



## PERTHSHIRE SOCIETY OF NATURAL SCIENCE

### BOTANICAL SECTION

#### BULLETIN No. 43 – 2020

With the COVID-19 pandemic and lockdown having prevented us from organising any official excursions or indoor meetings for well over a year, Bulletin 43 has a different emphasis from usual, focusing on some activities that members have been able to undertake close to home. But articles on any relevant topic are always welcome. Also because of the pandemic, this Bulletin is being distributed primarily in electronic format; a small number of printed copies will be produced for members without internet access.

#### Some records from in and around Dalguise in 2020

My neighbour Dinah Fok and I 'compete' every year to be the first to spot plants as they come into flower in our area. This year of lockdown we had even more fun as, being unable to botanise farther afield, our local surveys were all the more intensive.



< The dearth of the usual tourists in Dunkeld led to an interesting proliferation of pavement weeds, such as *Erophila verna* (Common Whitlowgrass) spilling out among the paving stones around the Atholl Memorial.

> Dinah was the first to record a really good find in early May, high up in Craigvinean Forest and new to the hectad, *Vaccinium vitis-idea* (Cowberry).





< Also encouraged, no doubt, by the lack of visitors, in June I found one of my favourites down by the Tay at Dalguise, which I had not seen there for a number of years: *Polygonum viviparum* (Alpine Bistort).



> Also in June, this time on the railway banking at Dalguise, I came across an odd-looking *Senecio* that I



thought was probably a hybrid. Alistair suggested sending it to Dr Crinan Alexander, the BSBI referee for this genus. His best guess so far is *Senecio squalidus x viscosus*, but as he is still not at his RBGE desk, I haven't heard the final verdict.

< Most years we are lucky enough to see eight or more *Neottia nidus-avis* (Birds Nest Orchids) in the little wood just a few yards from my house, and this year they were present again.

> In July, Dinah scored another big hit (so unlikely that Alistair was quite dubious at first) with a large patch of richly purple *Allium vineale* (Wild Onion). This was by the footpath beside the river at Dalguise, a stretch thoroughly botanised by both of us in previous years, so how it arrived there is quite a mystery.



< And finally, down by the Tay again, at a spot nearer the A9 Jubilee Bridge which I had never before thoroughly explored, I found half a dozen sedges which I was delighted to see, because the Tay banks here don't usually support many sedges. Here for example is *Carex hirta* (Hairy Sedge).

Faith Anstey

### 25 Dundee Streets – 19 years on

When the 2020 lockdown came into force, I was faced with having to content myself with botanical exploration near home. In fact, for this project I stayed *very* near home, within 500 metres of my house in West Dundee. This is a residential area on a south-facing slope.

In 2001 I had noted wild plants growing on roads, pavements and walls on 15 streets in two visits in spring and summer, adding another ten streets over the next three years.

This year (2020) I repeated the exercise with two visits in May and June, following the same route and method.

There was little change in the overall number of species found, 90 in 2001-04 and 89 in 2020. However, the lists were different, with 30 species found in 2001-04 not being refound in 2020

and 29 extras being noted. Some of the differences may be chance, as species were sometimes seen nearby, but there were some marked changes. The average number of species per street was higher in 2020, being 18 as opposed to 13.6 in the earlier study.

In 2001-04 the commonest species were: *Poa annua* (Annual Meadow Grass), *Taraxacum* (Dandelion), *Senecio vulgaris* (Groundsel) and *Epilobium montanum* (Broad-leaved Willowherb). In 2020 the most frequent were: *Poa annua* (Annual Meadow-grass), *Arabidopsis thaliana* (Thale Cress), *Sagina procumbens* (Procumbent Pearlwort) and *Asplenium ruta-muraria* (Wall-rue).

