GLASGOW NATURAL HISTORY SOCIETY NEWSLETTER

August 2022

Next Newsletter Deadline
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GNHS is a Registered Scottish Charity
www.gnhs.org.uk

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Talks Programme September to December 2022 - Roger Downie

After two years of pandemic-affected arrangements, we plan to return to in-person meetings for the forthcoming autumn talks programme. However, we are aware that some members may prefer to join us on-line, and therefore, following the success of our 'hybrid' Brownfields Biodiversity conference in June, we hope to be able to welcome you either in-person or on-line.

As usual, talks will be on the second Tuesday of each month, starting at 7pm (The exception will be the BLB lecture, which returns after a pandemic-hiatus: see details below).
The location for all Tuesday evening lectures will be in the University of Glasgow Boyd Orr Building Lecture Theatre A. The BLB lecture will be in the Graham Kerr Building LT1. Talk summaries will be emailed nearer the time.

We also hope to return to our practice of inviting members to bring specimens, photographs or recordings of their natural history observations for presentation at the start of each meeting. We ask that these be brief (no more than 5 minutes) and that you inform us of these in advance by emailing Roger Downie.

2022
Tuesday 13th September: Roger Downie and Robin Bruce on 'E.S. Russell-Glasgow graduate, pioneer of fisheries management and philosopher of biology'. Roger needs no introduction; Robin is a Glasgow graduate and marine biologist, with a long interest in Russell's contributions to science.

Tuesday 11th October: Mark Huxham 'Twisted in an extremity of despair: mangroves in the past and the future'.
Mark is a marine biologist at Edinburgh Napier University with research interests in east African mangrove swamps and climate change.

Wednesday 2nd November: Kevin Laland on 'Evolvability and the function of inheritance'.
Kevin Laland is an evolutionary biologist at St Andrews University. He is a leading proponent of the need for new thinking over aspects of the theory of evolution, known as the 'extended evolutionary synthesis'.
NB This is the BLB lecture, and will be delivered at 5pm in lecture theatre 1, the Graham Kerr Building, to a joint audience of GNHS members, and staff and

students of the University. It will be followed by a reception in the Zoology Museum.

Tuesday 8th November: Jaime Toney on 'The GALLANT project'.
Jaime Toney is a geographer at the University of Glasgow and principal investigator on the GALLANT project, which aims to study Glasgow as a 'living laboratory' for the interactions between people and nature.

Tuesday 13th December: Oskar Brattstrom on '*Mycalesina* butterflies as a model system for evolutionary biology'.
Oskar Brattstrom began his academic career in Lund, and has since worked at Leiden and Cambridge, before recently joining the University of Glasgow. Much of his research is on West African butterflies, but since moving to Glasgow, he has also become interested in freshwater invertebrates.

2023
Details of the new year's programme will be provided later. Events will include our annual photographic night in February and our AGM in March.

Summer-Autumn Excursion Programme 2022 Alison Moss

Please contact organiser to check arrangements and confirm interest, and if necessary, for help to arrange a pick-up point if transport is required, or you intend to use public transport to a nearby bus stop / railway station.

All are welcome, but children must be accompanied and supervised by an adult. All meetings or excursions attended by Society members or their guests are entirely at their own risk. Participants should follow any safety advice given by the leader.

For reasons of personal safety, would all members and guests attending excursions please supply the leader with their mobile phone number, and have their phone with them on excursions.

August
Sat. 20th, 11am; Greenhead Moss Community Nature Park; mixed interest, invertebrates and plants and general ecology of reclaimed site. Paths on site, but stout footwear definitely advised. Bring packed lunch. Duration depends on paths taken and weather.
Meet at Creamery Road car park, Newmains, ML2 8AY, NS80585440.
Contact Alison Moss.

September / October
As usual there will be at least 2 joint meetings with the Clyde and Argyll Fungus Group. Their programme maintains a degree of flexibility to respond to the whims of the fungus world. Notification will be given in advance of each meeting.

Excursion Reports

Castlemilk Park, 14th May 2022 **Alison Moss**

Ten of us had an excellent day at Castlemilk Park. We were ably led by Park Volunteer Emma Taylor and pampered at lunch time at The Stables. The old part of this building was once part of the Castlemilk Estate, the grounds of which form the basis of the Park. In the morning we followed the "Waterfall Walk", down over the magnificent old bridge, past the fish pond of the former Castlemilk House (now demolished). The woodland down the Glen has some ornamental planting, but basically is an old oak and ash woodland, although sycamore is now invading somewhat. The ground cover is true to old woodland, a stunning carpet of bluebells and Wild Garlic, with Red Campion, Sanicle and Wood Cats Eye (*Veronica montana*).

Over most of the Glen there was total, amazing cover of blue and white flowers, down to the stream and up the other bank. 2 rather nice fungi were recorded - St George's Mushroom (*Calocybe gambosa*) and Brittle Cinder (*Kretzschmaria deusta*). The woodland has great promise for fungi in the autumn. The attractive waterfall was passed on the way back up the Glen to the Stables.

