GLASGOW NATURAL HISTORY SOCIETY NEWSLETTER

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GNHS is a Registered Scottish Charity

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Summer-Autumn Excursion Programme 2024 Alison Moss

As usual, for the rest of the season, watch out for notifications (usually two) of joint excursions / forays with Clyde and Argyll Fungus Group. Their programme retains a degree of flexibility to respond to the whims of the fungus world, so notification will be given a few days in advance by email and on the website.

There is an event at Hamiltonhill Claypits on Saturday 14th September which looks like an attractive option. Details will be emailed nearer the time.

GNHS Talks Programme: Autumn-Winter 2024

Roger Downie

Our talks programme for the period September to December will all be in-person presentations, mostly jointly with other groups, which helps to ensure good audiences. Most talks will be in the University of Glasgow's Boyd Orr Building on the second Tuesday of each month at 7pm. **BUT** look out for other dates and locations, as listed below. Note especially that our October 8 th event is rather a special one, and that we are trying out a different venue, the lecture theatre in the Kelvin Hall (for those coming by car, parking is available nearby). Abstracts of talks and information about speakers will be circulated by email nearer the time.

NB We warmly encourage members to bring specimens or brief accounts of recent noteworthy observations for presentation at the start of meetings. If these include photographs, please bring on a USB stick.

September

Tuesday 10th: Boyd Orr building LT C at 7pm. Hannah Wilson, Royal Botanic Gardens Edinburgh. 'Past, present and future of conifer conservation'. Jointly with Glasgow Treelovers and Friends of Glasgow Botanic Gardens.

Saturday 21st: Graham Kerr (Zoology) Building. Special event related to the centenary of the building. Contribution to the Glasgow Doors Open Days Festival. See separate notice for details.

October

Tuesday 8th: Kelvin Hall Lecture Theatre at 7pm. An evening of forensic bioscience. Professor Lorna Dawson, James Hutton Institute and Robert Gordon University. 'Natural justice: applying soil and ecological evidence in criminal casework'. Lucy Webster, SASA. 'Fur and feathers: applying animal DNA evidence in criminal casework'. Jointly with the Royal Society of Biology as a contribution to Biology Week.

Tuesday 22nd: Boyd Orr Building LT C at 7pm. Christine Nicolson. 'Orchids of Crete'. Jointly with Friends of Glasgow Botanic Gardens and the Scottish Orchid Society.

Wednesday 30th: Graham Kerr (Zoology) Building LT1 at 5pm. Professor Sarah Cleaveland FRS gives the annual Blodwen Lloyd Binns lecture on 'Animal health research: navigating the intersections of multiple global priorities'. Lecture preceded by award of the BLB prize and followed by a reception in the Zoology Museum. Jointly with staff and students of the School of Biodiversity.

November

Tuesday 12th: Boyd Orr Building LT C at 7pm. Ann Lindsay, journalist and author. 'David Douglas, plant collector- the best kind of clever, adventurous and energetic Scot'. This lecture commemorates the start of Douglas' (and John Scouler's) expedition to collect plants in north-west America. Jointly with Friends of Glasgow Botanic Gardens and Glasgow Treelovers.

December

Tuesday 10th: Boyd Orr Building LT C at 7pm. Nicole Digruber, GNHS on 'The impact of dogs and veterinary flea treatments on pond biodiversity'; David Stone, UG on his research on guillemots in the Baltic.

Socialising before evening lectures Pat Thomson

Before most of the talks in our winter programme we host meals with speaker(s). Last year Café Andaluz in Cresswell Lane provided a friendly venue offering a range of tasty tapas dishes, and we will likely book here this year. Thanks to the Blodwen Lloyd Binns legacy, meals and drinks are free for speakers and subsidised for other guests.

Any member attending a talk is most welcome to join one or more group meal(s), but places must be booked for each occasion. Invitations to book will be emailed to GNHS Council members and others who have expressed interest previously. If you would like to be added to the list to be notified of all forthcoming pre-talk meals, please email Pat Thomson (Social Secretary).

The Transformation of Glasgow Zoology Roger Downie

Saturday 21st September 2024: 10.00 to 16.45 in the Graham Kerr (Zoology) Building, University of Glasgow - a contribution to the Glasgow Doors Open Days Festival and the University of Glasgow's Explorathon.

This event celebrates the centenary of the Zoology Building, opened in 1923, and the work done by its staff and students. You may attend all or part of the event, which includes:

1. Drop in and explore

Drop-in and explore the Zoology Museum within the Graham Kerr Building any time between 10.00 and 16.45. The Museum visit includes a self-led trail around the collections, on the theme of animal migrations, fitting with the Doors Open theme of 'We're all here: diversity and diaspora'. Enjoy free refreshments and be introduced to a new book about the history of Glasgow Zoology and an associated web-site.

2. Lecture on 'The Transformation of Glasgow Zoology': 10.00 and 14.00

Professor Roger Downie describes the life and work of Glasgow Zoology's founder, Sir John Graham Kerr, including his hazardous expeditions to South America, his career in Glasgow with the construction of the Zoology Building, including its museum, then his life as an MP representing the Scottish Universities where he attempted to persuade the navy to camouflage its ships using biological principles. The lecture then outlines the transformation of Glasgow Zoology since Kerr's time.

3. Take a Guided Tour

Join a guided tour of the Graham Kerr Building. This will enable you to access additional areas that you cannot see without a tour, such as the re-furbished teaching laboratory and the library, as well as the Zoology Museum.

Tours are numbers-limited and start at: 11.15; 12.15; 15.15. Please book your time using the Glasgow Doors Open Days Festival web-site.

4. Sounds of Restoration: Oyster Habitats in Scotland's Nature Transformation Workshop

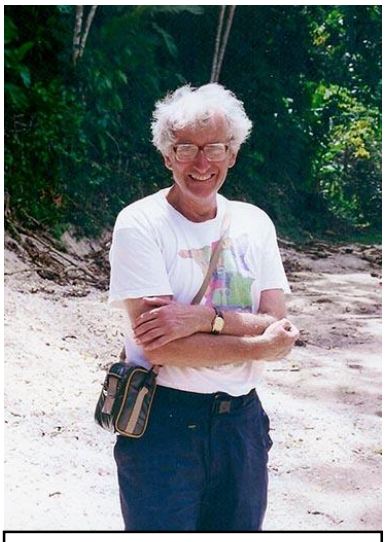
Embark on a journey of nature restoration in Glasgow! Immerse yourself in the transformative sounds of oyster habitats, connecting the dots between research, marine site restoration, and the ever-evolving nature of Scotland. Learn about oyster habitats and how crucial these are for marine restoration. Face a timed orientation challenge, guided only by sound to navigate evolving landscapes and create visual representations of the sounds encountered through drawing. This collaborative effort brings together researchers from the School of Biodiversity, One Health & Veterinary Medicine at the University of Glasgow and the passionate advocates of Wild Bannockburn, a grassroots environmental initiative. There is a historical link: Graham Kerr was particularly interested in the regeneration of Scotland's oyster fishery.

