GLASGOW NATURAL HISTORY SOCIETY NEWSLETTER

August 2019

David Palmar
(Newsletter Editor)

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Next Newsletter Deadline
22 October 2019

GNHS is a Registered Scottish Charity
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Autumn-Winter Meetings Programme 2019 Roger Downie

Meetings will be held in the **Boyd Orr Building,** University Avenue except where otherwise indicated, and will begin at 7.00pm. Where there are two lectures listed for an evening, each will last about 30 minutes. At the start of most meetings there will be a short time when members can present their recent observations: these can be short talks (about 2 minutes), or interesting specimens, or photographs. It will be helpful if members intending to make such a presentation can let Roger Downie know in advance (roger.downie@glasgow.ac.uk).

There is usually a pre-meeting meal with the speaker, which any member may attend. Members interested in going to this can email mary@gnhs.org.uk by the Sunday before the meeting and ask to be included. The cost is £10 per head, subsidized by the BLB fund.

September 2019
Tuesday 17th
7.00pm **Lecture: Returning a native: beaver restoration to Britain** ;
Roisin Campbell-Palmer

October
Tuesday 8th
7.00pm Lecture 1: **The Clyde Marine Region - beneath the waves** ;
Rebecca Crawford
Lecture 2: **A review of biological recording infrastructure in Scotland – progress report**; Rachel Tierney

November
Tuesday 12th
7.00pm Lecture 1**: Plant ecology**; Jim Downie
Lecture 2: **Wintering jack snipe in Glasgow** ; Iain Livingstone
Thursday 14th
7.30pm **Bower (Botany) Building** Seminar Room (jointly with Friends of Glasgow Botanic Gardens and the Glasgow Treelovers Society)
Lecture: **A quest for trees**; Tom Christian

December
Tuesday 10th
Christmas buffet dinner - see Newsletter for details and booking form; includes Lecture: **Amber - tears of the gods**; Neil Clark

January 2020
Tuesday 14th
7.00pm **Hunterian Museum (Main building): Exploration - from deep time to deep space**; exhibition visit led by Jeanne Robinson
Wednesday 29th
5.00pm **Graham Kerr Building Lecture Theatre 1**
Blodwen Lloyd Binns Lecture: **A natural history of immune defences in this wormy world**; Andrea Graham

February
Tuesday 11th
7.00pm **Photographic Night:** members' digital slide shows, plus results of this year's PhotoSCENE competition - see Newsletter for details

March
Thursday 5th
6.00pm **Graham Kerr Building** Lecture Theatre 1 (jointly with University of Glasgow Exploration Society)
Glasgow University Expeditions 2019 Report Back
Tuesday 10th
6.30pm **Annual General Meeting,** followed by:
7.30pm Lecture: **From science to policy - protecting the marine environment**; Lyndsey Dodds

April
Tuesday 14th
7.00pm **Graham Kerr Building Lecture Theatre 1**
Lecture: **West End Wildlife**; David Palmar

May
Sunday 3rd
This year's joint meeting between Glasgow, Paisley and Hamilton Natural History Societies will be an excursion, planned for Ardeer and Garnock Floods in Ayrshire. See newsletter for details
Tuesday 12th
7.00pm **Graham Kerr Building Lecture Theatre 1**
Lecture: **Exploring the mechanistic basis of social behaviour in fishes** ; Shaun Killen

June
Tuesday 9th
Summer Social: see Newsletter for details and booking form

Summer-Autumn Excursion Programme 2019 Alison Moss

August

Sun 11th, 10.30am, Whitelee Wind Farm Country Park, Eaglesham Moor. Mixed interest, plants, insects, birds etc. Meet at Visitor Centre G76 0QQ. Contact Alison Moss

Sat 17th, 9.30am onwards. Cashel Bioblitz, mixed interest and your own expertise. Meet at Cashel Native Forest Centre G63 0AW (small charge for parking). Contact Alison Moss

Joint fungal forays with Clyde and Argyll Fungus Group (CAFG), some probably in Glasgow parks, will be notified by email.