GNHS members walking through a carpet of Common Bluebells and Wild Garlic - David Palmar

We sat in the sun for lunch and the Warden, Stewart Whittaker, gave us a brief summary about running the Park and their plans. We then headed up the old oak avenue on the "Daffodil Walk". This took us to a wildflower meadow which is being established on a mound with a great view over Glasgow. The meadow looks to be doing well, with young Yellow Rattle, clovers, vetches and orchids all growing well, promising good diversity for insects and plants. We returned through more woodland of mixed ages, leaving most of the "Ice House Walk" for another day. Try February, you'll be amazed at the snowdrops for which the Park is renowned.

Indeed, the Park is to be awarded LNR status and I am sure this very substantially reflects on the ideas and hard work of its warden and team of volunteers. Their management and involvement with the local community is clearly visible in any visit to Castlemilk Park.

Castlemilk Park Insects **Richard Weddle**

We also found a fair number of insects typical of the time of year, particularly in the wooded glen: the Dark-edged Bee-fly (*Bombylius major*), which lays its eggs beside the burrows of solitary bees such as *Andrena helvola*, the Coppice Mining-bee, of which we saw an adult not far from

St Mark's Fly - David Palmar

the bee-fly sighting; there were three species of ladybird, the Cream-spot, Orange, and Seven-spot; the other beetles were *Rhagonycha testacea*, a soldier-beetle, and of course the dark green *Oedemera virescens* on the buttercups and other yellow flowers; but there were disappointingly few hoverflies - *Myathropa florea*, the so-called 'Batman' hoverfly was the most interesting among those found; but a fly that we saw in fair numbers was the St Mark's Fly (*Bibio marci*) which appear around that time of year; there were several Orange-tip butterflies around and, by the burn, a red May-fly *Rhithrogena semicolorata*.

RSPB Loch Lomond, 28th May 2022 **Alison Moss**

There was a general feeling of delight at the improvements of access and the range of habitats now accessible at the RSPB Loch Lomond reserve near Gartocharn. Twelve of us were led by Paula Baker, the Reserve Site Manager. A few RSPB volunteers and the Reserve Warden joined us. There was a great sharing of information. We have a lot of specialists and we benefited from the RSPB knowledge.

Eyelash Fungus (*Scutellinia scutellata*) - David Palmar

Lady's Smock (*Cardamine pratensis*) with a remarkable collection of four Orange Tip (*Anthocharis cardamines*) butterfly eggs - David Palmar

From the Hub we proceeded down the all-users path, through the bluebell-covered Airey Wood to the orchid meadow. The orchids were not yet in flower, but other flowers and insects soon grabbed our attention. Orange tip and green veined white butterflies and carpet moths were a joy to see. Even got a group of tiny Eyelash Fungi in damp mud.

Board Walk across the Aber Bog - David Palmar

We then followed the new pathway, but diverted into a concealed sheltered damp area where a small copper butterfly and many other insects were added to our list. Warblers were listened to and plants recorded. The new path then took us through rough grassland, hedgerows and oak trees to the new long

board walk across the Aber Bog mire.

The path through Ring Wood - David Palmar

The mire is vast. Cuckoo was heard and birds checked out. The next treat was into Ring Wood. The new path sensitively retains the mystery of these woods with ancient beech and mixture of other trees including oak, birch, holly and good shrub cover.

Dead trees and fallen trees provide excellent habitat. A dead upright tree with cavities provided habitat for a Redstart's nest where we could watch the adults go in and out feeding chicks.

Female Redstart (*Phoenicurus phoenicurus*) at nest hole - David Palmar

The path continues where the bracken used to be at head height. Paula suddenly disappeared into a boggy area and came up smiling with a glass container containing a seriously significant black arachnid for us to see. This is a nationally rare Otter Spider. Two truly majestic ancient oak trees complete this part of the new pathway.

Lunch on the beach - David Palmar

Through a gate and we were on the old footpath through Shore Wood close to the shore of Loch Lomond. We chose a beach to have lunch with stunning views up the loch and birds to observe too. After lunch was in the main a Botanical treat.

The zone between the path and the Loch is very botanically diverse and thereby provides more habitats for all animal life. However, the highlight was an incredible display of Globe Flowers. Hundreds of the yellow flowers could be seen along the lochside, the best numbers the site has ever recorded.

Globe Flowers (*Trollius europaeus*) - David Palmar

This beautiful plant is under threat from loss of habitat so many places; it reinforces the value of protected sites where birds thrive and the plants can recover with all the associated invertebrates as well.

There was so much to see, it was into the afternoon before we reached the end of the path and the access to the Endrick Mouth. A few of us continued out towards the point till about half way. Here was a whole new range of habitats with ponds, inlets and sand banks and new birds to observe. However, we realised that hidden nests and angry geese made it unwise to cause more disturbance. As we headed back we were rewarded by seeing 3 Ospreys in flight and a pair of Red-breasted Mergansers on the Loch, causing considerable excitement.

Overall, at least 30 species of birds were observed, 130 species of plant (mainly by Gill Smart and Pam Murdoch), many invertebrates (Paul Cobb in charge) and this was only a small part of the reserve in one day. A few fungi were noted but we are back in the autumn to record. I think Gill's comment sums things up when she said to Paula "I could spend a week here." Yes, it is a superb reserve with worthy management and enthusiastic volunteers. A great day was had by all.

