

PERTHSHIRE SOCIETY OF NATURAL SCIENCE

BOTANICAL SECTION

BULLETIN NO. 44 – 2021

With COVID-19 lockdown restrictions being eased, our field meetings were able to be resumed to some extent.

1. Methven, a Tale of Two Woods – Broomhill to Kinnon Park: Wed. 19 & 26 May 2021

The first field meeting took place on 19th May and two meetings were held on 26th May. Seven attended, members and friends.

Broomhill, Morrishill Wood and woodland strips

The first map of Scotland to provide any impression of scale and detail was produced by Major-General William Roy. Roy's *Military Survey of Scotland, 1747-1755*, indicates no woodland in what is now the Broomhill to Kinnon Park area. The nearest woodland is Methven Wood adjacent to the banks of the River Almond and the policy woodland of Methven Castle. Some 3.5 km to the north, natural woodland is shown on both sides of the River Almond and the estate policy woodland of 'Logie Almond' on the north bank.

Roy indicates an open and bleak landscape, except for some woodland, scattered settlements and the homes and policies of estates. The Rev. John Dowe, writing around 1794 for his submission to the *Old Statistical Account*, records that most of the parish was in runrig 30 years before.



Map 1: Woodland study areas outlined in green (not to scale)

The natural woodland at Logie Almond and Methven Wood are confirmed by the Rev. Dowe. He describes rotations of oak coppicing in Methven Wood, where some oak was retained for timber. Birch is also identified. Hazel was let to a coal company for cutting.

Rev. Dowe indicates that woodland had been more extensive where some old oaks remained in the vicinity of 'Woodhead'. This location is identified on Roy's map and James Stobie's map, *The Counties of Perth and Clackmannan*, published in 1783. They agree on a similar location to the south-west of the Methven Castle policies. Stobie's location for Woodhead is shown to the

south-west of Culdeesland, which places Woodhead in the vicinity of Morrishill Wood. On Stobie's map, woodland is depicted immediately to the north of Woodhead, also westwards to Culdeesland and lining the edge of the road from Myreside to Methven. These maps are available on the National Library of Scotland's website <https://maps.nls.uk>.

The Ordnance Survey, *Twenty Five Inch to one Mile, First Edition*, was surveyed from 1860 to 1864 in the Methven area. The extent of the study woodland on this map is largely the same as now. These areas are depicted as mixed woodland; most likely representing *Quercus robur* (Pedunculate Oak) and *Pinus sylvestris* (Scots Pine) in a mix about 50:50.

The Rev. Thomas Clark completed his contribution to the New Statistical Account in 1837. He records natural woods occupying about 200 acres (105 hectares) and contiguous with the banks of the River Almond. They account for the size of Methven Wood at that time. Its composition is described as: *Q. robur* (Pedunculate Oak) *Betula pendula* (Silver Birch) and/or *B. pubescens* (Downy Birch) *Fraxinus excelsior* (Ash) *Alnus glutinosa* (Alder) and *Corylus avellana* (Hazel).

Rev. Clark expresses the opinion that *Q. petraea* (Sessile Oak) is not native to the area. This is shared by the Rev. William Liston of Redgorton Parish, who was a keen botanist and most likely assisted his neighbour on botanical matters. Thomas Graham, Lord Lynedoch (1748–1843) owned part of Methven Parish and most of Redgorton Parish. He obtained most of his tree seed for his nurseries from England and abroad (Huxley 2012). "Acorns were shipped from London to Perth harbour" (Brien & Brien 1984). *Q. robur* remains the commonest planted broadleaf around the settlement of Redgorton.

Rev. Clark refers to coppicing of Methven Wood for hundreds of years and that periodic cutting continued. He describes coppice with standards where some trees were allowed to grow to maturity before being felled and that robust seedlings were preserved to replace them. Another example of woodland management described appears to be continuous cover, with underplanting of different tree species, including recent imports. *Fagus sylvatica* (Beech) is described as growing well on compacted soils and *Larix decidua* (European Larch) on upland acidic soils.

The depiction of woodland composition in the OS Second Edition equivalent, surveyed in 1900, is much the same as the First Edition, except for a change to all broadleaved cover for the woodland strip leading from Broomhill down to the Methven Road.

The Old and New Statistical Accounts are available on the University of Edinburgh's website <https://stataccscot.edina.ac.uk/static/statacc/dist/parish/Perth/Methven>.

The OS 1:1,250/1:2,500 surveyed in 1966 depicts Broomhill as only broadleaved. Morrishill Wood remains mixed woodland, the wooded strip to the south is predominantly broadleaved with some conifer and the bottom strip adjoining at right angles is all broadleaved. The area of woodland recorded at Kinnon Park is as all broadleaf.

Mapping at these scales provides a reasonable impression of the changes in woodland cover from establishment around the start of the 19th century to the present. Examining the species present that are identified as Ancient Woodland Indicators (Crawford 2009) helps to appreciate the development of the woodland. These species are slower to colonise new woodland than many other species.

The woodland canopy provides ground flora with its requirements, such as humidity and moisture in the soil. True woodland ground flora is adapted to shade tolerance that eliminates species not adapted. If the woodland canopy is maintained the specialist ground flora will persist and their number would be expected to increase over time. The application of Crawford's table in this context allows its use to evaluate the richness of the woodland habitat.

The Ancient Woodland Inventory is managed by NatureScot, woodland "likely to be of value for their biodiversity and cultural value by virtue of their antiquity" www.nature.scot/guide-understanding-scottish-ancient-woodland-inventory-awi. 'Ancient Woodland' is recognised as two categories according to presence on Roy's map and OS First Edition. 'Long-established

woodlands of plantation origin’ are interpreted as plantation from both of these and continuously wooded since. “Many of these sites have developed semi-natural characteristics, especially the oldest ones, which may be as rich as Ancient Woodland.”

The application of these definitions for the study area can be found on the following website <https://map.environment.gov.scot/sewebmap> and by opening the Ancient Woodland layer.

The woodland strip leading from Broomhill to the Methven Road, the woodland of Broomhill and Morrishill Wood, except for an area of woodland removed from the latter, are recognised on the website as Long-established woodland of plantation origin. The continuation of woodland south of Morrishill is not included. The continuation has good woodland with Ancient Woodland Indicators, especially the long strip, that has *Neottia nidus-avis* (Bird’s-nest Orchid) *Circaea lutetiana* (Enchanter’s-nightshade) and *Sanicula europaea* (Sanicle).

