GLASGOW NATURAL HISTORY SOCIETY NEWSLETTER

Next Newsletter Deadline
22 March 2021

GNHS is a Registered Scottish Charity

February 2021

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2021 MEETINGS – Spring meetings will be held by Zoom.
Evening Meetings Programme: Tuesdays starting at 7pm

February 9th PhotoScene
Photographic competition slide show and results; **Darren O'Brien**
Join Zoom Meeting
https://uofglasgow.zoom.us/j/94990659657?pwd=UEFBcGc1UHI0emQ0TE01REo2eWtlUT09
Meeting ID: 949 9065 9657 Passcode: 545803

March 9th a) The arctic-alpine flora of Ben Lawers: forty years of monitoring: Dan Watson (Zoom link by email nearer the time)
Ben Lawers is renowned for its rare arctic-alpine plant assemblage. Since initial baseline surveys in 1980 and 1981, the National Trust for Scotland (NTS) has continued with a rolling programme of monitoring of the rarest of these. Which species are in trouble, which are safe, and what impact has their status had on the way the land is managed?
Dan Watson is the NTS's ecologist at Ben Lawers and Glencoe NNR, and as a Natural Heritage Adviser has an ecological remit for the NTS's upland properties from Grey Mare's Tail and Goatfell in the south to Torridon in the north.

b) At 8pm, Society AGM

April 13th Conserving Scotland's pollinators: from high-rise to hay meadows: Apithanny Bourne
Do green roofs in urban habitats provide beneficial foraging habitat for a city's pollinators? And what about the wider landscape? What are the comparative benefits to pollinators of species- rich grasslands and the flower-rich margins of agricultural fields?
Apithanny Bourne began as an environmental chemist, but diverted to follow her passion for insects and plants by taking a Masters degree, followed by a year working for SNH as a botanist. She has now embarked on a PhD on butterflies and species-rich grasslands. She is a Trustee of Butterfly Conservation and chairs their East of Scotland branch. She is about to complete her first book.

May 11th Brownfields and Biodiversity: Scott Shanks
A look at the importance of post-industrial brownfield sites as refugia for wildlife. These post-industrial sites are often regarded negatively as reminders of long-gone industries and abandoned communities. Despite this, many brownfield sites are treasure troves of biodiversity. The best sites support a complex mosaic of habitats such as pools, bare ground, grassland, scrub, woodland and 'caves' in the form of

old abandoned buildings, all in close proximity. This complex mosaic of habitats and niches supports many species, and, as a result, brownfield sites may have as many rare invertebrates as ancient woodland!
Scott Shanks began his scientific career as a geneticist/microbiologist at the University of Aberdeen, proceeding to a post-doctoral fellowship at the University of Glasgow, working on yeasts. He then became Buglife Scotland's Conservation Officer, and has recently moved to a similar position with RSPB Scotland. In his spare time (!), Scott is chair of Butterfly Conservation's Glasgow and West of Scotland branch, and is butterfly records co-ordinator for that area.
NB This meeting is jointly with Paisley and Hamilton Natural History Societies.

RSPB Wild Webinars **Sarah-Jayne Forster**

The RSPB team has put together a series of free webinars focusing on urban wildlife. The first one is to highlight the Big Garden Birdwatch on 29th-31st January, and is part of the Wild Webinar Series, brought to you by the RSPB's Giving Nature a Home Glasgow and Edinburgh team with contributions from partners. This four-part series explores the theme of urban nature conservation, particularly actions in and for nature that benefit both wildlife and people. All webinars are free, and while we encourage you to attend all sessions if possible, this is not essential so please join us for those which interest you!