PhotoSCENE 2019-20 Natural History Photographic Competition

Win your share of £800 worth of prizes! David Palmar

This competition is sponsored by Glasgow Natural History Society and the University of Glasgow Institute of Biodiversity, Animal Health and Comparative Medicine. Its aims are to promote interest in Natural History and the work of SCENE (Scottish Centre for Ecology and the Natural Environment) at Rowardennan, linkage between the Institute and the Society, and providing pictures for publicity.

During the last 8 years, participation in the competition has usually increased. Last year there were 155 entries to the competition from 37 entrants, a record number, with 6 first prizes and 10 second prizes being awarded, so you have a good chance of winning something!

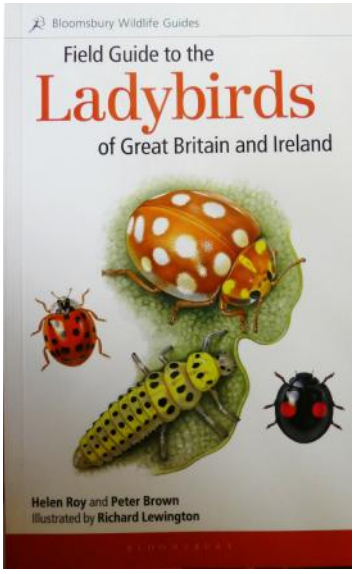
It is hoped that GNHS members, and the staff and students of the Institute will again support the competition. **The deadline for submitting entries is the end of October 2019.** GNHS members and students and staff of the University of Glasgow Institute of Biodiversity, Animal Health and Comparative Medicine are eligible to enter. Entries should be submitted to Lorna.Kennedy@glasgow.ac.uk.

David Palmar has run the competition in conjunction with Professor Dan Haydon for the past 8 years. David has now retired from this post and the competition will now be run for the GNHS by Darren O'Brien (photoscene@gnhs.org.uk).

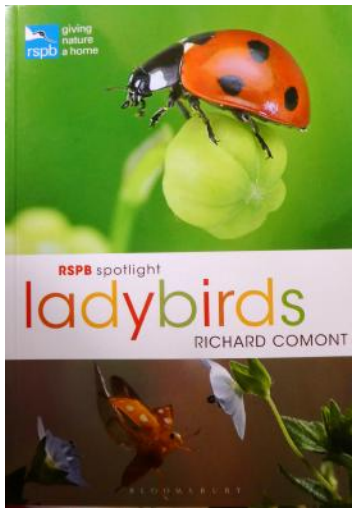
Prizewinners will be announced at the GNHS photographic night on Tuesday 11 th February 2020. Full details are on the GNHS website at www.gnhs.org.uk/photoscene.html

New Books Received Anthony Payne

As with omnibuses, so – apparently – with books on ladybirds. In this instance, the "two come along at once" is even more unusual in that both are by the same publisher, Bloomsbury Press.



A Field Guide to the Ladybirds of Great Britain and Ireland by Helen Roy & Peter Brown (2018) pb 160 pages. £25 (also available in hb £45) is a profusely-illustrated guide to all 47 species of ladybird occurring in the UK. The introduction deals with many aspects of ladybird biology, life cycle, collecting, breeding and recording. There are short sections on ladybird habitats and a regional gazetteer (Glasgow, the Slamannan plateau and Caerlaverock get a mention). The bulk of the book is a species account with photos and diagrams, distribution maps, habitat, food and confusion species. Very useful is a life-size picture of each species; in addition to the conspicuous spotted species, there are some that are only 1-2 mm in size. The book ends with a brief account of species likely to occur in the UK in the foreseeable future.