The Kinnon Park woodland to Myreside is recognised as Long-established woodland of plantation origin, but the sample surveyed and a walk around Myreside did not suggest they were any richer than the woodland that has not been recognised.

Table 1: Ancient Woodland Indicator species recorded from Broomhill to Kinnon Park

1	<i>Neottia nidus-avis</i>	Bird’s-nest Orchid	Uncommon
2	<i>Allium ursinum</i>	Ramsons	Limited
3	<i>Carex sylvatica</i>	Wood-sedge	Limited
4	<i>Circaea lutetiana</i>	Enchanter’s-nightshade	Limited
5	<i>Moehringia trinervia</i>	Three-nerved Sandwort	Limited
6	<i>Poa nemoralis</i>	Wood Meadow-grass	Limited
7	<i>Potentilla sterilis</i>	Barren Strawberry	Limited
8	<i>Quercus petraea</i>	Sessile Oak	Limited
9	<i>Sanicula europaea</i>	Sanicle	Limited
10	<i>Veronica montana</i>	Wood Speedwell	Limited
11	<i>Viburnum opulus</i>	Guelder-rose	Limited
12	<i>Anemone nemorosa</i>	Wood Anemone	Common
13	<i>Conopodium majus</i>	Pignut	Common
14	<i>Corylus avellana</i>	Hazel	Common
15	<i>Equisetum sylvaticum</i>	Wood Horsetail	Common
16	<i>Fragaria vesca</i>	Wild Strawberry	Common
17	<i>Oxalis acetosella</i>	Wood-sorrel	Common
18	<i>Polypodium vulgare</i>	Polypody	Common
19	<i>Primula vulgaris</i>	Primrose	Common
20	<i>Scrophularia nodosa</i>	Common Figwort	Common
21	<i>Stellaria holostea</i>	Greater Stitchwort	Common

In the table, ‘uncommon’ species are found in 2-10% of 10km x 10km OS grid squares in Scotland. ‘Limited’ species are found in 11-50% of 10km x 10km OS grid squares in Scotland. ‘Common’ species are found in more than 50% of 10km x 10km OS grid squares in Scotland. Some woodland plants occur in other habitats; at the edge or outside woodlands. Knowledge of the distribution of plants in Perthshire helps evaluate the presence of species found in woodland, that may also be found in other plant communities.

In Table 1, 1st was identified from four spikes which had flowered in 2020. The location is the long woodland strip south of Morrishill Wood. 2nd is suited to the moist soils at the bottom of Broomhill and is a good Indicator. *Hyacinthoides non-scripta* (Bluebell) is suited to similar conditions, but its place has been taken up by the hybrid.

3rd, 4th, 5th, 9th, and 10th are good Indicators. 10th, *Veronica Montana* (Wood Speedwell) is a good Indicator, found only as one small population in the long woodland strip south of Morrishill Wood. 6th and 7th can be found outside woodland. 7th, *Potentilla sterilis* (Barren Strawberry) does make a fine display in the hedge bank of *Prunus spinosa* (Blackthorn) just below the final woodland above Kinnon Park, when in flower in early spring. 8th was found as one mature specimen in the small area of woodland at the bottom of the long strip and as one sapling in the long strip. 11th is somewhat problematic; it is a species only partially shade-tolerant and usually found at the edge of woodland. Plants are usually modest in height, indicating fairly recent arrival, but they are good woodland plants.

12th to 21st can be found in habitats outside woodland. In lowland woodland, 12th, 17th and 19th are the best Indicators in this category. 14th, *Corylus avellana* (Hazel) has often been planted and cultivated and its length of cultivation can be a pointer to the age of a woodland. Hazel at Broomhill has been planted at the edge, as is often the case elsewhere, but also extends into the wood; all of the Hazel has been coppiced in the past.

The small wooded area to the south-west of the long woodland strip has good populations of two Ancient Woodland Indicators; *Oxalis acetosella* (Wood-sorrel) and *Carex sylvatica* (Wood-sedge). Gaps between the trees are being colonised by *Prunus avium* (Wild Cherry). The gaps, at least in part, are from the demise of *Pinus sylvestris* (Scots Pine) indicated by the remains of one, that would have been part of the original planting. The small area of woodland to the east is no longer viable, forming only part of the line of trees between two fields.

Picea sitchensis (Sitka Spruce) had been planted in the long woodland strip after some felling of the broadleaved cover. This was reversed fairly recently with the removal of some Sitka and replacement with broadleaved planting. The recovery of the ground flora is heartening, and this section has the best Ancient Woodland Indicators, including; *Neottia nidus-avis* (Bird's-nest Orchid) *Circaea lutetiana* (Enchanter's-nightshade) *Sanicula europaea* (Sanicle) and *Veronica montana* (Wood Speedwell).

The number of Indicators relative to the size of these two wooded areas is interesting given their modest size. The long woodland strip is 360 m long, 50 m wide at the north end and 14 m at the south end; in all 0.852 ha. The small woodland to the south-west is 0.140 ha.

Another approach in identifying origins of the woodland flora is to look at arrival times in the British flora. All of those in Table 1 are regarded as 'native' species that have arrived in Britain without human assistance. 'Archaeophytes' are associated with human activity before 1500 AD; usually farming or early tree planting. 'Neophytes' are plants associated with human activity from 1500 onwards; plants of cultivation from gardening and other sources introduced from abroad. Archaeophytes and especially neophytes may now be more likely to join plant communities than natives as a result of human intervention, deliberately or not.

120 vascular plant species were recorded from the wooded strip below Broomhill, through Broomhill, around Morrishill Wood and down the long, wooded strip to the small wood at the end. Of these; 102 are regarded as native (86%), 1 is an archaeophyte (<1%), 12 are neophytes (10%), 1 is established (<1%), 2 have been planted (<2%) and 1 is not recorded (<1%).

These figures indicate that the sampled woodland is good native woodland. The predominant canopy cover is *Quercus robur* (Pedunculate Oak). At Broomhill, mature *Fagus sylvatica* (Beech) provides an imposing stand of deep shade; a habitat for the most shade-tolerant ground flora. These trees often demonstrate close planting in early life; a straightish bole with suppressed side-branching, major limbs developing only on reaching the woodland canopy.