Our excursion records will be added to those held by the Reserve. Paula appreciates our contribution and I am sure will be happy to take any new records and advise on records received.

Hogganfield Park Local Nature Reserve (LNR) 9th July 2022 Cath Scott

As with most activities, this field excursion was long overdue due to restrictions, so it was great to get back out into the field to showcase some of Glasgow's biodiversity highlights and look for more.

Dactylorhiza fuchsii hybrid - Norman Still

Hogganfield Meadow - GCC

Hogganfield Park LNR is owned and managed by Glasgow City Council (GCC) and the excursion was led by myself (Biodiversity Officer, GCC) and Gavin Finbow (Countryside Ranger, GCC).

The excursion was based around water voles, both wetland and fossorial. Hogganfield Park LNR is a good place to set the scene for the story of Glasgow's water voles. It is an extensive site and a long recorded home to traditional wetland water voles, with some fossorial animals now also recorded. But Hogganfield Park is where you 'expect' to find water voles so we headed off from the car park, clockwise around the loch, in the direction of a residential area at Avenue End Road.

On our route around the loch, we couldn't help stopping at the extensive meadows in the park to admire the numerous orchids and found healthy populations of Common Spotted-orchid, *Dactylorriza fuchsii*, Northern Marsh-orchid, *D purpurella* and hybrids, as well as numerous Greater Butterfly-orchid, *Platanthera chlorantha*.

Blue Damselfly - Norman Still

Richard Weddle kindly provided this summary of invertebrates found on the day. The weather was warm but still mostly overcast at this time which may have explained the disappointingly few butterflies that were seen in this meadow. Ringlets were most plentiful, with a few Meadow Browns and a Green-veined White; but we found five species of day-flying moth: Yarrow Plume, Pale Straw Pearl, Grass Rivulet, Silver-ground Carpet and Bee moth. There were plenty of Red Soldier-beetles on the flowering Umbellifers and Ragwort, and the now-customary *Oedemera virescens* on Mayweed.

Pair of Ringlets - Norman Still

Although we found a couple of tiny picture-winged flies: *Urophora* *Palloptera muliebris* and *jaceana*, we saw only one hoverfly - the 'Marmalade hoverfly' *Episyrphus* *balteatus*, but there was a nice metallic green soldier-fly, *Chloromyia formosa*. Lastly there was a black solitary wasp, the 'mournful wasp' (*Pemphredon lugubris*), a small brown Lacewing, Hemerobius sp. and a Long-jawed Orb Weaver spider, *Tetragnatha* sp. as well as numerous Blue Damselflies. There was one 7-spot ladybird beside the path to Avenue End Road, and more Red Soldier-beetles and a few bumblebee workers at the grassy areas along Avenue End Road.

Long-jawed Orb Weaver spider - GCC

Other pleasant distractions included views of the naturalised loch edge and the older created reedbed, as well as some of the more recent floating islands which are proving very successful for Great Crested Grebe breeding. We had a brief stop at some new ponds and on we carried via the marsh to exit the park on to Avenue End Road.

Once outside the park, the habitat quickly transitioned to more formal residential areas which gave the opportunity to discuss the challenges of having a protected

species present near housing. The area forms a wide strip between the front of housing and Avenue End Road, and had become an underused space mainly used as a cut through. This area was previously short mown grass until water voles moved into a disused red blaes pitch. As water voles expanded more areas had the grass cutting ceased due to the legal protection. The area functioned well as water vole habitat but was not delivering a lot to the local community and wider biodiversity.

New section of path - GCC

To address this, the Transforming Avenue End Road project was developed by GCC, Seven Lochs Wetland Park and Green Action Trust, and we visited the work to see how it is progressing. The project aims to enhance the area visually and practically with off road access and enhanced biodiversity. We visited a section of the new access path, which was constructed by building up rather than down to reduce the impact on water voles.

The works were all carried out under licence, where water voles were present, and these areas of work were supervised by an Ecological Consultant. The work was carried out in spring to avoid the water vole breeding season, so we were visiting it not long after construction. Lots of water vole burrows were seen in the disused blaes pitch and a latrine was found two metres away from the new path, so the adapted construction method looks successful.

Water vole latrine showing some dark fresh droppings, on top of older puddled brown droppings - GCC

It is still a work in progress and it is only one section (with more projects being developed), but this area is part of a key habitat connection between the water voles in Hogganfield Park and the original fossorial water vole site nearby next to the M8. For more information about this project visit https://www.sevenlochs.org/index.aspx?articleid=26948.

A wider water vole conservation action plan has been produced with the aim of continuing to work in partnership to conserve this nationally significant population throughout the NE of Glasgow and into adjoining areas in North Lanarkshire.

Partnership working has to date been key in delivering biodiversity projects and all the habitats we enjoyed in Hogganfield Park benefitted from this approach with numerous individuals and organisations joining forces. Key organisations involved in projects in recent years at Hogganfield Park include Buglife, Friends of Glasgow's

Local Nature Reserves, Froglife, GNHS, Seven Lochs Wetland Park and TCV, and over the years there have been many more.