Plants showing marked increases of 7 or more streets in 2020 were *Arabidopsis thaliana*, *Bromus sterilis* (Barren Brome), *Campanula poscharskyana* (Trailing Bellflower), *Cerastium glomeratum* (Sticky Mouse-ear), *Epilobium ciliatum* (American Willowherb), and *Sagina procumbens* (Procumbent Pearlwort).

Decreases were noted for *Polygonum aviculare* (Knotgrass) and *Taraxacum*.

Repeat visits in December 2020 recorded 59 species, although was before the severe frosts.

This limited study does not show any deterioration in street biodiversity. However, we must be cautious, as the timing of visits was not quite the same and in 2020 the first council herbicide application did not take place until after the first visit (I don't have a note of herbicide timing in 2001)

This is a harsh environment for plants with hard surfaces and regular herbicide attack. The safest place may sometimes be the upper part of walls, where there is little herbicide effect, although a few owners do clean their walls

Some of the increases are in line with national trends, in particular for *Epilobium ciliatum*, *Cerastium glomeratum* and *Campanula poscharskyana*. Some of the declines could be related to the timing of visits in 2020, which were relatively early in the summer.

Many members of the public are still intolerant of 'weeds' in streets, while some of us appreciate their colour and beauty, as well as their role in conservation. Some management is always needed, but should be carried out with restraint. I hope the recent pandemic may lead people to be more appreciative of their local wildlife and flora.

An earlier, more detailed, report of this study appeared in *BSS News* No. 115 (2020), pp 37-41.

Brian Ballinger

### ***Dactylorhiza* Blight/Black Death**



< The first photograph taken in 2012 shows a profusion of mainly *Dactylorhiza purpurella* (Northern Marsh-orchids) at a triangular site where the old A9 joins the new A9 just north of Pitlochry. The second (next page) shows the same site in 2014, and the third photograph is of one of the few surviving plants. This plant was confirmed (by a mycologist) as being infected with the fungus that causes *Dactylorhiza* Blight/Black Death and it is probably this fungus that was responsible for the near-eradication of the *Dactylorhiza* at this site.



The fourth photo (below) shows an infected plant from an experiment designed to test some of Koch’s postulates I have this fungus in our meadow at New Mill of Kinloch, Clunie. It came from a plant of *D. foliosa* (Madeiran Orchid)

in our adjacent garden. In the first year (2004) it killed hundreds of Northern Marsh-orchids in our meadow. Since then I have been trying (unsuccessfully) to eradicate the problem by searching for and removing/killing any infected plants using ever more extreme methods. Currently I use a blowtorch and spray the surrounding area with 50% bleach.

Why am I writing this? This disease generally is fatal and is amazingly infective – in damp conditions it spreads like ‘wildfire’. As shown at Pitlochry and elsewhere (e.g. Gibraltar Point National Nature Reserve in Lincolnshire) it can eliminate whole populations of *Dactylorhiza* species. I have seen plants with typical symptoms (it starts as a brown flecking on some of the leaves) at Barry Buddon, Loch Leven, Dundee, the Isle of Harris and in Yorkshire.



My experience shows it is readily spread on peoples’ feet and this is probably the main pathway for spread between sites. The ‘take-home message’ is **wash your footwear when moving between orchid sites.**

Dave Trudgill -

[The above article previously appeared in the Newsletter of the Dundee Naturalists’ Society, No. 15 (12 July 2020). Dave has written about *Dactylorhiza* Blight elsewhere (e.g. [www.hardyorchidsociety.org.uk/HOS%201012/JHOS%20archive%20pdf/JHOS%20April%202015.pdf](http://www.hardyorchidsociety.org.uk/HOS%201012/JHOS%20archive%20pdf/JHOS%20April%202015.pdf)). A mycologist, John Scrae of [Fera Science](http://Fera Science) has confirmed that the fungus is the same as the one causing problems at Gibraltar Point, and is believed to be preparing a peer-reviewed

paper on the pathogen. The Section enjoyed a visit to Dave's meadow at New Mill in 2018 – see report in [Bulletin 41](#) – Ed.]