Only one mature surviving *Pinus sylvestris* (Scots Pine) was seen during the survey. This stands at the bottom of the long woodland strip, most likely a remnant of nurse planting for oak. The only specimen seen of mature *Quercus petraea* (Sessile Oak) is on the northern boundary of the small woodland to the south-west. A sapling was seen in the adjoining long strip. The presence

of this mature oak with those of *Q. robur* is likely to be an unintentional introduction at planting, as may be seen in the Redgorton oak woods.

Table 2 provides randomly selected tree girths measured 130 cm above ground level. They give an indication of age, but precise dating has not been possible. The stand of *Fagus sylvatica* has been planted on low, broad ridges with shallow depressions between. They run in a south-east – north-west direction, possibly dug for drainage, or possibly the remnants of runrig.

Table 2: Girth measurements for samples from Broomhill south to the end wood

1	2	3	4	5	6	7	8
<i>Q. robur</i>	<i>Q. robur</i>	<i>F. sylvatica</i>	<i>F. sylvatica</i>	<i>P. sylvestris</i>	<i>Q. robur</i>	<i>Q. robur</i>	<i>Q. petraea</i>
259 cm	302 cm	341 cm	275 cm	270 cm	266 cm	240 cm	249 cm
NO 0318 2579	NO 0319 2578	NO 0316 2573	NO 0317 2570	NO 0758 2771	NO 0319 2578	NO 0355 2509	NO 0355 2509
Inside	Boundary	Inside	Inside	Boundary	Boundary	Boundary	Boundary

Kinnon Park woodland

The woodland at Kinnon Park is identified on the OS First Edition. The sample recorded is an interesting example of woodland design. *Castanea sativa* (Sweet Chestnut) surrounds a modest area with some *Quercus robur* (Pedunculate Oak) and *Corylus avellana* (Hazel) in the understory. The latter is one of two Ancient Woodland Indicators, the other is *Anemone nemorosa* (Wood Anemone). There are also good woodland species, including *Ficaria verna* subspecies *verna* (Lesser Celandine) *Glechoma hederacea* (Ground Ivy) and *Viola riviniana* (Common Dog-violet). However, a number of archaeophyte and neophyte infiltrators have taken over areas, including *Aegopodium podagraria* (Ground-elder).

29 vascular plant species were recorded in this sample. Of these, 24 are native (83%), 2 are archaeophytes (7%) and 3 are neophytes (10%). The spatial impact of the neophytes has more impact on this woodland than on any others sampled. The ability of small areas of woodland in providing a habitat for native woodland ground flora is interesting, but this flora may be vulnerable to competition from more recent additions to our flora.

Alistair Godfrey, Faith Anstey, Joanna Thomas, Leslie Tucker

Critical species

This final section is an acknowledgement to Leslie Tucker, who is expanding his knowledge and identification of the genus *Taraxacum*; the large number of closely-related species we call ‘dandelions’. This genus includes many common and widespread species usually considered weeds of arable and wayside places; however, a few increasingly uncommon ones are native and of considerable interest as indicators of more stable wild habitats. Les identified one such species, characteristic of old pastures, as *Taraxacum melanthoides* (Bluish-leaved Dandelion). A few of these appeared well-established on the damp grassy headland of the field south of Morrishill Wood. This handsome, robust plant has distinctive glaucous leaves with purple spots, and dark red flushing on the undersides of ligules (petals). Les sent photos of plants *in situ* and of pressings to Professor John Richards, referee on *Taraxacum* for the Botanical Society of Britain and Ireland. John responded saying Les’s identification is likely to be correct. When validated by study of a voucher specimen, this will be a new Vice-county record for Mid-Perthshire.

With thanks to Leslie Tucker



Photo 1: *Fagus sylvatica* (Beech) woodland at Broomhill



Photo 2: Spring display of *Allium ursinum* (Ramsons) at Broomhill



Photo 3: *Corylus avellana* (Hazel) coppice at Broomhill



Photo 4: *Circaea lutetiana* (Enchanter's-nightshade) defying deep woodland shade at Broomhill

2. Methven, a Tale of Two Woods – Den of Methven

Wednesday, 26 May 2021

The Den of Methven may be best known for its association with the battle that took place in 1306 between the forces of Robert the Bruce and the Earl of Pembroke, sent by Edward I. There are different versions of the event, including the actual site of the battle at Methven. Therefore, we shall move on to the reason for our visit, only to comment that Bruce and his forces were defeated.



Map 2: Den of Methven woodland study area (not to scale)

Using the same source material for the Broomhill to Kinnon Park study area, neither Roy's nor Stobie's maps identify any woodland in the Den. If woodland had been present, the scale of either map would have been too small to identify any.

The Ordnance Survey *Twenty Five Inch to One Mile, First Edition*, surveyed in the area from 1860 to 1864, does not indicate any woodland in the Den <https://maps.nls.uk>. In the southern portion, scattered individual symbols for single broadleaved trees are shown on parcel boundaries, and a small group of broadleaves to the south of the road leading to Drumbauchly. Two individual broadleaved tree symbols are shown on the north-west branch of the Den below Newbigging. The remainder is identified as rough pasture.

Symbols for the upper Den are not clear and appear to identify scrub. The best matching symbol is for 'brushwood' as shown on the Ordnance Survey of Ireland: '*Characteristic Sheet for maps on a scale of Six Inches to a Mile.*'

To the north-east, outside the Den, mixed woodland is identified on the higher ground leading towards Lawmuirden. Presently this woodland is a mix of *Quercus robur* (Pedunculate Oak) and *Pinus sylvestica* (Scots Pine), mostly *Q. robur*.

The Ordnance Survey *Twenty Five Inch to One Mile*, Second Edition, surveyed in 1900, does not indicate any woodland in the Den except for an area to the south-east of Newbigging, which has been converted to conifer plantation. Otherwise, all other cover in the Den is shown as rough pasture. Also converted is an area on each side of the Methven Burn, where the Den levels out, to the north-east of Newbigging. This block is shown as mixed broadleaves and conifers; it is not part of the survey area.