Other Outdoor Event Reports

Hamiltonhill Claypits LNR — Richard Weddle

An 'Introduction to Invertebrates' event was held by the Claypits Management Group on July 16th. There was a good turnout of GNHS members at this event as the GNHS field excursion that weekend had been cancelled.

We had built up a list of well over 500 species for the site prior to the recent construction works which included canal-side paths and a large SUDS pond to service new housing about to be built in Hamiltonhill. And since then we have been particularly interested in monitoring how the biodiversity of the site recovers and develops after the disturbance. We had heard a lot about that in the excursion which formed part of the recent conference on Brownfield Biodiversity of course.

This event was aimed at establishing a group focusing on recording invertebrates, particularly insects, four GNHS members are already part of this: Cathel Hutchison, Emma Plant, Pat Thomson and myself. At least six other members attended along with a gratifying number of nearby residents and frequent visitors to the site.

Orache - Richard Weddle

I have been running a moth trap in the secure compound at Scottish Canals offices since 2018 (with a gap during the first Covid lockdown of course), so it was in operation the night before the event, and produced a total of 19 moths comprising 12 species.

Beautiful Golden Y - Richard Weddle

Most of these had been recorded there before, but two were new, and one of those turned out to be a very rare migrant that had not previously been recorded in the UK north of Liverpool: the Orache moth; the other moth which was new to the site was a Beautiful Golden Y. I also found a tiny metallic soldier-fly (*Microchrysa polita*) in the trap.

During the morning we collectively found at least 20 insect species – there are still further records to be forwarded to me. These included many Harlequin ladybirds (adults, larvae, and

Cinnabar caterpillars - Pat Thomson

pupae), but there were still plenty of 7-spots and 2-spots about too. We also found 6 species of hoverfly, and two solitary bees. I myself caught a Thistle Gall-fly (*Terellia serratulae*) which seems to be the first record in Glasgow, though it's very likely to be under-recorded, and I saw a single Painted Lady butterfly, my first for this year.

Pat Thomson also saw Cinnabar caterpillars that day, and had earlier reported a Narrow-bordered 5-spot Burnet moth, which were mentioned in a GNHS newsletter last year as newcomers to Glasgow, so it's good to have a record from so close to the City centre.

So, at the beginning of July 2022 the species list included nearly 750 species, and we expect that the event, together with other records generated during the month will have increased that number significantly by at least 16 insects. The updated species list will be uploaded to www.gnhs.org.uk/biodiversity/claypits_splist.pdf by the beginning of August.

Little Sparta Bioblitz, June 2022 **Richard Weddle**

On the 17 and 18 June 2022 naturalists and the public came together at Little Sparta, a garden in the Pentland Hills near Dunsyre in South Lanarkshire, to record the garden's wildlife for the first time. This concerted effort, known as a BioBlitz, involved 15 local naturalists with expertise in plants, fungi and animals.

I took along a large moth trap which, along with traps brought by other moth recorders, was run over two nights, and checked each morning. The weather was not ideal – wet on the first night and morning, and rather breezy on the second night. The poor weather no doubt explains the rather poor turn-out of visitors during the day, though the moths on the first night far outnumbered those on the second, so it seems moths are more averse to wind than to rain; however the locations of the traps were deliberately different the second night to minimise the chance of catching the same insects twice.

The rarest moth was probably the Figure of 80 which was in my trap by the lochan; I also had a few beetles in the trap, including a small rove-beetle, *Deleaster dichrous*) that I frequently encounter in the trap at the Botanic Gardens, but which is described as 'sporadic and rare' on southern Scotland.
During the two-day event 326 species were recorded: fungi 16 (5%), birds 22 (7%), other animals (excluding moths) 54 (17%), moths 70 (21%), mosses and liverworts 74 (23%) and vascular plants 90 (27%).
We plan to return later in the year for more moth trapping.

Figure of 80 - Richard Weddle

Some of the specimens found were taken for DNA profiling for the Darwin Tree of Life project – see https://stories.rbge.org.uk/archives/36441 for a full account of

the event and description of the site - which is well worth a visit, and open to the public several days per week.

Reports from GNHS members

A Gall With No Name

Paul Cobb

There is a very distinctive gall on the midribs of Meadowsweet leaves that has no name, presumably because no-one has yet succeeded in rearing out the causer to find out exactly what it is, but it is known to be caused by a gall midge. It is reasonably well known and widely distributed, and is briefly described and illustrated on page 115 of British Plant Galls (second edition) by Redfern and Shirley.

Gall underside, Dundonald Wood - Paul Cobb

Gall upperside, Ness Glen - Paul Cobb

I first found it in 2017, and though it is far from common I now have 6 records spread across 3 vice-counties, from Dundonald Wood and Ness Glen in Ayrshire, near Mossdale in Kirkcudbrightshire, and in Dumfriesshire from Scaur Water near Chanlockfoot, Dalwhat Glen at Cairnhead and Shinnel Glen near Pinzarie Hill. There are never very many of them, no more than a few at each site.