RSPB Spotlight: Ladybirds by Richard Comont (2019) pb 128 pages. £12.99 is a recent addition to a series of books on British wildlife. The topic of ladybirds is given a wide-ranging treatment. Ladybirds appear in all guises (Ladybird Books; HMS Ladybird; Ladybirds in song, film and TV; ladybirds on the Space Station and as robots) as well as more traditional sections such as identification, life cycles, habitat, hibernation, diseases and parasites. Each section is kept deliberately short and punchy; this makes for a very readable pot-pourri for anyone interested in this charming insect group.

Natural History Notes

Bumblebee Update — Paul Cobb

Bombus lucorum (White-tailed Bumblebee) by David Palmar

As I resolved last year, I have been checking large spring queens of the *Bombus lucorum* (White-tailed Bumblebee) species group, particularly in upland habitats, to try to determine which of the three species they are. I examined Ayrshire specimens from Glen Afton near New Cumnock, Afton Reservoir, a nameless forest between New Cumnock and Dalmellington, Pennyvenie near Dalmellington, Loch Doon, Loch Riecawr, and River Ayr Way between Sorn and Muirkirk, at altitudes up to 390 metres, and they all fit *B. cryptarum* (Cryptic White-tailed Bumblebee), with the yellow collar extending somewhat below the wing bases, and incursions of black hairs among the yellow ones at the level of the wing bases.

The extent of black hair incursion varies considerably, and the supposedly diagnostic S-shaped black line, though sometimes clear, is often incomplete or not

S-shaped, but all the bees I looked at had at least some black hairs among the yellow in a collar extending below the wing bases.

Those in lowland habitats managed to elude me, apart from one as lowland as you can get, on the beach at Ardeer, and that also fits *B. cryptarum*.

I am confident that they are indeed all *B. cryptarum*, as were my black-headed males from last year; however DNA analysis is the only way to be completely certain.

There were some other bumblebee challenges this spring. A very yellow bee, failing to impersonate *B. muscorum* (Moss Carder Bumblebee) as it was too small and with a long shaggy coat, was another of those odd *B. pascuorum (*Common Carder Bumblebee*)*. A small black beastie that looked more like a bee-mimic hoverfly than a bumblebee had, on close examination, a faint ginger band at the rear of the thorax, a small tuft of ginger hairs at the front of the thorax, and sparse white hairs on the tail, a colour combination that can only be a very dark example of the Tree Bumblebee *B. hypnorum*. A close look at an apparent *B. hortorum* (Garden Bumblebee) too small for a queen and too big for a worker revealed the short face of the Heath bumblebee *B. jonellus*.

Bombus pascuorum (Common Carder Bumblebee) by David Palmar

Who Skinned the Polecat? **Paul Cobb**

On a March visit to the Garnock East part of the former Nobel explosives factory at Ardeer I encountered some mysteries.

Beside one of the old roadways was most of a very fresh Polecat skin, still pliable and with blood on it, but lacking the head, legs and tail, and very neatly done. I say Polecat because of the two-tone fur, pale under fur and dark outer fur, but it could equally have been the hybrid Polecat-ferret.

What could do that to a Polecat, and so neatly? The site is well used by dog-walkers, and in the past I have known a couple of dogs that could kill and eat a Hedgehog, leaving only a very neat inside-out skin as evidence, so that's a possibility. Fox and Badger are also potential suspects.

I had earlier found a scattered heap of many large clumps of Polecat fur, reminiscent of a bird of prey kill, but that's not so difficult, a Buzzard could do that.

Frog Spawn out of water

Finally I found two large clumps of frog spawn, on the ground in grassland, well away from water. A Google search provided an answer to this one. It seems that when a predator catches a female frog it will not eat the ovaries, for fear of severe indigestion from spawn swelling up in the predator's stomach. Eggs in the discarded ovaries can continue to develop if conditions are damp enough, hence frog spawn out of water.

