



GLASGOW NATURAL HISTORY SOCIETY NEWSLETTER

**Next Newsletter Deadline
10 January 2022**

**GNHS is a Registered Scottish
Charity**

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(Newsletter Editor)**

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Winter Talks Programme 2021-22

Roger Downie

November - Tuesday 9th, 7pm by Zoom:

Andrew Painting- ecologist and writer on environmental restoration at Mar Lodge estate.

December - Tuesday 14th 7pm by Zoom:

Hannah Wilson, botanical researcher on Begonias

January - Tuesday 11th 2022, 7pm by Zoom:

Deborah Davy on research into the population of Exmoor ponies at Cochno Farm.

February - Tuesday 8th, 7pm by Zoom:

Photographic night: Darren O'Brien will present the results of the annual photographic competition, and any members' short talks which are offered.

March - further details by email and February newsletter

Tuesday 8th: AGM and Mike Rutherford 'Bioblitzing in Trinidad and Tobago: from Tucker Valley to the backyard'

Friday 11th: Joint meeting with Hamilton and Paisley NHS. This will be an in-person talk in Hamilton. Speaker: Clifford Bain on the peatlands of Scotland.

GNHS & BRISC Bursaries

Richard Weddle

After a break last year because of the lock-down, GNHS & BRISC (Biological Recording in Scotland) are again offering bursaries towards attending a training course in natural history field studies skills.

The bursaries will be for £200 or 75% of the cost of the course, whichever is the lower. The closing date for applications is January 31st 2022.

An application form, and full details of the bursaries on offer can be found via links at [**www.bris.org.uk/projects**](http://www.bris.org.uk/projects) (scroll down the page to the links).

The bursaries are not restricted to GNHS members, so please feel free to forward this information to anyone you think may be interested.

2022 Subscriptions

Richard Weddle

Subscriptions fall due on January 1st 2022 (except for those who have joined since June 2021). Members who pay by standing order need take no action; others will receive a subscription renewal form either as an email attachment or in the envelope containing this newsletter.

NBN Conference

Richard Weddle

This year's NBN Conference will take place on Wednesday 24 November and will once again be held online.

This year's theme is "Biodiversity data – from collection to use".

We are delighted that we are running this as a co-hosted NBN Trust and iSpot/Open University event again in 2021.

The event will run using Microsoft Teams.

The one day event will consist primarily of 10 minute talks plus Q&A, as well as a keynote presentation, given by Craig Bennett, CEO of The Wildlife Trusts and the annual Sir John Burnett Memorial Lecture, given by Rosie Hails, Director of Nature and Science at The National Trust.

In particular, we should highlight the glow-worms talk by Charlotte Martin since she is from Lanark, a 3rd year Wildlife and Conservation Management student at SRUC (Scotland's Rural College) Edinburgh – "*A Glowing Report for Scotland*".

The announcement of the winners and runners up in the NBN Awards for Wildlife Recording will also be a highlight of the day.

There will be regular tea/coffee and a lunch break to give everyone time away from their PCs.

For more information, particularly about the speakers, see:

<https://nbn.org.uk/news-events-publications/nbn-conference-2/nbn-conference-2021/>

Bookings

The costs for attending are:

Students: £20

Members: £30

Non-members: £40

Book now! As GNHS is a corporate member of the NBN, GNHS members can book for the £30 members rate.

<https://nbn.org.uk/news-events-publications/nbn-conference-2/nbn-conference-2021/nbn-conference-online-booking-2021/>

Social media: Join in on the day using hashtag #NBNconf21

Sponsors

We are once again indebted to Habitat Aid for its sponsorship of the NBN conference and to iSpot and The Open University for co-hosting this years' event

Blodwen Lloyd Binns Prize 2021

Iain Wilkie

The BLB Prize is awarded annually for the best article published in *The Glasgow Naturalist* and authored by a young / early-career scientist.

The BLB prize-winners this year are Anna Acsai and Tamas Drexler, for their paper: Low levels of faecal cortisol in bank voles (*Myodes glareolus*) in response to live-trapping. The Glasgow Naturalist 27(3): 19-27.

Christmas Social

Mary Child

Tuesday 7th December, 6.30 for 7.00, The Botany, 795 Maryhill Road, G20 7TL
As we still can't use the library in the Graham Kerr Building we have decided to go out for our Christmas celebration. We enjoyed our summer meal so much at The Botany that we have decided to book there again for Christmas. The menu looks lovely and I hope that this will encourage lots of you to join us.

The Botany Christmas Menu 2021

Lightly curried Parsnip Soup

Brie & Cranberry Tart

Game terrine with toasted Brioche and onion Marmalade

Scottish Smoked Salmon Paté with crispbreads

Pan fried Hake with crushed minted peas and fries

Roast Norfolk Turkey, roast potatoes and traditional trimmings

Pumpkin Risotto with roast cashews

Roast rump of Lamb, olive crushed potatoes and root vegetables with redcurrant jus

Christmas pudding with brandy butter

Rum & Raisin Crème Brûlée

Warm soft chocolate Cake with Toffee ice cream

Selection of Scottish Cheeses with quince and oatcakes

The cost is **£25.00** per person.

If you would like to attend, **please email Mary@gnhs.org.uk to book**; it would be helpful if members could indicate in the email a menu choice for each course.

Please can you pay at the same time as you book and either send a cheque for £25 payable to GNHS to Richard Weddle at 89 Novar Drive (1/2), Glasgow G12 9SS or pay online (please email Richard if you need bank details).

A one-off opportunity to apply for BLB funding

Alison Park

For a limited period, community groups are invited to apply for GNHS grants from the Blodwen Lloyd Binns Bequest to support natural history projects based in greenspaces or community gardens. The BLBB Committee will consider such applications at their next meeting, so now is the time for GNHS members to focus on ideas for their locality so as to meet the upcoming application deadline of **15 January 2022**.

The Covid-19 pandemic of the last 2 year lies behind the decision to offer these special grants. With the majority of planned field studies and expeditions unable to proceed, BLBB investment profits have substantially accumulated. The option of spending on community-based projects still fulfils BLBB's core theme of supporting projects of (local) natural history interest and could perhaps provide a legacy of sites with enhanced biodiversity and educational value in and around Glasgow.

Applying for a grant to develop a community greenspace follows the usual BLBB grant application process. The applicant should be a GNHS member, and the required application form is downloadable from the GNHS website. Note that, for community improvement projects, some of the stated "points to include" are not appropriate but it is relevant to provide some background information on the site and outline how the project benefits biodiversity and community engagement.

Applicants should be aware that there is no guarantee that applications will be awarded funds. Early applications, meeting the 15 January deadline, are advised as funds may not be available at the next allocation date. Applicants will be informed on the outcome of their application in early February and, if successful, funds will be paid soon after. On completion of the project the applicant should submit a short report for publication in GNHS Newsletter.

We look forward to receiving applications. For further pre-application assistance please contact alison@gnhs.org.uk

GNHS Excursion Reports

Edzell Weekend, 18th-20th June

Bob Gray

We were welcomed to The Burn, Edzell, our base for the weekend, by its bursar, David Turner OBE who on Saturday morning gave a presentation about the history of the house and estate¹.

Lord Adam Gordon at the end of the 18th century built the house and planted up this barren area with many thousands of trees occupying some 526 acres and had c. 6 miles of paths laid, often by blasting through solid rock. The area was transformed into one of Britain's finest gardens. A sundial made for the lord in 1796 now stands on the lawn to the west of the house. Queen Victoria famously visited the estate in 1861 when the estate was owned by a Major William McInroy. The Russell family bought this estate and



1 Bursar and members outside
The Burn

surrounding areas amounting to c. 4000 acres in 1921 and during World War II the house was used as a hospital. Much of the land was sold off at this time and the majority of the original plantings were felled at this time. Their son James was killed aged 21 in action in Florence. The family did not return to The Burn which was gifted along with much of the estate in memory of James to an educational charity which, known as Goodenough College, runs the house and estate which now occupies about 190 acres (77 ha). The woodlands alongside the main drive and the banks of the River North Esk are probably remains of the late 18th century plantings.