Under-recorded Flower Galls

Paul Cobb

In a large colony of Ragged Robin *Lychnis flos-cuculi* beside the River Nith in Ayrshire next to the House of Water opencast coal mine (now largely restored) I noticed a few slightly swollen un-opened flowers among the normal ones. I opened a few, and two of them contained coral-pink gall-midge larvae. I could probably have found a lot more had I taken the trouble to search, but at the time I wasn't expecting it to be anything special.

On looking it up when I got home I found they were galls of *Dasineura praticola*, officially with only two British records, a century ago in Durham and two years ago in Suffolk, no records at all shown on the National Biodiversity Network Gateway map, and equally rare elsewhere in Europe, but I have since uncovered a previous Scottish record in the literature, also in Ayrshire, at Dunure in 1922.

Dasineura praticola galls - Paul Cobb

So I thought I'd better look for this extremely rare gall at other Ragged Robin sites, and I promptly found it almost wherever I looked! I now have four more Ayrshire sites, all with some larvae present to confirm, beside Lugar Water near Dumfries House, Hannahston Community Woodland at Drongan, Knockshinnoch Lagoons, and Barony A Frame, the latter three also being former mine sites. So it's not rare after all, at least not in East Ayrshire, just inconspicuous.

Dasineura praticola galls cut open - Paul Cobb

By no means all galls are occupied by larvae when found, but they can be recognised from the globular shape, stunted petals protruding instead of the tip of a seed capsule, and when cut open by thickened bases of the petals and absence of any sign of a developing seed capsule.

Much the same happened last year with *D. cardaminis* on Cuckooflower or Lady's-smock *Cardamine pratensis*. I noticed that for the first time on our excursion to Darnconner in Ayrshire, found that there were only three British records on the NBN Gateway map, none of them in Scotland, then when I deliberately searched for it I found it almost wherever I looked. I now have a further 6 Ayrshire sites, and one in Dunbartonshire on our Loch Lomond Endrick Mouth excursion. I have also found four 19th century Scottish records in the literature, and at least one 20th century Norfolk record, none of which are on the NBN map.

Dasineura cardaminis gall - Paul Cobb

I think the reason I noticed *D. praticola* at the first site is because it was not obscured by the lush fen vegetation Ragged Robin normally grows in. It's on recently restored mining land so it's all short vegetation or bare ground, making the galls more obvious. My first *D. cardaminis* was also among short vegetation on a mine site. Then having found the first and knowing what to look for it becomes easy to find more. In my searching I had no failures for either species where the host plant was present in any quantity, I only failed to find them where there were only a few scattered host plants. There are a lot more of these inconspicuous flower galls on other plant species, so there's plenty still to find.

Dasineura cardaminis gall cut open - red larvae visible - Paul Cobb

Green Tiger Beetle **Myles O'Reilly**

Green Tiger Beetle - Myles O'Reilly

On the Bryophyte excursion to Glen Douglas on April 2nd, James and myself were last the leave the river and clamber back up the hillside to the road. While doing so I spotted a lovely green beetle flying past which landed nearby. I managed to capture the beetle on the ground to get a closer look and realised it was a beautiful Green Tiger Beetle. It is quite a few years since I have seen one. They are highly active daytime predators, so I spent some considerable time trying to get it to stand still and pose for a picture. Twenty blurry pictures later I managed to snap it successfully. Came out not too bad for a phone camera.

Unusual beetle in Holmhills LNR, Cambuslang **Alison Park**

Trichodes octopunctatus - Alison Park

In July 2022 a solo beetle of species *Trichodes octopunctatus* was found resting on the flower of a thistle in Holmhills Wood Community Park LNR. The bright colour and copious hairs, enticing a closer inspection, are characteristic of *Cleridae* or 'chequered beetles' and the eight black dots point to the species identification.
Examination of the Global Biodiversity Information Facility (GBIF) database reveals a distribution confined to the Iberian Peninsula, Balearic Islands, and Mediterranean coast of France though an additional location marker pinpoints central Morocco. As there are no records anywhere within the UK, it is feasible that this individual beetle was blown to the site along with the unusually warm southerly winds of recent days. However, perhaps hitching a ride (in a campervan, plane, lorry, or suchlike) is a more likely explanation underlying such a long northwards journey.

A Hairstreak-raising Experience **Kirsty Menzies**

Purple Hairstreak butterflies (*Favonius quercus)* are usually found flying high in the canopy of oak trees and it isn't often you get the chance to see them up close. Following a presentation on raising them given by Chris Stamp at a Butterfly Conservation gathering I decided to give it a go. In Autumn, after a few hours of searching, I was successful in finding 11 eggs on twigs brought down by high winds at a site where I'd seen adults in summer. I hung the twigs in a mesh bag outdoors and from mid-March checked the eggs daily for hatching. It was thrilling to see the first two tiny caterpillars emerge on 16 April and make their way towards fresh oak buds on to which their original twigs had been attached. A further 7

caterpillars hatched out between then and 2 May. Of those only 3 made it to the 2nd instar stage and I was able to study them as they developed. Unlike other caterpillars I'd seen in the wild, such as the Large Whites, these were not voracious eaters. In fact they made a sort of nest from silk and old leaf bud scales next to a mature bud and spent most of their time there where they were well camouflaged against predators. They occasionally ventured out to eat leaves, but it was not until they were ready to pupate that they became noticeably active.