Webinar 1: Brilliant Birds - Thursday 28/01, 6-7.30pm
Webinar 2: Mysterious Mammals - Monday 22/02, 6-7.30pm
Webinar 3: Green Gardening - Tuesday 23/03, 6-7.30pm
Webinar 4: Networking for Nature - Wednesday 07/04, 6-7.30pm
Note that you do need to book a place in advance - the link below is for more information and to register for any or all of these events from this link.
The organiser will contact you later with the Zoom links to access each event.
https://www.eventbrite.co.uk/e/136826789611

Frederick Richard Woodward 1939-2020 **Richard Sutcliffe**

Fred Woodward passed away on 2nd December 2020. Born and brought up in the Birmingham area, he became interested in natural history at a fairly young age and joined the Birmingham Natural History and Philosophical Society as a teenager.
He started his career in 1958 at the Natural History Museum in London, worked for a while in Birmingham Museum and then for several years as a natural history curator in Paisley Museum and at the Shipley Art Gallery, Gateshead. In 1980 he became Depute Keeper of Natural History in Kelvingrove Museum, where he worked until he took early retirement in the 1990s.
Although a good all-round naturalist, Fred's main interest was molluscs, and freshwater mussels in particular. He was regarded as an expert on the group and was a member of the Mollusc Specialist Group of the IUCN

Species Survival Commission. He was involved with the conservation and protection of freshwater mussels, taking part in meetings with the Council for Europe which led to some species getting more protection under the European Habitats Directive and the Bern Convention. His work also helped in getting the freshwater pearl mussel, *Margaritifera margaritifera* protected in the UK.
He published numerous scientific notes and papers on a variety of subjects in both academic journals and popular publications, including several in *The Glasgow Naturalist*. A more detailed obituary will be published elsewhere.
We send our condolences to his widow Ann and family.

Last Year's AGM Report on the Society's Achievements **Mary Child**
Our AGM was held on 10th March 2020, just a few days before the first lockdown and for many of us that was the last time we have seen each other in person. Looking through the minutes brought home to me how much we achieve each year in the Glasgow Natural History Society with so many people doing excellent work.

Our achievements of 2019-20 included the publication of *The Glasgow Naturalist*, a really interesting programme of winter talks and summer excursions and a photographic competition. In addition, our members added a great many records to the Glasgow Species database; these records give valuable information helping biodiversity decisions at a variety of different sites.

The president noted that the revised format for evening meetings has been well received and enjoyed. The fifteen minute slot at the beginning of each meeting for members' observations has been very informative. Our joint meetings with other societies, which have been going ahead for the last few years, have continued to be a successful and sociable way of increasing numbers at meetings.

Our Blodwen Lloyd Binns Bequest Fund continued to award valuable grants for projects of natural history interest. During the year the BLB council awarded 18 grants and 3 bursaries, to individuals and 5 expedition groups. These varied from £70 to the maximum award of two thousand pounds.

There were 16 very varied summer excursions, and 12 winter talks, although one of the winter talks was actually a site visit to the Hunterian Museum.

The Glasgow Naturalist is now registered with Crossref. This means that we have started using a system which links articles to the web and this will help to raise their profile and that of the journal.
The AGM meeting finished with a talk from Lynsey Dodds: From Science to Policy-Protecting the Marine Environment.

The 2021 AGM will take place via Zoom, but I'm sure you will all join with me in hoping that later on in 2021 we can get back to meeting each other outdoors on some of our excursions.

Excursions **Alison Moss**
I would hope that by the April newsletter we would have a good chance of having outdoor meetings. The plan is still to follow 2020's intended programme as far as possible. I think many of us have truly missed the sociability of excursions as well as sharing knowledge and exploring new places. Look out for the April newsletter!

"Growing Wilder" Sequoia video **David Palmar**

What do you get when you cross Scotland's wild plants, music and creative young people?
Answer: the Sequoia video that was shown at the end of the November meeting! Chamber Music Scotland linked to it from our Facebook page: "We love this video 'Growing Wilder' from Sequoia (a previous CMS Ensemble in Residence) about 'Transplanted!' - a learning project combining plants and music."

Through this project, young people across Scotland have composed music inspired by the plant life found in their local parks and gardens.
This project was part-funded by the Blodwen Lloyd Binns Bequest.
The video can be seen at: https://m.youtube.com/watch?v=bwMV-icgaAw

2021 Subscriptions **Richard Weddle**

Subscriptions fell due on January 1st 2021 (except for those who have joined since June 2020). Members who pay by standing order need take no action; others will receive a subscription renewal form either as an email attachment or in the envelope containing this newsletter.

If you do receive a reminder, and will be paying by cheque, please send it to my home address: 89 Novar Drive (1/2), Glasgow G12 9SS, as we are currently unable to retrieve correspondence from the Graham Kerr Building. This information will be given in the reminder, but I thought it worth repeating.