The River North Esk forms the west boundary of the estate (and also of part of the Aberdeenshire boundary) as it flows through the Gannochy gorge which, together with the surrounding woodland mainly of beech, forms an SSSI. This designation has been made particularly on account of a liverwort, *Scapania pratensis*, which here occupies one of only 5 sites known in the country. It is also an important area for other mosses and lichens. The walk alongside the gorge is known as the Blue Door walk and we were



2 Gannochy formation rocks near-vertical

taken along part of it by the bursar. Geologically the gorge cuts

through the Highland Boundary Fault so the river exposes many of the rocks forming part of this fault line². The stretch we walked along displayed the

Gannochy Formation conglomerate, well viewed at the remains of Loups Bridge, built by John and James Justice of Dundee in the 19th century. Now only the metal supports remain. Upriver from here the river flows through fluvio-glacial gravels which sit upon sandstones and mudstones called the Edzell Mudstones. We were shown a salmon ladder at the Loup pool where the presence of otters is sometimes indicated by headless salmon, as otters show a preference for that



3 Fern-leaved beech



4 Chile pine growing from old stump

part of a salmon's anatomy. The estate is animal friendly, being a red squirrel area, a site for kingfishers and also at least three families of roe deer are known to frequent the area.

Having left the gorge we headed for the north boundary of The Burn policies where we view some of the fine trees that make up the arboretum. The most interesting arguably was an old fern-leaved beech (*Fagus sylvatica* 'Aspleniifolia')³ which measured 4550 cm x 12 m and was probably one of the plantings from about 150 years ago.

Near it grows a young Chile pine (*Araucaria araucana*)⁴, interesting because it has grown from the root of a parent tree which is no longer there. Other trees of this likely age within the arboretum include a very large giant sequoia (*Sequoiaendron*

giganteum), a sizeable cedar of Lebanon (*Cedrus libani*) as well as a few, very craggy and 'characterful' sweet chestnuts (*Castanea sativa*). More recent plantings, in front of the house itself, include two common walnuts (*Juglans regia*), a Cappadocian maple (*Acer cappadocium*) and two willow-leaved pears (*Pyrus salicifolia*). To mark the 75th anniversary of the death of Lt James Russell, the college planted 75 trees: 36 Italian cypress (*Cupressus sempervirens*), 21 silver birch (*Betula pendula*) to reflect both his age when killed and his Scottish roots and 18 focal point trees (oak, beech, cedar of Lebanon and giant redwood) to represent his military unit - 3rd Bn of the 15th Punjab Regiment. In addition, at the beginning of this year, the college planted a new wood consisting of 250 native tree saplings provided by the Woodland Trust and planted by students from the University of St Andrews.

In the early afternoon we headed by road for the northern end of Gannochy gorge. Proceeding downriver we sought out exposures of red jasper in a cutting for the path blasted out of greenstone. This section with its waterfalls below is known as the Rocks of Solitude⁵. The area is part of the Highland Border Complex, a portion of the boundary fault. Jasper is a form of quartz, stained red by haematite (iron oxide). Greenstone is a metamorphic rock derived from basalt, the green colour commonly caused by chlorite. Alongside the path much natural



5 Rocks of Solitude

regeneration of wild cherry (*Prunus avium*) occurred. Above the bedrock are fluvio-glacial gravels dating from the end of the last Ice Age and forming the soil parent material. A fine stand of Scots pine (*Pinus sylvestris*) grows in the well-drained soil together with occasional natural sessile oak (*Quercus petraea*), beech

(*Fagus sylvatica*), birch and rowan (*Sorbus aucuparia*). The path led us to the Doulie Tower⁶, built as a folly by Lord Adam Gordon.



6 Doulie Tower

We then made for Drumtochty Forest in Strathfinella. This forms part of the Mearns Forest run by Forest and Land Scotland. The main block of Drumtochty Forest comprises the north and south slopes of Strathfinella purchased in 1926. Prior to this acquisition the estate was owned by the Gemmell family from 1822 until it was broken up in 1916. The last member of the family to live at Drumtochty house was Sir Sidney Gemmell, a keen forester who carried out much experimental planting on the estate.

One of his plantings is now a massive Sitka spruce (*Picea sitchensis*)⁷ located close to where we parked. Its girth was measured as 718 cm and previous readings on the interpretation board confirmed that the tree was still growing at c. 1" per year. Its height according to the Tree Measuring Society of the British Isles (TROBI) was 53 m in 2013.

Sitka spruce has a history typical of Pacific northwest trees – discovered by Archibald Menzies in 1792, introduced by David Douglas in 1832 and grown in several known estates. This tree however is not considered to be one of these. Instead it seems likely it was planted from either William Lobb's or John Jeffrey's seed of 1852. Despite the negative reputation of Sitka spruce as being the main cause of the country's "serried ranks of conifers" it can lay claim to some positive biodiversity impact such as the re-introduction of sparrowhawks to England from the Sitka spruce growing in the Forest of Ae and currently the use of Sitka spruce seed mast years by the siskin. Economically it was of considerable benefit after the First World War in being the main tree used by the then Forestry Commission to bolster the country's timber stock on infertile ground.



7 Bob measuring the circumference of the Drumtochty Sitka spruce by Tony Payne

The soil parent material at Drumtochty is mainly fluvio-glacial alluvium in the glen, sand and gravel on the slopes and with peat at higher levels. In places we noticed the extrusion of some of the underlying rocks which included sandstones of the Devonian period. Where the rocks are near the surface they have produced soils with medium to high nitrogen availability. Otherwise the soils on slopes are well drained but with less fertility as the nutrients are washed down to lower

levels. Overall the hills form a ridge running from northeast to southwest. The elevation at Drumtochty runs from 150 m up to as high as 460 m a.s.l.

We followed the course of the Dhulin burn west of the castle upwards along the left hand bank from the car park for about half a kilometre. A map of the forest design plan was handed out and it shows that this area is in the "long term retentions" (LTR) part of the plan. The aim here is long term gradual restoration of the network of water courses to native woodland (>90% of native species is aimed for). Although according to the forest design plan Sitka spruce currently makes up over 40% of the whole forest area, we encountered five other species chiefly: Japanese larch (*Larix kaempferi*) in the main which is well suited to the area and constitutes over 10%; Scots pine which makes up about 5% and is concentrated mainly on the well drained slopes and ridges; Norway spruce (*Picea abies*) about 2% and other conifers including occasional Douglas fir (*Pseudotsuga menziesii*) and western hemlock (*Tsuga heterophylla*). The last we observed showed much natural regeneration. In addition we encountered occasional hardwoods such as old beech, common lime (*Tilia x europaea*) and sweet chestnut at lower altitudes closer to the burn.

This Drumtochty glen area has been planted on an ancient woodland site (PAWS) and restoration of these woods is part of the long term conservation plan for the area, which will include planting oak. On the steepest slopes, with little access, there is a lack of thinning. Some areas have been identified for "low impact silvicultural systems" (LISS) whilst others are designated for clear felling. Clear felling in patches is considered to be the most appropriate silvicultural management system as it mimics fire or windthrow and allows an uneven age structure to be developed. The resulting open habitat is exploited by voles, deer and raptors. Over-quick re-planting leads to seedlings being attacked by the large pine weevil, *Hylobius abietis*, which lays its eggs on deadwood stumps. A longer fallow period avoids both this pest and also the use of insecticides. Two of the other major pests are 1: *Dothistroma* needle blight which affects most pines, with some, including Scots pine, being more susceptible than others. (Corsican pine is no longer being planted in the UK.) and 2: *Phytophthora ramorum*, which has caused a widespread outbreak in Scotland, although no signs of it were observed in this area. The intention over much of the forest is to increase the broadleaved component to the required 5% by planting birches in particular but also alder, aspen and willow.

This forest is one of the main timber production areas of the forest district. Yield classes are high for Sitka spruce in the uplands, moderate for other conifers and lower for hardwoods. The yields for all species are higher at lower altitudes as a result of increased nutrient availability. In decreasing order of importance the products are used for construction logs, paper, pallets and fence posts. Most go to companies which are located locally.

Travelling from The Burn on Sunday we passed by a sizeable, even-aged mature wood of very fine Scots pine, indicating how well adapted this species is to the local environment with its well-drained soils, relatively low average annual rainfall of c. 31" and lack of exposure to high winds.

