

## Anglesey (VC 52) - 2021 – Botanical Review of the Year

Covid determined that botanical effort on the island was less than normal and there were no formal gatherings of the Anglesey Flora Group. Nevertheless, 8 new taxa were added to the island's species list and there were 37 new hectad records. One taxon, *Sison amomum* (Stone Parsley) was confirmed for the first time since the 19<sup>th</sup> century.

Of the 8 new taxa for Anglesey, only two are considered native. The hybrid willowherb, *Epilobium x limosum* (*E. parviflorum* x *E. montanum*) was found in small quantity on Parys Mountain (SH4390). *Orobanche minor* ssp. *minor* (Common Broomrape) was determined to sub-species level for the first time, the location being disturbed ground at the landward end of the breakwater at Holyhead (SH2383).

The other 6 new taxa are all introductions. Two of these are monocotyledons – *Alstroemeria aurea* (Peruvian Lily) and the grass, *Digitaria sanguinalis* (Hairy Finger-grass) reported by Richard Birch as forming a dense sward on the hard shoulder of parts of the A55, the main trunk road which traverses the island from east to west. This neophyte from Southern Europe and South-west Asia, first recorded in UK in the 17<sup>th</sup> century, has spread mainly as a weed of cultivation, but Richard's record indicates that it is also an opportunistic halophyte, exploiting the salty roadside conditions of our major roads.

The four introduced dicotyledons new for Anglesey this year are all from different families. *Sedum dasyphyllum* (Thick-leaved Stonecrop) was located by Hugh Knott between Menai Bridge and Llanfair P.G. on a south-facing wall by the old A55 (SH5471). This is typical habitat for this southern European xerophyte which has been known in the wild in UK since 1724 but has not expanded greatly from its strongholds of central southern England in the last 50 years or so. In Wales it is largely restricted to parts of the north coast and immediate hinterland.

*Potentilla indica* (Yellow-flowered Strawberry) was located by Gwen Vaughan just a few miles away, also on a roadside wall, this time on a minor road between Llandegfan and Beaumaris (SH5874). This charming species is native to the region between Afghanistan and the Russian Far East, usually at altitude, and has become naturalised in shady places in scattered localities throughout Britain.

*Vitis vinifera* (Grape-vine) was found for the first time in not one but two locations – Soldiers Point, Holyhead (SH2383) and the old port area of Amlwch (SH4493), both coastal, with a mature plant in each site competing vigorously in bramble scrub. The final new neophyte was *Aconitum napellus* ssp. *vulgare* (Monk's-hood), determined to subspecies for the first time and forming a small colony in disturbed ground at the Range, South Stack (SH2180).

The new hectad records include 18 introduced species of which *Trifolium incarnatum* ssp. *incarnatum* (Crimson Clover) is the most eye-catching. It flowered splendidly in August by the shore at the east end of Red Wharf Bay (SH5780) with two other casuals, *Phacelia tanacetifolia* (Phacelia) and *Fagopyrum esculentum* (Buckwheat), the presence of all three no doubt the result of horse stable waste.

*Erigeron floribundus* (*Conyza floribunda*) (Bilbao's Fleabane) continues to spread. It was first recorded on Anglesey in 2019 in Llangefni (4675), then the following year a mile or so to the south (SH4772) and this year, a strong population was discovered in disturbed ground at Soldier's Point, Holyhead (SH2383). It will be interesting to monitor this species' performance on the island and be watchful for other species of *Erigeron* such as *E. sumatrensis* which is common in parts of Southern England and with which *E. floribundus* competes successfully in South-east England.

*Gunnera manicata* (Brazilian Giant-rhubarb) turned up in a new hectad just above high tide level at Beddmanarch Bay near Holyhead (SH2980) and *Pratia pedunculata* (Matted Pratia) was found established in a close-cut meadow/lawn at Llanelian just east of Amlwch (SH4693). These two southern hemisphere neophytes have now been recorded in 12 and 4 hectads on Anglesey respectively.

