



GLASGOW NATURAL HISTORY SOCIETY NEWSLETTER

**Next Newsletter Deadline
22 March 2020**

**GNHS is a Registered
Scottish Charity**

February 2020

**David Palmar
(Newsletter Editor)**

newsletter@gnhs.org.uk

www.gnhs.org.uk

Ronald M. Dobson (1925-2019)

Roger Downie

Ron died on 21st November, a little before his 94th birthday. His funeral, attended by family and friends, including a contingent of GNHS members and University of Glasgow colleagues was on 17th December at Netherlee Parish Church and Linn Crematorium. Ron was a very active and committed member of GNHS since joining in 1963, holding many offices in the Society and contributing hugely to West of Scotland natural history through his publications, recording, collecting and curating. Some of this work was done together with his wife Ruth, who pre-deceased him in 2014. A full obituary of Ron will appear in *The Glasgow Naturalist*, written by Geoff Hancock, Roger Downie and Ron's daughter Sarah Higgins.

2020 MEETINGS – Meetings will be held at 7pm in either the Boyd Orr Building, usually Lecture Theatre 5c, or the Graham Kerr Building, Lecture Theatre 1, University of Glasgow. Please check below for locations.

Where there are two lectures listed for an evening, each will last about 30 minutes. At the start of most meetings there will be a short time when members can present recent observations: short talks, interesting specimens, or photos.

January

Wednesday 29th Graham Kerr Building Lecture Theatre 1

5.00pm (note time) **Blodwen Lloyd Binns Lecture:** A natural history of immune defences in this wormy world; Andrea Graham

February

Tuesday 11th Boyd Orr Building

7.00pm Photographic Night: members' slides or digital slide shows, plus results of this year's PhotoSCENE competition – see below for details

March

Thursday 5th Graham Kerr Building Lecture Theatre 1

6.30pm (Note time) (jointly with University of Glasgow Exploration Society)
Glasgow University Expeditions 2019 Report Back

Tuesday 10th Boyd Orr Building

6.30pm Annual General Meeting, followed by:

7.30pm Lecture: From science to policy – protecting the marine environment;
Lyndsey Dodds

April

Tuesday 14th Graham Kerr Building Lecture Theatre 1

7.00pm Lecture: West End Wildlife; David Palmar

Members' Photographic Night and PhotoSCENE Results

David Palmar

On Tuesday 11th February in the Boyd Orr Building we will again have members' own digital presentations. Some offers have already been received, but as we go to press there is still a little space in the programme, so please let me know in advance if you would like to present a slide show, and what the subject is, to enable me to organise the first part of the evening more effectively. Even just a few slides and a few words about each can be interesting for members – sophisticated presentations can be nice, but unnecessary – and definitely not longer than 5 or 6 minutes, please!

This will be followed by the results of the annual PhotoSCENE photographic Competition which is now in its 9th year, and is run jointly by GNHS and the Institute of Biodiversity, Animal Health and Comparative Medicine. This second part of the evening will be run by Darren O'Brien.

This year there have been over 70 entries, and £800 worth of prizes will be distributed. Anyone who submitted an entry or is interested in natural history photography is encouraged to attend.

Conference Advance Notice

Roger Downie

Edward Stuart Russell (1887-1954): his scientific legacy in fisheries research and the philosophy of biology

A one-day conference on Russell will be held on Saturday 6th June 2020 in the Graham Kerr Building as part of Glasgow Science Festival and as a contribution to the Year of Coasts and Waters. As well as outlining Russell's life and work, the conference will investigate his legacy in the fields of fisheries, animal behaviour and the philosophy of biology.

Russell was a Glasgow graduate in Zoology, was taught by Graham Kerr, and his first publication was in the *Glasgow Naturalist*. The conference is supported by the BLB bequest, among others, and we hope it will be of considerable interest to members. The conference will be free to attend.

2020 Subscriptions

Richard Weddle

Subscriptions fell due on January 1st 2020 (except for those who have joined since the start of the winter session). A subscription renewal form is enclosed with the newsletter for those who don't pay by Standing Order; email recipients will receive a separate reminder by email; and those who do pay by SO will, of course, not receive a reminder. We would be grateful if you could pay your subscription as soon as possible, to save us having to send further reminders.