Purple Hairstreak - Kirsty Menzies

I arrived home on 26 May to find that two of the caterpillars had disappeared from their twigs. After a brief panic, I found them burrowed into the layer of leaf litter and moss that I'd placed at the base of their rearing cage. On 5 June I was delighted to see the third caterpillar crawl down its twig and explore the wine bottle in which it sat and gradually make its way into the leaf litter. It then took a further 5-6 nail-biting weeks before the adults emerged, two adult males on 6 July and a female on the 15 July. All the waiting and effort was worth it in the end to see the adults in their resplendent colours and then to see them released and fly off into the woods.

Small Skipper and Northern Brown Argus **Tam Stewart**

Small Skipper - Tam Stewart

Small Skipper photographed at Kingshill country park, Allanton on 26th July 2022. The butterfly was first recorded in Lanarkshire in 2018 in Dolphinton. Subsequently it was found in Coulter in 2019 and Leadhills in 2021. It seems to be moving west through the county.

Northern Brown Argus photographed 18th July 2022 at Coulter off Birthwood Road, where it can be found at Culter Craigs and Hilly Gill, the only known colonies in Lanarkshire.

Northern Brown Argus - Tam Stewart

Extinction of wild vertebrates **Pradeep Dheerendra**

A recent peer reviewed publication [1] reported that the biomass of livestock, dominated mainly by cattle and pigs accounting for ≈0.1 gigatons of carbon (Gt C), far surpass that of wild mammals (≈0.007 Gt C). Similarly, the biomass of poultry, dominated by chickens accounting for ≈0.005 Gt C, far outweighs wild birds (≈0.002 Gt C). In summary, 60% of all mammals and 70% of all birds are raised as food for humans.

Comparison of current global biomass with pre-human values demonstrates the impact of humans on the biosphere. The present-day biomass of wild land mammals is approximately sevenfold lower while the marine mammal global biomass witnessed a fivefold decrease as a direct result of human activity including domestication of livestock and adoption of agriculture.

A study [2] that documents the state of the planet including biodiversity found that between 1970 and 2010 the population size of vertebrate species have declined by 52 percent. A follow up study [3] supported the earlier findings and reported a total decline in the vertebrate population of 58 % till 2012. At this rate, if we extrapolate this data using an exponential curve, 100% of all wild vertebrates would go extinct by the year 2026.

This decline in wild vertebrate population is mainly due to habitat loss i.e. clearing of forests for agriculture and animal husbandry. A recent peer-reviewed study [4] reported that 83% of the world's farmland is used for raising farm animals for food – meat, egg, dairy, and fish.

This study [4] also provides a possible solution. If the world adopts a diet that excludes animal products, the extent of agricultural land that will be freed up for reforestation will be greater than the land area of the United States, European Union, Australia and China combined. I feel this will limit any further loss of wild vertebrate population till a time that is hopefully sufficient to address the issue of human induced climate change and overpopulation.

Given that more than 80% of human food intake is already plant based [5], thus going vegan is a simple and viable solution to this problem!

I hope GNHS would

- take a public stance on the proposed solution
- raise public awareness about this issue
- encourage members and public to explore and try to adopt the proposed solution
- discuss about possible ways to induce such a large scale behavioural change in public
- hold a dialogue with other relevant organizations to further the impact

References:
[1] Bar-On, Yinon M., Rob Phillips, and Ron Milo. "The biomass distribution on Earth." Proceedings of the National Academy of Sciences 115, no. 25 (2018): 6506-6511. https://www.pnas.org/content/115/25/6506

[2] McLellan, Richard, Leena Iyengar, Barney Jeffries, and Nastasja Oerlemans, eds. Living planet report 2014: species and spaces, people and places. World Wide Fund for Nature, 2014. https://www.worldwildlife.org/pages/living-planet-report-2014

[3] Oerlemans, Natasja, Holly Strand, Annemarie Winkelhagen, Mike Barrett, Monique Grooten eds. Living Planet Report 2016. World Wide Fund for Nature, 2016. https://www.worldwildlife.org/pages/living-planet-report-2016

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Hamilton Natural History Society — Richard Weddle

We were saddened to hear that the committee of Hamilton NHS have decided they do not wish to continue, and nobody else is prepared to take over. Consequently, the Society will be wound up at the end of August 2022.
It's particularly sad as they have just celebrated their 60th Anniversary.
I'm sure GNHS members would warmly welcome any members of HNHS who may wish to join us.