Winter Programme 2021-22 **Roger Downie**

After the Covid-induced hiatus of Spring 2020, we managed to revive our talks programme from September, using the online platform Zoom. It has been excellent to see so many members managing to join us in this way, although we are conscious that it does not suit everyone.

I am hoping that by September 2021, we should be able to resume indoor meetings with a fully vaccinated audience. I am as usual looking for members' suggestions of good speakers. Please send me contact details of possible speakers as soon as you can, to roger.downie@glasgow.ac.uk

Charles T McIntyre **Richard Weddle**

Until he resigned from the Society at the beginning of 2019, Charles McIntyre was our longest-serving member, having joined in April 1950. However, I found it intriguing that he'd been a member for so long while apparently playing no other part in our activities at least in recent years, as a few years earlier I had asked several of the older members whether they remembered him – without success. So I was very surprised in mid-December 2020 to receive an email from his daughter Jean telling me that he had died, at the age of 96, in July that year, and wouldn't be renewing his membership. But this did give me the opportunity to learn something about her father at last.

Charles was a botanist, originally greatly inspired by John Lee, and he possessed a signed copy of Lee's *The Flora of the Clyde Area*, 1933. He first qualified from the West of Scotland Agricultural College and then worked for Glasgow Parks Department, his final position being in the Orchid House at Tollcross Park. While

working for the Parks Dept he designed and co-wrote the nature trail and leaflets for the newly opened Pollok Country Park, and was involved in teaching gardening in Junior Secondary schools. From there he moved to train as a Biology teacher, and taught at Sir John Maxwell's School and then Craigbank Secondary, both in Glasgow.

During this time he was involved in many other activities, including leaflets for Inchcailloch similar to those for Pollok CP. He was a keen leader in the Boys' Brigade and instrumental in setting up their Naturalist badge which, along with Duke of Edinburgh Award expeditions, gave him more opportunity to teach young folk.

He compiled an herbarium which he donated to the Royal Botanic Gardens Edinburgh; as far as I can tell none of the Glasgow botanists is aware of this, and I know of no records of his in *The Glasgow Naturalist*, and there are none in the Glasgow Museums BRC database.

Jean adds: "My dad remained passionate about plants, wild flowers in particular, all his life and often got into bother for going looking at a plant when he was doing something else e.g. going into a muddy ditch in his best shoes to look at a sundew, or climbing over a safety fence in the Alps, again with unsuitable footwear for the occasion.

"My cousin lives in Cape Town and, after he retired, my dad visited there many times. As my cousin is a geographer, they went on many expeditions around countries in southern Africa and, at the end of each day he would write up the plants they had seen. I remember that when he was 85 he suddenly announced that he was flying to Cape Town in 5 days time as he had heard that the rains had fallen on Namaqualand and the flowers were out for the first time in 10 years, and he and my cousin were going to see them."

My thanks to Jean for all this information. But why would I tell you about a person no one can remember? It is precisely because I think he deserves to be remembered, and I wonder how many other 'unknown' histories we have among us, unknown at least to our fellow members? Our more prominent members do tend to get obituaries published in the newsletter and / or *The Glasgow Naturalist*, but I expect many of the more 'ordinary' members would have their own stories similar to Charles McIntyre's. And more generally, the unreported stories of people who make quiet but important contributions to all our lives.

Readers of *The Glasgow Naturalist* may recall a contribution I wrote* some years ago on the 'hidden women' in the early years of The Natural History Society of Glasgow, when the members were all male - though it's clear that women were present, but didn't appear on membership lists as they weren't expected to pay a subscription. There are doubtless other former members without formal obituaries in our archives, whose stories may come light, either by chance or active research.

*Richard Weddle, 2011. Some significant women in the early years of The Natural History Society of Glasgow. *The Glasgow Naturalist* 25 (3).

Roe deer in Bearsden **Richard Sutcliffe**

In late autumn we noticed that something was eating the roses in our front garden. Some branches of individual plants were stripped of their leaves overnight. The initial thought was slugs and snails (we have lots!) or a moth caterpillar, but searches late at night did not reveal anything. The damage continued. Some roses even had the flowers removed. It was not until 5th November that the culprit was revealed. On the grass were some large droppings – easily identified as being from a deer!