Excursions

Alison Moss

The outline of this year's excursions program is almost complete and I think there is a really good mix of interesting destinations. As usual, all details will be in the April newsletter. However, I thought it might be useful to know that **the first excursion is on Sunday, April 26th**. This is led by James Milner-White and is at Glen Douglas, with a focus on mosses and liverworts. Also, you may want to make a note of the 'tree weekend' organised by Bob Gray and James Milner-White. Here are some details:

Tree weekend: 19th-21st June 2020

Bob Gray and James Milner-White are arranging a tree weekend based at Edzell between Montrose and Stonehaven. Sites to visit include some of: River North Esk, Fasque estate, St Cyrus beach, Fowlsheugh cliffs, Drumtochty Glen, Gallery garden and Edzell Castle. Limited accommodation in the form of en-suite double bedrooms with twin beds has been arranged at the Panmure Arms Hotel in Edzell for 2 nights arriving on Friday 19th June and leaving on Sunday 21st. The cost per night per room is £90, which includes breakfast. Meals are extra. Bear in mind that you could cancel if necessary, provided James is informed before the end of April, and that Hotel rooms may not be available nearer the time.

Coll Bird Festival 8th-10th May 2020

David Palmar

The Inner Hebridean island of Coll has held a bird festival for the past six years.

Coll is a beautiful island which has a range of habitats from massive sand dunes and sweeping sandy beaches, to farmland and rocky and peaty moorland. It has a rich and fascinating birdlife. The Coll Bird Festival will introduce you to some of the key species of breeding and passage birds with guided walks from Friday to Sunday. Guided boat trips to Lunga (Treshnish Isles) with its seabird city of thousands of auks e.g. puffins offer an opportunity to spot a variety of wildlife.

There is a programme of talks on the Friday evening including by John Bowler on Birds of Coll and Tiree and Professor Rhys Green, (world expert on Corncrakes) and a range of shorter and longer walks on Friday and Saturday including a dawn watch and a hen harrier watch.

The programme also includes a social evening including an Eagle film, a talk, buffet and ceilidh on Saturday and a beach clean and barbecue on Sunday.

Travel to Coll is easy – 3 hours by CalMac ferry from Oban.

There is accommodation in the Coll Bunkhouse, (a superb modern facility), the Coll Hotel, and in bed and breakfasts, and the festival is centred on An Cridhe (the Heart in Gaelic), the fairly new community centre in Arinagour, and the Totronald RSPB Reserve.

Details of all the activities can be found easily by searching for Coll Bird Festival. The full programme can be seen [here](http://collbunkhouse.com/coll-bird-festival/), and there is also a link to information on accommodation: collbunkhouse.com/coll-bird-festival/

Macro Shots

David Palmar

The following web page has been drawn to my attention by Morag Mackinnon. It shows stunning macro shots of tiny fungi and Myxomycetes (slime moulds), by Californian photographer Alison Pollack. Those with a close-up facility on their camera may like to take some inspiration from these shots. Who knows, we may see some of your photos in next year's PhotoScene competition!

petapixel.com/2019/12/05/photographer-shoots-stunning-super-macro-photos-of-minuscule-mushrooms/

Natural Sciences Collections

National Museums Scotland Library Services Team

The NMS Library Services website explains the services and collections that are available in the Research Library at the National Museum of Scotland in Edinburgh. It can be found at:

www.nms.ac.uk/collections-research/research-facilities/museum-libraries/research-library/

They are very keen that our members are aware of the resources they have to offer and we are asked to encourage you to come and use the service. The library is happy to have group visits by arrangement. (Perhaps a GNHS excursion? – Ed.)

The library collection is primarily taxonomic works, but there is also coverage of the history of the natural sciences and zoological illustration, with fine examples of illustrated works from the 18th and 19th centuries. Major strengths include world-wide entomology, ichthyology, mollusca and marine invertebrates, ornithology and mammology.

The library also holds the correspondence, notes and journals of renowned natural historians:

tinyurl.com/yyc5wsya William Jardine	tinyurl.com/y2o9axa2 J.A. Harvie-Brown	tinyurl.com/y2brvwvz William Speirs Bruce
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Scottish history and archaeology items in our special collections include notes, sketches and journals, often relating to objects in the museum collection; and the archives of the Society of Antiquaries of Scotland.

