

Dumfriesshire Botany Group at Hollows 10 September 2023



Five of us met at the Gilnockie Bridge at Hollows by the River Esk. It was a very pleasant warm day though with the threat of heavy thundery rain arriving in the afternoon. Thankfully it did so after we finished. The plan was to focus on fern id and we hoped to see up to 15 fern and fern allies during the day. In the end we just about managed to reach that target.

This area was chosen as it is an area where the river has exposed underlying rocks of carboniferous limestone, a rare occurrence in the county, and some of these are also exposed along burns flowing down to the river through the sloping woodland that has mixed native woodland and conifer plantation. In places there are wet seepages which support a range of species. We recorded all species we saw in NY3878 an impressive 180 species by the end of the day.

The first challenge was untangling the commoner Male and Buckler ferns . **Common Male-fern** *Dryopteris filix-mas*, **Broad Buckler-fern** *Dryopteris dilatata* and **Golden Scaly Male-fern** *Dryopteris affinis* were in the woodland along the road and track and the distinctions in terms of the extent of pinnae dissection, colour of scales on the stipe (leaf stem) and presence or absence of a dark spot where the pinna meets the rachis (the leaf midrib) were studied. The **Common Male-fern** and **Golden Scaly Male-fern** are 2 pinnate, the pinnae are divided into pinnules. The **Broad Buckler-fern** is tripinnate with the pinnules divided again into pinnulets. The Male ferns both have brown or golden scales with no dark centre while the Buckler fern normally has scales with a dark stripe in the centre. The Male and Scaly male fern can usually be separated by the presence of the dark spot where the pinna meets the rachis but this takes some practice to see.

The other common fern seen was **Lady-fern** *Athyrium filix-femina*. In this case a bipinnate fern the same size as Male-fern but more delicate. It can have a red costa. A key feature is the j shaped indusia (the cover) over the sori (the collection of sporangia). Bracken was also present but nobody has trouble identifying this.

The Scaly Male-ferns are divided into three relatively common species. Their differences are more subtle and require a combination of characters to separate them. We did see **Borrer's Scaly Male-fern** *Dryopteris borreri* to compare with **Golden Scaly Male-fern**. Both have the dark spot. In **Borrer's Scaly Male-fern** the pinnules we saw had a square end and prominent teeth. In **Golden Scaly Male-fern** the pinnules were rounded and had blunt teeth. It is more yellow green than the former but by this time of year that difference is less clear cut and can be dependent on whether plants are in the shade or the open.

We explored the wet woodland and rocks on the east bank of the river. In the woodland there were a variety of wet woodland species like **Opposite-leaved Golden-saxifrage** *Chrysosplenium oppositifolium*, **Marsh Hawksbeard** *Crepis paludosa* and **Primrose** *Primula vulgaris*. The grasses included **Bearded couch** *Elymus canina*, **Hairy-brome** *Bromopsis ramosa* and **False Brome** *Brachypodium sylvaticum*. The star here though is **Wood Fescue** *Drymochloa sylvatica*. It still had its old flower spikes above its broad shiny leaves. It grows into a tussock which appear long lived and they were scattered along the wet woodland floor and on the rocks of the old river cliff. This has only been recorded in 8 places previously in the county. The last time it was recorded here was 2007.



Wood Fescue Hollows September 2023

On the less shaded rocks by the river there was a more diverse flora including good numbers of **Autumn Hawksbeard** *Hieracium sabaudum*, **Creeping Cinquefoil** *Potentilla erecta*, **Keeled Garlic** *Allium carinatum* and **Wood Crane's-bill** *Geranium sylvaticum*.

We looked closely at the defining features of a Shield-fern in the wet woodland. It had a relatively long stipe before the rather long first pinna. The pinna above it get longer but not dramatically longer. The individual pinnules closest to the costa were stalked and all of them had thumbs. This plant was **Soft Shield-fern** *Polystichum setiferum*. It has a soft feel despite the spine like teeth. Of course as you look at these characters you see variation. Not all basal pinnae look stalked. But there is an overall conformity to these characters.

After lunch on the rocks by the river we moved to explore the woodland in the north part of the square. Here we saw an isolated plant of **Wood Fescue** at the base of a Douglas Fir. We also came across an unexpected stand of **Purple Small-reed** *Calamagrostis canescens* between the edge of the wood and the track. This extended for 15m. It had a few remaining old flower heads and it was possible to confirm that the long callus hairs exceed the length of the lemma. This with the small ligule and hairs on the upper leaf surface confirmed the identity though the habitat was not as wet as the three other known populations in Dumfriesshire. So this is only the fourth site for this species in VC72.

In the Habb's Sike there was a stand of the dramatic **Great Horsetail** *Equisetum telmateia*. This is largely confined to SE Dumfriesshire. We then found another Shield-fern with a different look about it. A darker green and the fronds perhaps more horizontal than upright. Here the bottom pinna is short and two or three times shorter than the longest pinna higher up. The individual pinnules are not stalked (generally all are attached by tissue to the costa). They also mostly lack a distinctive thumb though the very lowest pinnae can have a thumb but the others do not. So this is **Hard Shield-fern** *Polystichum aculeatum* and does feel a bit stiffer in the hand. Although the two Shield Ferns are relatively common they are distinctive from the Male-ferns in requiring more exacting conditions in calcareous woodland soils so are less widespread. Both have spine like teeth which should make them distinctive.

Once we retraced our steps we looked at the bridge before returning to the cars. Here there was one more fern, **Wall-rue** *Asplenium ruta-muraria*. We were surprised to see another unexpected grass which was **Reflexed Saltmarsh-grass** *Puccinellia distans*. This was on the bridge, a result of salting in the winter no doubt. It was accompanied by **Common Orache** *Atriplex patula*.

Ferns seen: *Equisetum arvense*, *Equisetum telmateia*, *Polypodium vulgare*, *Pteridium aquilinum*, *Asplenium trichomanes* ssp. *quadrivalens*, *Asplenium ruta-muraria*, *Blechnum spicant*, *Athyrium filix-femina*, *Polystichum aculeatum*, *Polystichum setiferum*, *Dryopteris filix-mas*, *Dryopteris affinis*, *Dryopteris borreri*, *Dryopteris dilatata*. A very large *Polystichum* may turn out to be the hybrid *Polystichum x bicknellii*.

For ferns I can recommend "Britain's Ferns" by James Merryweather in the WILDGuides series.

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