The Tree of Hippocrates **Bob Gray**

Many of us are aware of the Hippocratic Oath taken by doctors and that Hippocrates was a Greek scholar who lived in the 5th century BC. Few of us are aware that he supposedly taught medicine under an oriental plane tree (*Platanus orientalis*) on the island of Kos and fewer still that one of the descendants of this tree grows in Glasgow.

Tree of Hippocrates at QEUH
By Bob Gray

In 1982 Professor Malcolm Ferguson-Smith, Head of the Institute of Human Genetics based at Yorkhill, obtained from his friend Dr Duncan Guthrie, after whom the Institute was named, two saplings grown from seeds of the tree. Dr Guthrie was given the seeds at a scientific meeting in Greece. Stuart Imrie, compliance and resource manager who worked under Prof Ferguson-Smith from 1983, has confirmed the location of the original plantings outside the building and indicated that one was terminally damaged and that the other, having been mistakenly placed in a skip, was rescued and successfully replanted. Gordon Lowther was Head of Genetics at the time of the transfer of the Institute from Yorkhill to the site of the new Queen Elizabeth University Hospital in Govan in 2012. On account of the extensive building work being carried out there, however, Dr Donald Wemyss of the department delayed the transfer of the tree to the QEUH grounds until 2017. It has been professionally lopped and is supported by three guys in its new location where it is hoped it will thrive. (but see below)

The most common plane tree in this country is the London plane (*Platanus x hispanica*) thought to be a hybrid between the oriental plane and the butterwort plane (*Platanus occidentalis*). The former, from southeast Europe, is a lower, more spreading tree than the London plane and less exclusive to warmer areas. It seems to have bestowed some of its hardiness on to the London plane. The latter was introduced from eastern North America in 1636 but it scarcely grows here as it needs long, hot summers. In Scotland the champion London plane grows in Kirkconnel, Dumfries & Galloway and measures 556 cm. x 27 m. (girth x height). The champion oriental plane grows at Glendoick, east of Perth, where it was introduced from Gallipoli in 1915. It measures 428 cm x 23 m. A

Tree of Hippocrates trunk damage
By Bob Gray

butterwort plane grows in the Royal Botanic Garden Edinburgh where it measures 168 cm. x 19 m.

According to a BBC report (28/4/2014) the first DNA barcode of a likely descendant of the Kos oriental plane has been elucidated in the USA. In 1962 cuttings from the Kos tree were presented to worldwide medical institutions and one was planted at the National Library of Medicine near Washington DC. In 1990 its health was declining and by 2003 was almost dead. The DNA barcode was created from this tree. With difficulty, several clones were produced by the Archangel Ancient Tree Archive in Michigan and when the National Library tree died in 2013 one of its clones was dedicated and planted in the same spot. It should be repeated that the Glasgow Tree of Hippocrates was grown from seed of the 'original' oriental plane on Kos and is not a clone. Clearly the parent tree in Kos is not the original one from 25 centuries ago. This story has an unhappy ending. The tree (see photos) appears to be dead. Perhaps it could be replaced by another oriental plane.

Fox Behaviour **Morag Mackinnon**

Took this fox photo a few weeks ago. Been watching it come in and check out the back fence and then jump up - just like a cat would - and walk along and down into a neighbour's garden. Came back later with something (paper wrapped) in its mouth. Since it was about 5 in the evening and taken through double glazing it is not as good as it could be, but I wondered if you know if this is a common thing for urban foxes to do?