PhotoSCENE 2024-25 Andy Wilson

This year's PhotoSCENE photographic competition is now being launched, with the usual deadline of the end of October, so please keep taking photos of wildlife and look out for full details in a separate email attachment. Full details will also be published on the website, and a summary on Facebook.

Dr W.J.P. Barnes: 9th December, 1940-16th April, 2024

Roger Downie



Jon Barnes by Suzanne Livingstone

Jon Barnes was a member of GNHS from 2001 until his death: while never being a GNHS council member, he was a prolific professional biologist and very active conservationist. After an honours degree in Zoology at St Andrews, followed by a PhD there under the supervision of G.A. Horridge, Jon joined the academic staff of the Zoology Department at Glasgow University in 1966, and remained there until his retirement as Reader in 2006, but continuing then as an honorary lecturer/researcher attached to the Centre for Cell Engineering. Jon was primarily a laboratory scientist, initially researching eye movements and motor control in crabs. Later, he became interested in adhesion mechanisms in frogs, and this work took him to Trinidad to study the wide diversity of tree frogs found there, as a member of University of Glasgow expeditions, and later to Brunei to study torrent frogs.

The blue land crabs *Cardisoma guanhumi,* one of Jon's study species, live on the mud flats of Trinidad's river estuaries, and this gave him the opportunity to observe them in their natural habitat for the first time. Jon was an enthusiastic teacher as well as researcher, and believed in taking zoological knowledge to the wider public: for some years, he co-ordinated an innovative project where biology students took a series of biology lessons to local primary schools, giving the students a chance to develop their communication skills, and the schoolchildren the opportunity to learn from students only a decade older than themselves.

Jon was a great lover of the outdoors: a keen hill-walker and member of the Glenmore Club, but also active conservationist. A member since 1966 of the Scottish Wildlife Trust, he served for many years on the Trust's Conservation Committee and Council, including as the Council's vice-chair. He was also an active

member of the Glasgow local group, taking a particular interest in Possil Marsh reserve. He was able to link his conservation interests with his academic work by leading second year student field excursions to the Marsh over many years. The Trust rewarded Jon's dedication with Honorary Life Membership in 2019.

A related interest was the biodiversity of towns and cities. He chaired the Glasgow Urban Wildlife Group (GUWG), which brought together representatives of the city's wildlife NGOs, in the 1980s, culminating in the participation of the Group in the Glasgow Garden Festival, April to September 1988. 'Oor Wullie's' wildlife garden was a highlight of the festival, with many of its plants later moved to a site on the University campus, becoming the University's wildlife garden, still in existence.

No account of Jon's life would be complete without a mention of cricket, one of his life-long passions. He was wicket-keeper to the University staff team for many years, later moving to Victoria CC and becoming club president: after retirement as a player, he became a regular umpire.

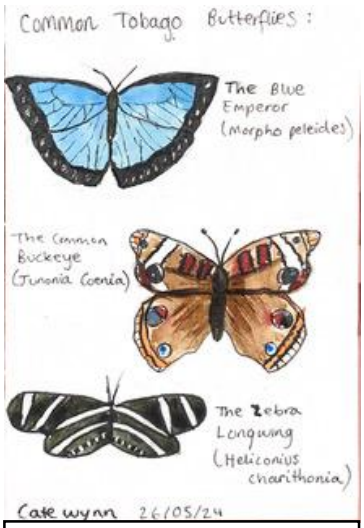
I shared an office with Jon when I joined the staff of Glasgow Zoology in 1970, and our career paths were close thereafter, working together on GUWG, and contributing to many of the same undergraduate courses. Jon was very excited when I started working in Trinidad, since this was a location for blue crabs. On several occasions, shortly before my return flight, I would visit the Tunapuna market, where the crabs were on sale, their impressive pincers tied up with lianas. Most of these crabs were destined to be part of a local delicacy, 'callaloo and crab', but the ones I bought were transferred to a damp pillowcase and transported to Glasgow in my hand luggage. They are tough creatures and all survived to be looked after in Jon's lab, well fed on carrots and other vegetables until required for experiments.

Jon is survived by his wife Kristeen, two children, Andrew and Lesley, one grandchild, and his brother and sister.

Recent GNHS Grant Awards Alison Park

We are delighted to announce a second batch of grant awards issued in 2024 enabled by investment income earned from the Blodwen Lloyd Binns Bequest. The three grant recipients and their projects are as follows:

- £984 to Libby McLaughlin, Glasgow University student, towards a short investigation into the source of insect-borne disease affecting penguins in Edinburgh Zoo.
- £1000 to Glasgow University students' expedition to Tobago for research on the diversity of moths and other invertebrates, herpetology and the continuation of studies on the behaviour of motmots.
- £1000 to Glasgow University students' expedition to Iceland building on research on seabirds and reindeer



Butterflies of Tobago

and looking into the impact of invasive species on the ecology of the area. See separate report below.

In our consideration the supported projects should advance natural history knowledge within Scotland, and also support Scottish students as they experience worthwhile research overseas. We look forward to learning what these projects achieve when applicants submit the required reports to GNHS Newsletters, or have associated papers published in *The Glasgow Naturalist* or alternative journals.

The next round of awards for this year will be decided in September (for applications received by 15th August 2024). If you are considering applying for a grant, please visit the GNHS website for further information.

N.B. Photos are by the respective article authors, unless otherwise stated.

Mosquito Project

Heather Ferguson

Scientists at the University of Glasgow are asking people in Scotland to report when and where they see mosquitoes in the country, to increase understanding of mosquito ecology, vector-borne disease risk and how this may respond to climate change. Information about this project and how to report mosquito sightings in Scotland can be found: https://www.mosquito-scotland.com/

There is a citizen science portal for the project- that allows people to report when and where they see mosquitoes in Scotland, and upload a photo if you wish the team to identify the specimen.

dead mosquitoes from a trap collection

https://www.mosquito-scotland.com/submit-a-mosquito

Culex pipiens egg raft

Culex pipiens larvae with a big pupa in the middle

Discovering Spiders and Introduction to Spider Identification

Malcolm Haddow

In May 2023, I was grateful to be granted a bursary from BRISC and the Glasgow Natural History Society (GNHS). The grant allowed me to participate in two online FSC courses: An Introduction to Spider Identification and Discovering Spiders.