The OS Second Edition does not provide as much detail as the First Edition. The OS National Grid 1:1,250/1:2,500 map, surveyed/revised in 1966 restores confidence in the provision of detail. All of the Den is shown as rough pasture with spaced symbols for deciduous woodland, indicating an area of open woodland. The conifer plantation south-east of Newbigging has been clear-felled and the cover shown is the same for the rest of the Den. Rough pasture alone is depicted between the bottom of the wooded hill and the Den, with the same cover shown in the field to the north of the Den. Some contemporary 1:25,000 OS maps do not show any woodland cover for the Den.

Regarding mapping, the detail provided has been left to the decision of cartographers as to whether or not woodland is identified. Mapping alone is not reliable in arriving at an appreciation of the development of this woodland. Examining the species present on the site as potential Ancient Woodland Indicators (Crawford 2009) helps appreciate the length of time woodland cover has been present.

Table 3: Ancient Woodland Indicator species recorded in the Den of Methven

1	<i>Allium ursinum</i>	Ramsons	Limited
2	<i>Cardamine amara</i>	Large Bitter-cress	Limited
3	<i>Circaea lutetiana</i>	Enchanter's-nightshade	Limited
4	<i>Poa nemoralis</i>	Wood Meadow-grass	Limited
5	<i>Polystichum aculeatum</i>	Hard Shield-fern	Limited
6	<i>Potentilla sterilis</i>	Barren Strawberry	Limited
7	<i>Anemone nemorosa</i>	Wood Anemone	Common
8	<i>Chrysosplenium oppositifolium</i>	Opposite-leaved Golden-saxifrage	Common
9	<i>Conopodium majus</i>	Pignut	Common
10	<i>Corylus avellana</i>	Hazel	Common
11	<i>Fragaria vesca</i>	Wild Strawberry	Common
12	<i>Polypodium vulgare</i>	Polypody	Common
13	<i>Primula vulgaris</i>	Primrose	Common
14	<i>Scrophularia nodosa</i>	Common Figwort	Common

'Limited' distribution in the table is equivalent to found in 11-50% of 10km x 10km OS grid squares in Scotland. 'Common' is equivalent to more than 50%. Knowledge of the distribution of woodland plants in Perthshire helps to evaluate the usefulness of an Indicator in relation to woodland and non-woodland habitats.

The first three species and 5th in the table are good woodland indicators. Crawford urges caution in interpreting the 4th. In Perthshire, this species can be found at the edges of woodland without a presence in deeper woodland. The 2nd is found at the edge of water courses with varying degrees of shade. This species makes a good association with woodland cover in Methven Wood and here in the Den. The 6th species occurs in woodlands, but also in other habitats.

The 7th and 13th species are good woodland associates in the lowlands. The 9th occurs in a range of habitats and old broadleaved plantings. Crawford urges caution in interpreting the 10th and 14th species as they may be restricted to the edge of woodlands. Hazel in the Upper Den has been planted and coppiced before being abandoned. The 11th species can be a good woodland

indicator on more calcareous soils, but it also occupies other habitats. The 8th species is more widely distributed than woodland and the 12th to some extent.

There is good woodland cover in places, such as the dominance of *Circaea lutetiana* (Enchanter's-nightshade) in deep shade. The ground flora associated with woodland cover has developed following tree planting from the nineteenth century onwards.

Using the status of each species as applied to Broomhill to Kinnon Park, the following results were obtained. 123 vascular plant species were recorded in the study area of the Den of Methven. Of these; 92 are regarded as native (75%), 4 as archaeophytes (<3%), 17 as neophytes (14%), 5 as established (4%), 1 as planted (<1%) and 3 as not recorded (<3%).

'Native' species arrived in Britain without human assistance. 'Archaeophytes' are associated with human activity before 1500 AD. 'Neophytes' are plants associated with human activity from 1500 onwards.

Compared to the results for Broomhill to Kinnon Park, native species are noticeably lower in number and neophytes higher. Spatially, the archaeophyte *Aegopodium podagraria* (Ground Elder) dominates parts of the middle and lower Den, reflecting the high nitrogen and moist water content of the soils. The species is described in the *Flora of Perthshire* (White 1898) as: "Never far from houses and gardens. Common. Almost certainly an old introduction." This species is now widespread in many plant communities in Perthshire reflecting these soils. *Galium aparine* (Cleavers) and *Urtica dioica* (Common Nettle) are natives that dominate the lower Den for the same reasons. Nativeness does not mean necessarily a wider contribution to plant biodiversity, but as identified later, plants like *U. dioica* may provide a food plant for invertebrates.

A recent arrival in the lower Den is *Lysichiton americanus* (American Skunk-cabbage). This is a neophyte; only one plant, but a highly invasive species that spreads down water courses.

Five species are recorded as 'established'. These are regarded as native in parts of Britain, but are not, or not likely to be, native in Perthshire. There are very few Scottish records for *Cardamine bulbifera* (Coralroot). The species has been present in the Den for over 30 years and is not out of place with other vegetation. Its pink flowers in spring are very attractive. Purple coloured bulbils develop at the bases of leaves – vegetative reproduction – giving rise to new plants.

The two recently-planted species are *Betula pendula* (Silver Birch) and *Sorbus aucuparia* (Rowan). The latter also occurs naturally, but *B. pendula* was seen only as a planted specimen. Of the three plants with status 'not recorded', two are members of aggregates, a collective name for a group of non-defined species with native and non-native members. These are: *Taraxacum* agg. (Dandelion) and *Rubus fruticosus* agg. (Bramble). The third plant is *Ornithogalum umbellatum* (Star-of-Bethlehem). This comprises two subspecies: one a neophyte; the status of the other is uncertain. In these circumstances the words '*sensu lato*' or '*sl.*' for short appear after the taxonomic name, meaning 'in the broad sense.'

The woodland cover in the Den has been influenced heavily by planting that is not always indicated on maps. The OS National Grid 1:1,250/1:2,500 revised in 1966 identifies the outline of an old road, a continuation of Sauchob Road from Methven. The old road, now overgrown, provided access to the upper Den from the property called Denbank' <https://maps.nls.uk>. The OS Twenty-Five Inch to One Mile, First Edition also identifies the road.

