Feb 2016, on turned over ground - possibly self-sown.
- +‡124/16.24.a. **Veronica hederifolia subsp. hederifolia**. Mold, SJ22 65, Jonathan Shanklin, 28th Mar 2016; (+) Greenfield Business, SJ205 772, Emily Meilleur & Gail Quartly-Bishop, 23rd Apr 2016, field above car park.
- *‡124/17.1. **Veronica salicifolia** (Koromiko) (Pedwar-ban-byd Helygddail). Nercwys, church, SJ234 604, Jonathan Shanklin, 13th Feb 2016, seeding into nearby wall and path on the other side.
- *‡127/1.1. **Acanthus mollis** (Bear's-breech) (Troed yr Arth). Seeding in uncut lawn, Northop, SJ24 68, Jonathan Shanklin, 29th Jul 2016.
- +‡129/1.4. **Campanula persicifolia** (Peach-leaved Bellflower) (Clychlys Meinddail). Northop, SJ24 68, Jonathan Shanklin, 29th Jul 2016.
- +130/3.1. **Sherardia arvensis** (Field Madder) (Mandon Las yr ^d). Argoed, SJ11 83, Jonathan Shanklin, 24th May 2016.
- +‡133/1.2. **Valerianella carinata** (Keeled-fruited Cornsalad) (Gwylaeth-yr-oen Ffrwythau Rhychog). Talacre dune spit, SJ12 84, Emily Meilleur & Gail Quartly-Bishop, 23rd Apr 2016; (+) Greenfield Business, SJ205 772, Emily Meilleur, 23rd Apr 2016, field above car park; (+) Flint Train Station, SJ245 731, Emily Meilleur, 23rd Apr 2016, field above car park.
- +135/30.4. **Filago minima** (Small Cudweed) (Edafeddog Fach). Point of Ayr, SJ1268 8377, Jonathan Shanklin, 24th May 2016, scattered plants on old colliery site.

- *135/43.6×44.1. ×**Conyzigeron huelsenii** (**Erigeron acris** × **Conyza canadensis**).
Point of Ayr, SJ1282 8369, Jonathan Shanklin, 24th May 2016, one plant at edge of cycle path.
- +‡135/73.1.© **Calendula officinalis** (Pot Marigold) (Melyn Mair). Pantyffordd, SJ2429 5711, Jonathan Shanklin, 8th Oct 2016, field margin with rubble fill.
- +148/2.1. **Lemna gibba** (Fat Duckweed) (Llinad Crythog). Llanfynydd, SJ26 56, Jonathan Shanklin, 8th Oct 2016, flat form with large central cells.
- +152/16.09. **Carex divulsa** (Hesgen Lwyd). Argoed, SJ11 83, Jonathan Shanklin, 24th May 2016.
- +153/12.02×13.01. **Schedonorus arundinaceus** × **Lolium perenne** = ×**Schedolium holmbergii**. Prestatyn, SJ05 82, Jonathan Shanklin, 6th Oct 2016.
- +‡153/28.3. **Avena fatua** (Wild-oat) (Ceirchen Wylt). Treuddyn, SJ25 57, Jonathan Shanklin, 8th Oct 2016.
- *‡153/50.7. **Bromus secalinus** (Rye Brome) (Pawrwellt Bach). Treuddyn, SJ2573 5757, Jonathan Shanklin, 8th Oct 2016, one plant on barley field margin.
- *©153/SEC.cer. **Secale cereale** (Rye) (Rhyg). Mold, SJ22 64, Jonathan Shanklin, 28th Mar 2016, a couple of dead plants at field margin.
- *©158/24.cer. **Allium cepa** (Onion) (Nionyn). Nercwys, SJ237 602, Jonathan Shanklin, 13th Feb 2016, dumped in wood. Surviving.
- *‡158/32.wor. **Galanthus woronowii** (Green Snowdrop). Rhewl-Mostyn, cemetery, SJ152 801, Jonathan Shanklin, 12th Feb 2016.
- *‡160/1.glo. **Yucca gloriosa** (Spanish-dagger). Prestatyn, dunes, SJ0471 8312, Jonathan Shanklin, 6th Oct 2016.
- +162/14.1. **Anacamptis pyramidalis** (Pyramidal Orchid) (Tegeirian Bera). Nant Alyn, SJ1922 6618, Mick Brummage, 25th Jul 2016, grassland at edge of Trim Rock Quarry

Inside back cover images:

6: The Nant Sere (Brecknock) in National Trust owned woodland with Rough Horsetail growing from about where the photo was taken up to where Anne is photographing it above. © John Crellin. See image 8 and page 30.

7: Beech Fern, Rhedynen gorniog or *Phegopteris connectilis*. © John Crellin. See page 30.

8: Rough Horsetail, Marchrawnen y gaeaf or *Equisetum hyemale* by Nant Sere as described in image 4. © John Crellin. See image 6 and page 30.

9: *Cuscuta campestris* (Yellow Dodder) at Penallt, Monmouthshire in August. © Steph Tyler. See page 24.

10: *Pyrola rotundifolia* (Round-leaved Wintergreen). © Steph Tyler. See article page 23.

11: *Scleranthus annuus* (Annual Knawel) discovered by Martyn Stead and Delyth Williams growing in abundance on a track near Laugharne, Carmarthenshire on 1st July 2017, photographed on 25th July by R.D. Pryce. See page 33.

Back cover images:

See article on Anglesey plants in 2017, pages 12-17. Images copyright Hugh Knott.

12: *Drosera rotundifolia* (Round-leaved Sundew) at Cors Goch.

13: *Antennaria dioica* (Mountain Everlasting) at Fedwr Fawr.

14: *Euphrasia officinalis* ssp. *anglica* (English Eyebright) at Newborough Warren. First confirmed record on Anglesey since 1956.

15: *Ranunculus tripartitus* (Three-lobed Crowfoot) near Rhoscolyn.

16: *Cyrtomium fortunei* (Fortune's Holly-fern) in a forestry plantation to the SE of Mynydd Bodafon.

17: *Trifolium scabrum* (Rough Clover) on limestone at NWWT Mariandrys reserve.





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