As a budding ecologist and volunteer wildlife recorder with a keen interest in invertebrates, these courses offered an exceptional opportunity to acquire essential skills and techniques for identifying and recording these often-challenging species.

The Discovering Spiders course, led by Dave Willis, provided a solid foundation in spider anatomy, behaviour, and ecology. It was instrumental in helping me grasp fundamental concepts and develop skills crucial for both my professional and personal development. Following this, I enrolled in the Introduction to Spider Identification course facilitated by Martin Frost. This course served as a continuation, expanding upon previous knowledge. We delved into identifying spiders from family to species level, focusing on distinctive features like eye arrangement, leg proportions, and abdomen morphology. I found it fascinating how reliable these features could be!

DIY Marking Cage

We investigated recording techniques including marking-cages, of which I made my own DIY version. This allows you to hold the spider in place whilst you inspect its features.

Diving Bell Spider

Our assignment task was to correctly find and identify a spider and I was delighted to find a Diving Bell Spider *Argyroneta aquatica* for my submission. I'm not sure it was meant to be a competition but if it was, I won!

My journey with spiders didn't end there. I'm currently undergoing one-on-one spider training with Bob Merritt, the spider recorder for Dumfries & Galloway. This personalized guidance is enhancing my skills, and I've been actively recording local species, many of which are notable finds for their respective vice-counties.

The FSC courses and BRISC bursaries provide an unparalleled learning experience for aspiring ecologists and enthusiasts alike. They offer structured guidance in exploring new subjects and cultivating the necessary skills to further one's interests.

Reports from GNHS members

Pocket Plums — Paul Cobb

Pocket Plums are galled flowers of plums and cherries *Prunus* species, caused by *Taphrina* species of micro-fungi, a genus that also includes the causers of peach leaf curl and witches-brooms among others. The ovary of the flower is galled, becoming a large elongate swelling. It is one of those things you don't see for years, and then suddenly it seems to be everywhere, and this year is very much a Pocket Plum year. They have a short season, the galls soon becoming inconspicuous or falling from the tree, which contributes to their being overlooked.

Taphrina pruni on Blackthorn at Doonfoot beach

Starting with the straightforward one, *Taphrina pruni* which affects plum species, I found astonishing numbers at Doonfoot beach in Ayrshire on May 16th, with every stem of a large patch of Blackthorn *Prunus spinosa* absolutely smothered in them. Since then I have also found this one at three further Ayrshire sites, all of them on Blackthorn. I had previously seen it just twice, in Lanarkshire in 2018 and Norfolk in 2000, the latter on Plum *Prunus domestica*.

Taphrina cf. farlowii on Bird Cherry at Auchlin

Then on Bird Cherry *Prunus padus* we have what has always been called *Taphrina padi*. I found what I originally called this in huge numbers at Auchlin Mine Wood in Ayrshire on May 13th and the galls were accompanied by abundant crumpled and blistered leaves. The next day I found more at Galston, again accompanied by abundant blistered leaves, and a striking deformed shoot tip.

Taphrina cf. farlowii deformed shoot tip on Bird Cherry at Galston

It now seems there are two "sorts" of the gall on Bird Cherry. One of them looks much the same as the Blackthorn one, because the rest of the flower other than the ovary shrivels and eventually falls off, and this is probably the original one. The other "sort" has the rest of the flower also swollen and fleshy and remaining attached as a ring at the base of the gall. This latter "sort" matches *Taphrina farlowii* which galls the non-native Rum Cherry *Prunus serotina*, so it may be that *T. farlowii* has made the species jump from its normal host to our native tree, and that both species may now be present on our Bird Cherries.

My Auchlin and Galston ones are right for *T. farlowii* so may therefore be the first for Scotland, but DNA analysis is probably needed for certainty. From my limited observations so far it seems that *farlowii*-type galls are accompanied by abundant blistered leaves, but *padi*-type galls are not.

I have since found the normal *padi*-type galls at seven further Ayrshire sites (two of them being the only places I've ever seen it before), and two in Dumfriesshire, but no more of the *farlowii*-type, so it seems that *T. farlowii* may be a week or two earlier than *padi*.

Goatsbeard Sawfly **Paul Cobb**

I found larvae of the sawfly *Euura spiraeae* on *Aruncus dioicus* in my garden at Catrine, Ayrshire, on 6th June. I've seen the damaged leaves in previous years but not noticed the larvae before. It no doubt lurks unnoticed and unrecorded in many a garden.

Euura spiraeae larvae

Goatsbeard leaf with *Euura spiraeae* larvae

Sea Buckthorn Gall **Paul Cobb**

Aceria hippophaena on Sea Buckthorn, leaf upperside

Sea Buckthorn *Hippophae rhamnoides* at Irvine Beach, Ayrshire, on 10th June had lots of galls caused by the gall-mite *Aceria hippophaena*, blistering and rolling the leaves in all directions. There are only 2 British records according to NBN, none of them in Scotland, but I have since been told there are around 20 records on iRecord, one of which is in Scotland, on the immediately adjacent site of Gailes Links in 2021. I wish people would report things properly so they can be verified and added to the NBN. Then on this society's excursion to nearby Shewalton Woods on 15th June, Gill Smart found it there after I had to leave early.

Aceria hippophaena on Sea Buckthorn, leaf underside

Microfungi and Other Recent Finds **Paul Cobb**

In such a wet "summer" it is not surprising that some of the microfungi, normally overlooked and rarely recorded, should become more apparent. Large masses of brown powder on the spikes of Pendulous Sedge *Carex pendula* at Hollybush on 12 June were the smut fungus *Farysia thuemenii*.
At Doonfoot Beach on 3 July the striking rust fungus *Puccinia porri* was abundant on a small colony of Crow Garlic *Allium vineale*, and another rust *Phragmidium rosae-pimpinellifoliae* was abundant on Burnet Rose *Rosa spinosissima*. (The ID of the latter appears to be safe as it is said to be the only rust on that species of rose.)

Puccinia porri on Allium vineale stem, Doonfoot Beach

Diplolepis spinosissimae, Rosa spinosissima, Doonfoot

Also on the Burnet Rose at Doonfoot were galls of the gallwasp *Diplolepis spinosissimae*.

Gall-mite erineum galls on the non-native Grey Alder *Alnus incana*, clearly different to the usual erineum gall on native Alder *A. glutinosa*, may prove to be a species not yet recognised as being British, but more work is needed on this one.

The small but very distinctive micromoth *Grapholita compositella* at Knockshinnoch Lagoons on 30 May was a first for Ayrshire.

Grapholita compositella

A few Bee Orchids *Ophrys apifera* at the Highhouse Colliery site in Auchinleck on 11 June are a new site.