### Recording Mid-Perthshire's Riverbanks

Due to the restrictions of the lockdown to help reduce the spread of COVID-19, I did not travel far in 2020 as a recorder for the Botanical Society of Britain and Ireland (BSBI). Accepting limitations, I decided to explore the riverbanks near where I live in considerable detail.

I recorded from the weir on the Shochie Burn (really a river) north of Luncarty, down the banks of the River Tay and River Almond to where the Almond passes under the A9 bridge. This is a total length of 5,157 metres. Most recording was undertaken from 5<sup>th</sup> May to 11<sup>th</sup> August, a period that coincided with low levels on the Tay and Almond, exposing areas usually inaccessible at the bottom edges of the banks.



Weir on the Shochie at Luncarty, 17 March 2021 © A. Godfrey

Recording used a baseline of 1 km x 1 km OS grid squares in order that plant records would be recognised within the arrangement of the BSBI's Distribution Database. The area of overlap of riverbanks within squares varied considerably, the banks of the Tay providing the greatest cover within squares.

Mapping and recording recognised habitat differences within squares and these together with the use of grid lines define the site boundaries. Some sites have one habitat, others have more than one. Recording aimed to group particular riverbank features as sites within the grid.

The Shochie banks are enclosed woodland throughout, with steep banks and little water margin. The edge of the woodland is defined at the top of the bank where it meets a track that separates it from woodland of recent origin.

The Hatton section is largely grassland with a riparian habitat at the margin of the bank and some individual trees. In addition, there is a small area of long-established woodland on the riverbank. Its inclusion in the site acknowledges the location of the OS northing grid line.

Oak woodland becomes a strong feature of the riverbank south of Hatton. These trees are part of the designed landscape of Thomas Graham, Lord Lyndoch, shown on an estate map of 1844. The woodland has *Quercus robur* (Pedunculate Oak) *Q. petraea* (Sessile Oak) and the hybrid between them. Other tree species are also present. The riparian bankside flora also becomes more extensive south of Hatton; one habitat merging into another seamlessly.

The eight sites included in the survey are identified in the following table.

**Table 1:** Locations of sites recorded during the survey

Sites start and finish	Mapping refs.
Shochie Burn banks & woods: NO0988 3012 to NO1018 2995	1-2
River Tay banks & woods: from Shochie, NO1018 2995 to NO1022 2974	2-3
River Tay banks & woods: Tayview, NO1022 2974 to NO1045 2900	3-4
River Tay banks & woods: Hatton, NO1045 2900 to NO1041 2879	4-5
River Tay banks & woods: from Hatton, NO1041 2879 to NO0999 2843	5-6
River Tay banks & woods: Denmark Green, NO0999 2843 to NO0950 2800	6-7
River Tay banks & woods: Broxy, NO0950 2800 to NO0981 2700	7-8
River Tay banks & woods: Inveralmond, NO0981 2700 to NO0962 2662	8-9

The number of taxa recorded during the survey was 309 different kinds of plants. Critical species were not recorded. Also, the number of taxa within the survey area will be greater, due to some early flowering plants not being recognisable after the start of the survey. Collating all of these records resulted in a checklist for the survey area, the 309 taxa.

Table 2 provides the number of records of taxa from each site. Site areas are variable in size, therefore differences in the number of records between them should not be compared. The number of taxa recorded between sites also varies; up to eight sites sometimes sharing the same taxon; sometimes, only one taxon associated with a site. Two examples are: *Viola odorata* (Sweet Violet) recorded only on the Shochie banks; *V. riviniana* (Common Dog-violet) not recorded there, likely to be present, but was recorded at Tayview, Broxy and Inveralmond.

