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area un-cut as an experimental "wildflower" patch. There must have been a diversity of seeds and plants awaiting just such an opportunity to grow as Orchids, Common Cats-ear and Autumn hawkbit, Ox-eye daisy, Viola spp. Red and White clovers, Bird's-foot and Lesser trefoils flowered in the first year. We have now augmented this richness with locally-collected seed from Bedstraws, Yellow rattle and Primroses. During the sunny summer of 2020

Cooped up with Carders

Anne Gascoigne

My home is part of an old building in Stromness, less than 50m from the sea but with an open aspect and large shared garden. To the rear of the property is an expanse of old, unimproved grass with communal washing line, parking and amenity space. This "lawn" is composed of fine grasses, has a high proportion of moss and hosts a rich fungal flora with Waxcap and Earth-tongue species appearing in Autumn.

As owners we use a local contractor to cut the grass, which is done approximately twice a month May to September, but three years ago we asked them to leave a large



this whole area was alive with nectar sseeking flies, hoverflies and bees, followed later by seed-eating finches.

The "wildflower area" includes the steep (55 degree) retaining bank which has

granite blocks close to the surface. This extends along the whole rear of the building, facing our windows at a distance of only 3m. It is oriented North-South and so does not receive direct sunlight, being shaded by the house in early morning and angled away from the sun during late afternoons. However, this area supports Vetches, Cow parsley, Common sorrel and Knapweed amongst others and is equally popular with invertebrates.

Whilst enjoying some Spring sunshine I noticed a high number of **Carder bees** *Bombus pascuorum*, foraging and also flying low over the vegetation and frequently disappearing into it! Further observation showed this wasn't random behaviour and but rather queens investigating possible nest sites. It soon developed into an obsession for me (there was very little else to do given 'lockdown' constraint1) and I sat outside - or watched from an open window - as bees established at least five colonies in this 30m long bank.

Locating actual nest entrances was difficult as the bees tended to drop down into long grass then walk and scramble down into its depths. I filmed some of this, and in slow-motion their descents often appeared to more of a bumpy tumble and crash landing. Take-offs were much better controlled. Getting close to nests it was possible to hear a high-pitched "viiiizzzzzz"; although my getting too close resulted in bees being reluctant to come anywhere near.

Having years ago watched Patchwork leaf-cutter bees *Megachile centuncularis* working away in a Norfolk garden I wondered how Carder bees transported their chosen nesting material. I had imagined they would fly home with a tuft of already "carded" moss clutched beneath their body, however all incoming bees here

arrived empty-legged. Observation revealed that landing a few centimetres away from the nest enabled bees to collect loose moss there, then haul strands for processing on-site.



Carder bees 'carding' moss strands

During Summer intensity of activity increased – as did the number of Carder bees. They varied greatly in size from approx. 5mm to 13mm; the smaller ones presumably early workers which far-out-numbered larger (male and prospective queen) ones. They also varied in colour from quite dark brown through bright ginger-copper to pale fawn. This did make positive identification of species problematic, but photographs showed bees with black 'oxters' and lacking a contrasting circling of golden hairs around the thorax which would be indicative of Moss carder *Bombus muscorum*.

I attempted to follow individual bees and discovered most were feeding only a few metres away in the wider wildflower area. I also noted a high volume of Carder bee traffic on Buddleia, Escallonia and Fuchsia shrubs in my front garden whilst my bee-watching neighbour noticed them visiting Borage and a tall *Echium pininana* in their front garden. It would be reasonable to assume these same bees were foraging at the front of the house and nesting at the back.

Peak activity around the nests was around 11.00am – regardless of rain or windy weather. I had supposed they would be busiest in the sunniest part of day, but there were more hectic comings-and-goings



before mid-day than after. However, warm afternoons may have encouraged longer, more distant foraging flights or be for housekeeping within the nest itself.