Of the new hectad records for native species, three coastal finds stand out. In early April, Robbie Blackhall-Miles found *Pinguicula vulgaris* (Common Butterwort) in a gully just above high-water mark at Porth Dafarch on the far west coast near Trearddur Bay (SH2379) representing the first record for the Holy Island part of Anglesey. In September *Carex punctata* (Dotted Sedge) was found in small quantity at the base of moderately high Pre-Cambrian seacliffs at Amlwch (SH4493). This is only the 5<sup>th</sup> monad for the island and the first record for the north coast of Anglesey. *C. punctata* is largely confined to south and south-west facing coasts of southern and western districts of the British Isles reflecting its thermophilic tendencies in Europe as a whole. The third significant coastal find was *Ammophila arenaria* (Marram), widely distributed around much of the low-lying shorelines on the island but, like *C. punctata*, never before recorded on the north coast of Anglesey, until this year. A small clump was located 100m from the sea in gravelly ground on the old derelict chemical processing works west of Amlwch Port (SH4493) just a few hundred metres from the Dotted Sedge site.

The appearance of *Pilularia globulifera* (Pillwort) in an artificially deepened and extended pond just east of Amlwch (SH4693) is another interesting new hectad record, taking the total to 19 monads for this Berne Convention species (though in 7 of those we have no post-2000 records and one of the important sites, historically, the pool on Mynydd Bodafon (SH4685) is now heavily infested with *Crassula helmsii* (New Zealand Pygmyweed) and is increasingly unsuitable for *Pilularia*).

Seven of the new hectad records are hybrid taxa and include two orchid hybrids, both involving *Dactylorhiza incarnata* (Early Marsh-orchid) hybridising with 'Spotted Orchids'. *Dactylorhiza x kerneriorum* (*D. incarnata* x *D. fuchsii*) was found in a wide clearing in Newborough Forest (SH3965) and *D. x carnea* (*D. incarnata* x *D. maculata*) was found at Cors Bodeilio (SH5077). The hybrid Centaury, *Centaureum x klattii* was noted at a derelict industrial site at Amlwch (SH4493) where its parents are thriving (the scarce *C. littorale* (Seaside Centaury) and *C. erythraea* (Common Centaury)).

*Nitella tenuissima* (Dwarf Stonewort) is a rare charophyte in the British Isles being confined to Anglesey, Cambridgeshire and a few sites in Central and Western Ireland. It is Red-listed in Wales and there are records from just three fens on Anglesey, namely Cors Erddreiniog, Cors Goch and Cors Bodeilio (Stewart and Hatton-Ellis, 2020). The populations at each of these sites are small and very vulnerable to competition and succession. Pro-active management by Natural Resources Wales (NRW) involves excavating pools and peat cuttings at these sites and maintaining open water conditions for charophytes such as *N. tenuissima*. Despite this, it had not been formally verified from Cors Bodeilio since 2003. It is therefore very pleasing to report that Peter Jones, lead Specialist Adviser for Peatlands with NRW, re-found it in a recent peat cutting at Cors Bodeilio (SH5077) in early September this year, and its identity has been confirmed by Nick Stewart (Jones, 2021).

The Anglesey populations of another spore-bearing species, *Osmunda regalis* (Royal Fern) number c.12 and most contain only single figure numbers of crowns or rootstocks. The notable exception is a small mire in the north of the island where over 400 crowns, some 1.5m tall, were counted this year, with fronds reaching 2m in length. This Site of Special Scientific Interest (SH3491) is also home to Anglesey's only population of *Vaccinium oxycoccos* (Cranberry) which was producing abundant fruit in July. Happily, *Osmunda* was re-found this autumn in Holyhead Breakwater Country Park (SH2283), some 30 years after its original discovery there, and the modest-sized colony is increasing.

It is also pleasing to report that Robbie Blackhall-Miles has located another specimen of the rare endemic *Sorbus arvonensis* (Menai Strait Whitebeam), above the Belgian Promenade in Menai Bridge (SH5571). Note that there is currently some confusion over the scientific name of this species and *S. arvonicola* seems equally acceptable. Close by, Robbie noted a new specimen of *Arbutus unedo* (Strawberry Tree) as well as several 'groves' of *Arbutus* on one of the islands in the Menai Strait while kayaking near Cadnant (SH5672). It is generally assumed that *Arbutus* is widely naturalised in western districts of Britain, but Robbie is keen to consider the idea that some of these individuals and populations may be native, as they are considered to be in SW Ireland. We look forward to further developments of this intriguing line of thinking.