**Table 2:** The number of records of taxa for each site from a survey checklist of 309 taxa

1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	Total
100	94	179	135	154	164	163	170	1159

The survey recorded 13 taxa new to the survey grid squares. Most were small populations and included: *Geranium sanguineum* (Bloody Crane's-bill) *Eupatoria cannabinum* (Hemp-agrimony) *Lythrum salicaria* (Purple-loosetrife) and *Lysimachia nummularia* (Creeping-Jenny).

*Crocsmia x crocosmiflora* (Montbretia) was another new taxon to the squares; its presence as a plant of hybrid cultivation with its invasive habits are most definitely unwanted. *Allium carinatum* (Keeled Garlic) is spreading, it is attractive in flower and crucially unlike its invasive relative *A. paradoxum* (Few-flowered Garlic) that clothes the Shochie banks.



*Hedera algeriensis* (Algerian Ivy), Hatton Cottage >  
© A. Godfrey

Represented on only one site, *Hedera Algeriensis* (Algerian Ivy) is established on *Alnus glutinosa* (Alder) at the Tay's edge behind Hatton Cottage. The Algerian Ivy was determined for me by Paul Green, who I noticed had recorded it in Ireland. Previous owners of the cottage appear to have extended their gardening activities. This is a very attractive species and non-invasive. It also provided a new County record.

Alistair Godfrey

### Lockdown life after Atlas 2020

On 19<sup>th</sup> March my journal states bleakly 'Started self-isolation on account of the coronavirus'. I don't think it ever crossed my mind that over a year later, as I write this, things have hardly improved, except that a huge bit of scientific wizardry has given us a vaccine that will soon allow us to live normal lives again. The huge plus for me last spring was that, within my self-isolation, I had a huge area of wonderful botanical country to wander around, in glorious sunshine and with no traffic on the roads - and all this when the dandelion flowering season was at its peak!

The A924 here in upper Strathardle is narrow and can be surprisingly busy, so much so that there are bits of it that I wouldn't normally want to walk along. For years I've driven past a very steep bank on a bend on my way into Kirkmichael, wondering what the hundreds of dandelions there could be. Well, now there was the chance to find out in peace and comfort. One of the main ones there turned out to be *Taraxacum excellens*, which was new to me, having only previously been recorded once in this vice-county of East Perthshire, at Snaigow.

I walked the verges and unashamedly lay down at the roadside to peer at plants without, as often happens, people stopping to ask if I was OK. There was a real highlight-of-the-year during one of these excursions. I had wandered along to see a colony of *Taraxacum caledonicum* by the Brerachan Water just after Kindrogan West Lodge. Les Tucker had found these last year, at a far lower altitude than their published preference. I was just starting to walk back when a strange bird call stopped me in my tracks. It was so out of context that I never recognised it as a bee-eater, until it flew out from a tree on the slope above. I phoned the landowner, a friend, and while I was waiting for her to turn up another one appeared. Together we watching the pair of them swooping around, never to be seen again.



< There were other non-botanical highlights of the spring. There was the weasel popping its head out of different bits of a dyke to peer at me, and there was the Narrow-bordered Bee-hawkmoth feeding for a couple of days around my *Daphne tangutica*. But it was the plants that ensured that I could never ever be bored. I've often wondered how non-nature-orientated people cope with life.

The year advanced quite quickly, and by June we were into the main part of the orchid season. I'm lucky to have the wonderful Straloch Moraines SSSI within easy walking distance. However, a site that has in the past boasted as many 270 spikes of *Pseudorchis albida* (Small White Orchid) only had two this year. More than any other group of plants, orchids are a law





unto themselves. Thinking it must be a bad year for the species I then counted 56 in a field 1.5 km away, where I had previously only ever had 33. Also there was a spike of *Platanthera bifolia* (Lesser Butterfly-orchid) there, a surprisingly rare species in the vice-county. In the same month I explored some very good calcareous grassland not far up Glenfergus, having always driven past it on the way to higher, remoter places. It rewarded me with a whole panoply of calciphile species, including armies of *Gymnadenia borealis* (Heath Fragrant-orchid) and three spikes of the purple form of *Dactylorhiza incarnata* (Early Marsh-orchid) that we've been recording as subsp. *pulchella*, but which is arguably just a colour variant of subsp. *incarnata*.