The lower edge of the road has been planted with *Fraxinus excelsior* (Ash) and each side closely planted with *Crataegus monogyna* (Hawthorn) a glorious sight in flower in late May/early June. Open ground with scrub lies between the lower edge of the road and the edge of the Den. Ash has been planted at the edge of the Den where Hawthorn is more openly spaced. The Ash at both locations appears to be contemporary. Their girths look similar, but none could be measured due to coverings of *Hedera helix* (Common Ivy). They would appear to be late 19th century or early 20th century plantings.

F. excelsior is present at the bottom of the lower Den, below the road to Newbigging. These trees are all about the same height and girth, suggesting a contemporary planting.

The end of the old road also provided access to the wooded hill extending over to Lawmuirden. Mixed woodland cover is depicted on the OS First Edition. A few species were recorded here, but not included in the list for the Den. The hill planting, broadly speaking, is a row of three *Quercus robur* (Pedunculate Oak) with *Pinus sylvestris* (Scots Pine).

Pinus sylvestris appears to have been planted as a nurse for the oak, but few remain. The girth of one measured 225 cm above ground level (NO 0238 2645). Its bole is without branching for 4 m, indicating the influence of close spacing in early life. Another *Q. robur* has a similar clean bole for 3 m, its girth measuring 275 cm (NO 0247 2648). These trees appear to be remnants of the original planting. This is not mapped on the Ancient Woodland Inventory; perhaps the area is too small, but it meets the criterion of ‘Long-established woodland of plantation origin’.

The end of the old road from Denbank provided access to *Corylus avellana* (Hazel) coppice. Some of the Hazel has been coppiced many times before being abandoned. The coppice stools have put on considerable girth, which have given rise to shoots with considerable girth and their weight has caused them to lean over. This was the uppermost location of the survey, where a mix of conifers continues the woodland cover leading to heavy shading of the ground cover.

The moist soils of the Den are not suitable for *Q. robur* (Pedunculate Oak) and *Fagus sylvatica* (Beech), although there are some. These soils suit *Ulmus glabra* (Wych Elm), which is present, and four species of willow: *Salix caprea* (Goat Willow); *S. cinerea* subspecies *oleifolia* (Rusty Willow); *S. euxina* (Crack Willow) and *S. purpurea* (Purple Willow). The first two species have arrived naturally, the second two are likely to have had human assistance. *S. purpurea* is found in the upper and lower Den. Some shoots may have broken off and rooted in the lower Den.

Although the flora of the Den has been heavily influenced by human intervention, it provides a respectable list of Ancient Woodland Indicators. It is also a popular place for the local community and a great place for children to explore and enjoy the setting.

Alistair Godfrey, Margaret Chapman, Mary McIntyre, Melissa Shaw

Birds in Den of Methven

My bird list is not long. I was fully engaged with Alistair and his incredible ID plant skills – what a learning curve he put me on. We were all kept busy peering for hairs, staring at ligules, listening to local history.

But I did hear/see: five migrants – seven feeding Swifts *Apus apus*, Barn swallows *Hirundo rustica* feeding on insects which the high pressure had elevated skywards, Garden warbler *Sylvia borin*, or was it a male Blackcap *S. atricapilla*, Chiffchaff *Phylloscopus collybita*, and Willow warbler *P. trochilus*, as well as all the more common: Song thrush *Turdus philomelos*, Blackbird *T. merula*, Chaffinch *Fringilla coelebs*, Wren *Troglodytes troglodytes*, Jackdaw *Corvus monedula*, Rook *C. frugilegus*, Robin *Erithacus rubecula* and assorted tits. We watched as a hunting Sparrowhawk *Accipiter nisus* in its diagnostic ‘flap-flap-glide’ flight pattern. A few moments later it passed overhead with a prey item in its beak.

At the end of the evening walk we were treated to the dusk chorus – every bit as beautiful as the one at dawn.

Mary Macintyre

Insects in Den of Methven

Whilst exploring the woods we saw a number of insects; however, unfortunately due to the time of day, most crepuscular insects were no longer present and most nocturnal insects had yet to appear. That being said we did see a number of species during the evening. Most noticeably Nettle Tap moth *Anthophila fabriciana* was present across much of the site, no doubt due, in

part, to large numbers of nettles *Urtica dioica* present that are its main foodplant. Larger pollinators were still flying, despite the later hour, such as Common Carder Bee *Bombus pascorum* and White-tailed bumblebee *B. lucorum*. Harvestmen (Opiliones) lurked amongst the deadnettle. Owl Midges (Psycodidae) were spotted on some tree trunks and a St Marks fly *Bibio* species. Blunt-tailed snake millipede *Cylindroiulus punctatus* was found amongst some deadwood beside the path. An exploration of the wood later at night (potentially with a moth trap) or walk earlier in the day would likely lead to greater numbers of insects recorded. As far as an increase in invertebrates, they will certainly change over time, although habitat variety, veteran trees and edge habitat are generally the most important things.

Melissa Shaw



Photo 5: Mary, Melissa & Margaret with Hazel in the Den of Methven



< **Photo 6:** *Geum x intermedium*: hybrid of *G. rivale* (Water Avens) x *G. urbanum* (Wood Avens) in the Den of Methven



Photo 7: Warning! Warning!! Neophyte!!! Approaching!!!! *Lysichiton americanus* (American Skunk-cabbage) in the Den of Methven (All images © Alistair Godfrey, May 2021)

Discussion and Conclusion

How the ground flora of native species arose in the two study woodlands poses interesting questions. This is especially so for Ancient Woodland Indicators that would usually take longer to establish than other natives. New woods may have been established on old woodland remnants, or on other habitats with species shared with woodlands. Colonisation would have depended on seed dispersal. Examples of shared habitats follow Table 1 and Table 3 above.

The most likely donor of species is likely to have been Methven Wood, because it was established long before the two study woodlands, it is much larger in area with a larger number of species and is only a short distance away. Its native flora must have retained many of the characteristics of ancient woodland in the area prior to woodland clearances.

224 species of all status have been recorded for Methven Wood (data from the Botanical Society of Britain and Ireland; obtained 7th June 2021). These include 40 Ancient Woodland Indicators. One, *Cephalanthera longifolia* (Narrow-leaved Helleborine) has not been recorded since 1927.