Our house backs onto the Craigdhu Wedge (the strip of land between Bearsden and Milngavie) which is a Local Nature Conservation Site and we do occasionally see deer behind our back garden. A couple of times over the years they have come into the back garden to feed in very hard weather. This however was not during bad weather.

Then on 19th December I happened to be looking out of our bedroom window and saw a roe deer crossing Rowan Drive and then walk into a neighbouring garden and start browsing – at 2.30pm – broad daylight!

My best sighting though, was on 30th December, when I went for a short walk in the Craigdhu Wedge. Rather than follow the official path on my way back, I decided to walk across an adjacent field. Here I spotted six roe deer that had been grazing on the other side of the slope. Squatting down I was able to make myself less obvious and one of the deer came a bit closer, allowing a couple of photographs to be taken, before I returned to the path to avoid any further disturbance.

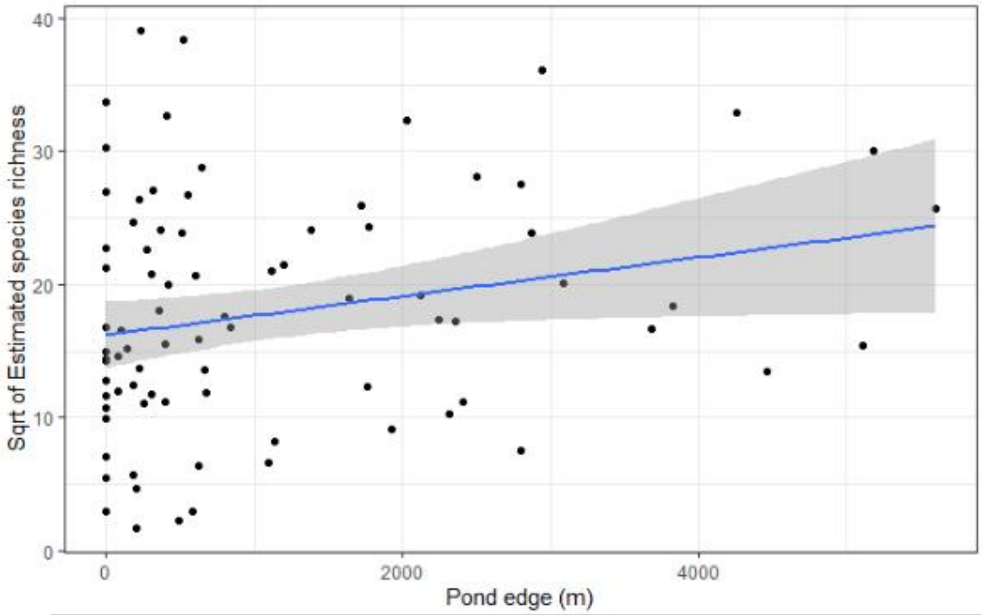
Since then deer have again been in the back garden. On 1st January there were tracks in one of the flower beds and part of a Euonymus had been nibbled!

Although roe deer are commonly seen in the area, I am sure that the large numbers of people who are now walking through the wedge (taking their permitted exercise) are definitely affecting the deer's behaviour, as they have limited areas to shelter in at this time of year.

Exploring the role of ponds in landscape biodiversity using citizen science records **Lorna Marcham**

I was planning to spend Spring 2020 doing field research on pond biodiversity on the Black Isle, near Inverness, which GNHS had kindly offered to help fund. With Covid lockdown, I dived into maps and the biological records database, instead of real ponds, to find out how networks of ponds in the landscape can best benefit biodiversity. I'm sure many GNHS members have submitted records of what species they have seen to their local biological recording group or straight into the National Biodiversity Network Atlas. My research showed some things about the

ways we record that could be helpful, as well as some results helpful to design pond networks.