Robbie has been monitoring select rare and scarce species on some of the island's National Nature Reserves this year. Among his many finds it is pleasing to hear that *Epipactis dunensis* (Dune Helleborine) had a good season with over 400 stems in flower and a further 300 sterile shoots in an area of 50 sq.m. of Newborough Forest (SH3963). This high density was repeated in other Forest locations especially in clearings close to the sea. Interestingly, Robbie found three achlorophyllous shoots which were presumably surviving entirely on their mycorrhizal symbiont. His other nice finds at Newborough included a new site for *Pyrola minor* (Common Wintergreen), in the far western section of the Forest (SH3864), and both *Gentianella amarella* (Autumn Gentian) and *G. campestris* (Field Gentian) on slightly raised ground on the Warren next to great swathes of *Parnassia palustris* (Grass of Parnassus). *Utricularia australis* (Bladderwort) was a good find in one of the pools in the Forest (SH4065) and a new hectad record for an aquatic with only 10 monads to its name on Anglesey. Notable by their absence at Newborough in 2021, however, were *Hypochaeris glabra* (Smooth Cat's-ear) and *Hypopitys monotropa* (Yellow Bird's-nest). The only record for the latter species this year was a single flowering shoot at a known site near Church Island, Menai Bridge (SH5571), reported by John Bratton.

The nearby peninsula of Llanddwyn (SH3963 and SH3863) proved rewarding for *Asplenium obovatum* (Lanceolate Spleenwort) with 7 populations detected, including several new sites. Also, Robbie and Gwen Vaughan found a new population of *Dianthus deltoides* (Maiden Pink), located close to the main path by the cross opposite the ruins of St. Dwynwen's Church (SH3862). This species appears to be increasing at Llanddwyn following its rediscovery on the headland in 2017 after an absence of c. 40 years.

Penhesgyn Landfill Site near Four Crosses, Menai Bridge (SH5374) may not seem a likely place to find scarce plants but Richard Birch located *Rorippa sylvestris* (Creeping Yellow-cress) there in July, only the second post 2000 record for this native perennial crucifer. With only three monads to its name on the island *R. sylvestris* is puzzlingly scarce – it is far more widespread in many parts of lowland England in both damp and semi-dry habitats. Richard also found *Vicia tetrasperma* (Smooth Tare) at the same site – only the 4<sup>th</sup> record for Anglesey. Penhesgyn is the subject of a major land reclamation/re-wilding project covering almost 50 hectares on which it is planned to create 20 hectares of wildflower meadow and plant 12,500 trees on improved grassland. It will be interesting to monitor its botany over the coming years. It already supports some moderately species-rich grasslands including dry open areas with *Ophrys apifera* (Bee Orchid) as well as wetlands and scrub woodland and it is to be hoped that these naturally developing communities are encouraged alongside any targeted planting.

Jane Stevens has continued to survey her local monads around Llangristiolus (SH4373) and among other species added *Butomus umbellatus* (Flowering Rush) and *Cicerbita macrophylla* (Common Blue-sow-thistle) to SH 4370. The latter is a perennial neophyte which is quite striking in flower and was introduced into gardens from the Ural region in the early 19<sup>th</sup> century. It was first recorded in the wild in the Lake District in 1915 and has since established itself, usually clonally, across many parts of Britain

and Ireland. On Anglesey it is presently known from just 7 monads, all in the south and east. Jane counted 18 plants of *Daphne laureola* (Spurge Laurel) in April at its most westerly locality on Anglesey, near Trefdraeth Church, SH 435.702. Jane had already made a very prompt start to recording using the 'bike-botany' technique which proved very effective at locating colonies of *Galanthus nivalis* (Snowdrop) in no fewer than 32 new monads.

Another part of Anglesey which is closely monitored by resident botanists is Menai Bridge (SH5572). Hugh Knott reports that *Epipactis helleborine* (Broad-leaved Helleborine) once again dared to flower beneath amenity birch trees planted some years ago outside Waitrose. He was also interested to note that the annual umbellifer, *Aethusa cynapium* (Fool's Parsley) re-appeared by the reservoir after a few years absence. This is another example of a plant which, despite being widespread in many lowland parts of England, is decidedly local on Anglesey (and North-west Wales generally). It has been recorded from 20 monads on the island, rather scattered in distribution, and in 7 of those it has not been seen since 2000.

Another umbellifer, the biennial *Sison amomum* (Stone Parsley) is even more local in North-west Wales reflecting its largely southern and eastern distribution in Britain. This coincides with its sub-Mediterranean – sub-Atlantic European biogeographical distribution in Europe. Only one previous record of *S. amomum* exists on Anglesey which was made by Griffith in the late 19<sup>th</sup> century who listed it from Llanidan in the south of the island. It is therefore a thrill to report that it has been found at Penmon Point (SH6381) by Charles Aron who suspected its identity last year but had it confirmed this year. It is forming a small colony of some 30 plants in a rough verge on the south side of the toll road some 200m SW of the Coastguard Station.