There was considerable tree-planting around the Methven area at the same time as the Broomhill to Kinnon Park section. As these woodlands matured, they may have shared in the donation or reception of new species. In comparison to Methven Wood the study woodlands are mere youngsters. With the passage of time and appropriate management they have the capacity to gain more Ancient Woodland Indicators: each woodland has something different to offer. They are important reserves of biodiversity and important resources for the local community.

Alistair Godfrey

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3. Kinross**Wednesday, 9 June 2021**

(Joint meeting with the Botanical Society of Scotland)

This meeting was aimed at collecting data for the BSS Urban flora Project and also for the BSBI (Botanical Society of Britain and Ireland). Kinross is in Vice-County 85 (Fife) for recording purposes (Sandy Edwards is the recorder), although politically it is linked with Perthshire. Kinross is a small town with about 5,000 inhabitants situated on the shore of Loch Leven.

Seven of us gathered on an overcast day. There was only a little light rain later on for a short period, making me reach for my waterproof notebook. The Boathouse car park by Loch Leven was being resurfaced, but there was still plenty of parking.

Loch Leven is very interesting botanically, but on this occasion, we turned our backs on it and headed into town. In fact, the first hour was spent in the car park, which has some wild areas and was quite species-rich. There were sedges, *Carex nigra* (Common Sedge) and *C. leporina* (Oval Sedge), as well as rushes, including the increasingly common *Juncus tenuis* (Slender rush), a feature of so many tracks. Other finds in this area included *Circaea x intermedia* (Upland Enchanter's Nightshade), *Dryopteris affinis* ssp. *borreri* and the garden escape *Geranium x oxonianum* (Druce's Crane's-bill), which appears to be becoming more widespread.

Following Alistair Godfrey's advice, we headed for the southern part of the town, recording on roadsides, verges, and walls, as well as a small park which was only partly mown. An interesting find was *Geranium columbinum* (Long-stalked Crane's-bill), very rare in this area.

We finally reached a large patch of wasteland, a former industrial site next to the busy M90 motorway, and this proved to be rich botanically. After a picnic lunch on the grass, we looked carefully at this area. There was a large population of *Dactylorhiza purpurella* (Northern Marsh-orchid) and also some orchids with spotted leaves, not yet fully in flower, which may have been the hybrid between *D. purpurella* and *D. fuchsia* (Common Spotted-orchid). There were fine patches of *Cruciata laevipes* (Crosswort) and *Silene (Lychnis) flos-cuculi* (Ragged Robin), as well as *Carex hirta* (Hairy Sedge).



Kinross, 9 June 2021: L: *Dactylorhiza purpurella* (Northern Marsh-orchid);
R: *Silene (Lychnis) flos-cuculi* (Ragged Robin) © Brian Ballinger

We then walked back through the town, visiting a tea shop on the way, sitting outside on the benches. On this day we visited four monads (1 km squares), two more thoroughly than the others. The totals for the four squares were 93, 19, 39 and 89 species. There is another monad at the north end of the town that we did not go to and that must await a future visit.

Brian Ballinger

4. Ben Lawers grasses, sedges & rushes (training) (Joint BSBI, NTS, PSNS field meeting)

Sunday, 25 July 2021

This meeting was originally intended as a follow-up to planned BSBI graminoid classroom workshops in 2020 and 2021 which, because of the pandemic, didn't take place. Car parking at Ben Lawers on a summer weekend having become something of a nightmare, we divided into two groups. The first group, led by Dan Watson, NTS Ecologist, met at 8 am in the main car park. This group comprised, by and large, the more experienced and fitter members. The second group met at the more civilised hour of 10 am at the low-level car park at Kiltyrie, leaders Faith Anstey and Marion Moir. The weather was glorious, almost too hot, especially at the lower level, and all participants declared they had a super day and learnt a great deal about graminoids.

Group One

Seven hardy botanists joined the group which met at 08:00 to reach the higher ground on Ben Lawers. We started by going through the differences between grasses, sedges and rushes, using some convenient *Deschampsia cespitosa* (Tufted Hair-grass), *Carex binervis* (Green-ribbed Sedge) and *Juncus effusus* (Soft Rush) close to the path. Common species such as *Cynosurus cristatus* (Crested Dog's-tail), *Carex leporina* (Oval Sedge) and *J. articulatus* (Jointed Rush) were inspected on the way through the nature trail, with flush species including *Carex dioica* (Dioecious Sedge) and *J. bulbosus* (Bulbous Rush) being encountered as we continued up Coire Odhar.



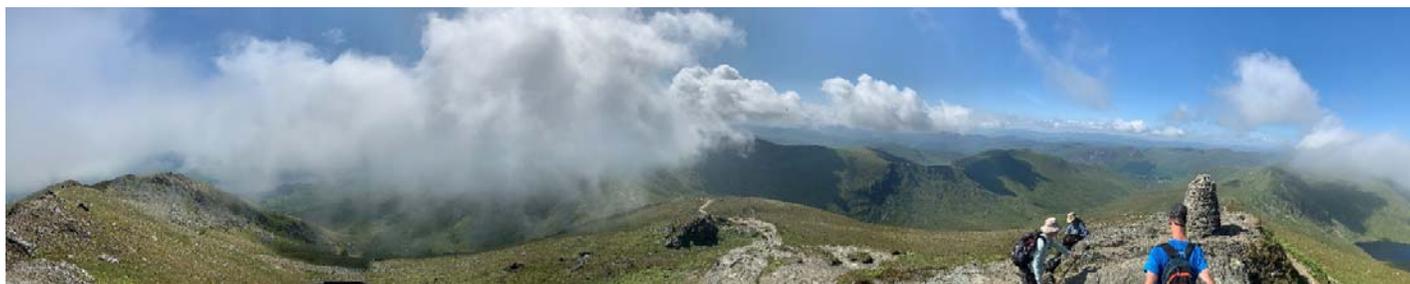
Ben Lawers, 25 July 2021: L: Sedge identification with Dan Watson;
R: *Juncus castaneus* (Chestnut Rush), Beinn Ghlas © Mike Dilger

A short diversion was made to see *Carex aquatilis* (Water Sedge) at the bealach between Beinn Ghlas and Meall Corranaich, and the path was briefly left in the north corrie of Beinn Ghlas to visit a site for *Juncus castaneus* (Chestnut Rush). After that the mountain graminoids came thick and fast, with species such as *Poa alpina* (Alpine Meadow-grass), *Luzula spicata* (Spiked Wood-rush) and *C. bigelowii* (Stiff Sedge) becoming apparent. I had promised to stop for lunch at Creag Loisgte below the summit of Ben Lawers, giving everyone the opportunity to take a break from utricles, ligules and awns and appreciate the botanical wonders of this craggy ground. Among many other species we saw *Sabulina (Minuartia) rubella* (Mountain Sandwort), *Erigeron borealis* (Alpine Fleabane), *Gentiana nivalis* (Alpine Gentian) and *Myosotis alpestris* (Alpine Forget-me-not).