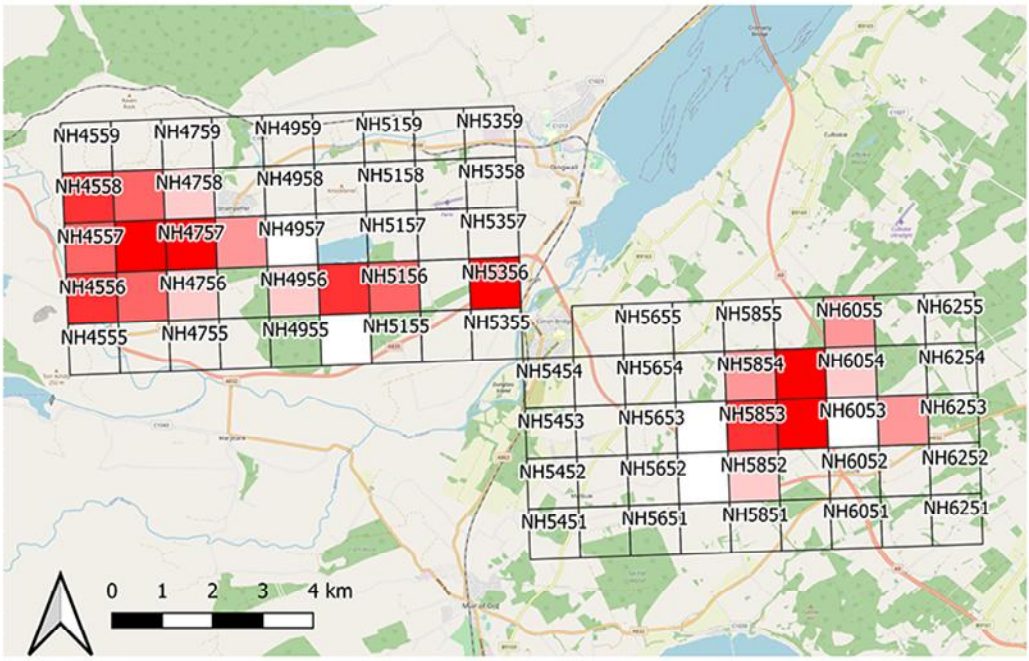
Pond edge species richness

Previous research has shown it is important for lots of pond life to be able to move between ponds. Movement is affected by habitat and the distances between ponds. While many species need good connectivity, some thrive in more isolated ponds where their competitors and predators haven't reached. There are lots of interesting ecological questions around these ideas in pond networks. Despite the great contribution of ponds to biodiversity of both aquatic and terrestrial wildlife, there is surprisingly little known about the details, like whether it is more important to have lots of little ponds or a few big ones, or what distances between ponds foster most diversity.

In the Black Isle, new ponds have been created, mainly to improve conditions for the local distinctive great crested newts, but conservation practitioners also wanted to know what this might do for wider biodiversity. My first job was to combine several digital maps of ponds and habitats. I split the area into 1km grid squares and calculated several statistics about the pond network in each square, like how many ponds, how much pond edge (interesting things often happen at the edges of a habitat), habitats around ponds and average distances between ponds.

The next piece of the puzzle was records of what species were seen where, from the National Biodiversity Network Atlas. I downloaded all the records for the area, which go back as far as the 1950s, well before apps made it so easy to add and check records in the field. After some tidying up, there were 44394 records. I spent a good few days straightening out where information had ended up in the wrong column and standardising the many different ways of expressing how much of something was found. Although this is clearly not as attractive as chasing dragonflies around Monadh Mòr (bog on the southern Black Isle - ed.), little snippets like the names of individually-identified wild cats and habitat notes reminded me of the beautiful reality behind my spreadsheets. Regular recorders whose names came round often began to feel like friends. (It was lockdown so maybe I was just going mad!)

Although that is a lot of information, the difficulty with using this data is that we tend to have a lot of biases, for example we prefer to go recording at nice nature reserves, not some random barren field. Luckily, other scientists have already done a lot of work on how to account for these biases and make the best use of these records. I tried out two different methods.



Frequency of Odonata records in the Black Isle and Strathpeffer areas
(c) copyright OpenStreetMap

Firstly, I wanted to find out how many species were in each square. Up to a certain point, the more you look, the more species you find. There is a mathematical pattern, though, in how many species you find just a few times and how many you miss, so that we can estimate how many species there really are, based on what was found. This meant I could compare the species count with the pond network information to see which features were linked to the most biodiversity. Though more ponds and more pond area both had some positive effect on biodiversity, the most notable result was that the more pond edge there was, the more species there were. There were some squares I couldn't even estimate the species richness because there were less than 5 records, over the whole 60 year period. I quite understand why everyone wants to go to the most exciting places, but it would be really helpful to have some records for 'boring' places too, so they can be compared and included.