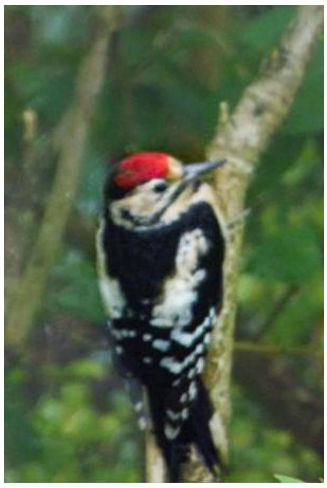
Painted Ladies **Neil Metcalfe**

Painted Lady (*Vanessa cardui*) by David Palmar

A random bit of natural history that I wanted to share: the invasion of beautiful Painted Lady butterflies has reached Glasgow! These butterflies spend the winter in Africa south of the Sahara, then migrate north in the spring. The first generation reaches southern Europe and gives rise to the next which makes it further north, and so on - and it varies from year to year as to how many make it as far north as Scotland (often very few). In good years they can even make it as far as the Arctic Circle by late summer, at which point the next generation starts the long migration south again. Some details of this multi-generation migration cycle:
https://www.theguardian.com/environment/2019/jul/19/britons-urged-to-help-record-influx-of-painted-lady-butterflies

This year has been predicted to be the best year in the last decade - and sure enough, this morning (30 July) there were at least 10 on the buddleia bushes either side of the entrance to the Graham Kerr Building!

Great Spotted Woodpeckers **John Lyth**



On 16th July 2019 our bird feeder attracted two new visitors, a male and female Great Spotted Woodpecker (*Dendrocropos major*). Margaret took the photograph on 10th July at 16.47 through her bedroom window in Uddingston.

Grant-funded projects

Mosses and Liverworts **Jess Mason**

In March this year, I was lucky enough to receive a bursary from BRISC to attend a course entitled "Identification of Mosses and Liverworts" with the Field Studies Council at Preston Montford Field Centre. I am currently in the early stages of my career as an ecologist, would describe myself as a keen naturalist, but mosses and liverworts are a group that I have had very little experience with until now.
I chose to study mosses and liverworts because, even though this subject is out of my comfort zone, it was a taxonomic group that was often missing from my biological records, and that was something I wanted to change.
The course was eye-opening. I found it fascinating how many species could be recorded in such a small area (often, we would walk only a few hundred metres in several hours). We started at the very beginning and had classroom sessions learning about the basic taxonomy and identification of bryophytes, followed by field excursions where we began learning how to recognise bryophytes in their natural habitat and how to use a key to identify the species.
I found the course challenging, and at the beginning I struggled to recognise basic identifying features. However, after three days of study and a lot of help from our course leader, subtle features started to become clear and my confidence in identifying species was growing.

When I completed the course, although I was by no means an expert, I felt confident and able to identify several common species. But most importantly, I felt confident that I had the basic foundations and tools to be able to continue learning and identifying species on my own.

I regularly go walking around my local area and collect biological records along the way. Before the course, my lists were often restricted to birds, mammals, and flowering plants. Since the course, I have been able to create more complete species lists, and many species are now becoming familiar. I have continued my learning and have been able to identify several species we did not see on the course.

In the future, I hope to continue contributing biological records and that my records are useful. I would like to continue my learning and hope to be able to identify a wide range of taxonomic groups.

This report summarises the findings from a two-month expedition to the coastal district of Trincomalee. There were four research projects in total: two diving projects, one boat-based project and a land-based project.

Diving Research - Fish Assemblage Work

Tropical reefs support diverse communities of reef fish and variation in the physical parameters of benthic habitat alters the amount of shelter and food afforded by reef habitats structuring their associated fish assemblages. However, there is a lack of information on how these relationships relate to sandstone reefs.

In this study, a haphazard sampling technique and visual belt transect surveys were used to investigate the structure of piscivore, invertivore, herbivore and corallivore fish assemblages across sandstone dominated habitat types. The results suggested that species richness of the invertivore and piscivore fish trophic guilds was positively influenced by structured sandstone, patch coral/coral rubble and flat coral/coral rubble habitat types. The diversity of associated fish assemblages was not correlated with differences in benthic habitat type. The total abundance of the invertivore and piscivore trophic guilds showed no correlation with habitat type and nor did two-way interactions between guild and habitat type.