Reports on Courses Supported by GNHS and BRISC

Surveying Terrestrial Invertebrates — Alex Bauman

This past May I attended a Field Studies Council course on Surveying Terrestrial Invertebrates for Biological Recording with the help of a bursary from the Glasgow Natural History Society and BRISC. I've always been interested in nature, and over the past several years have developed a particular fondness for insects. I've reared caterpillars, pinned dragonflies and beetles, admired the exoskeleton of a cicada clinging to a tree. On hikes my eyes are often to the ground, on the lookout for any tiny critters about. As an ecology and conservation MSc student at the University of Aberdeen, I've learned a great deal about the functioning, monitoring, and protection of ecosystems, but this course, led by entomologist Pete Boardman, was a unique deep dive into terrestrial invertebrates specifically. Over four days we learned about the importance of biodiversity and recording, the ethics of collecting, and how to manage habitats to benefit invertebrates. On field trips into the beautiful Shropshire countryside, we took part in sweep netting, constructed pitfall traps, and examined the contents of a moth trap – a true treasure trove.

Interesting specimens were collected and brought back to the classroom where we learned how to properly pin, label, and record our finds. We examined our specimens under a microscope, which revealed incredible details missed with the naked eye. The furry face of a bumblebee, the wing venation of a hoverfly, nearly everything looks magical when you can look so closely.

Buff tailed bumblebee,
Bombus terrestris
- Alex Bauman

Just a few short weeks after returning from FSC Preston Montford, I was off to a farm in Aberdeenshire where a classmate and I spent twelve days setting up pitfalls and pan traps to measure insect biodiversity for our MSc dissertations. While emptying the contents of a pan trap one of our last field days, I recognized a familiar face -- *Scathophaga stercoraria*, the yellow dung fly. This was one of the species I'd gotten up close and personal with as I identified and pinned a specimen during the FSC course, now part of the beginnings of a personal insect collection. Ahead of me was the daunting task of attempting to identify a great number of specimens, which I've only just begun, but recognising this particular species was comforting and encouraging, and I felt incredibly grateful for the experience I'd gained during the course. I have so much more to learn in my journey into entomology, but Surveying Terrestrial Invertebrates has been a crucial stepping stone that has helped me to become more knowledgeable, confident, and appreciative of these fascinating creatures.

Discovering Beetles **Michelle Stamp**

Earlier this year I attended the Discovering beetles online course run by Chris Foster and Dan Asaw. I am fascinated by beetles but they are such a large family that it can be difficult to know where to start with them. I already use pitfall traps to find Carrion beetles which are quite large, charismatic beetles (in my opinion) and quite easy to identify. The smaller ones are however can be a bit more difficult.

On the course we were introduced to the basic details that can lead you to the species, such as antennal type and leg anatomy and from there we progressed to the ecological roles of beetles as predators, herbivores, decomposers and recyclers, and pollinators.
One of my particular favourite pieces of homework was to take a photograph in my garden and then annotate it with all the habitats that different groups of beetles may be found.

Our final assignment was to use a specified collection method to find beetles and to write a short paragraph about each one that we found. Unfortunately we didn't have a very warm spring and beetles were not exactly pouring out of their expected habitats; I needed to put in some graft to find my beetles. I had hoped to find

something dead that I could bait a pitfall trap with to make the task easier, but carrion was also scarce on the ground.

I eventually managed to find a Seven-spot ladybird (*Coccinella septempunctata*) on a towel on the washing line during a brief sunny spell and then five Black clock beetles (*Pterostichus madidus*) all hiding under a reptile mat in my garden. My assignment wasn't exactly brimming with diversity.

Seven-spot ladybird (*Coccinella septempunctata*) - Michelle Stamp

However, I found the course incredibly useful as I regularly take volunteers out to do work in woodlands and participate in biological recording, and with my new found knowledge of basic beetle shapes, anatomy and feeding habits, I am now able to make educated guesses as to the species of beetle we have found, or indeed if it even is a beetle at all. Carrion beetles are still my favourites, but when running bioblitzes and bug hunting, the knowledge I have gained from the course has saved me many hours of research.

Biological recording is an important aspect of my work and we have run two bioblitzes so far this year and have another two coming up which will contribute important records for the sites we visit.

Black clock beetle (*Pterostichus madidus*) - Michelle Stamp

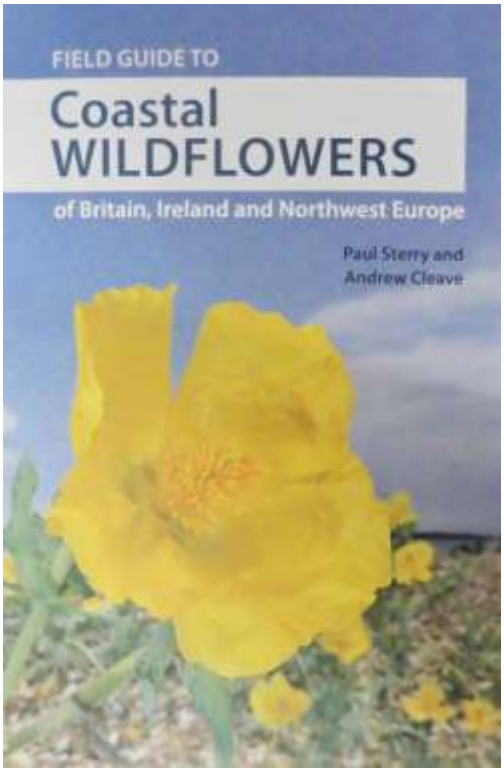
I think it is important that we should all have a little knowledge about the organisms that share our surroundings so that we can appreciate them and the roles the play and the FSC courses and BRISC bursaries allow everyone to learn something.