*Barbarea verna* (American Winter-cress) also has a southern distribution in Britain but one with a more pronounced western component than the previous species. However, unlike *Sison*, it is a neophyte. It was once widely grown as a substitute for water-cress and has persisted in the wild. There is sign of a recent increase on Anglesey with this year's new finds taking the number of monads into double figures.

The shade-loving neophyte *Lysimachia nummularia* (Creeping Jenny) now has 6 monads to its name following its discovery near Llanddona (SH5779) by Hugh Knott this summer. It has steadily expanded its range since it was first noted on Anglesey in 2002, though it is still restricted to the south-east quadrant.

Illustrating how important proper management is in redeeming plant populations, Tim Blackstock reports that several plants of *Filipendula vulgaris* (Dropwort) flowered at Mariandyrys Reserve (SH6081) this year after gorse control by the North Wales Wildlife Trust (NWWT) two years ago. This is very welcome news as there have been no flowering records for this species on the Penmon peninsula since 1999 when it was declared 'at risk from scrub invasion'. As far as we can tell Dropwort is currently restricted to this single site having been more widespread on the limestone in the south-east of the island in the past but extirpated partly through scrub overgrowth, as at Mariandyrys, where R.H. Roberts described it as 'abundant' in the 1980s. It needs open calcareous grassland to thrive.

The same is true for *Viola hirta* (Hairy Violet) - 10 plants were reported flowering at Mariandyrys by Hugh Knott this year, again in recently cleared ground.

The NWWT's tip-top habitat management extends to its Cors Goch Reserve (SH5081), where *Orchis morio* (Green-winged Orchid) had an excellent flowering season this year, benefiting from targeted grazing and cutting of heath and calcareous grassland. Ivor and Jane Rees and Peter Jones counted 647 flowering stems in early May, one of the highest counts ever made on Anglesey. Similar good flower

shows by this species in other parts of Britain indicate that climate/weather may have influenced performance but there is no doubting that grazing and the varied surrogate techniques employed by experienced wildlife agencies, including cutting, burning and ground disturbance, all contribute to creating and maintaining optimal conditions for our rarest species which now rely increasingly on designated nature reserves for their survival in Wales and the rest of Britain.

A significant increase in extent and density of one of Anglesey's rarest ferns was evident on a site visit to Tre'r Gof Site of Special Scientific Interest (SH3593) in July. This medium sized fen supports a large colony of the Nationally Scarce *Thelypteris palustris* ( Marsh Fern) which is responding well to more strategic use of cattle grazing combined with annual cutting of fen vegetation.

Such benefits to wild flora can be experienced at a range of scales, from landscape to back-garden. An excellent example of the latter presented itself in June at Borthwen, Rhoscolyn (SH2775), where a generous sized garden sweeps down to the bay encompassing shapely out crops of deeply folded Pre-Cambrian rock and moist hollows of springy turf. The owners are happy to watch nature create a species-rich plant community within their bounds commencing with drifts of *Scilla verna* (Spring Squill) in April and May, culminating in fine shows of *Ulex gallii* (Western Gorse), *Calluna vulgaris* (Heather) and *Erica cinerea* (Bell Heather) in late summer and early Autumn. In between, in June, they leave the meadows unmown and this year enjoyed a stupendous display of *Dactylorhiza maculata* (Heath-spotted Orchid) - Over 7000 flowering shoots appeared in an area of moist meadow spanning just 130 square metres! Even where the turf is kept short by mowing and walking there are gems to be found, including *Ornithopus perpusillus* (Bird's-foot). Sward height is key, as well as the removal of mowings.

Sometimes it is a single specimen that attracts attention and this may come with familiarity with a locality. For a number of years, Ivor and Jane Rees have admired a particular birch on private land close by one of their favourite public footpaths at the top of the Plas Cadnant estate near Menai Bridge (SH5573). This year Ivor decided to take a closer look at this fine mature individual and collect material which was duly sent to the BSBI referee for *Betula*, Dr Hugh McAllister, as well as Andy Amphlett who published a paper on the taxonomy and identification of British birches earlier in the year (Amphlett, 2021). They concluded that Ivor and Jane's tree was *Betula pubescens* ssp. *pubescens*, which appears to be the most widespread subspecies of birch in northern and western Britain but this is the first time an Anglesey birch has been subject to such close scrutiny and determined to subspecies level. Spurred on to find out more about this particular specimen which is roughly 16 metres tall and multi-trunked, Ivor tracked-down some fascinating images of the estate from the early part of the last century which clearly show this tree in its infancy, placing its age at over 100 years. In the intervening time its immediate surrounds have become far more thickly wooded but the birch has competed well at the woodland margin. It is so rewarding to reveal the life stories and true nature of our flora whether it be individual veteran trees or ephemeral eye-catching communities. The former take us back in time and paint a picture of changing attitudes to land management, the latter are exciting in the present. Both deserve to be conserved.