Herbivorous and corallivorous fish assemblages varied between habitat types in both abundance and species richness. These fish species were most commonly encountered in sandstone habitats, whilst structured sandstone and flat coral were the most preferred sub-habitat types. The highest abundance of corallivores was found in coral habitats whilst grazer/detritivores were common on sandstone habitats and scraper/small excavators showed the least variation between habitat types.

There appears to be a positive relationship between the abundances of these fish species and the habitats' structural complexity. Sandstone reefs may have higher levels of structural complexity, which increases the availability of space, food and protection, in turn, elevating diversity. This study adds to the sparse literature regarding fish-habitat interactions on unique sandstone reef habitats in an understudied region, allowing movement towards a better understanding of the role that benthic habitats play in structuring fish communities.

Diving Research - Benthic Coverage

This study was designed in response to a gap in the literature. It aimed to quantify the substrates and benthic coverages of coral reef habitats in the Trincomalee Bay area of Sri Lanka. The existence of relationships in abundance of benthic communities amongst varying substrates was investigated as well as patterns in the distributions of benthic coverage and reef substrates in the broader context of the coastal environment of Trincomalee. These data were collected with the fish assemblage data, using a dive team of 4. No significant correlation could be

established between benthic coverage amongst various reef substrates. It was observed that reef substrates in this area range from completely homogenous to varying mixtures of coral and sandstone structures. This, and the patchy nature of the benthic communities within and amongst reefs, may be of decisive importance to this finding. Trends appear to suggest local stressors, such as fishing pressures, negatively impact the health of the reefs in this area; however it was not possible to establish causation. This may also be explained by the unique geography observed at each site, as well as the varying amounts of damage the reefs endured from the 2004 Indian Ocean Tsunami and unknown amounts of pressure from global stressors.

Boat Project - Acoustic Recordings

Coral reefs are dying, and we need to keep a careful watch on them. This currently requires labour intensive and skilled work in the form of diving and fish surveys. There is now a growing rise in the use of acoustics to monitor these reefs. This can provide a non-invasive alternative by looking at the coral reefs marine soundscape

and using acoustic indices to infer different things about the ecosystem, in correlation with coral cover, biodiversity and species richness. In this study, acoustic recordings were taken with a hydrophone and compared to data gathered by divers in the fish abundance research. For this comparison, three acoustic indices were tested against different biological and physical aspects of the coral reef, with the acoustic complexity index correlating with coral reef structure, and the acoustic diversity index correlating with species richness of herbivorous fish. This correlation between the acoustic diversity index and species richness demonstrated that soundscape ecology and acoustic indices could be a helpful tool in monitoring our reefs, which will help with the conservation of these endangered environments. It could provide an alternative method to the traditional diving methods of data collection, and has the potential to allow the implementation of remote monitoring techniques and early warning systems.

Land Project - Microplastic Research

This land-based project focused on the global problem of microplastics, specifically focusing on how beach orientation, slope and usage affected the abundance and type of microplastics found. Microplastics are classed as any plastic less than 5mm in size. It focused on three beaches; one tourist beach, one populated fishing beach and one remote beach. 12 samples were collected from each beach and analysed using density separation, with microplastics being classified by size: 1.18mm, 600 micrometres and 250 micrometres, and by type: fibres and fragments. It was found that there was no difference in microplastic abundance amongst the three beaches, meaning that slope, orientation or beach usage had no effect on

microplastic levels. High numbers of fibres were found, compared to fragments, but there was no significant difference between the different beaches and the types of microplastics found.

These results were concerning because they suggest that microplastics are an endemic problem, and even beaches with very little human access have high levels of pollution. This area of Sri Lanka is strongly affected by tides and currents in the Bay of Bengal, and a lot of pollution could have been sourced from further afield, for example, countries like India. This area is highly influenced by tourism and fishing, and these high levels of pollution could be detrimental to these industries. Research like this can be used to highlight areas of high pollution, and targeted clean up and control mechanisms can be implemented to try to reduce levels of pollution in this area.