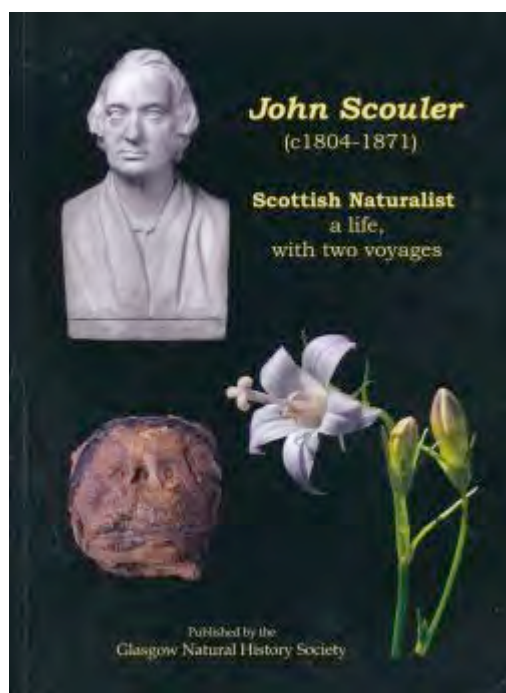
The Research Library now holds the finding lists of the Scottish Life Archive which includes original photographs, news clippings and references illustrating Scotland's material culture and social history.

Only a small percentage of our collection is on open shelves, so we would advise that you consult our catalogue (libcat.nms.ac.uk) and then contact the library in advance to make sure we have the material available for your visit.

Our online catalogue is available at libcat.nms.ac.uk and our contact details are: e-mail library@nms.ac.uk or phone 0131 247 4137.

Please let them know if you require further information or printed copies of our leaflet.

[www.nms.ac.uk/collections-research/research-facilities/museum-libraries/](http://www.nms.ac.uk/collections-research/research-facilities/museum-libraries/@NMSLibraries)
[@NMSLibraries](https://twitter.com/NMSLibraries)



A quite lengthy and well illustrated review of the book **John Scouler (c. 1804-1871) Scottish Naturalist: a life, with two voyages**, (written by Charles Nelson and published by the GNHS in 2014) has been produced.

The review contains several old maps and drawings and modern photos, and concludes with a list of 9 of Scouler's publications about the Pacific north-west coast and 30 endnotes and references.

The information was received from Richard Somerset Mackie, Publisher and Editor, The Ormsby Review ormsbyreview.com/

The review is available on the following website: ormsbyreview.com/2020/01/04/714-galois-scouler-voyage-to-the-northwest-coast-1824-26/

Identifying Sphagnum mosses

Stephen Inglis

Time spent in the upland habitats of Scotland in recent years has seen me develop an interest in the ecology and species of Sphagnum mosses. These mosses have played key roles in the formation of our peatlands and although I had acquired some knowledge on their ecology, my ability to ID different species was quite poor. So it is thanks to the BRISC and GNHS bursary project that I was able to attend the FSC Sphagnum moss course at Blencathra in the Lake District near Keswick in



Figure 1 A patch of *Sphagnum magellanicum* – the wine-red colour of this species is distinctive

October of 2019. The course was hosted by the extremely knowledgeable Nick Hodgetts and with his assistance we visited two local peatland sites to record and collect specimens in order to learn the key identification features.

We visited Eycott Moss where a mix of acid and base-rich flush species could be found and on the second day also visited a blanket bog above Great Wood where we sought one bog-forming species in particular – *Sphagnum magellanicum* (Figure 1). We were fortunate to find 20 species out of the 35 recorded in the UK.

which can be seen with a hand lens – overall plant size, colour, branch leaf shape, stem leaf shape and orientation.

A key message from the course was taking ID as far as possible in the field using the features

Specimens can then be divided into one of the 6 different sections: *Sphagnum*, *Rigida*, *Squarrosa*, *Subsecunda*, *Cuspidata* or *Acutifolia* before being further identified to species. Some species exhibit variation between individuals and some specimens require a more thorough analysis back in the lab. The extra power of a dissecting microscope can enable unique cellular patterns and shapes to be seen.