I observed several of the large, distinctive hoverfly *Volucella bombylans* loitering on nearby foliage. This species enters bee

nests to lay eggs so that their larvae can scavenge and feed on detritus within the nest, but not normally upon their landlord's own larvae. I did not notice any Cuckoo-bee presence and the Field cuckoo bumblebee *Bombus campestris* (which is a specialist kleptoparasite of Carder bees) has not been recorded in Orkney. There did not appear to be any threats to the nests from mammals or birds and, given the elevated and sloping site, flooding would not occur.

Studies show that a Carder bee nest typically expands to contain anything from 60 to 200 insects and although I believe "our" nests are at the lower end of this scale we could have been hosting c350 bees in a short linear area. At the end of the season nests are abandoned; workers, males and old queens die, leaving new fertile queens to over winter and establish colonies the following Spring

By September daily business at all nests had ceased and our grass contractor carried out the one-and-only cut of both flat and bank wildflower areas (after plants have had opportunity to set seed and birds to forage). This allowed me to take a closer look into the nest remains. Deep within grass roots and particularly in hollows around protruding granite I found balls of brown moss; none larger than a grapefruit. Within this fluff I discovered several clusters of 4-10 waxen cells, which would have been sealed to contain eggs and a cache of pollen for the larvae to feed on. Once exposed this wax was very crumbly and the structures soon disintegrated.

So what have I learned from watching Carder bees for a season? I have enjoyed watching "everyday" behaviour and better appreciate the value of patient (tedious?) observation of detail. I have increased my knowledge through reading and research and have some ideas regarding further

investigation, should I get the opportunity during 2021. I would like to find out more about feeding habits and pollen collection and to take a closer look inside an active nest. It has also demonstrated the merit of leaving areas of long grass and “weeds” in our garden and that habitat like this is of great value to Stromness Carder bee populations.

Refs:

www.bwars.com/index.php?q=bee/apidae/bombus-pascuorum
www.bumblebee.org/pasc.htm

Gardiner, Tim & Benton, Ted. (2011). The Importance of sea wall for the Moss Carder Bee *Bombus muscorum* in Essex http://hymettus.org.uk/downloads/Bombus_muscorum_seawalls.pdf

This article is from The Orkney Naturalist Bulletin, 2021. Permission was very kindly given by the author. Photo credits to the author. Anne has continued observing through 2021 discovering more about the ‘carding’. Another story...



Vapourer moth larvae



Chairs report

Chris McInerny

I very much hope that BRISC members are well and have enjoyed the wonderful weather that we have experienced in Scotland this summer to allow them to enjoy the natural world and engage in biological recording.

The BRISC AGM later this year will be held by Zoom on 25th November at 7pm preceded by a talk by Dave Smallshire. Dave hails from the Devon branch of the British Dragonfly Society and will give a presentation on the *State of Dragonflies 2021* Report produced by BDS, which will be extremely topical and exciting to hear.

We also plan to organise an “in person” BRISC conference in the spring of 2022. We will circulate more details of this later when we can be surer of the situation, but we hope to focus this conference on fieldwork and outdoor activities.

By the time we have had our BRISC November AGM, here in Glasgow COP26 will have been and gone. On my Clyde walk from the West End of the city I pass by the SEC and can see the temporary developments for this huge event. Ironically, brownfield sites, full of wild flowers and insects are being covered over for car parks and venues, and a popular cycle path is being closed. Let us all hope that important agreements are made to protect the environment and planet, to the benefit of all, at this conference.

Natural history continues to engage and excite me, as I am sure it does for you all. I include an image of a moth larva, new to me this year, the Vapourer *Orgyia antiqua*. The adult is a relatively diffident brown

moth with white wing spots, but the larva is an astonishing array of colours and bristles, all presumably to warn off potential predators. Quite a beast!

included, after an agriculturally enriched deluge caused an algal bloom in the loch. The terrestrial area is now an easy walking area of patchy mixture rough grass, species rich grassland, trees, scrub and around the loch, marginal wetland habitats. My aim was to teach a bit of basic botany to a couple of Borders Forest Trust staff, which was very enjoyable. In July I helped one of the staff locate *Genista anglica* originally very usefully, recorded by Michael Braithwaite (retired VC81 recorder). We wanted to locate the plants to prevent a new path decimating the few remaining and collect some seed for some further restoration work. So despite limping around I have done a few useful things this summer!