Everyone on the Sri Lanka Expedition 2018 would like to thank GNHS for their generous support in funding this project. Their money was spent on accommodation, assisting with the diving projects and helping with transportation to different sampling locations. This expedition was extremely successful and there is hope that the research will be continued in future years.

Frog ecology and conservation in Trinidad and Tobago **Roger Downie**

The Blodwen Lloyd Binns Committee kindly granted me £600 to help fund the costs of the above work. The grant was spent on the travel costs: air fare Glasgow to Trinidad via Gatwick £634.23.

The work outlined in my application went well in the 2.5 weeks I spent in Trinidad (including 2.5 days in Tobago). Most of the four projects are continuing, being carried out by students whose work I helped to start. These are:

1. Relationship between pond attendance and reproductive success in the tree frog *Phyllomedusa trinitatis*. A student team has already amassed a good amount of data on this and will continue for another seven weeks. They monitor three *Phyllomedusa* breeding ponds close to the field

Tree frog *Phyllomedusa trinitatis* by Kirsty Garland

station where they are based. Around 9pm each night, they locate any frogs attending (up to 15 on a night, so far, with numbers weather related), identify them (using the individual recognition system we published recently), measure them, then follow their activities until as late as 3 am, when mating/nest-building is complete.

2. *Flectonotus fitzgeraldi* surveying: we carried out early evening audio surveys, walking, or by car, at several locations in both Trinidad and Tobago, aiming to establish presence/absence and relative numbers of this small 'marsupial' tree frog, currently listed by IUCN as Endangered. The frog was present almost everywhere that we encountered stands of the common plant *Heliconia bahai*, or where tree branches bore larger kinds of bromeliad, which hold significant volumes of water. Our judgment is that the species is widespread and abundant on both islands. We are combining our data along with survey results from previous UG expeditions, and with locally generated data from Bioblitzes, to compile a paper on the status of this species.

Tree frog *Phyllomedusa trinitatis*
by Joanna Smith

3. Glass frog metamorphs: to add to our growing knowledge of the reproductive ecology of the Tobago glass frog, we searched several streams at dusk/early evening for glass frog adults, egg clutches and metamorphs (emerged tadpoles, sitting on leaves while their tails are resorbed). We only found one metamorph, but it was early in the season, and Isabel Byrne, in Tobago for the whole of July, will continue the search.

4. Foam nests; we made measurements (size; egg numbers) on foam nests of four species (*Engystomops pustulosus, Leptodactylus fuscus, L. validus* and *L. insularum*). It was particularly fortunate to find a huge nest of *L. insularum* (4000 eggs!), since this species is elusive in Trinidad. We also collected samples of the foam for molecular analysis of the proteins, all aimed at a comparative paper on foam nests.

After writing my BLB application, we decided to do another piece of work, on colour change and calling in male Trinidad stream frogs, and this is well under way.

Finally, a red letter event for me: on a field trip to southeast Trinidad, I finally caught a glimpse of one of Trinidad's most elusive frogs, *Lithobates palmipes*, my first ever sighting after more than 30 visits! Unfortunately, despite further journeys to the site, there was no sign of spawning, so the tadpoles remain undescribed.

2019 Excursion Reports

Cumbernauld Glen, 12th May 2019 Alison Moss and Richard Weddle

Cumbernauld Glen is a Scottish Wildlife Trust site. Tracey Lambert and 2 other staff from SWT responsible for the Glen led 8 of us around much of interest in the Glen. The prime object was for us to enjoy the magnificent bluebell woods and this we certainly did.

Although originally part of the grounds of Cumbernauld House, the woodlands still retain enough of the natural wild oak trees and accompanying flora. This is being actively managed by SWT to encourage and enhance this ancient woodland. There is an ongoing program of removal of non- native plants and helping nature to replenish the native flora with a bit of intervention where required.