Our first destination of the day was a viewpoint that provided us with a view towards the north of the Highland Boundary Fault mountains and the lower ground between us and these Grampian hills. The flat ground is known as the Howe of the Mearns and is located in South Aberdeenshire. We were standing on Garvock Hill, south and east of the Mearns, the remains of a volcanic ridge that separates the area from the North Sea. The arable soil of the Mearns is red clay and rich brown earth on which potatoes grow particularly well and which produces bulbs that are actually exported to Holland.

The intention was to visit a nearby SSSI, Craig of Garvock, but the presence of cattle, gates and electric fences made this impossible. However a helpful farm worker opened for us a gate which enabled us to get as far as a wind turbine at the highest point and from which we could just about make out the area of the SSSI; but we were unable to proceed farther. The site is divided into five different habitats: herb rich grassland, wet dwarf shrub heath, fen meadow, base rich flushes and dry dwarf shrub heath with acid grassland.

Nature Scot works with the owner and occupier to avoid drainage and cultivation which would damage these important habitats with their associated flora and fauna. Financial incentives encourage an increase in grazing pressure to prevent habitat change. Gorse and rabbits are also controlled here. The maintenance of waterlogging in the fen meadows on the valley bottoms combined with the grazing that prevents regeneration of pioneer species together prevent any transition into a wet woodland which would otherwise occur. So there will be no development of alder carr nor willows that are best suited to wet conditions. It was noted that willows actually support more species of moths and other insects than any other tree except oak. Similarly on the ridge tops, grazing maintains the habitat which would otherwise revert to a Scots pine dominated woodland. Scots pine is particularly well adapted to freely draining, acid, sandy soils such as occur here. On our way back down we passed a farmyard which had growing by it a fine sycamore, the natural habitat of which includes the mountains of southern and eastern Europe, which demonstrated how well this species can adapt to exposure; conversely a nearby sad looking oak tree showed its lack of ability to withstand high winds at altitude.

Our final visit of the weekend was to St Cyrus Nature Reserve, last visited by the Society in 2000. The reserve runs along a narrow strip of land just north of where the River North Esk enters the North Sea and below a row of cliffs. We began by walking along a path just above some alder carr⁸ as we proceeded anti-clockwise, firstly along the beach and sand dunes and then inland below the early Devonian age (c. 400 MYA) former sea cliffs of andesite and basalt similar to the rock underlying the Hill of Garvock visited earlier. The former sea cliffs are indicated at the foot of the cliffs by the raised beaches formed partly by fluctuating sea levels as the ice melted at different times during previous Ice



8 Alder carr & cliffs behind by
Stephen Docherty

Ages and partly by the land rising as a result of reduced pressure of ice as it melted at the end of the last Ice Age c.10,000 years ago.

St Cyrus has a warmer climate than most of northeast Scotland and this, combined with the shelter provided by the cliffs and sand dunes, explains why several plants and animals are found here at their northern limit. With over 300 recorded plant species this reserve is one of the most important botanical sites in northeast Scotland. Plants we found here at this limit included maiden pink, wild liquorice, yellow vetch and the carnivorous night scented catchfly which is uncommon in Scotland. Other plants we found included rest harrow, white campion, viper's bugloss and clustered bellflower⁹. A northern limit animal we saw was the brown-lipped or grove snail, *Cepaea nemoralis*, as well as the white-lipped snail, *Cepaea hortensis*. The plant abundance attracts invertebrates which in turn encourage the presence of insectivorous birds such as stonechats which we observed. We spotted a raptor over the visitor centre and later on a buzzard, which may have been the earlier raptor, being mobbed by corvids near the cemetery. It took refuge for a while in a willow tree growing near the cliff face and once the mobbing had ceased it was subsequently photographed perching at the top of a Sitka spruce.

The visit to this very special reserve made a fitting end to the weekend. Photos by Bob Gray except where indicated.



9 Clustered bellflower on the sand dunes by David Palmar

Moth Trapping at the Burn

David Palmar



Grass rivulet (*Perizoma albulata*) by Tony Payne

Richard Weddle brought along a moth trap, which he set up the first evening at the edge of the floodplain of the burn after which the property is named. Here are two of the moths caught.



White Ermine (*Spilosoma lubricipeda*) by David Palmar

Excursion to Holmhills Park, Cambuslang, Aug 21st Alison Park

Friends of Holmhills Wood Community Park were delighted to welcome GNHS members to explore their much-loved greenspace, a compact 18 hectares with ponds, small woods, and species-rich grassland. Local volunteers have been building up species information and identified around 250 flowering plants, 50 birds and 9 dragonflies. With designation as a Local Nature Reserve pending, Friends of Holmhills are keen to engage with GNHS members to collect more records and share ideas to improve biodiversity.

While excursion members were still assembling Richard Weddle pointed out a 2-spot ladybird (*Adalia bipunctata*) in the melanic (*sexpustulata*) form with red spots on a black background. Later we found a 7-spot ladybird, (*Coccinella septempunctata*).

First stop was to view a plant speciality of Holmhills, the rare Yellow Bird's-nest (*Hypopitys monotropa*). The population has dwindled since first discovered here in 2019 and only 4 stalks had appeared this year, one of which had not survived to flower. After traversing a fence and winding between densely planted trees they were in sight. Sadly, as all plants had gone to seed the shrivelled dark form lacked the distinctive creamy-white colour related to their parasitic nature.

Some of the group continued further into the wood and found a variety of insects including: Birch Shieldbug (*Elasmotethus interstinctus*), Parent Bug (*Elasmucha grisea*) and Red-legged Shieldbug (*Pentatoma rufipes*). Following an easier route, the rest of the group encountered a large frog before re-joining the party in a patch of woodland with bare ground. It was pointed out that stripping of ground vegetation is a by-product of Forest School sessions in this area.

Emerging from the wood we passed a totally dried up pond with an extensive cover of New Zealand Pigmyweed (*Crassula helmsii*) on the substrate. This invasive plant is present in all 3 of Holmhills' ponds but has massively spread in the pond which tends to dry out in summer months.

As we walked on, we found a good selection of colourful flowers amongst tall grasses and rushes including: Yellow rattle (*Rhinanthus minor*), Common Knapweed (*Centaurea nigra*), Red Clover (*Trifolium pratense*), Greater Birds-foot Trefoil (*Lotus pedunculatus*). In one location we looked at a large stand of Water Figwort (*Scrophularia auriculata*). Afterwards a photograph, taken by Gordon Brady, revealed an adult Figwort Weevil (*Cionus scrophulariae*) that was partly submerged in a seed. Common Carder, Red-tailed and Buff-tailed Bumblebees were also spotted.



Late season Yellow Bird's-nest by Andy Wilson



Figwort Weevil submerged in seed by Gordon Brady

The excursion ended with pond dipping in the 2 water-filled ponds. Creatures found included juvenile newts, flatworm, leech, pond snail, water skater, lesser water boatman and larvae of caddisfly, mayfly, and damselfly. 5 species of Zygoptera (Damselfly: Emerald, Blue-tail, Common Blue & Dragonfly: Common Darter, Common Hawker) were observed flying over the ponds.

Friends of Holmehills were pleased to find that GNHS visitors appreciated the Park's wildlife interest. We hope that South Lanarkshire Council, aided by the Friends of Holmehills Park, will manage the LNR

appropriately to enhance biodiversity and also promote educational use within the community.

Ayr Gorge Excursion, 12th September

Paul Cobb

We met near Mauchline for an excursion along the Ayr Gorge at Howford Bridge and Ballochmyle Viaduct.

We were greeted at the start by a Nuthatch attracted to seed placed on a gate post, and a Field Vole dashing across the road with a Weasel not far behind it.

Spangle galls were in good numbers on Oak (Common *Neuroterus quercusbaccarum*, Silk-button *N. numismalis*, and Smooth *N. albipes*), and although Oyster galls of *N. anthracinus* had fallen from the leaves, the flaps of tissue they leave on the midribs showed where they had been.

Sawfly mines in the genus *Metallus* are often believed to be rare, but they're not. We found *M. albipes* on Raspberry and *M. lanceolatus* on Wood Avenas.