It was then time to get back to the graft, or so I thought. The trouble with Ben Lawers is that as soon as a keen botanist gets a whiff of the rarities, it's hard to resist their lure. So, fearing a mutiny I capitulated and we climbed higher to find *Saxifraga cernua* (Drooping Saxifrage), *S. rivularis* (Highland Saxifrage) and *Draba norvegica* (Rock Whitlowgrass), which at least has grass in its name! We then began the long descent, making a short detour to a crag which usually has *Carex atrata* (Black Alpine-sedge). Sadly, it couldn't be found, but compensation came in the form of *Salix reticulata* (Net-leaved Willow), surely Scotland's most attractive willow. With a bit of revision on the way down and another diversion to see *Eriophorum latifolium* (Broad-leaved Cotton-grass) close to the road, we reached the car park weary but contented after a fine day on the hills.

< *Carex aquatilis* (Water Sedge) between Beinn Ghlas and Meall Corranaich, 25 July 2021 © Mike Dilger



Panorama from Ben Lawers summit, 25 July 2021 © Mike Dilger

Group Two

The tradition of starting to botanise in the car park paid off handsomely – without moving more than a few metres the group of about eight immediately found 12 grasses, 6 rushes and 7 sedges, and stayed in the car park until lunchtime! These were all common species, giving the group ample opportunity for study, as some members needed a bit of revision at the outset as to the diagnostic differences between the three groups of species. Most had the booklets which accompany the workshops: *Start to Identify Grasses* and *Start to Identify Sedges & Rushes*. As their names imply, these are specially designed to help beginners get a handle on what to look for, and members of the group said they found them very helpful.

After lunch we started off towards the foot of the Ben, but we never actually got there, so rich was the hinterland in graminoids. We were not averse to looking at other species, to have IDs confirmed or suggested by the leaders. Although not actively recording, we could afterwards recall at least 80 species seen during the afternoon – none especially notable, but all of interest to those who were little-acquainted with the interesting habitat that Ben Lawers affords. In all we found 22 species of grasses, 16 sedges, and 9 rushes. Of these, we noted five species not previously recorded in tetrad NN63I: *Carex leporina* (Oval Sedge), *C. vesicaria* (Bladder Sedge), *Arrhenatherum elatius* (False Oat-grass), *Eriophorum latifolium* (Broad-leaved Cottongrass) (tbc) and *Elymus repens* (Couch grass). We also found five species not recorded there since 1997: *Agrostis stolonifera* (Creeping Bent), *Carex demissa* (Common Yellow-sedge), *C. flacca* (Glaucous Sedge), *C. pulicaris* (Flea Sedge) and *Luzula campestris* (Field Wood-rush).



We were able to observe *C. vesicaria* and *C. rostrata* (Bottle Sedge) growing next to each other, so that the differences between them could be pointed out.

< *Carex vesicaria* (Bladder Sedge),
Ben Lawers, 25 July 2021 © Mike Dilger

We were quite surprised to find that *C. demissa* (not recorded since 1997) was very common, while *C. lepidocarpa* (Long-stalked Yellow-sedge) (recorded in 2010) was nowhere to be seen. The *C. demissa* we saw was all very tall, with stems at least 20 cm, more than twice the length of the leaves, so that we were tempted at first to call it *C. lepidocarpa*. However, one of the party happened to have a spikelet of *C. lepidocarpa* in his pocket, brought from a field meeting the previous day; on this, the downward-twisted utricles were very clear, a character we looked for in vain on any of the yellow sedges we saw. Could it be that some tall plants are being hastily but incorrectly labelled as *C. lepidocarpa*? Moral: don't jump to conclusions!

A [repeat event](#) is planned for Saturday 23 July 2022; places can be booked by emailing faithanstey@gmail.com.

Dan Watson (Group 1) & Faith Anstey (Group 2)

Fungi of the Colin Burt Reserve, Glen Dochart

The Colin Burt Reserve was created after the tragic death of Colin Burt to recognize the endearing passion of this dedicated conservationist. In 2005 the Burt Family in unison with the Fife Air Cadets Conservation Group formed a partnership that would realise a lasting memory to him. The Reserve is situated in Glen Dochart, a formidable and inspiring area of outstanding beauty, which lies within the Loch Lomond & Trossachs National Park. It was declared on 17 March 2005 and I have been privileged and delighted to have worked on this project from its inception. Work began in earnest in 2006 and has turned 20 ha of wet grazing ground and poor-quality commercial coniferous plantation between the A85 road and the River Dochart into an accessible reserve suitable for wildlife and people. The Reserve is managed by a small group of dedicated trustees and volunteers, working for continuing development for the benefit of wildlife, and the surrounding environment. There is a website www.colinburtreserve.co.uk and a Facebook page www.facebook.com/colinburtreserve.

Already we have celebrated the input of scores of hours of work by volunteers, young and old. Many gathered in October 2015 in Glenrothes with the Lord Provost and officers from RAF Brize Norton to celebrate the many hours of hard work by the teams taking part in the project. By then great headway had been already made with the digging of ditches, making boardwalks and construction of a green hide & toilet facilities. Much more has been achieved since then. It is hoped the Reserve will demonstrate how recreation can be balanced with conservation activities allowing people to experience and appreciate the countryside. Visitors, especially local people, are welcome and all are encouraged to visit the Reserve when in the vicinity.