Over the past few years I have been recording and monitoring wildlife at a site in East Renfrewshire called Shieldhill Farm. The site is adjacent to Whitelee Wind Farm and has a similar variety of habitats. I have been trying to record as many species as I can although my focus is on the bird species present.

With good areas of peat bog and wet heath I have always been aware of the range of *Sphagnum* species present but I had never put much effort into recording them or working out which species were present. All I had were a few photographs from which I've retrospectively been able to identify a few species. However, I now plan to use my new identification skills to generate a species list for the site as well as map out where key bog-forming species such as *S. magellanicum* occur. I hope that by doing this I might be able to gain an idea of where the best areas of peat bog remain.

Since the course, I have been collecting and recording specimens during my regular visits to the site so that I can continue to practice my ID skills. Using my phone I am recording the grid references of all records to eventually develop a rough site map with the intention of using it to identify variation in habitats and quantify habitat quality.



Figure 2 A specimen of *S. teres* found along a base-rich flush when recording *Sphagnum* at Shieldhill Farm

Dunkeld & Murthly Weekend 21st-23rd June, 2019

Bob Gray

Fourteen of us participated in this tree weekend, which was based in Birnam, south of Dunkeld and the Telford bridge over the River Tay that connects the two places. They lie at the heart of Perthshire Big Tree Country where some of Scotland's oldest and most impressive trees are located.

On **Friday evening** we sought out two of the most famous trees in the country growing near each other in Birnam on the right hand bank of the river and part of the Murthly Estate. Some trees in the woodland showed signs of beaver damage¹. The beaver population has expanded to over 50 groups from their introduction to the Tay catchment area some 12 years ago.



1 - Beaver damage (Bob Gray)

The **Birnam oak**² is famous as a mythical remnant of Shakespeare's Birnam wood, which, prophesied the witches in "Macbeth", when it moved to Dunsinane Hill, Macbeth would be vanquished. This happened when Malcolm's soldiers camouflaged themselves using boughs from the Birnam trees and then surprised the king. Macbeth lived in the 11th century.



3 - Birnam Sycamore
(D Palmar)

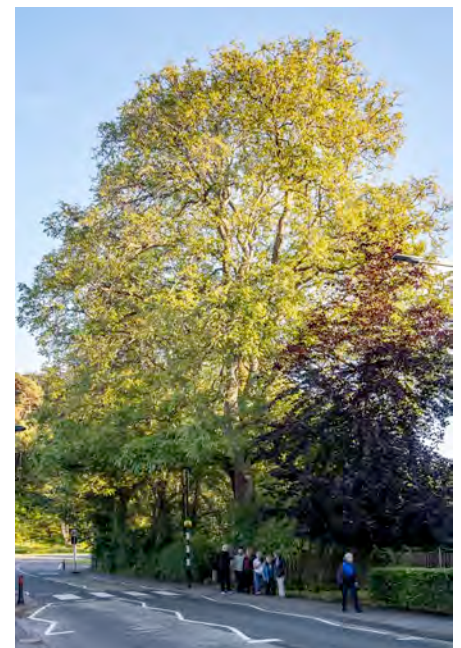
This fine sessile oak (*Quercus petraea*) may be more than 300 years old and could well be a descendant of the original trees like the even bigger and more impressive **Birnam sycamore**³ (*Acer pseudoplatanus*). It seems to have been pollarded so that its crown is huge, as well as its girth and massive buttress roots growing down the riverbank.



2 - Birnam Oak
(D Palmar)

In a garden beside the main road just south of the Telford bridge we found a common walnut⁴ (*Juglans regia*) which

turned out to be the biggest in girth recorded in Scotland. With the evening drawing in some of us visited the Loch of the Lowes wildlife reserve east of Dunkeld, famous for its pair of breeding ospreys which have hatched some 13 chicks in the past 5 years. Not only did we view feeding at the nest atop a Scots pine but again signs of beaver activity (and a beaver) were noticed in the trees growing on the bank opposite the hide.