> As things eased during the summer our leases grew longer and I had some high points outside the county. I must instance another extraordinary thing within the vice-county though. Lyn Jones had reported to me that he had found *Lysimachia thyrsiflora* (Tufted Loosestrife) growing along the edge of Redmyre Loch, on the top of the Sidlaws. I went to have a look and was astonished to find it actually forming a band – a zone even – around almost the whole loch. Previously we only knew it at some of the Blairgowrie lochs. This hadn't appeared overnight! I think that people going to Redmyre in the past went to the SSSI, which is a fen that you reach before the loch. I certainly did.



Zone of *Lysimachia thyrsiflora* (Tufted Loosestrife) at Redmyre Loch  
© M. Robinson



*Lysimachia thyrsiflora* (Tufted Loosestrife) at Redmyre Loch © M. Robinson

In July, looking back, I seem to have done things outside the vice-county – a benefit of the Atlas fieldwork being over – but in August there was plenty to interest me among the *Alchemillas* nearer to home. Gleann Beag around the Cairnwell is a prime site for these, and on 3<sup>rd</sup> August I arranged to meet Mark Lynes there to show me the site where he named *A. sciurus*, with a view to my finding it in VC89, which I may have done – not quite sure yet. In return I showed him *Botrychium nordicum* behind the ski centre. Another good site for *Alchemillas* is Fealar Estate, where I went on 9<sup>th</sup> August to check on the *Saxifraga hirculus* (Marsh Saxifrage) colonies. I was a week or so too early, but managed to count 284 plants either in flower or bud, and also enjoyed the scatter of *Parnassia palustris* (Grass-of-Parnassus) in full flower on the same site.



*Saxifraga hirculus* (Marsh Saxifrage), Fealar Estate, 9 August 2021  
© M. Robinson

I must mention just one more episode. Les Tucker, Alistair Godfrey and I extended the season into November by looking at Crab-apples (*Malus sylvestris*), perhaps better known as Wild

Apples. We wanted to check some recorded trees and our first trip was to Little Ballo, where the tree we looked at did not fit the bill. We did however, see an emu in an enclosure close to a Eucalyptus tree. We moved on to Elcho Castle, where there were some trees that had been certified as the true Wild Apple by recent DNA analysis. None of the ones we found, however, seemed quite right. All of their fruits were too large. On 13<sup>th</sup> November we looked at single trees at Straloch and the bottom of Glenferate, both of which seemed to be the real deal, with fruits no larger than 2 cm across, and glabrous pedicels. The trees were bushy, dense and spiny – very distinctive. Moving on to Old Struan, we saw three equally convincing specimens by the River Garry. Records of this species need to be made with extreme care.

These were some highlights of my very strange botanical year – one which was pleasantly relaxed without the pressures of Atlas work, and very rewarding as always.

Martin Robinson

### **A Scottish flora: a history of Scotland as told by its plants**

Lifelong Learning Dundee is offering this four-week course via Zoom by Dr Keith Skene, starting Wednesday 5 May, focusing on the stories, people and lessons to be learnt from seven plants that tell the story of momentous changes that have occurred over the last 400 million years. From the fossilized plants of Rhynie, in Aberdeenshire, some of the oldest in the world, to the remnants of the Caledonian forests that used to dominate Scotland, and from mountain avens, which tells the story of one of the most dramatic climate change events ever to occur on our planet, to thrift, one of the few plants to thrive at sea level and high in the Scottish mountains. One benefit of the pandemic is that courses previously held at Dundee University have moved online, so can be attended by anyone, anywhere. For further details see <https://lifelonglearningdundee.org.uk/courses/courses-science-nature>. Booking closes on 30 April 2021

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