Excursion Reports

Geilsland Estate and adjacent LNR - 21 st April 2024 Alison Moss

This was an exceptional start to the excursion season. 29 of us attended this event which paid tribute to James Milner-White. The excursion location was one he hoped to lead in April, 2023, but, sadly died, leaving an apology with me as Excursion Convener, that he would be unable to do so. We were delighted that Morag Milner-White, her daughter and 2 delightful grandchildren were able to attend. They were so pleased to see so many friends there and chat to them about James.

The weather was not ideal, especially for the insect enthusiasts, but there was a good display of spring flowers in our meander though the Nature Reserve and its Arboretum. This was the garden and surrounds of the Spier's School and is now a nature reserve. Details of the trees are given on an information signpost at the entrance and pathways marked.

Dawn Redwood
by David Palmar

The ground cover had swathes of lesser celandine, *Ficaria verna,* wild garlic, *Allium ursinum,* dog violet, *Viola riviniana,* mixed ivies and mixed bluebells. We were lucky to have Roger Griffiths, a Ranger at the reserve, with us to point out tree rarities including the dawn redwood *Metasequoia glyptostroboides,* planted in 1953 in a commemorative garden. The rare Arran rowan is also in the garden along with a mixed age planting of many tree species.

Dawn Redwood leaves
by David Palmar

Friends of James from the Clyde and Argyll fungus Group were able to find a surprising number of species, mainly on twigs and leaves. However, it was Val, a butterfly recorder, who spotted fungus activity up a tree - possibly a new record for Ayrshire, *Taphrina carpini,* on its specific host, hornbeam, *Carpinus betulus*. This is a fungus related to alder tongue and witches broom (on birch). Thanks to Dick Peebles for recording for the Group.

Another interesting observation was made by Pat, David and Kirsty in the Geilsland wood edge - a nuthatch stripping bark off a living birch tree presumably for nest building purposes. The event concluded with a visit to the café at Geilsland where chat and common interest conversation flourished. It was a great start to the season which James' family very much appreciated.

Cowlairs Park - 16th May, 2024 **Bob Gray**

Cowlairs is named after the estate surrounding Cowlairs House west of the Edinburgh/Glasgow railway. The park, laid out in the 1920's, lies northeast of the end of the Forth and Clyde canal at Speirs Wharf and is only about 1½ miles north of the city centre. The famous Cowlairs Railway Works, once the largest locomotive works in Europe, were located just northwest of the park. With industrial decline much of the housing stock supplied for workers and including that on the south side of the park was demolished towards the early 1980's.

1. *Scandosorbus* -
Swedish whitebeam

2. *Alnus glutinosa* and tarmac

Eleven members attended this, our second visit to Cowlairs, a year after we looked at the trees of the north and west. We met at the southeast entrance (c. 200 m west of the location of the long since demolished Cowlairs House) close to a solitary rowan (*Sorbus aucuparia*) and the end of a row of Swedish whitebeam (*Scandosorbus** *intermedia*), many in full flower[1]. Near the entrance is an old tarmac area with large numbers of common alder saplings (*Alnus glutinosa*) growing in the spaces between layers of tarmac[2] behaving in a manner typical of pioneer species by colonising an area inhospitable for plant growth. Following a path northwards we came to a junction where we turned west. Here we found what seemed to be a rowan/common whitebeam hybrid (*Hedlundia** x *thuringiaca*)[3] with one/two leaflet pairs at the base of each leaf below deeper lobes leading to the leaf tip.

3. *Hedlundia* - hybrid whitebeam leaves

4. *Cornus alba* 'Sibirica'

5. Darwin's barberry

6. *Salix caprea* - goat willow

Beyond here the shrub layer contained much Siberian dogwood (*Cornus alba* 'Sibirica')[4] and Darwin's barberry (*Berberis darwinii*)[5], just losing its wonderful display of yellow flowers. These shrubs along with privet (*Ligustrum vulgare*) and red currant bushes (*Ribes rubrum*) appeared to be the remnants of gardens. Colonising path edges in this area were a number of goat willows (*Salix caprea*)[6] and grey sallows (*Salix cinerea*).

Near what had been Roy Street was a fine example of a bird cherry (*Prunus padus*)[7] with many racemes of white flowers starting to die back.

7. *Prunus padus* - bird cherry

8. Smith's willow

9. Italian alder with purple 'Robusta' leaves

From here we headed westwards and passed a sizeable example of a phoenix Smith's willow (*Salix x sericans*)[8], a goat willow/osier hybrid (*S. caprea x S. viminalis*). Beside a path that led at right angles towards Keppochhill Road grew a row of coppiced common limes (*Tilia x europaea*) and, significantly as it turned out, a row of six mature Italian alders (*Alnus cordata*)[9]. During a recce a few weeks earlier a single lime seedling[10] had been observed.

This evening, although the seedling was nowhere to be seen, John Butterworth noticed a small lime sapling[11], clearly a survivor from previous natural regeneration and relatively unusual. Poplar seedlings[12] were also noted. From this location looking southwards we observed many tall, mature hybrid poplars. These were all hybrid black poplars (*Populus x canadensis* 'Robusta')[13], identified a few weeks previously by their coppery red foliage, one of the earliest poplars to flush, and their fat red male catkins. This tree is a hybrid between the European black poplar (*Populus nigra*) and the North American Eastern

10 Lime and maple seedlings

11. Lime survivor

12. Poplar seedlings

cottonwood (*Populus deltoides*). As mentioned previously (2023 for more details) the female 'Balsam Spire' poplar is common in the wooded area of Cowlairs. It flushes even earlier than 'Robusta' but is green and produces masses of cotton wool seeds in summer.

13. Populus 'Robusta' tree in early spring foliage

Heading northwards through the chiefly mixed hardwood woodland towards the blaes pitches we encountered a few scattered wych elms (*Ulmus glabra*)[14] most distinctive in full fruit. The roughly hairy leaves of this species are larger than those of any other native tree, are broader towards the tip and are asymmetrical at the base. The growth of the first shoot from each terminal bud is at right angles to the stem and helps to distinguish this species from other elms. There was no sign of the deadly Dutch elm disease, caused by the fungus (*Ophiostroma novo-ulmi*) that prevents sap flow and which is transferred by the elm bark beetle, *Scolytus.* Fortunately these beetles are fewer in number in Scotland owing to the lower temperatures compared to farther south.

14. Wych elm in fruit

15. Alder leaves and cones

The blaes pitches are characterised by scattered clumps of common alder and occasional groups of Italian alder with the tallest trees growing towards the centre of each clump and surrounded by a larger number of smaller specimens. On this poor blaes soil these alders are behaving as light demanders and are no doubt dependent on their nitrogen-fixing root nodules to help provide them with the nutrients they require.