The fungi recorded from the Reserve number 224 species, including the type locality of the dung fungus *Coniochaeta burtii*, named by Mike Richardson to remember Colin (*Bot. Soc. of Edinb.* **58**, 105) and collected during my first visit on Roe Deer droppings (*Capreolus capreolus*); animals which will often be seen on any visit – there are also several otters (*Lutra lutra*) in the

vicinity. Eight visits to the Reserve were made before lockdown limited the ability to travel and therefore collect.

There are ample opportunities on the Reserve to see a range of ectomycorrhizal fungi characteristic of conifer plantations and natural birch woodland – the subject of a YouTube video www.youtube.com/watch?v=-2SQuzzoAWo, as well as many saprotrophs. On the last visit 1,000+ fruiting bodies of *Russula nitida* (Purple Swamp Brittlelegill), showing all the variation in colour of the cap noted in the texts but rarely seen in one place, were seen.

The mound or hillock, hosting a single mature *Pinus sylvestris* (Scots Pine), is of historic and archaeological interest, and hosts several species of pine-dependent fungi; it divides the area into acidic and more base-rich compartments. The mounds covering a previous croft within the plantation also have their own distinctive fungus flora (mycota). The flowering plants, although no rarities have been recorded, nevertheless give an excellent picture typical of this part of Glen Dochart and are the host of several parasitic fungi. Surveys of a range of organisms have been carried out by various naturalists, so we have a good idea of the area's natural heritage potential. We have used the storytelling enclosure and the picnic area to lay out specimens, which we then discussed. This was a regular feature of collecting at Glen Dochart, young Cadets alternating their hard graft with a fungal project, sadly now ceased, because of finance and restructuring of the Cadets' activities.

Dates: 17 July 2006; 20 May 2007 (abbrev. sp.); 10 August 2007 (abbrev. a); 26 July 2009; 18 Sept. 2010; 19 August 2015; 15 July 2017; 21 August 2015. In the list, *Picea* refers to planted *Picea abies* (Norway Spruce). Deer dung samples have been referred to Roe deer *Capreolus capreolus*, as no evidence of Red deer *Cervus elaphus*, has been found.

Acknowledgements.

I am grateful to Christopher Watling who has accompanied me on most of the above trips collecting for me whatever he saw, to Mike Richardson who has looked at most of the dung samples, to Cameron Diekonigen (2015 & 2017) and Simon Kennedy (2015) who have submitted specimens for identification during my trips. Thanks also to Plantlife who organised the 2010 trip, and to Cazz Burt, who with her band of volunteers has always been supportive.

Some notable records

Authorities for names of fungi below follows *Index of Fungi*.

Basidiomycotina: *Amanita betulae* found along the roadside at the perimeter of Reserve has only recently been recognised as distinct but is probably widespread.

Cortinarius glaucopus found under Norway Spruce is placed in the subgenus *Phlegmacium*, members of which are infrequent in Scotland.

Chalciporus piperatus under Norway Spruce is generally growing with birches.

Leccinum pulchrum is considered by some as just a form of *L. scabrum*.

Syzgospora tumefaciens is an unusual fungus forming swollen galls on the mushroom *Gymnopus ocior*.

Subulicium rillum on Norway spruce wood is apparently a new taxon to Britain, differing from other *Subulicium* species in having ornamented terminal cystidia and thin-walled spores, and from *Subulicystidium* in the rounder basidiospores.

Lindtneria hydnoidea on Norway Spruce debris, with distinctive strongly-ornamented basidiospores, is rarely seen in Scotland.

Melanotus proteus was found on cut ends of Norway Spruce logs in 2009 & 2010, which appear to be the second and third records for the British Isles; it is often placed in *Psilocybe*.

Ascomycotina: *Neobulgaria lilacina* recorded on Norway Spruce, *Phaeohelotium flexuosum* & *Leptodontium trabellinum* on woody substrates, and *Pseudombrophila cervaria* on dung are all poorly-recorded disc fungi for Scotland. The flask fungi *Nectria pinea* is often overlooked on surfaces of conifers and *Coniochaeta burtii* is described on Roe deer dung as new to science. Significant moulds found in the Reserve are *Monodictys putrendinis* on wet stems of *Rumex* (Dock) species in 2006; and the very unusual *Fujimyces oodes* on *Pinus nigra* (Lodgepole Pine) shoots in 2021, the latter mould masquerading in morphology as a micro-invertebrate. Both are new to Scotland.

Roy Watling

Butterbur, *Petasites hybridus*



Petasites hybridus (Butterbur) (Watercolour)
© Jeff Banks

I passed by a large patch of *Petasites hybridus* (Butterbur), in Northumberland, on 21st January 2022. It was in flower. Then, on 23rd January I passed by two more patches, by the Tay estuary when I was doing a Low Tide bird count. These plants were also in flower. Butterbur is a very early-flowering plant but usually to be seen in March, perhaps in February. Was this due to the unusually mild January that we were experiencing, or is it going to be a more general phenomenon as a result of climate change? The flower spikes were meagre, but the spikes may be more luxuriantly dome-shaped. Is that because this is about the farthest north that they grow anyway, as stated in my copy of *Wild Flowers of Britain and Ireland*, though I have found them over the years farther north than Perthshire?

The plants are dioecious, and curiously *Wild Flowers...* states that the female plants are much more restricted in distribution than the male. If this is so, I presume we see them growing in dense patches because they are spreading only from the rhizomes.

Jeff Banks

North East Scotland Bryophyte Group

This new group loosely covers north-eastern Scotland from Fife through Perth and Kinross, Angus, Kincardine and South Aberdeen. All are welcome from complete beginners upwards to find and learn about mosses and liverworts and, where appropriate, record their distribution. For information on activities see www.britishbryologicalsociety.org.uk/event-category/north-east-scotland-bryophyte-group, or email Lyn Jones joneshamlyn@gmail.com.

‘Maps for researching Scottish woodland history’

The National Library of Scotland publishes a series of guides to help people with particular interests get more out of its excellent maps website <https://maps.nls.uk> (much referred to in the first two articles on Methven). This new guide picks out the most useful maps for viewing and understanding trees and woodland, as well as changes in woodland cover over time. It looks at different definitions and types of woodland, and how different map-makers have represented woodland. The guide includes links to downloadable datasets and details of resources that are not available online, as well as references for further reading. View online at: <https://maps.nls.uk/guides/woodland>.

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