Botanical Recording in Cardiganshire (v.c. 46) in 2019

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The stellar find of the year was Justin Lyons' (JPL; Natural Resources Wales, Senior Reserve manager) amazing discovery of a small colony of *Spiranthes romanzoffiana* (Irish Lady's-tresses) at the Dyfi NNR, an orchid new for Wales. As remarked by Justin it was, 'the find of a lifetime'. The discovery, unsurprisingly, attracted media interest, featuring in a NRW press release on BBC Wales, in the local newspaper (Cambrian News) in October and was also mentioned in the Wales country roundup column in *British Wildlife* **31(1)** October 2019. Irresistible 'origin myth' speculation inevitably follows fast on the heels of such a find, and in this regard arrival by seed carried on, or a seed capsule inside (endophoresy), one of the wild Geese (*Anser* spp.) species known to stop-over on the Dyfi estuary area seems plausible. Birds satellite-tagged on the Dyfi also visit places in western Scotland, including Islay and Coll. It will be exciting to see if the plants appear again in 2020.

On route to the railway station in February, AOC spotted several juvenile plants of *Echium pininana* (Giant Viper's-bugloss) growing along the base of a wall in a sheltered alleyway in Aberystwyth, the 1st VCR. I grow this stately species in my garden in Capel Bangor, where young plants are highly sensitive to and are killed by only a few degrees of frost, so the brick walls and hard-surfacing of the alleyway environment probably provide a protective miniurban heat island effect. Two different age cohorts were present, pointing to > one recruitment event.

In April, stopping by the filling station on the A487(T) in Llanrhystud, AOC & RGW chanced upon several patches of *Crassula tillaea* (Mossy Stonecrop) growing along the roadside verge, a remarkable discovery of a species only once recorded before in the v.c. as a casual at Ynys-las dunes in 1947, though a more recent report in 2017 from the dunes is currently under investigation. The species has been popping up in other Welsh v.c.s. recently. The location centres on a tourist hub close to caravan parks etc, so risking more speculation perhaps it hitched a lift on the wheels of a caravan or similar vehicle.

AOC turned up a number of other interesting 1st VCRs during the year, including *Rapistrum rugosum* (Bastard Cabbage) (with JPP; several plants on disturbed dune, Penyrergyd, SN14U), *Securigera varia* (Crown Vetch) (det. JPP; naturalised on a roadside bank near Rhydyfelin, SN594794) and *Impatiens capensis* (Orange Balsam) (a large colony, over 30 x 10 m, in a fen SSW of Elerch church, SN682862).

In early May, Dr David Lloyd (IBERS) via Pete Stroh emailed news of a sighting of two flowering spikes of *Anacamptis morio* (Green-winged Orchid) on a piece of grassland by a car park on the IBERS Plas Gogerddan campus (SN630835). Investigating, SPC & HFC after a bit of follow-up sleuthing established that the plants had very likely seeded from a large colony growing on a nearby 'green roof' and therefore were neither native nor natural colonists. The popularity of 'wildflower seed mixes' and fashionable 'green roofing' means such occurrences are likely to only increase in future and have the potential to disrupt and dilute ecological meaning, especially of such important axiophytes. *A.morio* has also been reported 'appearing' on green roofs in London, for example see the article in Plantlife magazine no. 84, pp. 12-13, summer 2019. During the visit an enormous carpeting population of *Saxifraga tridactylites* (Rue-leaved Saxifrage), forming a pink haze of (crudely estimated) tens of thousands of plants (one square foot alone had 100 individuals), was found on

gravelly dry tracks and banks between the IBERS glasshouses, new for the hectad. Could this be the largest population in Wales? On the topic of 'mega-populations' the new colony of *Orobanche hederae* (Ivy Broomrape) first noticed in 2018 by HFC on Ffordd Sulien in Llanbadarn Fawr, SN58V, when it comprised nine spikes, had this year increased to an incredible 200+ spikes forming a forest-like, monoculture of plants tightly packed in under their drape of *Hedera hibernica* (Atlantic Ivy).

Exploring NW of Llangeitho in SN66A in May it was especially pleasing to discover a new site and tetrad for the rapidly declining *Genista anglica* (Petty Whin). A single plant was seen in an extensive *Molinia*-dominated rhos pasture at SN606602, accompanied by *G.tinctoria* (Dyer's Greenweed), *Trocdaris verticillata* (Whorled Caraway), & *Serratula tinctoria* (Sawwort), here on the western edge of its v.c. core range. In the same tetrad later in the month a new site and hectad was found for another native axiophyte, *Tilia cordata* (Small-leaved lime) - a single tree, half-fallen out from a streamside rock face, was present in a narrow arm of Atlantic ravine Oakwood below Allt Tan-caebanal, SN609612.