4 - Walnut champion
(D Palmar)

Saturday, 22nd June, 2019 - Dunkeld House

Hotel Tree Trail We were fortunate to be led around a fine tree trail located in the grounds of the Dunkeld House hotel by Graeme Findlay, planning manager for the eastern area for Forestry & Land Scotland (the new name for Forest Enterprise Scotland). The hotel is a member of the National Tree Collections of Scotland (NTCS) and the trees here reflect that connection. The trail is a two mile circuit between the historic cathedral, where we met our guide, and the hotel. The parent larch, a European larch (*Larix decidua*) was our meeting place. This is the last survivor of five trees brought from the Austrian Tyrol by Menzies of Megeny and planted in 1738 by the 2nd Duke of Atholl, who subsequently started planting these larches on a small scale, possibly using seed produced by the original larches.



5 – Douglas Fir
(Bob Gray)

We measured the last survivor to be 5.76 m in girth and 30.6 m tall, amongst the biggest in the UK. The 4th Duke became known as 'Planter John' owing to his planting of millions of larches on his estates. In 1816 larch (a relatively marine resistant wood) from the estates was used to build a frigate, HMS Atholl.

Next to this larch grows the biggest girthed Douglas fir⁵ (*Pseudotsuga menziesii*) in the country, planted in 1846. Also growing nearby, growing in small fence protected plots⁶, were a number of young conifers planted as part of the International Conifer Conservation Project (ICCP) based at RBGE.

As we headed towards the River Tay we passed a

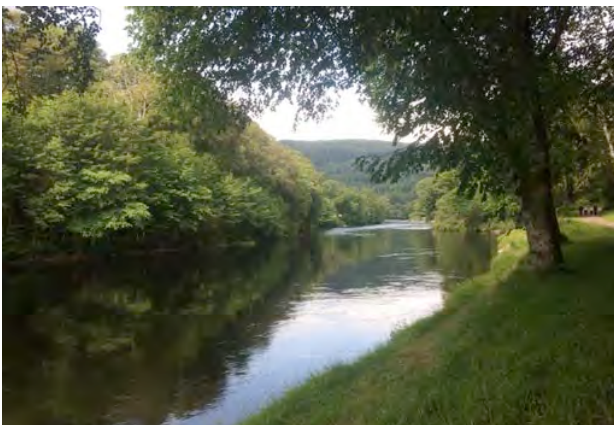


6 – Fenced Pencil Pine
(Bob Gray)

superb example of giant fir (*Abies grandis*), one of David Douglas's introductions most productive from a forestry viewpoint, and a fine Hiba (*Thujopsis dolabrata*), an important conifer endemic to Japan, introduced in 1853 by Thomas Lobb.

When we paused Graeme took the opportunity to explain to us how forestry management practice is changing over the years. The latest version of the UK woodland assurance scheme (UKWAS) was introduced in 2018 and it acts as an external auditor to ensure that timber products come from responsibly managed sources. So, for example, less clear felling is carried out owing to its adverse effect on flooding at lower altitudes. The sustainability of forests in order to encourage biodiversity is emphasised.

There are legal obligations to re-stock woodlands by means of natural regeneration



7 – River Tay
(Bob Gray)

and also to re-plant using native trees where possible. Grants are available for this purpose. The RSPB has certified woodland in more than 60 nature reserves and some 4 million hectares of UK woodland is certificated under the scheme. Some 20 million trees per year of local provenance are planted by the forest authority. As far as non-native species are concerned, the cost of natural regeneration is c. £1000 per ha compared to £2500 for planting. Sale prices of timber, especially on account of the manufacture of wood pellets, have increased considerably.

Continuing along the left hand bank of the fast flowing river Tay (along part of General Wade's military road)⁷ we captured a fine view of a couple of grey wagtails over the water. At a fine Chile pine⁸ (*Araucaria araucana*) Graeme remarked that the scale leaves of this tree survive for no less than 30 years.

A well established weeping ash (*Fraxinus excelsior* 'Pendula') on the trail was unfortunately showing the advanced effects of chalara ash dieback disease, caused by the airborne spores of the ascomycete *Hymenoscyphus fraxineus*.