16. Alder on blaes surrounded by firethorn

The origin of the seed for the Italian alders[15] is likely to be the mature trees we encountered earlier in the woodland towards the south of the park.

17. Lombardy poplar

Most interestingly we found near the centre of the blaes pitches a large clump of alder trees surrounded by many firethorn shrubs (*Pyracantha sp.*)[16] with their numerous thorns. This area is a fascinating example of some of the Dutch ecologist Frans Vera's work on forest history. He argues that forests in prehistory were more open than previously thought, with large herbivores controlling the succession of plants from light demanding pioneers to shade bearing climax species.

Thorny scrub protected the regeneration of plants from herbivore grazing and browsing, thus giving rise to an open parkland type of landscape. It should be mentioned that earlier ecologists like Arthur Tansley argued for the importance of direct succession to a climax forest model without grassland. [And some modern ecologists argue that the structure of woods can be reconfigured from the pollen record – Ireland, for example, had no large herbivores but the pollen record seems to show an openness of forest sites.] It's an interesting debate.

We crossed the blaes pitches towards the 'official' park northeast boundary, where we found another Smith's willow and wych elm. Amongst the shrubs growing there were snowy mespil (*Amelanchier lamarckii*), guelder rose (*Viburnum opulus*), firethorn and two spinous roses, Scotch rose (*Rosa spinosissima*) and Dune rose (*Rosa rugosa*). Beyond here, outwith the boundary, grow three different species of large poplars. Firstly, a tall Lombardy poplar (*Populus nigra* 'Italica')[17], a mutation of the wild black poplar in southeast Europe and introduced to Britain by the British ambassador in Turin around 1758. It is mainly a male tree, although the occasional female exists. Its characteristic feature is the columnar shape deriving from the mass of tight vertical branches. Below and to the north and south of this tree grows an abundance of well established common alders. The second poplar we saw was a 'Railway poplar', a female hybrid black (*Populus x canadensis* 'Marilandica')[18], being a cross between the European black (*Populus nigra*) and the North American eastern cottonwood (*Populus deltoides*). Many cotton wool-like mature catkins were growing on the tree and a few had been discarded on the ground. It flushes late and its branches are big and outcurving, unlike any of the other poplars in Cowlairs. Its leaves are deltoid in shape. Finally, in the far north of Cowlairs, we looked at a pair of western balsam poplars (*Populus trichocarpa*)[19].

18. Railway poplar late flushing

19. Western balsam poplar

Their leaves are elongated and oval, unlike other poplars, and glossy. The twigs are heavily scented with balsam, although we found this difficult to ascertain. The species was introduced from west North America, where it is one of the world's tallest trees, in 1892. It is susceptible to bacterial canker (*Aplanobacter populi*), which explains why it has been replaced by its more resistant hybrids, such as the balsam spire poplar so abundant in Cowlairs. On our return to the start, as the sun was setting, we saw a beautifully flowering Japanese red quince (*Chaenomeles japonica*)[20] growing near the path we were following. It was unfortunate we had no time to visit the far southwest corner of Cowlairs.

20. Chaenomeles - Japanese quince

Thus far there is no evidence of the Cowlairs Regeneration Project involving the building of 850 new homes being put into practice. The intention is to retain the woodland areas to the south and west of the 30 hectare site with building on the rest. From a natural history point of view it is a pity but understandable that the eight blaes pitches with their demonstration of pioneering growth will need to be lost.

*Computer modelling based on genetic (DNA) differences has resulted in the genus *Sorbus* being divided into smaller natural groupings. So, apart from rowan (*Sorbus aucuparia*), the others have been divided into new genera, e.g. common whitebeam is now *Aria edulis*, Arran whitebeams are now *Hedlundia* spp.

An updated version of the tree list is available from the author.

'Loveliness' of harlequin ladybirds (*Harmonia axyridis)* Bob Gray

This photograph of a 'loveliness' of ladybirds was taken of the corner of one of my windowsills in the West End in February. Their size and white patches on the side of the pronotum indicate harlequins (Richard Weddle, pers. comm) [not the number of spots which are variable]. He also pointed out that their numbers have taken off in Glasgow in the last two years and apparently many were found hiding in crevices in the Turkey oak windthrown recently in the Botanic Gardens.

The harlequin is a native Asian biocontrol agent that has become an invasive species, including preying upon native ladybirds in the UK. It became established in this country in 2004 since when, taking only a decade to spread from Cornwall to the Shetlands, it is recognised as the fastest recorded alien invader in the UK.

Neilston Pad - 25th May 2024 **Kirsty Menzies**

A group of twelve, including insect and plant specialists from both Glasgow and Paisley Naturalists, gathered in the south-west car park at Neilston Pad. Known locally as 'The Pad', it is an old volcanic plug surrounded by several dams and offers a variety of habitats to explore. The area is used primarily for forestry and we could see that there had been a lot of replanting in the gaps left in 2019 when around 20,000 trees were felled due to *Phytophthora ramorum* in infected Larch.

Our outing began with a brief walk through a rather eerie and seemingly lifeless section of the older forest, before breaking out into a green oasis of broadleaved trees and understory. This led out to an area of open grassland where we spent a lot of time examining the wide array of insects, particularly on nettle and buttercups. The day before last had been very wet, but today the sun had come out bringing balmy weather, and a mass of insects. These included beauties such as the Nettle-tap moth (*Anthophila fabriciana*), a green False Blister Beetle (*Oedemera virescens*) and iridescent Green Dock Beetle (*Gastrophysa viridula*).

Nettle-tap moth (*Anthophila fabriciana*)

Lunch!

We then headed towards Craighall Dam where the wetter ground brought a change in vegetation and insect species. There were also some birds of interest on the dam, including a pair of Mute Swans (*Cygnus olor*) with a family of young cygnets. Walking across the marshy ground, carpeted with Bottle Sedge (*Carex rostrata*) and Marsh Cinquefoil (*Potentilla palustris*), clouds of silvery-winged fresh damselflies took to the air with a few mature Large Red (*Pyrrhosoma nymphula*), Azure (*Coenagrion puella*) and Common Blue (*Enallagma cyathigerum*) Damselflies adding a dash of colour.

Crossbill by Andy Wilson

We took the more gently sloping path up The Pad, through beech woodland, to reach the flattened heathland plateau and mixed woodland at the top. We stopped there for lunch with an incredible view of the Snypes Dam and East Renfrewshire countryside. Someone noticed pine cones dropping from the tree under which we were sitting.

The culprits turned out to be a pair of Common Crossbills (*Loxia curvirostra*) which soon grabbed everybody's attention and charmed us with their feeding antics. Then, to cap it all, an Osprey (*Pandion haliaetus*) flew by, over the Dam.