Nettle weevil *Phyllobius* sp. from bioblitz - Michelle Stamp

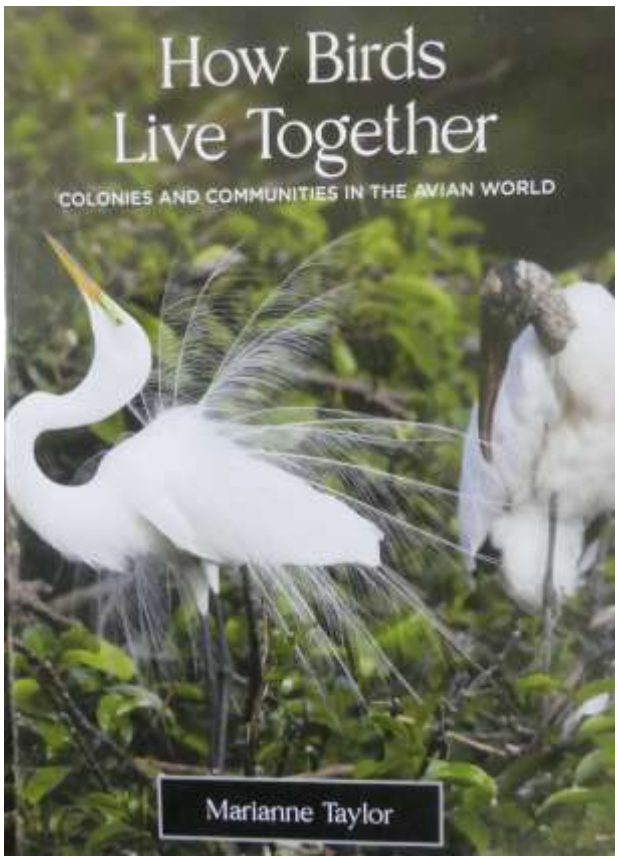
Book Received

Anthony Payne

Two books have been received recently :-
Field Guide to Coastal Wildflowers of Britain, Ireland and Northwest Europe by Paul Sterry and Andrew Cleave. Princeton University Press, 352pp PB £20.00
This is a pictorial guide to more than 600 species of flowering plants (including trees), plus some coverage of ferns, mosses, lichens, fungi and seaweeds. Each species gets at least half a page devoted to it (some favoured ones - especially orchids – get a whole page) with one or more coloured photographs, a distribution map for the UK, and descriptions of height, habitat, flowers, fruit and leaves. There is a short introductory section to coastal habitats in general, including some brief mentions of other wildlife such as insects. On the inside covers there are thumbnail photos of "iconic species and groups" which will help the reader to focus down towards the individual species.



How Birds Live Together: Colonies and Communities in the Avian World by Marianne Taylor. Princeton University Press, 224 pp HB £25.00.



Only a minority of birds nest communally, but in some groups (especially seabirds) it is the norm. This beautifully illustrated book deals with colonies in trees, on coastal cliffs and islands, underground in burrows, and in our cities. The colony may consist of one species or contain several – including unlikely groupings such as competitor species or even predators. Each chapter examines the advantages and disadvantages of the communal habit and ends with a detailed description of one or more relevant species and/or a description of a specific colony. Examples are drawn from across the globe.

It is hoped that full reviews will appear in *The Glasgow Naturalist* in due course.

Brownfields Biodiversity
Roger Downie, Savanna van Mesdag and Richard Weddle
Members of GNHS organised a conference on Brownfield Biodiversity as a contribution to the 2022 Glasgow Science Festival, with talks on Saturday 4th June and follow-up excursions on 5th June. About 40 people attended in person and six or so on-line, both somewhat down on the number who registered, perhaps influenced by the very fine weather on the royal jubilee holiday weekend. We heard nine interesting talks, one delivered remotely, and were able to study a selection of posters on particular brownfield sites. The mean satisfaction rating from those completing a feedback form was 4.5 out of 5, an excellent result. The Sunday guided excursions to Hamiltonhill Claypits and Malls Mire were very well attended and much appreciated. We would like to thank all the speakers, the two excursion leaders and all who helped with registration, logistics and refreshments on the day. We plan to publish the proceedings of the conference in the 2023 edition of *The Glasgow Naturalist*.

Leif Bersweden: plant hunter **Roger Downie**
Members may recall that about a decade ago the BLB committee agreed to fund a proposal by a remarkable young man called Leif Bersweden. As his gap year project, he planned to see and photograph the 52 species of orchid growing wild in the UK. The project was a success and he later gave us a Christmas lecture based on his findings, as well as writing the work up as a book '*The orchid hunter'* (2017) written concurrently with taking his first degree. He progressed to a PhD on the genetics of orchids, taken at Kew Gardens and Queen Mary University, London and has just published his second book '*Where the wildflowers grow: my botanical journey through Britain and ireland'.* His life's mission is to revive interest in wild plants. We'll try to persuade him to come and talk to us again.

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 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).