Just east of the hotel we measured a mighty sessile oak. It is reckoned to be c. 400 years old. At 7.07 m in girth it was not much smaller than the champion Douglas fir referred to above which is 7.32 m in girth.



8 – Chile Pine
(Bob Gray)



9 – Pedestal Larch
(Bob Gray)

We then ventured behind the hotel where we encountered some interesting specimens. Most remarkably there is a "pedestal" larch⁹ (*L. decidua*), one of only two in Scotland and 8 in total in the UK. The pedestal consists of a mass of what appear to be buttress roots growing just above ground level and some 8 m around. The trunk growing above this is c. 5 m in girth growing upwards from the buttress at c. 1.5 m above ground level. The precise origin of this extraordinary growth pattern is a bit mysterious. It is thought to have been planted c. 1730.

A second remarkable specimen is a massive giant fir¹⁰ layering in a fashion more common amongst yew trees. Many of its lowest

branches have rooted where they have touched the ground thus producing a number of potential offspring identical to the parent.

Graeme also indicated to us a number of young Serbian spruce (*Picea omorika*) which had been planted within the shade-casting mixed woodland behind. They are struggling to grow.

To the west of the hotel we came across a Patagonian cypress (*Fitzroya cupressoides*), an endangered species from the S. central Andes and capable of living to 3000 years. It was introduced in 1849, is rare and in the British Isles all are derived from cuttings of



10 – Giant Fir
(Bob Gray)

one, female plant. The genus is named after the captain of the 'Beagle' on which Charles Darwin famously sailed. In the same location James Milner-White spotted a mountain hemlock (*Tsuga mertensiana*), about which we were to discover more at Murthly. East of the hotel and no.1 on the tree trail grows an evergreen Turner's oak (*Quercus x turneri*). The original cross occurred once in 1780 in Turner's nursery in Essex when a pedunculate oak hybridised with a holm oak (*Quercus ilex*) but this cross is virtually extinct and this specimen is 'Pseudoturneri', a putative back cross. (A row of these grows in Pollok Country Park).

Heading back eastwards, but higher up above the river we marvelled at the proliferation of natural regeneration of Douglas fir, silver firs (*Abies* spp.), Lawson cypress (*Chamaecyparis lawsoniana*), beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*) and oaks (*Quercus* spp.) indicating their favourable adaptation to the prevailing environment. In a field to the north of the trail our guide pointed to three open grown Serbian spruce that were performing much better than those in the shade behind the hotel. They are clearly light demanders.

Towards the end of our circuit we paused to view some distance away, on the north side of the road leading to the hotel, the curved row of 11 Japanese larch (*Larix kaempferi*), survivors of the 14 originally planted in 1886 by the 7th duke. These are the putative parents (together with European larches) of those hybrid larches (*Larix x marschlinsii*) that were growing close to where we were standing. The first hybrids were identified in 1904, although tree ring counts of some later estate fellings indicated that some hybrid larch had arisen unnoticed in 1897, the year of their planting. Japanese larch is resistant to larch canker to which the European species is susceptible but its growth is more tortuous and better adapted to wetter conditions. The hybrid, also known as the Dunkeld larch, grows better and is canker resistant and so is more widely planted for forestry purposes. We were able to look closely at some of these three larches and identify the differences.

Graeme pointed out on a distant hillside to the north of us an area cleared of larch – the result of the devastating effects of *Phytophthora ramorum*, known as sudden oak or larch disease (An oomycete, previously thought to be related to fungi but now known to be more closely related to algae). Surprisingly, with the prevailing wind from the southwest, where the most devastation has been caused (e.g. in Galloway), these northeasterly trees have been the first to succumb in the Dunkeld area. In the case of ash dieback efforts to control the spread of the disease have been more or less abandoned but clear felling is still being attempted in the case of larch, which forms some 5% of Britain's woodland area and much more here. As a result of this disease the landscape of this area may be changed for ever – time will tell.