Reluctantly moving on we walked along the track that fringes the eastern edge of The Pad, at the base of the steeply wooded slopes of old oak. It offered delightfully dappled shade and followed an old stone dyke, thick with mosses and a lacy fringe of Climbing Corydalis (*Ceratocapnos claviculata*). On reaching the main track that goes around The Pad we headed back to our cars via the verdant wildflower-filled verges of Harelaw Road. In total we recorded totals of 35 bird species and 23 insect species.

Dunure - 30th June 2024 Alison Moss, with photos by Pat Thomson

In a spell of very unseasonal weather, 8 of us were fortunate to have a pleasant mixture of sunshine and enough shelter in the various coves to tempt flying creatures out of hiding. Added to the bonus of a low tide, this was very much a mixed interest event.

Botanically, for wild plants, especially at the seaside, plants were big and bold with few having that frazzled look not uncommon in hotter weather. Particularly amazing were the oyster plants (*Mertensia maritima).* There were more colonies than in recent years and some individual plants were huge, over 2 metres diameter and covered with flowers. (photo). With the potential of seed production, this might explain why Kirsty spotted 2 young plants north of the harbour where they have not been recorded before.

Deirdre as scale for oyster plant (*Mertensia maritima)*

Common blue (*Polyommatus icarus)*

Gill Smart had been on a BSBI recording meeting recently to Dunure, so we just noted a list of highlights and some extras spotted largely by Gill and Pam. This included crow garlic (*Allium vineale),* knotted clover (*Trifolium striatum),* and at the Castle, hemlock (*Conium maculatum), an* unusual find and very poisonous - perhaps a remnant of medicinal use. Nice, to see common rock rose (*Helianthemum chamaecistus) and* kidney vetch (*Anthyllis vulneraria) on* the grassy knolls not munched by the cows. Mention should also be made of the large and long-established colonies of eel grass, (*Zostera marina)* - this occurs on both sides of the harbour and is home to many interesting sea creatures. Pat and Su found large strips and I have memories of brittle stars being abundant. I think these areas

would be interesting for detailed recording of their co-inhabitants.

Richard and Gill were well armed with nets while some of us just enjoyed seeing butterflies - meadow brown (*Maniola jurtina)*, common blue (*Polyommatus icarus),* and moths, chimney sweeper (*Odezia atrata),* and yellow shell (*Camptogramma bilineata).* Notable among the other insects was the kelp fly (*Coelopa frigida)* - there are previous records from the area: 1905 from Dunure and 1988 from Ailsa Craig, but Richard suspects there are new records to be had elsewhere along the Clyde coast.
Along with the kelp flies on the hemlock water-dropwort (*Oenanthe crocata*) on the shore, were the colourful caterpillars of *Depressaria daucella*, and two smallish soldier-flies: common orange legionnaire (*Beris vallata*) and black snipefly (*Chrysopilus cristatus).*

Chimney sweeper moth (*Odezia atrata)*

Yellow shell moth (*Camptogramma bilineata)*

On the seed-heads of the kidney vetch we were surprised to find a large number of nymphs of the hairy shieldbug (*Dolycoris baccarum*) – this species is a relative newcomer to Scotland, and after initially spreading along coastal areas - this was not the first record for Dunure - appears now to have spread along the major river corridors, and can be found in the City of Glasgow.We also found a chamomile shark caterpillar (*Cucullia chamomillae*) on flowers of chamomile (or mayweed), and adult seven-spot ladybirds (*Coccinella 7-punctata*) on oxeye daisies (*Leucanthemum vulgare*) in the Labyrinth.

To the north of the Castle we found a further soldier-fly, the broad centurion (*Chloromyia formosa*), and on and around nettles, the small nettle weevil (*Nedyus quadrimaculatus*) together with a rather larger, metallic green weevil *Phyllobius virideaeris*; also a hoverfly, now called the spotted thintail (*Meliscaeva auricollis*), a colourful flower-bug *Calocoris stysi*, and a small green and orange leaf-beetle *Oulema melanopa* (s.s.). The yellow dung-fly (*Scatophaga stercoraria*) was also much in evidence.

A fungal contribution was a conspicuous bright orange rust, (*Phragmidium rosae - pimpipinellifoliae)* found on Burnet rose (*Rosa spinosissima).*

Others in the group were happy to enjoy the wonderful mixture of agates and other colourful stones related to the geology of the area. Granite arrives on the beach from igneous action associated with Ailsa Craig. The whole area is a raised beach with mixed rocks including conglomerate making stone collecting hard to resist. The pathways up and down from the Castle proved more of a challenge than expected thanks to this mixed geology and the recent weather. However, we all survived a bit of a scramble and it was even warm enough to indulge in an ice cream from the harbour café.

University of Glasgow Iceland Expedition 2023

By Laura Munro, Laila Lotz, Emma Burnside, Abbie Heaney, Rosie Norman, and Rosie Milne

The University of Glasgow Iceland Expedition has been running since 2008, with projects looking at a range of animals and plants, including the invasive Lupin, Arctic Foxes, and falcons. Our expedition will be to the eastern fjords, in the Skálanes Nature and Heritage Centre (fig 1). The area around Skálanes is made up of rocky coasts which host a number of breeding bird colonies.

Fig 1: Skálanes in the east fjords of Iceland

This expedition has been collecting and monitoring population data on a breeding colony of Black-legged Kittiwakes (*Rissa tridactyla*) and Northern Fulmars (*Fulmarus glacialis*) since 2019. Through our data collection, we can determine how temperature changes in Iceland are affecting bird populations, which can then be used to inform conservation efforts. Monitoring change in Skálanes is especially relevant with plans to build a fishery next to the centre.

This year, we looked at dispersion and diet of Arctic foxes, geomorphology, social hierarchy and abundance of Arctic terns, and continued monitoring kittiwakes and fulmars.

These projects were carried out with the aim being that they would improve our understanding of the eastern Fjords ecosystem. With anthropogenic pressures including urbanisation, climate change, and fishing, it is crucial that we remain aware of any detrimental effects on Iceland's animal inhabitants.

The results of our report will be made available to our host, Olafur Petursson, to inform conservation efforts.

Dietary Variation between Arctic foxes in Skálanes, Eastern Iceland – Led by Laura Munro

Project Summary

180 scat samples were collected from 5 dens across the area around Skálanes between the 6th of June and the 15th of July. An area of approximately 14.16 km^2 was surveyed for evidence of fox diet (scat, bones, carcasses, etc). Of the 5 dens, only 1 was found to be active.

The active den was identified via sightings both in person and through camera trap footage of Arctic Fox kits. 3 camera traps in total were placed around the den (Fig.