We also explored the more diverse hedgerow and semi- moorland areas leading to wildlife pond, part of a SUDS (Sustainable Urban Drainage Scheme). This pond has been sensitively shaped and designed to fit in with the natural contours of its surrounds. The edges have been enhanced with wild flower seeds and the pond with plants which will clean the runoff from the roads above the site. This allows refreshed water to enter the Red Burn and from there into the main river system free of contaminants. The biodiversity of plants and invertebrates was immediately evident even early in the season and early in this project.

Just walking round, I recorded well over 100 species of flowering plants. Aside from the wonderful bluebells, my highlights were Sanicle (*Sanicula europaea*) and Climbing Corydalis (*Ceratocapnos claviculata*). I plan to return in a month or so with other Botanists to record in more detail and when more can be identified. This recording will help measure the success which SWT are achieving with their work on this site.

Richard Weddle and Paul Cobb most helpfully pointed out and identified a good a range of invertebrates as well as a frog and a squirrel. They also remarked on the conspicuous lack of some species: the oaks were almost devoid of galls, and there were no weevil leaf-mines on the beeches in the wood; there was also a general lack of pollinating insects apart from the occasional butterfly and bumblebee, but this seems to be generally true this year so far. It was quite amusing to see Tracey's amazement at some of the insect treasures she didn't know about before (me too!). This is the beauty of our excursions - we all learn from each other.

A Surprising find in Bridge of Weir **Alison Moss**

On 24th April I was sitting in a sheltered spot in my garden (NS 38907 65290 - 'Hazelwood') with a cup of tea and my Plantlife magazine when I noticed something odd on the ground in some debris in between 2 plant pots. Surely that's a big beetle. Being a little fragile over handling big insects, I poked very gently with a twig. Yes, a great big beetle, dead, but good condition and as light as a feather and an exceedingly big nose. I manoeuvered it on to a sheet of white paper and took some photos with my phone and camera. I had a rough idea what I was looking for, but could find nothing in my books on British insects. So, I phoned a friend, Gill Smart, and sent a WhatsApp picture.

There was a pretty quick response from Gill - European rhinoceros beetle, *Oryctes nasicornis*, NOT FOUND IN UK. By this time, I had 'Googled' and was delighted to agree. Next stop, Richard Weddle. Richard, as usual was very helpful, and alerted me to the fact, yes was a rare find and there are 4 subspecies. Could I get the beetle to him? This I did in a carefully cushioned deep Petri dish. Richard's inspection and using a French id key concluded that it was the Eastern European sub species. This is now being followed up with help from Jeanne Robinson. All very odd. How did a beetle not known in Britain crawl between 2 flower pots in Bridge of Weir?

Next stop for me was Wikipedia. Fascinating. Only the male has large proboscis. The female lays eggs in rotting wood. The larvae munch the wood for 2 or 3 years. A pupa is formed and the adult beetle hatches out March - May, its size relating to the larval food source quality. The adult beetle does not eat at all, living off its reserves until dying in autumn. Also, they fly at night. OK, how and when did it get to my garden?

I do not import wood. All my firewood is from my garden. The consensus is that my beetle is an 'import'. Presumably it came into the UK on horticultural material of some sort. Having been in landscaping for over 30 years I am well aware how much material is imported from Europe and beyond, especially large potted conifers and palms. Wood chips and forest bark too are a possibility. It would be hard to hide this one in a bunch of flowers! Garden centres, specially the big 'chains' import a lot from the continent and there are plenty of outlets around the west of Scotland. I am not sure how far an imported beetle can fly. A lot would depend upon its reserves.

Why my garden? Perhaps it spotted a wet woodpile or a bit of shelter from the wind. The mystery remains. Lucky me to find it. So keep your eyes open folks. As my daughter wisely said, where there's one there might be others!