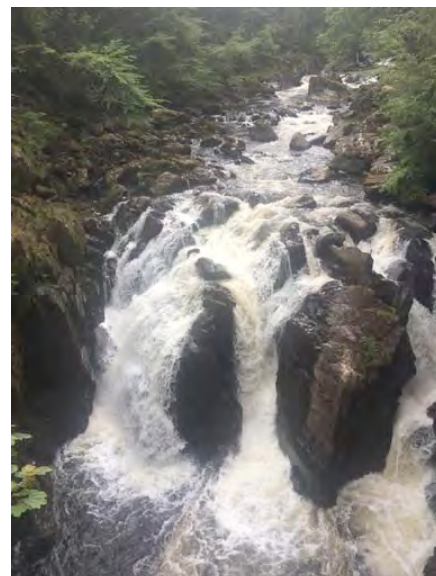


11 – Felled champion Douglas Firs
(Bob Gray)

Graeme Findlay was thanked for his considerable input into the success of our perusal of the Dunkeld tree trail.

The Hermitage is a National Trust for Scotland (NTS) site located to the south of Dunkeld. On our way there we visited the grounds of the Dunkeld forest office complex where they have stored the sawn logs of one of the tallest Douglas firs¹² in the country.

The timber will probably be used for some decorative purpose near the Hermitage entrance. Our walk into the Hermitage took us upriver alongside the River Braan, a fast flowing tributary of the Tay. We were surrounded by the wonderful sight and scent of colossal Douglas firs before we came to the location of what had been about the tallest Douglas in the UK (c. 61m, 201 ft), self sown in 1887 (tree ring count) from the trees amongst which we were walking. It had established itself on the opposite bank of the river, low down and well supplied with nutrients, where it had been drawn up by the shade of the surrounding trees, until it was windthrown in January 2017 across the River Braan. It was then cut into sections and stored where we had recently seen its seasoning remains. (Ironically, when it blew down, it smashed the sign that indicated its great status!).



12 – Black Linn, the Hermitage
(Bob Gray)

We then reached Ossian's Hall, a wonderful building providing a spectacular view of the Black Linn falls¹². The opportunity was taken to summarise the history of the area whilst standing within the iconic building: 1757 - established by John Murray who became the 3rd Duke of Atholl; 1815 - 4th Duke, "planter John", expanded commercial forestry, especially larches. Oak coppice that continued into the mid - 19th c. covered an area more or less the same as that shown in Roy's map of 1750 a hundred years previously; 1917 – death of the 7th Duke resulted in massive death duties and led to the felling of much woodland and the sale of land to the Forestry Commission in 1937 with only the Hermitage being retained; 1944 – on the death of the 8th Duke, founding President of the NTS, this land was presented to the NTS.

Sunday, 23rd June. Murthly Estate.

This estate of some 6000 acres is situated between Birnam and the village of Murthly. The policies around Murthly Castle, most kindly made available to us to explore by Thomas Steuart Fotheringham, 14th Steuart laird, were developed as a designed landscape over many years following the building of the castle in 1450. The average annual rainfall of c. 921 mm is distributed evenly throughout the year. Average annual temperatures, however, vary between 12.2 °C high and 4.6 °C low.

Winters are unusually cool for Scotland and summers very warm, reflecting the more continental climate extremes of central Scotland. The estate is low lying and so is a largely fertile area of land. General Roy's map of 1750 shows that today's landscape is similar to that of Roy's time. Owen Johnson of the Tree Register of the



13 – Giant Redwood avenue
(Bob Gray)



14 – Western Hemlocks
(Bob Gray)

British Isles in 2007 found some 8 British Isles champion trees and 14 Scottish champions. Most of these are located on fairly steep, north facing ground that slopes down to the River Tay. Armed with maps and tree measurement lists provided by the owner we set out to see what we could find in the limited time available to us.

We entered by the East Drive along which we passed along an impressive avenue of almost entirely common lime (*Tilia x europaea*) with occasional Crimean lime (*Tilia x euchlora*). We then parked in order to view a superb avenue of giant redwoods¹³ (*Sequoiadendron giganteum*) within which grows a huge grand fir (*Abies grandis*) , a British

Isles champion, and a couple of mighty western hemlocks¹⁴, all of which we measured. The grand fir at 751 cm girth is probably the most massive in Europe and as big as the biggest in Washington & Oregon (TROBI 2015).

Moving on we parked at the castle from which we admired the vista ride, including a western red cedar ¹⁵(*Thuja plicata*) covered with its distinctive cones, facing northwards towards the main area of plantings on the terraces leading down to the River Tay.