Most interesting of the moth mines were *Mompha terminella* on Enchanter's Nightshade and *Tischeria ekebladella* on Oak. Both the blotch and folded margin stages of *Parornix devoniella* were conveniently on the same Hazel leaf.

Among the Agromyzid fly mines were *Chromatomyia lonicerae* and *C. aprilina* side by side on the same Honeysuckle for easy comparison. A mine on Hawkweed was *Phytomyza marginella*, more usually found on Nipplewort.

Two fly mines plentiful on Bracken, a *Chirosia* (Anthomyiidae) and a *Phytoliriomyza* (Agromyzidae) could not be named as they are both in species pairs that need to be reared out.

In all we found 27 leaf mine species (11 Agromyzid fly, 10 moth, 3 sawfly, 2 Anthomyiid fly, 1 weevil) and 15 galls (6 gallwasp, 5 gall-midge, 2 gall-mite, 1 Anthomyiid fly, 1 fungus).

An unexpected discovery was a large Turkey Oak *Quercus cerris*, which I have walked under many times previously without noticing it, as it has no low branches, and the crown is hidden among the other trees in the canopy.

Other finds were a larva of the lacewing *Micromus paganus*, and the harvester *Leiobunum rotundum*. James Milner-White had Jenkins' Spire shell *Potamopyrgus jenkinsi* in the river, spider *Araneus diadematus*, and carrion beetle *Phosphuga atrata* under the bark of a tree.

Here is a list of galls and mines found on the excursion:

Gall-mite galls - *Eriophyes laevis* on Alder, *Aceria pseudoplatani* erineum on Sycamore

Gall-wasp galls on Oak *Quercus robur* - common spangle *Neuroterus quercusbaccarum*, silk-button spangle *N. numismalis*, smooth spangle *N. albipes*, oyster gall *N. anthracinus*, artichoke galls *Andricus foecundatrix*, striped pea gall *Cynips longiventris*

Gall-midge galls - *Dasineura urticae* on Stinging Nettle, *D. pustulans* and *D. ulmaria* on Meadowsweet, *Iteomyia capreae* on Goat Willow, *Hartigiola annulipes* on Beech

Anthomyiid fly galls - *Chirosia betuleti* on Lady Fern

Fungus galls - *Taphrina betulina* witches broom on Silver Birch

Moth mines - *Ectoedemia albifasciella* and *Tischeria ekebladella* on Oak *Quercus robur*, *Stigmella hemargyrella* on Beech, *S. aurella* on Bramble, *S. magdalenae* on Rowan, *Mompha terminella* on Enchanters Nightshade, *M. raschkiella* on Rosebay, *Parornix anglicella* on Hawthorn, *P. devoniella* on Hazel, *Gracillaria syringella* on Ash,

Fly mines, Agromyzid - *Agromyza alnivora* on Alder, *A. alnibetulae* on Downy Birch, *A. idaeiana* on Raspberry and Meadowsweet, *Amauromyza labiatarum* on Woundwort, *Amauromyza flavifrons* on Red Campion, *Phytomyza heracleana* on Hogweed, *P. marginella* on Nipplewort and Hawkweed, *P. ranunculivora* on Creeping Buttercup, *Phytoliriomyza hilarella* OR *pteridii* on Bracken, *Chromatomyia lonicerae* and *C. aprilina* on Honeysuckle

Fly mines, Anthomyiid - *Chirosia histricina* OR *flavipennis* on Bracken, *Pegomya* sp. on Docks

Sawfly mines - *Metallus albipes* on Raspberry, *M. lanceolatus* on Wood Avens, *Profenusa pygmaea* on Oak

Weevil mines - *Orchestes fagi* on Beech

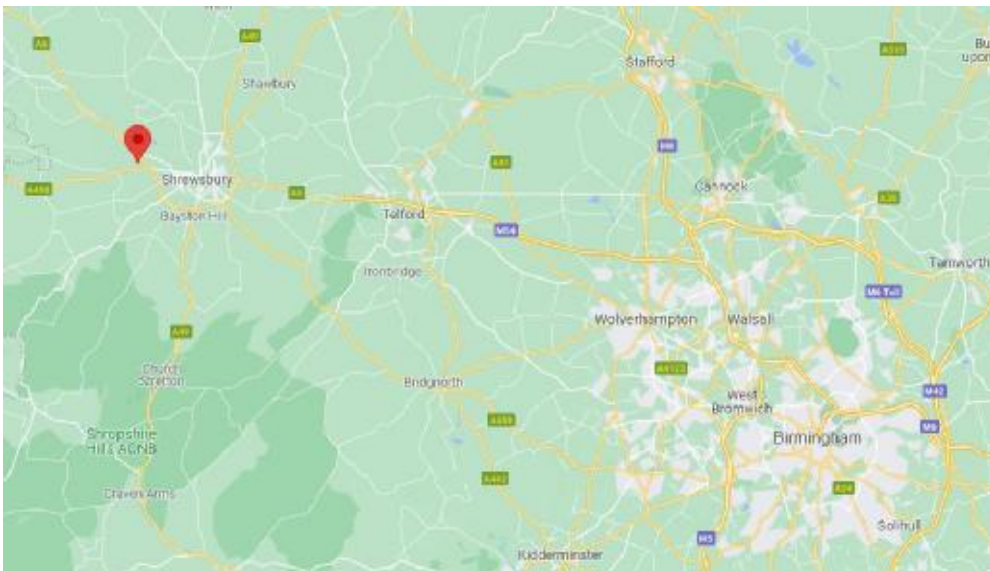
An Investigation part-funded by a GNHS/BRISC Bursary

Learning Land Mammal ID at Preston Montford FSC

Cathel Hutchison

Journey in an unfamiliar land

As I arrived in Birmingham, the night before attending my Land Mammal Identification course at the head office of the Field Studies Council in Preston Montford, I was struck by just how different from Glasgow the city felt. Rather than being primarily the architecture or people I encountered, it was the rules of social engagement: a complete absence of facemasks and social distancing. It felt as if COVID-19 had been banished, or else never happened. Arriving on a Friday evening at Preston Montford, after a brisk walk through prosperous countryside from Shrewsbury, I was back in more familiar territory. Masks required in all public indoor spaces, and also outdoors when working in close quarters.



Preston Montford FSC, located in Shropshire near Shrewsbury and north-west of Birmingham

After a brief intro to the site and the basic rules, we – the mammal crew as opposed to the invertebrate group – were thrown together over a

quick evening meal. And what an interesting bunch we were! – ecological consultants, civil servants, small mammal keepers and breeders, and even conservation biologists with extensive experience in species reintroductions. After grub, it was straight to the classroom, greeted by our tutor for the weekend, the refreshingly practical Debbie Alston, chair of training for the Mammal Society and a lecturer at the University of Derby. One of the few in the faculty, she mentioned, without a PhD – and she was determined to keep it that way! The evening session began with an introduction to the mammals in Britain, 107 in all including 28 native terrestrial mammals, and then an



A yellow necked mouse; see the continuous marking between its fore paws. (Credit Declan)

overview of what we would be getting up to for the weekend.

Seeing the world as a small mammal

Much of the course was focused on learning about small mammals, how to recognize their presence, and trap them. Native terrestrial small mammal species include common shrew (*Sorex araneus*), pygmy shrew (*Sorex minutus*) and the striking water shrew (*Neomys fodiens*), bank vole (*Myodes glareolus*), field vole (*Microtus agrestis*) and water vole (*Arvicola amphibius*), field mouse (*Apodemus sylvaticus*), while the feisty yellow-necked mouse (*Apodemus flavicollis*) and the adorable hazel dormouse (*Muscardinus avellanarius*) are only found south of the border. Non-native species, although many naturalised, include black rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), and the rotund edible dormouse (*Glis glis*).

As well as going over the characteristics of these species, Debbie also highlighted their habitats and burrows, including the intriguing mole fortress. These impressive structures can reach up to a metre high. Anybody who is lucky enough to stumble across one might wonder at what monstrous mole might have made it. Alas, they are actually constructed by multiple moles as a series of tunnels and chambers, present in areas prone to flooding to keep the moles safe in an emergency. As a novice mammal enthusiast, I had now found a purpose! To find a mole fortress or die trying!