White-faced Darter nymph

The next method to account for recording biases is called occupancy modelling. It is a bit more complicated so I picked a few interesting species. I first needed to look at how likely it was that someone would record a species if it was there. So if someone has listed 6 other dragonflies on a certain date and place but not the white faced darter, it is quite likely they did not see it. But if they only recorded one other dragonfly, maybe they didn't spend long looking or maybe the white faced darter wasn't there. With repeated dragonfly records from the same place, we can find patterns in what affects the probability of the white faced darter being recorded.

Once I knew these detection probabilities, they should be able to be used them along with the habitat data to help estimate how likely the species is present in squares without records. But after much grinding of figures and tearing of hair, I realised there just wasn't enough data for that. The most helpful thing I found

for making this method work was longer lists, where you record every species you see of the group you are recording, as that makes it easier to know where a species is not present. A few visits to the same site in a year are really helpful too.

Juncus effusus

Many thanks are due to Dr Matt Geary and Dr Lottie Hosie at the University of Chester and to David O'Brien and Jeanette Hall at Forestry and Land Scotland for their help, as well as everyone who adds records to the database as citizen scientists. It can help us learn more about how to protect wildlife.

Hair ice **Sarah Longrigg**

On 2nd January 2005 I was walking along the railway path between Lennoxtown and Strathblane. It was cold and frosty. There were some old, half rotten trees by the path and I couldn't help noticing that some of the branches were covered in what looked like masses of white candyfloss. This was the first time that I had ever noticed hair ice.

Although I have never seen such a magnificent display since, I soon realised that hair ice was not particularly uncommon. In particular, there seems to be quite a lot of it on dead branches in the woods just north of Milngavie almost every time that there is a hard frost. Although it is quite striking in appearance, it can be easily mistaken for litter or small pockets of snow. It seems to occur mostly on wet, dead branches between around 2 and 7cm in diameter that are lying on the ground and have lost their bark, though I've also seen it growing out of much thicker and thinner branches, sometimes, as in 2005, growing out of branches on trees that are still standing. It was only very recently that I discovered the cause of this phenomenon, even though the mechanism is hard to understand.

It seems that the wood on which hair ice forms is always internally infected with the fungus, *Exidiopsis effusa,* and any attempt at killing this fungus is shown to stop the production of hair ice. As water within the wood remains in liquid form in a sub-zero air temperature, it freezes on reaching the surface, but the presence of certain chemicals produced by the fungus prevent it from crystallising in the normal way.

I realised that there were two possibilities arising from this knowledge.

First, the finding of hair ice could potentially be used to record the distribution of E*xidiopsis effusa.*

Secondly, branches producing hair ice were likely to do so again. For this reason I went out on a frosty day and collected a number of fallen branches that already had hair ice. After allowing them to thaw, I put them back outside, and on subsequent frosty nights almost all of them continued to produce hair ice. As I was able to control the positioning of the branches, in some cases the branches produced better growths of hair ice than they had when first found and sometimes attaining lengths of 4cm or so. If they began to perform less well, soaking them in water usually restored their ability to produce hair ice.

On two nights, hardly any hair ice formed on any of the branches. Although I didn't record the temperatures, I suspect that it became too cold for the hair ice producing mechanism to keep going, and nights when the temperature remained only just below freezing point were more productive.

Hofmann, D., Preuss, G., and Mätzler, C.: Evidence for biological shaping of hair ice, Biogeosciences, 12, 4261–4273
https://bg.copernicus.org/articles/12/4261/2015/

Photo Archiving **David Palmar**

Richard's article about Charles McIntyre prompted a discussion between us on historical records of the society's activities. Amongst archive material is this photo of a society (then called the Andersonian Naturalists of Glasgow) excursion to Millport; the photo was apparently taken by Charles McIntyre, and sent to us by Jean McGuire (née McIntyre).