15 – Western Red Cedar
(Bob Gray)

We headed towards the renaissance chapel¹⁶, arguably the finest in Scotland, walking alongside the Dead Walk, an avenue of ancient yew trees, considered to be c. 500 years old. As the clock struck 12.00 noon a red squirrel appeared from the nearby trees. From the chapel bank down to the river runs an avenue of beeches (*Fagus sylvatica*) planted in 1977 for the Queen's silver jubilee by the father of the current owner and the area of most of the champion trees.

The estate policies are managed chiefly on a continuous cover basis with natural regeneration being used as the source of many replacement trees. The estate possesses 8 champion trees of the UK & Eire and plantings are carried out in partnership with the International Conifer Conservation Project (ICCP). The oldest of these fall into three major groups: East European/North African, Chilean and Japanese, are labelled and contained within wooden cages. (The estate has been planting ICCP trees for 12 years now and has nearly 100 in the policies, with every continent being represented.) We proceeded in a clockwise fashion in order to find as many of these special trees as possible. A Serbian spruce (*Picea omorika*), planted (P) 1897, at 31.5 m height and one of a group of three on the Jubilee Terrace, is the tallest in the world outside its native habitat. Two Sakhalin spruce (*Picea glehnii*), P1897, are respectively the biggest by girth and tallest in this country. Named after Russia's biggest island they possess short, bluish needles

with two white bands and bright orange, hairy shoots. We then encountered a unique tree, seemingly a cross between a Serbian and Sitka (*Picea sitchensis*) spruce. This has no hybrid name. We found a cut-leaved Norway maple (*Acer platanoides* 'Dissectum'), possibly P1897, which has the biggest girth in the UK (212 cm) and also, at 51 m, the tallest Western hemlock (*Tsuga heterophylla*) in the UK.



16 – Murthly's Renaissance Chapel
(Bob Gray)

Amongst the first of the three groups of ICCP trees planted on the lower terrace are Cilician fir (*Abies cilicica*), which in Syria grows with Cedar of Lebanon, with some excellent examples of Caucasian fir (*Abies nordmanniana*) and Spanish fir (*Abies pinsapo*). The Chilean group includes some fine examples of Chilean cedar (*Austrocedrus chilensis*), the most northerly conifer of the Andean Patagonian forest and the Patagonian cypress. Unusual trees include the most southerly larch, Chinese larch (*Larix potaninii*), found in Nepal and China. The Japanese group is located some

200 m downriver from the Chilean group and includes: the silver firs, both introduced in 1879, Maries' (*Abies mariesii*), and Veitch's (*Abies veitchii*), the latter being short lived; golden cypress (*Xanthocyparis vietnamensis*), first described to science in 2002 and introduced to Edinburgh in that year by cuttings from Vietnam; excellent red and grey snakebark maples, (*Acer capillipes* and *Acer rufinerve* respectively [confusing specific names]); Japanese horse chestnut (*Aesculus turbinata*); the dioecious Katsura (*Cercidiphyllum japonicum*) and the monoecious Japanese elm (*Zelkova serrata*).

Finally, returning via the mid terrace, we found the last of the UK champions, a mountain hemlock (*Tsuga mertensiana*), P c.1862), having a considerable girth of 401 cm. Some are of the opinion that this tree is a hybrid between western hemlock and Sitka spruce - hence the more up to date generic name of *Hesperopeuce*. Like Sitka its needles are glaucous and its cones longer than those of hemlock. The tree has a very wide native range from sea level in Alaska southwards to the Sierra Nevada.

We are greatly indebted to the owner not just for providing us with access but also for detailed information regarding the history and legacy of the wonderful trees growing here. As Owen Johnson of the Tree Register indicated in 2007 there is perhaps no greater concentration of champion trees in the country.

And finally ...



Bob Gray measuring the
Walnut Tree in Birnam
(D Palmar)



GNHS members in Ossian's Hall, the
Hermitage
(D Palmar)

Next Newsletter - copy to David Palmar by 22nd March 2020 please.

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If sending photos, please submit only a few as separate jpg files (not as part of a Word document), and make them under 100Kb each for emailing).