After going over mammal characteristics, signs and habitation in the classroom, Debbie was keen for us to get out and get looking. And so we found ourselves on our hands and knees in a meadow at the centre's entrance, parting grass to look for field mouse runs, latrines with tiny clusters of green faeces, and burrows. All of these we found, but no sighting of the small critters themselves – that would come later that night.

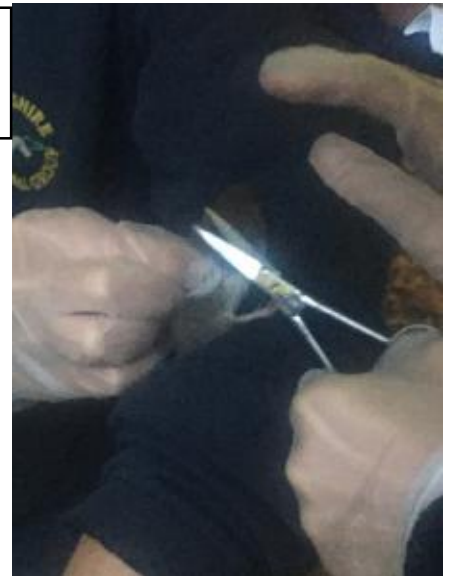
Over the weekend, Debbie also covered ways to identify the UK's larger land mammals – such as they are; our native megafauna are depressingly impoverished! However, in practical terms badgers (*Meles meles*) were the largest mammals we tracked signs of over the weekend.

Trapping is the way

On Saturday afternoon, we set our first traps to catch small mammals. There are two principal traps used to detain small mammals non-fatally in the UK. The modest *trip-trap*, an affordable, plastic contraption which has the pleasing quality of a see-through plastic corridor, so you can see whether a critter has entered your trap prior to opening it. On the downside, the unwilling guests have a habit of chewing their way out of the plastic casing. The second is the more robust Longworth trap, which being made of metal is sturdier, but completely opaque. Thus, no critter can be ogled until the trap is opened. We were assigned four Longworth traps each, which we filled with straw for bedding and then oats, raisins and apple for the herbivores (voles and mice) and castors for the insectivores (shrews). Incidentally, legislation dictates that if pursuing shrews, for which you need a licence (their high metabolism means they constantly eat),

in England you must check your traps every 16 hours (12 hours best practice), while in Scotland you are required to check your traps every four hours!

Snipping a wee bit of fur from a wood mouse, to enable us to recognise whether the same mouse returns.



On checking my traps the following morning, success! Two of the trapdoors were closed, indicating that I had visitors enjoying my hospitality. Next we had to bag them and box them. I had two fairly laid back bank voles. Laid back they may have been, but I and the others were rather wary handling them – they had teeth after all and looked like they could turn on a dime. On another occasion, I trapped a wood mouse. Then there were the yellow-necked mice. On casual inspection, there wasn't much to differentiate them from the closely related wood mice. On a closer look, however, you should spot the continuous yellowish-brown band that spans across the top of its chest between the front limbs. And you should take care handling this one, as it's a feisty critter that might try to bite its way to freedom if you are distracted.



Preparing a hedgehog tunnel, designed to catch footprints of species passing through the tunnel

The magnificent badger sett, or searching in vain for latrines

Another highlight of the weekend involved a survey of a badger sett, located along the banks of the River Severn. After an exciting shimmy down steep banks, we were greeted with an extensive network of setts, such that

even the ecological consultants among us – who regularly conduct badger surveys – were amazed. Several entrances extended thirty metres in all directions. The site was ideal for badgers, with a habitat rarely visited by human, except perhaps irritatingly persistent participants in FSC courses; an extensive linear corridor along the river which allowed them to travel safely across landscapes; many berries in the vicinity; and rich red earth that was easy to shovel – and we spotted freshly excavated earth outside a number of the entrances.

Surprisingly, however, aside from the sett and related runs, we saw few identifiable signs of the badgers themselves.



An entrance to a badger set;
note the freshly excavated soil

Footprints were overlain and didn't hold their form in the crumbly earth, and we couldn't find a single latrine. In fact, even at other setts we never came across a badger latrine, making us wonder if there wasn't something funny up with the Shropshire badgers. Maybe they had plumbed in their own toilets in their sett?

Putting it all together

On the final morning, we were loaded into a van and driven to north-western Shropshire. We were visiting a site to test the knowledge and skills we had learned over the weekend. It was a relatively small site, but rich in variety and interest. We began with a walk along the canal, principally keeping an eye out for otter spraints, or at least the types of places where we would expect to see them. In the end our search was somewhat inconclusive. Next, we made our way through fragments of ancient woodland, where we picked up signs of bank vole, squirrel and badger, again without any evidence of latrines. Next we moved into riparian habitat along a stream, where we discussed the suitability of habitat for water vole, the presence of which can often be denoted by latrines laid down in places of prominence. Unfortunately, the stream was fenced, so we had to peruse from a distance. We didn't spot any of the signs we hoped. Finally returning to the van, we passed near reed marsh, which might have been suitable habitat for dormice. No nests spotted, but we discussed what could have been and seen. Even while we didn't spot many mammals in the flesh, I thoroughly enjoyed gaining skills to begin to read the habitats for their presence.

My search for the wondrous water shrew and mythical mole fortress begins!

As we returned to Preston Montford, some of the participants headed back into the classroom to sit a test as part of their MSc course in Biological Recording. Debbie offered those of us 'doing it for fun' the chance to test as well, but we all sheepishly declined. I've done thousands of tests in my lifetime, and prefer not to do them for fun!

As we finally went our separate ways – me on my way back to Scotland via Chester and Lancashire – I reflected on how the course has sparked my casual interest into a real desire to gain skills in mammal surveying. Now equipped with two of my own Longworth traps, and the chance that the Mammal Society will soon spring up a chapter in my neck of the woods, I look forward to continuing my learning journey. Hopefully towards trapping a water shrew and spotting an elusive mole fortress!

Many thanks to GNHS and BRISC for providing me with a grant to support my attendance on this course.

Reports from Investigations part-funded by the Blodwen Lloyd Binns Bequest

University of Glasgow Iceland Expedition

Lotta Ruha

The University of Glasgow Iceland Expedition is a student-run project conducting zoological and ecological research at Skálanes Nature and Heritage Centre in East

Iceland. The Expedition has been going to Skálanes every summer since 2008 and has built up a substantial legacy of quality student research. This year, a team of 6 students conducted research on the effects of weather on puffin behaviour, microfibre accumulation in eider ducks, diet and parasites in arctic foxes, and long-term monitoring of the local population of black-legged kittiwakes and northern fulmars.

In addition to contributing to research at Skálanes and East Iceland in general, the Expedition offers students an invaluable opportunity to develop practical scientific and field working skills, as well as practice in logistical planning, teamwork, leadership, and the opportunity to build new friendships and connections with international and interdisciplinary researchers and professionals.

The Iceland Expedition has been monitoring nesting populations of black-legged kittiwakes (*Rissa tridactyla*) and northern fulmars (*Fulmarus glacialis*) at Skálanes since the first expedition in 2008. This type of long-term monitoring of single populations provides insight into how seabird populations are changing over long periods of time. In addition to this, northern fulmars are considered an indicator species and therefore can help inform on ecosystem health in the area.



Kittiwake by Bethan Hall-Jones

As a group project, led by Abi McLelland, we monitored how the number of birds at the cliff changed over June and July and based on the time of day and weather conditions. This information allows us to compare bird numbers between different years. This year we expanded and improved on the monitoring plans from 2019 to monitor the breeding success of the black-legged kittiwakes, which may enable future years to examine the relationship between breeding success in previous

years and the population size of kittiwakes at Skálanes. The monitoring data is still being analysed, but some weather conditions seem to have an effect on the number of birds at the cliffside.

Plastic pollution has become an increasing issue in modern days. As little research into the topic has been done in East Iceland, Lotta Ruha's project investigated microfibre accumulation in nesting female eider ducks' (*Somateria mollissima*) faeces and their drinking water sources. Samples were collected from eider nests and local fresh water sources and analysed under a microscope. Microfibres



Nesting Eider by Bethan Hall-Jones

were detected in 77.19% – 94.03% of the faecal samples and in 36.67% – 66.67% of the water samples. As the number of microfibres per faecal sample did not change significantly during the eider nesting period although the eiders were fasting during this time and the sizes of microfibres were similar in faecal and water samples, it is likely that the eiders ingested microfibres from their drinking water sources. Microfibres can accumulate in eiders' systems for long periods of time, negatively affecting the health of the eiders as microfibres act as adsorbents for toxins. We hope that more research will be done on the microfibre pollution status in East Iceland, so that the extent of the problem can be better understood.