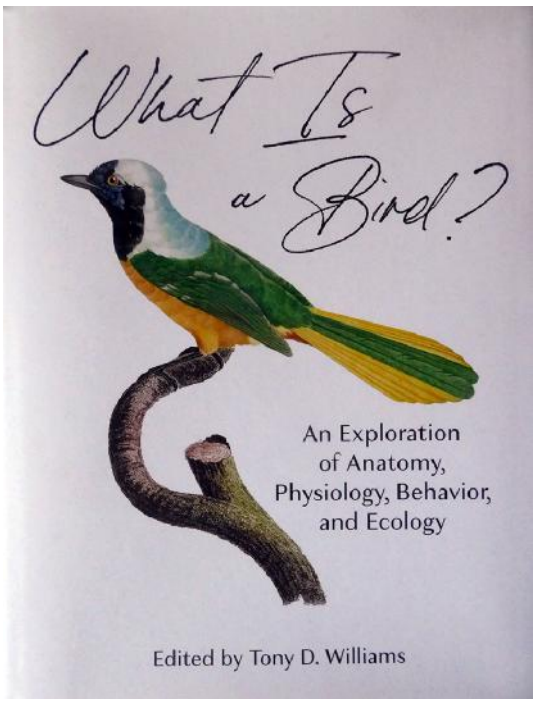
It shows the society group on a bench on Marine Parade beside Kames Bay, Millport, on June 2nd 1951. The accompanying report in *The Glasgow Naturalist* is rather short, but does confirm that Dick Prasher (back row left as identified by Jim Dickson) was the leader, and that there were seven members present. The other names are not known. Can anyone name other people in the photo?

This is a useful prompt for a suggested lockdown activity for members - perhaps you might have time to go through your photos taken on GNHS excursions and identify and write down people's names as well as any wildlife, so that your photos are properly archived for the future, and posterity doesn't need to scratch its head about the identities of the participants!

Book Review **Anthony Payne**

The following book has been received for review.
"**What is a bird?** An exploration of Anatomy, Physiology, Behaviour and Ecology" ed. Tony D. Williams. Princeton University Press, 2020. 368 pages, £30.00.

This is a hefty, profusely-illustrated addition to PU Press' extensive list of bird titles. Six authors from the US and Canada have contributed 10 chapters. The first is a general overview of birds and bird biology, including some evolution and taxonomy. The second is devoted largely to feathers, and the third to bones, muscle and brain. Chapter four (entitled "Physiology") is a kitchen sink which includes the urinary, respiratory, circulatory, immune, alimentary, excretory and endocrine systems. The final five chapters deal with behaviour and ecology "Getting around", "Food and foraging", "Social behaviour and communication", "Reproduction" and "Human dimensions". The book contains magnificent photos and diagrams throughout. If you are interested in birds and have a robust coffee table, this would look good on it. It is hoped that a full review will appear in *The Glasgow Naturalist.*



Coll Bird Festival 14-16th May 2021 **David Palmar**

The Coll Bird Festival, first held in 2014, is a unique opportunity to explore the diverse and often rare birdlife of Coll, with our expert guides on hand to help you get the most from your experience. Suitable for beginners as well as experienced birders, you will learn how our local habitat is managed to support the wildlife, and will witness an incredible selection of birds over a short period.

We hope that we will be able to go ahead with Coll Bird Festival 2021 and so we are going to start planning for it. Assuming it can go ahead, the event will be risk-assessed, including Covid, and any necessary adaptations will be made. However, the festival is largely about being in the great outdoors, which offers us more scope, and our large hall can easily socially distance our guests during talks.

For a flavour of what is likely to be on offer, have a look at:
https://collbunkhouse.com/coll-bird-festival/
If you would like to be kept informed please email us: info@ancridhe.co.uk

***The Glasgow Naturalist* 27 (2)** **Richard Weddle**

This issue, due last spring, is at last printed, but is currently still in boxes at the Graham Kerr Building, so sadly can't be mailed to members and other subscribers until the current phase of lockdown is sufficiently eased. The individual papers can be viewed online at www.gnhs.org.uk/gn27_2.html of course.
Many papers for the 2021 issue are already available at www.gnhs.org.uk/gn27_3.html too.

Next Newsletter - copy to David Palmar by 22nd March 2021 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 100Kb each for emailing).