1) to capture footage of the kits and were checked every 5-7 days. From these cameras, over 1500 photos and videos were collected. This confirmed the presence of 4 kits(Fig. 3 and 4) and 1 adult fox.

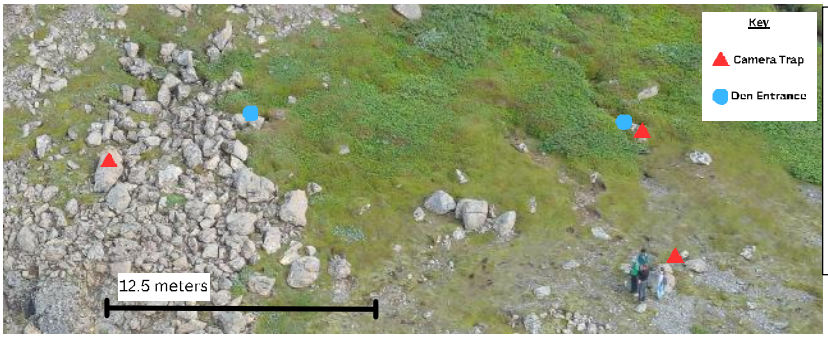


Fig 2: Map of active den. The blue circles represent the identified entrances to the den. The red circles are locations where camera traps were placed.

Fig 3: Arctic fox kit identified in den 2

Fig 4: Arctic fox kit identified in den 2

Impact of the Expedition

The grant generously donated allowed for this project to take place. This was the first project I completely designed and carried out independently. It taught me so much about experiment design, data collection, animal tracking, faecal dissection, and use of mapping software.

My time in Iceland has confirmed that Zoology is my passion. I now plan to undertake a research masters in Animal Ecology next year and one day a PhD. Without funding for this project, I may not have reached this conclusion.

There were some difficult parts to the expedition, particularly with having to deal directly with a hunter. Hunting is not something I personally agree with, and it was difficult to work with someone with such opposite viewpoints to those I hold myself. However, the hunter was an invaluable contact, and though it was challenging to work alongside him, I am grateful to have had access to his expertise, and to have been able to identify the fox dens from his work.

The Effects of Social Dominance Hierarchy on Shelter Access in Arctic Tern (*Sterna paradisaea)* Chicks – Led by Emma Burnside

Project Summary

This project looked at the social dominance hierarchy in Arctic Tern chicks, and how this affected their access to provided artificial shelter. The Skálanes colony nests in the area annually, but little research has taken place on them previously.

150 observations occurred between the 24th June and 18th July of the 58 nests included in this study – 29 controls and 29 treatments – across an area of approximately 17940m^2. Nests were identified through a colour-code system (Fig. 5), and treatment nests were given a numbered artificial shelter. Nests were chosen if they were at least 2m apart, included at least 2 eggs, and had at least 1 hatching/hatched chick. Once chicks were fully hatched, a small circle in the middle of their back was spray-painted (orange for first-borns, blue for second-borns) (Fig. 6).

Fig. 5: Treatment nest RBlY with assigned shelter 11.

Fig. 6: Chick dyed with orange to indicate order of hatching

Due to last minute changes in methodology, this project became a lot more hands-on than was initially intended. Chick hiding spot temperatures were recorded every second day using an infrared thermometer, along with the substrate they were hiding in and their colour code. New hatches were recorded and marked during each visit, with the total sample being built from the 15th of June till the 6th of July, and data recorded from the 24th of June until the 18th of July.

Impact of the Expedition

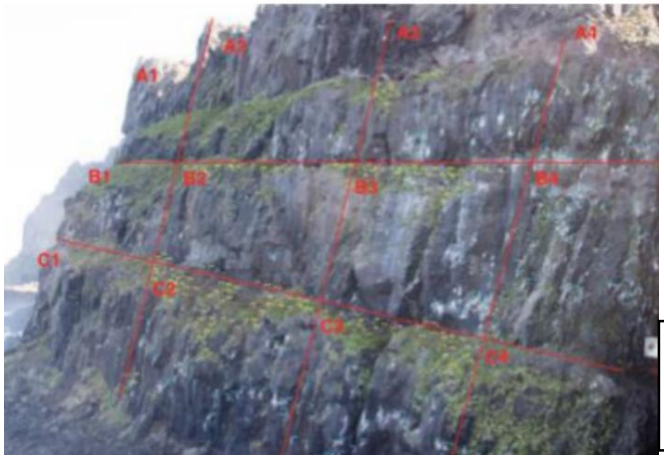
Taking part in this expedition had a huge effect on how I view myself and my future career. Before the Iceland expedition, I had very little fieldwork experience, and was very unsure of both my own abilities and where I stood in the scientific world. Being in charge of the planning and maintenance of my own project was an incredible experience that I will never forget – and led to me leading an expedition in 2024. It opened my eyes to what research could be, and helped me to develop my skills in data collection, data analysis, problem solving (in that I had to completely redesign my project over the course of a day), and time management.

Population Monitoring of Black-legged Kittiwakes (*Rissa tridactyla*) and Northern Fulmars (*Fulmarus glacialis*) in East Iceland – led by Abbie Heaney, Rosie Milne, and Rosie Norman

Project Summary
The Kittiwake and Fulmar project annually monitors the abundance and breeding success of two key species. Negative trends in the health and/or abundance of these species can be indicative of wider environmental issues, such as poor ocean health or changes to pelagic fish populations.

From a viewing platform, observations and abundance counts of a cliff inhabited by a large number of the birds (Fig. 8) took place every 3 days. Pictures were taken of the different sections of the cliff face (Fig. 8) and averaged to account for birds moving in and out of nests throughout the 6 weeks. Observations took place at the same time on each occasion to ensure a fair comparison over time.

From collected annual data, it has been determined that the population is continuing to decrease annually, though the rate of decline appears to be slowing when compared to recent years.



This information is shared with the Skálanes Nature Reserve, and will assist in determining what actions to take to ensure the safety and continued survival of these birds.

Fig. 6: The cliff inhabited by Kittiwakes and Northern Fulmars

Impact of the Expedition – Rosie Norman
As a second year Zoologist, I saw this expedition as a great opportunity to expand my skillset. I applied in the hope that I'd be able to increase my confidence in my own abilities and my skills in fieldwork, but I never expected the experience to be as incredible as it turned out to be. I gained so much experience in data collection, data handling, teamwork, and more! I had the opportunity halfway through the expedition to deliver a talk about my project to the local community, which introduced me to science communication – something I hadn't considered before.