Puffin by Lotta Ruha

One of most iconic bird species in Iceland is the puffin (*Fratercula arctica*). However, the population numbers of puffins have been decreasing rapidly in recent years, possibly due extreme weather conditions. Emma Watson's project investigated the effect of different weather conditions on foraging behaviours of a small sub-colony of puffins nesting at a cliffside at Skálanes. This consisted of three 2-hour observation sessions each day studying the behaviours of the puffins under varying weather

conditions and different times of day. Early analysis suggests that puffin foraging is impacted by higher wind speeds and temperatures, forcing them to forage less under these conditions to conserve energy. This is unfortunate news for this already vulnerable species, as oceanic temperatures and wind speeds are predicted to increase as a result of climate change. Hopefully, this study can contribute to a growing body of data that can help predict how puffins will respond to environmental pressures induced by climate change, and therefore help inform conservation efforts to protect them.

Although Iceland is home to many bird species, the arctic fox (*Vulpes lagopus*) is the only native terrestrial mammal in Iceland. Arctic foxes have been widely studied in the North and West of Iceland but remain less studied in the East of Iceland. The arctic fox is classified as an ecosystem engineer as it alters its landscape, provides nutrients to often-eroded soil and has been shown to



Arctic fox pups captured with a camera trap

have a positive impact on vegetation in Arctic environments. The team leaders Clara Gyhrs and Avery Holmes led a project to collect baseline data on the arctic foxes in the Skálanes area to evaluate their potential for future research. The dens in the area were mapped and it was determined whether they were occupied. Faecal samples were collected and dissected to determine the diet of the local arctic foxes. Qualitative assays were performed on the faecal samples to find parasitic eggs. Two different hair sampling methods for non-invasive genetic sampling were also tested in the region. These were however unsuccessful. The data collected can be used as a baseline to design more in-depth projects surrounding the arctic foxes, such as quantitative assays on diet, land-use, gut health, as well as long term monitoring of the known fox dens.

The University of Glasgow Iceland Expedition 2021 taught us more than we would ever have expected. Helping each other on all the different projects, we all improved our teamwork skills. Together, we were able to share our knowledge in different subjects and make lifelong friends with each other and local people in Iceland. We got a chance to improve our fieldwork, laboratory and data analysis skills which we will definitely need in the future. We are grateful for the Glasgow Natural History Society (GNHS) for the £1000 they awarded us as this allowed us to afford travel fees and to have access to better equipment for our projects, making our dream expedition possible. We will surely return to Iceland in the future to continue the epic saga of our legendary Iceland Expedition.



Analysing arctic fox faecal samples in the lab (by Yujeong Lee, Earlham College)

An Investigation on the Different Methods of Improving Sustainability on the Garscube Estate

Fiona Kuo BVMS4

For the summer of 2021, I decided to do a project that focuses on investigating different ways of improving sustainability around the Garscube Estate. The Garscube Estate, which is where The University of Glasgow School of Veterinary Medicine resides, is rich in flora and fauna. The estate provides the vet school community and local residents with an opportunity to step into nature. However, some visitors leave behind products contributing to environmental pollution, such as dog faeces, used facemasks and plastic bottles. Littering can lead to consequences of wildlife accidentally ingesting plastic and getting entangled by the strings of facemasks [1]. Dog faeces can contaminate the environment and become public health hazards by spreading drug-resistant microorganisms and pathogens [2]. Parasites in the UK such as *Gardia* and *Cryptosporidium* spp. Are found in samples of dog faeces, which are a possible vector in the transmission of zoonotic disease [3] (disease naturally transmissible from vertebrate animals to humans). Evidence from studies shows various environmental negative impacts are created from man-made pollution, suggesting that pollution should be better managed to conserve the ecosystem. Through this project I would like to raise

awareness and encourage the public to participate in improving the sustainability of the Garscube Estate. I believe there are little things the public can do daily to be sustainable. Conservation can only work with the public's cooperation; thus I want to develop a plan to encourage participation in environmental sustainability and wildlife conservation.

To be able to educate the public, it is important to first understand the environment I am working in. Thus, collaborating with Cassandra Chiang, a vet student from another summer project, we decided to conduct a mammalian survey across the Estate. With the help of GNHS, Dr Karen MacEachern and Magdalena Butowska, we were able to set up a total of 12 live-release Longworth traps, 2 footprint traps and 3 camera traps around the Garscube Estate. All the mammals found, and their locations are recorded on to iNaturalist. Once the mammal survey was done, Cassandra was able to use the information collected and turn it into educational posters. These posters will be displayed on the notice boards around the estate for the public to learn more about the wildlife around them and hopefully put more care and heart into helping these animals.

While conducting the mammalian survey, environmental pollution found along the existing trails on the Garscube Estate were recorded and collected. Rubbish collected was quantified by weight. Data collected will allow better understanding of the amount and types of rubbish disposed on the estate, thus informing further actions to decrease pollution. Dog faeces found around the Estate were also collected and examined for any parasites using the faecal flotation test. Results from the faecal samples will inform us of the possibility for zoonotic disease such as *Giardia*.

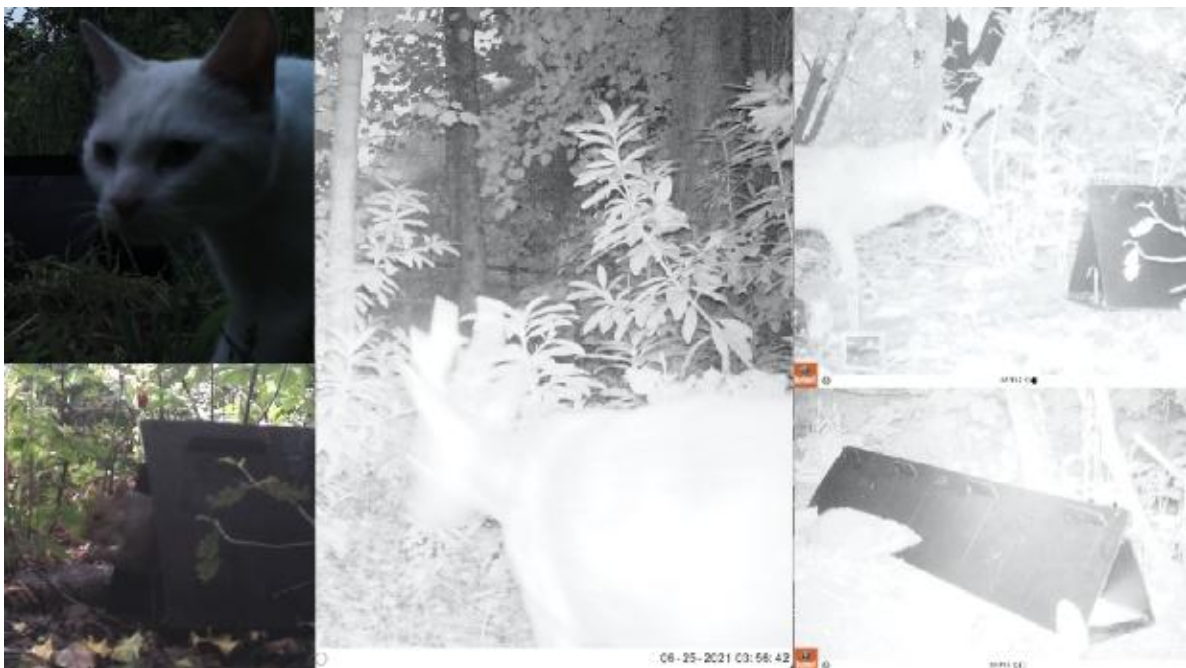


The data collection process lasted for a total of 4 weeks from the beginning of June 2021 to the first week of July 2021. The locations of the Longworth mammal live-release traps, camera traps and footprint traps are shown on the map above.