Following email discussions with Roger Golding (RG) concerning *Dryopteris affinis* (Scalymale fern) morphotypes SPC had seen a few years ago in a wood in SN35Y near Cross Inn, SW of New Quay, RG visited and reported two forms of *D.affinis*, three distinct forms of *D.borreri*, including a rather congested one having some *D.kerryensis*-like characters, and a new hectad record for *D*. x *complexa s.s.*

In September a colossal *Ulmus* sp. (Elm) with a girth of 477 cm was found on a roadside bank near Pontsiân (SN44I), seemingly the largest ever noted in the v.c. Its identity is being investigated.

Calcicoles of dry, neutral/base-rich grassland are infrequent in the v.c. away from the coast, but surveying the Capel y Bryn (Rhydypennau chapel) burial ground, SN628863 (68I), near Bow Street in September, Annette Williamson (ACW) found a rich set of such, all new for the tetrad, including *Galium album* (Hedge Bedstraw), *Polygala vulgaris* (Common Milkwort) and *Silene vulgaris* (Bladder Campion).

New sites discovered during the year for selected v.c.-uncommon plants included Cotoneaster sternianus (Stern's Cotoneaster) (SPC; SN66A; 6th VCR), Epilobium x fossicola (a hybrid willowherb) (SPC; flush in the Twyi Fechan forestry, SN781626, the 3rd VCR), Helminthotheca echioides (Bristly Oxtongue) (SPC, Morfa Mawr farm, SN56C), Helleborus foetidus (Stinking Hellebore) (SPC; NW of Brongest, SN34C; 2nd location for the S of the v.c.), Jacobaea erucifolia (Hoary Ragwort) (SPC; roadside bank at SN432543, E of Synod Inn), Leucanthemella serotina (Autumn Oxeye) (MDS; rubble pile by caravan park, Cross Inn, SN35Y; the 2nd VCR), Linaria x sepium (a hybrid Toadflax) (SPC; roadside bank S of Llanarth, SN45H, with L.vulgaris but without L.repens), Neottia ovata (Common Twayblade) (SPC; SN34H), Primula x tommasinii (False Oxlip) (SPC, 'wild type' with both parents, Bryngwyn chapel, SN34C), Rubus cockburnianus (White-stemmed bramble) (MDS; building site, Lampeter, SN581486; the 3rd VCR), *Spergularia marina* (Lesser Sea-spurrey) (MDS; SN68F, A44(T) roundabout at Lovesgrove, the most inland site to-date & a new hectad record), Symphytum grandiflorum (Creeping Comfrey) (SPC; SN34C; 3rd VCR), S. x hidcotense (Hidcote Comfrey) (SPC; SN34C; sole extant v.c. site) & Verbena bonariensis (Argentinian Vervain) (SPC & HFC; SN57Z, Llanfarian; 3rd VCR, & very close to where the 2nd record was had in 2009).

Of increasing invasive non-native species ('INNS') a number of new sites were found for *Tellima grandiflora* (Fringecups), including a small colony in the corner of one of the upper fields at the Caeau Llety-Cybi S. & W. Wales Wildlife Trust reserve (SSSI) near Llangybi, SN602534. Of the v.c.'s invasive alien plants this one is currently showing the greatest propensity to infiltrate and persist in semi-natural habitats, including grassland and woodland, especially when source plants are growing directly adjacent in cottage garden situations, as at Caeau Llety-Cybi.

A most unusual non-native for the year was *Abies koreana* (Korean Fir), a tree grown for ornament in gardens but seemingly unreported before in Wales from a wild situation. A single tree bearing the remains of female cones was found on a scrubby bank W of Blaenwaun farm, SN632693, NNW of Bronnant. It may have originated as a planted out Christmas tree.

I extend my thanks and gratitude to all the local and visiting botanists who sent in or verified records this year, namely Arthur Chater (AOC), Helen Clow (HFC), Brian Dockerill, Roger Golding (RG), Chloe Griffiths, Carolyn Lynn, Justin Lyons (JPL), John Poland (JPP), Will Strange, Matt Sutton (MDS), Annette Williamson (ACW) & Ray Woods (RGW).