Understanding historic changes in habitat and species relies heavily on accurate records. We are lucky that we have three systematic and comprehensive earlier Floras which provide 200 years' worth of definitive and comparable data for Anglesey (Davies, 1813; Griffith, c.1895; Roberts, 1982.) Present recording effort aims at mapping the distribution of both native and alien species at monad level and the MapMate database managed by Ian Bonner now contain over 155,000 records. These data underpin the production and updating of a Rare Plant Register and list of Axiophytes (taxa of ecological and conservation significance) for the island which have both received major revision this year.

Ivor Rees produced a very interesting note for BSBI News about the extraordinary natural concretions shown by *Limonium procerum* (Tall Sea-Lavender) on the west coast of Anglesey, a previously undescribed phenomenon in this taxon and indeed a rare feature in any British plant, being more associated with arid zone species and situations. Ivor suggests that the Anglesey examples involve microbially induced calcareous precipitation and contribute to the survival of sea-lavenders to a great age even in extreme environments prone to storm events (Rees, 2021).

James Robertson continues to contribute regularly to *British Wildlife* magazine with topical and thought-provoking reviews on Welsh botany and the Welsh natural environment, often using Anglesey to illustrate his arguments and provide highlights of the Principality's changing flora. He also wrote two major papers for the same periodical in 2021, one of which is a masterly and fascinating review of the evidence for the status of *Mibora minima* (Early Sand-grass) on Anglesey and its small number of other British localities (Robertson, 2021). In this paper he presents a strong and novel argument for the world's smallest grass being an historic introduction but one which we should embrace for the fascinating interaction between human and natural history which its presence in these islands reveals. – plenty of food for thought and discussion! It should be added that James does not spend all his time writing! He keeps a very close eye on botanical changes on his own small holding, a splendidly diverse landscape of species-rich pastures, dense hedgerows, scrub woodland and wood-pasture in the south of the island. This year he noted the natural arrival of *Carpinus betulus* (Hornbeam) and the appearance of two new aquatics, *Ranunculus aquatilis* (Common Water Crowfoot) and *Potamogeton berchtoldii* (Small Pondweed) in recent shallow scrapes.

A number of local professional ecologists including John Ratcliffe have contributed to a valuable recent review of plans to restore dynamism to Welsh Dunes including Newborough (Litt, E., *et al*, 2021). This is a hot topic in environmental and conservation management, not just here on Anglesey, but much further afield, and it is pleasing to see pioneering research being undertaken around our local shores.

Debbie Evans co-authored the 5<sup>th</sup> volume in the series covering phytoparasitic microfungi produced by the Welsh Microfungi Group (Chater, *et al*, 2021.) This attractive publication reveals the true identity of many commonly encountered mycological infections of wild and cultivated plants and is available in both hard copy and free-download form.

In April Sally Ellis retired from Natural Resources Wales (NRW) where she had many years experience of managing Anglesey's best wildlife sites. In her professional role with NRW she has given a huge amount of help to the Anglesey Flora Group and now in retirement looks forward to continuing to contribute.

Several members of the Anglesey Flora Group are involved with Plantlife Cymru's Anglesey Meadows Group which has been very successfully and ably organised by Tamsin Fretwell, Magnificent Meadows Outreach Officer for Plantlife Cymru. This involvement has had benefit all round with botanists gaining welcome access to private sites and in return being able to offer identification and management advice. Members have also been involved with the very successful North Wales Habitats and Meadows Group, Kate Gibbs having organised a number of visits to Anglesey for landowners, resulting in records such as that of *Pratia pedunculata* referred to above.

Finally, it is very pleasing to announce that Robbie Blackhall-Miles has recently been appointed Natur am Byth – Vascular Plants Officer for Plantlife Cymru. He will be planning and co-ordinating species-focused conservation projects in North-west Wales, including Anglesey. We look forward to working with Robbie in his new role and continuing to enjoy his company and contribution to the Anglesey Flora Group generally.

Nigel Brown and Ian Bonner

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