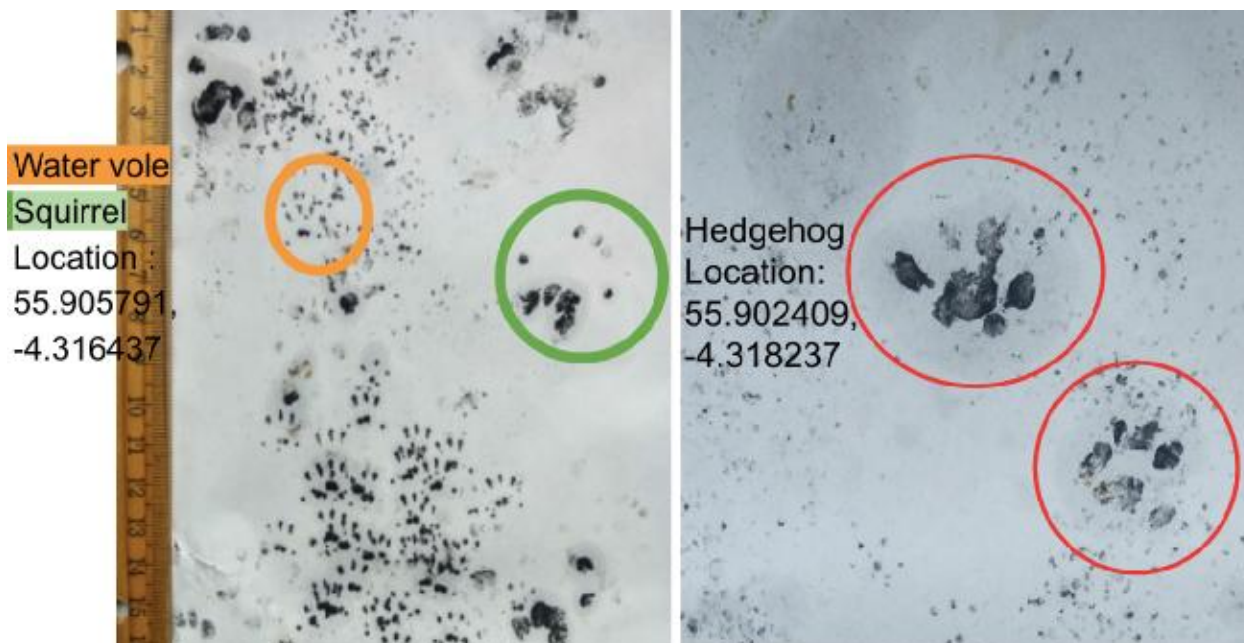
Throughout the 4 weeks we were able to find 6 different kinds of mammals on the Garscube Estate. In the Longworth traps we were able to catch wood mouse, *Apodemus sylvaticus*, and bank vole, *Myodes glareolus*. All the mammals caught were measured and released, and locations and numbers recorded on iNaturalist.



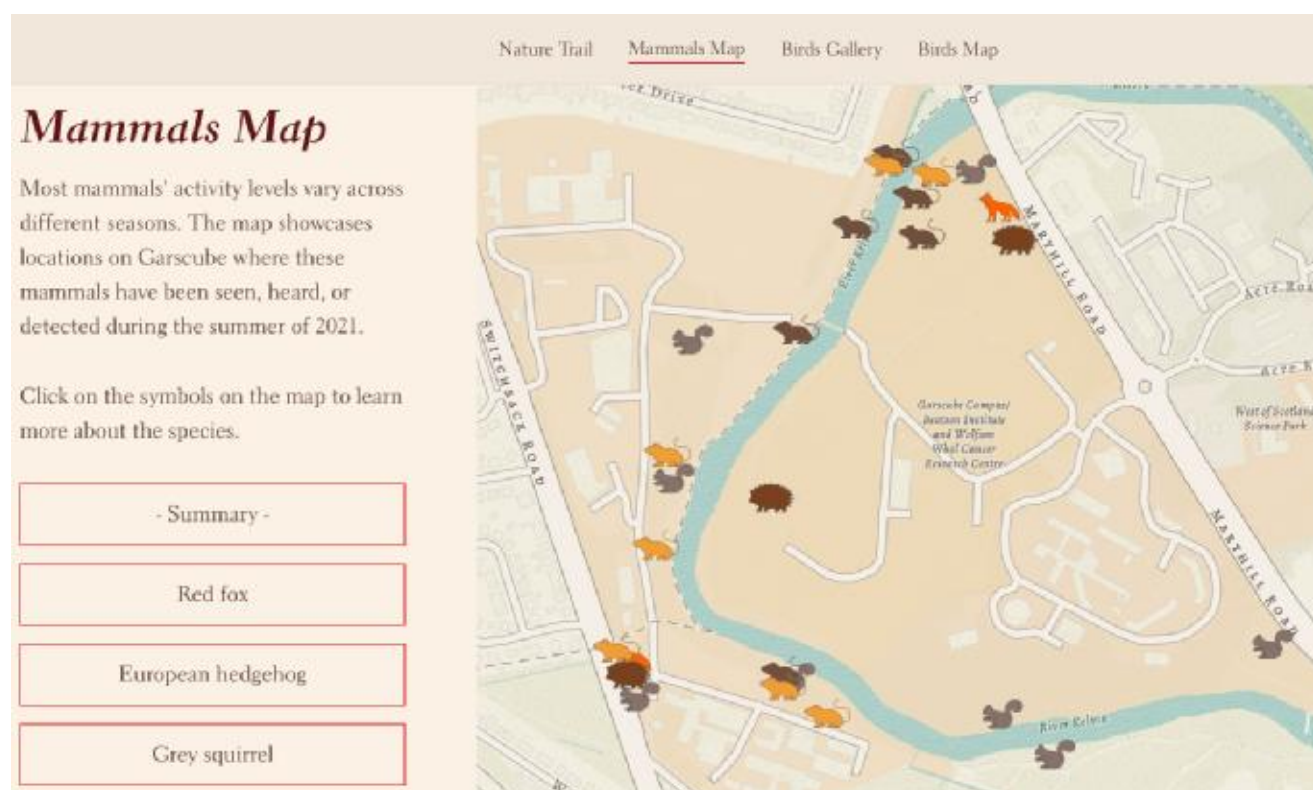
On the camera traps, we were able to find more animals, including European hedgehogs *Erinaceus europaeus*, red foxes, *Vulpes vulpes*, European roe deer *Capreolus capreolus*, grey squirrels *Sciurus carolinensis*, as well as dogs and cats.



Below is an example of the footprint trap we have obtained:



Below is a map made by Cassandra showing the activities and the distribution of different species across the Garscube Estate.

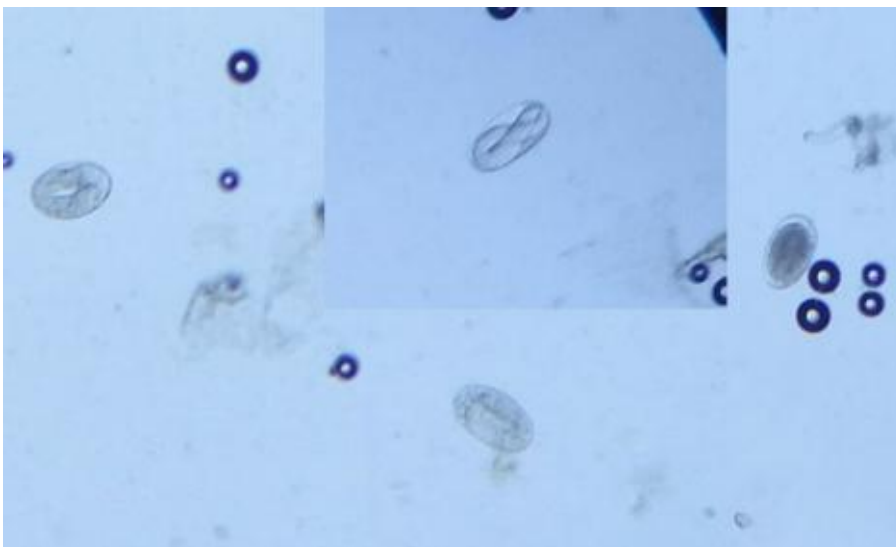


Rubbish was collected while checking for Longworth traps every morning. We collected around 9.23 kg of rubbish during the 4 weeks. The rubbish we collected does not include the ones that the grounds people at the estate have collected or the rubbish disposed of in the rubbish bins. In total we found 15 pieces of masks, some found on the ground, and some found hanging on tree branches and in shrubs. Some of the rubbish we have collected include beer cans, plastic bottles, sweet wrappers, crisps bags, pizza boxes, fishing lines, fishing hooks, glass bottles and more.