This expedition was hard work, requiring a lot of organisation and self-motivation both in the lead-up and in the duration of my time in Iceland, but it was an immensely worthwhile experience. I feel that I surprised myself in what I could achieve, and this has motivated me look into research. As a result of this expedition, I have fallen even more in love with my degree path, and I look forward to what the future holds within this line of work.

Geological and geomorphological analysis of the fjord region of Eastern Iceland with specific attention to basaltic igneous bedrock and superficial glacial sediment deposits – led by Laila Lotz

The study consisted of a broad-scale analysis of geological and geomorphological features in the area surrounding the research centre Skálanes and used both field work and remote geospatial investigation systems to acquire data.

Building on existing knowledge, local field mapping was undertaken to determine lithological boundaries in the area and differentiate volcanic lithologies from different eruption periods and of different compositions. Further, intrusive bodies such as dykes (Fig. 7) and sills that represent ancient subsurface magmas were mapped and analysed. Field locations of lithological boundaries and intrusive bodies were exported into a QGIS programme to create a digitised geological map of an area of approximately 15 km^2. The mineralogy and composition of individual lava flows were investigated, revealing a variety of grain sizes, minerals, and types of amygdales (Fig. 8). Lavas were therefore classified broadly according to their characteristics, which may help to trace the kilometre-scale flows over larger distances in the future.

Fig. 7: A sea-facing dyke

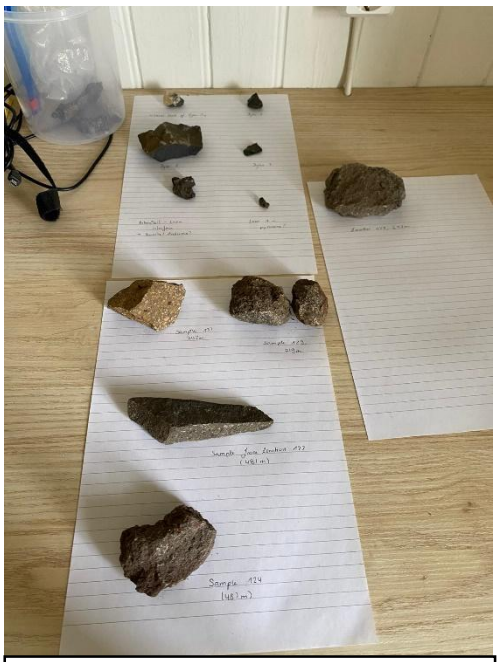


Fig. 8: A variety of rock types from around Skálanes

The second component of the project aimed to identify and investigate glacial sediments and glacial structures in the study area, which were formed during the last glacial cycle (11.5-11.7 kya). Skálanes lies within a huge valley with a fjord running through it, with mountainous structures on either side. These structures are seen to share similar areas of striation, indicating that they have been pushed against at some point in the past. This, and the fjord, are indicative of glacial effects, and highlight that the valley was formed as the result of glacial passage.

In the lower altitudes, glacial striae, sediments, and erratics were identified, while different types of moraines dominated at the higher altitudes. Evidence of glacial movement could be seen in odd, sometimes abrupt, differences in the environment, such as smaller stacks of rock completely separated from the rock on either side (Fig. 9).

Fig. 9: Landscape affected by a glacial path

A combination of field mapping, geospatial analysis and field photographs was used to analyse the characteristics of moraine architecture, which presented evidence of terminal and medial moraines. The moraines were generally composed of coarse volcanic bedrock. One landscape feature likely represents a large (200 x 350m) rock fall that was later reworked by water and possibly glacial ice. Further, mainly NE-SW striking glacial striae were identified on the volcanic bedrock which confirms the assumption of glacial ice flowing from the higher altitudes into and along the E-W striking fjord. Lastly, a stratified sequence of very-fine to mud-sized sediments in a river showed characteristics of glacial origin, but further investigation is required to prove or disprove this hypothesis. All sites of interest were then mapped, sampled, and field photographs were made.

This dataset will contribute to the ongoing project of recreating the glacial history of the Eastern fjords of Iceland by local and visiting researchers. By investigating the pattern and timing of glacial retreat, the study aims to support our understanding of glacial response to climate change.

Impact of the Expedition

This ended up being a brilliant opportunity to meet and work with amazing people. Our accommodation host, Oli, had a Geography background, and was endlessly helpful with my analysis of the Skálanes landscape, and determining the origin of obscure landmasses – whether they were glacier related, or something else entirely. I got to work with archaeologists and geographers, introducing me to another side of my degree, and another depth of knowledge that I hadn't been exposed to before.

This expedition taught me that I am capable of working through complex problems. In the first half, I was unsure of what my goal was with the project, and whether I had the skills to develop the geological map of the area that I felt I needed. It took a while to comprehend what I wanted to do, and a lot of analysis to gather my bearings in a place very unlike anything I had worked with before. By the end of the expedition however, I felt as though I had found my feet, and I had a clear idea of what I wanted for the project. This re-established my passion for geology and the earth sciences by allowing me to 'dig-in' to the core of the subject and really immerse myself in my field.

Gamification of Natural History **Dr Pradeep Dheerendra, Research Associate, School of Psychology and Neuroscience, Glasgow University**

Gamification can aid in the learning of important aspects of nature in a fun way. So, I aim to create games that help one learn rather than just casually spend time (e.g. in shooting or exploring games). Through these games, I hope to create an interest by appealing to the narrow attention span on the younger generation and help to develop an understanding of our rich natural history.

Tree-ID game

I developed a hang man style game as a web app. The challenge is to identify the tree by clues in the form of pictures of its bark, bud and leaf. Upon each unsuccessful guess of a letter, a new clue is revealed as pictures with the final clue being the Latin name. When the player correctly identifies the tree, they will see the time taken by them. One can learn more about natural history. This is supported on both desktop and handheld devices. Try the Tree-ID game here - https://tree-id.glitch.me/

Treeple game

I developed a NY Times' Connections based game as a web app. The challenge is to find the triple of 3 trees. The player is presented with a grid of 9 jumbled up images of barks, buds and leaves of 3 trees (which are shown as clues). Their task is to identify the 3 triples (bark, bud, leaf) that are each connected to a single tree. They get 4 wrong attempts as well as at most 3 hints. Thus, one can develop one's skills for identification of trees. This is supported on both desktop and handheld devices. Try the Treeple game here - https://treeple.glitch.me/

Reminder of PhotoScene Competition Deadline **Andy Wilson**
The end of October is the deadline for entries to be submitted to this year's PhotoScene Competition. You are encouraged to enter, so please send entries to Lorna Kennedy by then.
For full details see: http://www.gnhs.org.uk/photoscene.html

General Correspondence to the General Secretary:
Alison Park

Next Newsletter - copy to David Palmar by 22nd October 2024 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).