After data collection, we got a better understanding of the types of rubbish disposed of and the location they were found. Usually, we tended to find more rubbish along both sides of the River Kelvin where there are no rubbish bins. We are currently in the process of working with the school, hopefully to have more rubbish bins around the campus; however the cost needs to be taken into consideration.

Canine faecal collection results were quite surprising. We were able to find 2 types of hookworms: *Ancylostoma canium* and *Uncinaria* in the faecal samples we found around the Garscube Estate. Most of the faecal samples were found along the River Kelvin near Longworth traps 4 and 5. It is important to note that both species of hookworms are zoonotic, therefore we should push further to educate the owners on the importance of picking up after their dogs [4].



Overall, there were many limitations and improvements that needed to be made. If the research were to continue, we will need a longer data collection period and

more resources and experienced people to help with this project. In the future, we will be working on transforming all the usable data into educational posters. The posters will be posted on the notice boards around the Garscube Estate. We will be working closely with the biodiversity group at the University on future projects. Some of the exciting projects include further monitoring of the new Sand Martin house, and implementation of a hedgehog houses, bat boxes and more. I am hoping that this project will become long-term and future students can participate in it. Through this project I learned a lot more about Garscube and realized that there are a lot more things to explore and improve on. I am very happy to be given this opportunity and am excited to see how far this project will go on.

BLB fund was all spent on materials such as faecal flotation test set up, baits used for the mammal surveys, rubbish bags, and PPE.

Acknowledgement

Special thanks to: Dr Karen MacEachern, Shu Min(Cassandra) Chiang, Emma MacDonald, Magdalena Butowska and the Glasgow Natural History Society.

References

1. RSPCA. (2020, October 09). 'Snip the straps' off face masks as Great British September Clean launches. Retrieved February 03, 2021, from <https://www.rspca.org.uk/-/news-face-masks-spring-clean>
2. Cinquepalmi, V., Monno, R., Fumarola, L., Ventrella, G., Calia, C., Greco, M. F., ... & Soleo, L. (2013). Environmental contamination by dog's faeces: a public health problem? *International Journal of Environmental Research and Public Health*, 10(1), 72-84.
3. Batchelor, D. J., Tzannes, S., Graham, P. A., Wastling, J. M., Pinchbeck, G. L., & German, A. J. (2008). Detection of endoparasites with zoonotic potential in dogs with gastrointestinal disease in the UK. *Transboundary and Emerging Diseases*, 55(2), 99-104.
4. www.cdc.gov. (2021). CDC - Zoonotic Hookworm. [online] Available at: <https://www.cdc.gov/parasites/zoonotichookworm/index.html>.

Contributions by GNHS Members

Alien Encounter

Paul Cobb

I visited Polmaddy, the remains of a historic farming village in The Glenkens near Carsphairn on 7th October, and as I parked in the car park I immediately noticed a white-flowered plant that looked remarkably like a radish going to seed. Next to it was a yellow-flowered "brassica" that looked like mustard.

Looking more closely I could see wheat, oat, a tall thing I didn't know that resembled *Reseda* or *Artemisia*, and a rare cornfield weed I knew from Norfolk, as well as other intriguing things. It was time to collect specimens for detailed study at home.

I managed to identify the following, all of which were growing at that one small spot within just a couple of feet of each other. Wheat *Triticum aestivum*, Oat *Avena* sp., Garden Radish *Raphanus sativus*, the Mustard-like Brassicaceae, Sharp-leaved Fluellen *Kickxia elatine*, Ragweed *Ambrosia artemisiifolia*, Green Amaranth *Amaranthus hybridus*, Common Millet *Panicum miliaceum*, and Green Bristle-grass *Setaria viridis* in both its typical green form and a dark blackish-purple one. And that's just the ones I could name, there were shrivelled remains of others that had already died down.

Clearly someone must have left a pile of birdseed there. Birdseed in garden feeders is one thing, but leaving it on the ground in the countryside is irresponsible, it invites alien invasion.

Pan-species survey

Christine Duffield

During 2020 I made a site list in my local area on the south-western edge of Glasgow. The area includes grassland, deciduous woodland, the White Cart Water, and a couple of burns. I identified 131 plants, 97 animals, and 9 fungi.

The multiple habitat types and long history of various land uses means the area is likely to be representative of the typical species composition in the western Central Belt. The results are too long to publish in full in a very full newsletter, but her findings are listed in a seven page report which can be accessed here:

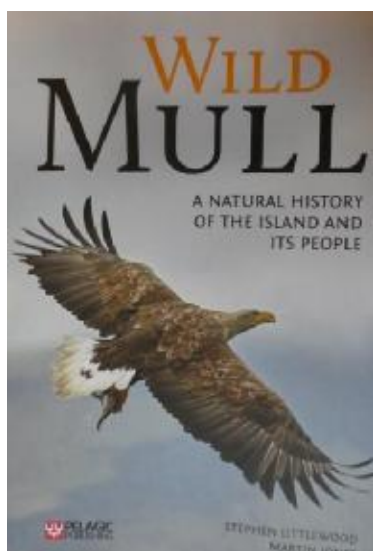
http://www.christineduffield.co.uk/survey2020/Survey_2020_summary.pdf



Orange-tip on Cuckooflower by Christine Duffield

Books Received for Review

Anthony Payne



"*Wild Mull*" by Stephen Littlewood and Martin Jones (2021) Pelagic Publishing. PB: 300 pages, £25. Subtitled "*A natural history of the island and its people*" this book also incorporates Ulva, Staffa, Iona and the Treshnish islands.

It has chapters on the geography and geology of Mull, the human impact on the islands, the introduction, extinction and eradication of wildlife, birdlife (particularly raptors, waders and seabirds), plants of the machair and the Celtic rainforest, assorted insects and the shores and coastline. It is beautifully illustrated by copious colour photos taken by Martin Jones.

It is hoped that a full review of this book will appear in *The Glasgow Naturalist* in the future.

On which note, HELP REQUIRED please! We are currently receiving a number of high quality publications each year for review. Afterwards, these books become the property of the Society and are a permanent resource for members. I rely on a small stalwart band of volunteers, but I would very much like to expand the review base.

I am currently keen to find someone to review:

“Rocks and Rock Formations: a key to identification” by Jürg Meyer. This book deals with how rocks are formed, how they change with weathering, how they are classified and how to approach the subject of identification. The main part of the book is a key (rather like a botanical key) to rock types. Ideally, I need someone with both knowledge and access to some geological specimens to test the key’s validity.

If you are willing to review this book, or would like to go on my list of possible reviewers for future books (or the Mull book), please contact me by e-mail.

Book recommendation: *Peatlands of Britain and Ireland*

Roger Downie

Members thinking about Christmas presents might like to know about Clifton Bain’s new book *The Peatlands of Britain and Ireland* (Sandstone Press, £24.99), available from 4th November. You may remember Clifton spoke to the Society some years ago on his previous book, *The Ancient Pinewoods of Scotland*. Clifton will be speaking to the joint Glasgow/Paisley/Hamilton NHS meeting, but that is not until March 2022. The new book is being officially launched on 4th November in the RSPB’s Glasgow to Globe greenspace in the Botanic Gardens. Given the vital role of peatlands in storing carbon, it is very timely to have this book launch in the middle of the COP26 events in Glasgow. Your correspondent will be in attendance.

Next Newsletter - copy to David Palmar by 10th January 2022 please.

Thank you very much to all the contributors who have made the newsletters so interesting and worthwhile publishing. Please send contributions by email, preferably as .rtf, .doc or .docx (Word 2007) format.

If you have time, please italicise taxonomic names, and use Verdana font, size 12 points.

If sending photos, please submit only a few as **separate** jpg files (not as part of a Word document), and make them under 200Kb each for emailing).