Editors column

Sarah Eno

I would add to our Chairs piece that **BRISC NEEDS A NEW CHAIRPERSON!**

Apologies again for the late arrival of this issue. From having little for the newsletter it is now a bumper edition thanks to all those who responded to my appeals! From Orkney folk comes a couple of stories of obsessional recording; one student managed a field course and he reports here. Bursary applications are open again - see page 10. Mark Pollitt let me copy the Recording apps report from SWSEIC which is long but informative. And there a couple of short pieces from the Borders.

I had a few outings, one where I led a couple of walks round Lindean Loch in the Borders, a SSSI notified for rare water beetles. Years ago a wide buffer area was

Moth Trapping in the South of Scotland

Sydney Gauld

On a recent trip south to Dumfries in August 2021, I had a chance to use a moth trap that had been kindly loaned to me by Mark Pollitt from South West Scotland Environmental Information Centre. This short article highlights the species that I found interesting to catch, i.e., species that are generally not seen as far north as Orkney or, if they have been recorded here, are only rarely seen in moth traps.

The trap was run at the edge of Crichton, on the southern side of Dumfries, for just over a week. Some 70 species were caught. As would be expected, a good proportion of the catch consisted of moths commonly caught in Orkney. Without listing them all, these included species like Common Carpet *Epirrhoe alternata alternata*, Brimstone Moth *Opisthograptis luteolata*, Gold Spot *Plusia festucae*, Rosy Rustic *Hydraecia micacea*, Ear agg *Amphipoea*, Dark Arches



Genista anglica Petty Whin

Apamea monoglypha, Common Rustic
Mesapamea secalis, Antler moth *Cerapteryx graminis*, Large Yellow Underwing
Noctua pronuba, Square-spot Rustic *Xestia xanthographa*.

This last group of moths I found to be the most pleasing to find in the trap. Once more, this group contains species that have been recorded in Orkney at least once or more, along with species that have yet to



Copper Underwing, Svensons Copper Underwing

Then there were the moths that have been recorded in Orkney, that I myself have caught in the past, or other local trappers have found in their traps. These included the Oblique Carpet *Orthonama vittate*, Spruce Carpet *Thera Britannica*, Small Phoenix *Ecliptopera silaceata*, Crescent *Celaena leucostigma leucostigma*, Flounced Rustic *Luperina Testacea*, Sallow *Cirrhia icteritia*, as well as a moth that I used to catch regularly when I first started trapping some 55 or so years ago – the Pale Mottled Willow *Paradrina clavipalpis*. This species was regularly found in the trap back then, and I would also see the adult moth when moving hay bales on the farm. But now, on looking at the Orkney records for this species over the past 10 years, we have five individuals recorded and, of these, the latest records are from 2016 for three individuals.

be recorded here. Canary-shouldered Thorn *Ennomos alniaria**, Lesser Swallow Prominent *Pheosia gnoma**, Copper Underwing *Amphipyra pyramidea* Svensson's Copper Underwing *Amphipyra berbera svenssoni*, Mouse Moth *Amphipyra tragopoginis**, Frosted Orange *Gortyna flavago**, Dun-bar *Cosmia trapezina**, Centre-banded Sallow *Atethmia centrigo*, Grey Chi *Antitype chi*, The Flame *Axylia putris**, Broad-bordered Yellow Underwing *Noctua fimbriata**, Lesser Yellow Underwing *Noctua comes**. (*indicating species in recorded in Orkney).

Copper Underwing *Amphipyra pyramidea* is difficult to separate from Svensson's Copper Underwing *Amphipyra berbera svenssoni* without either closely examining the underside of the hind wing or examining the genitalia. Both of which I did not pursue.

And now to the moth I found most interesting. I initially identified this Geometridae as Small Phoenix *Ecliptopera silaceata*,

however on getting home and looking at the photos I had taken, it did not look correct for a Small Phoenix, so what else could it be?

- Water Carpet *Lampropteryx suffumata*? NO, too big and way outside its flight period.
- Devon Carpet *Lampropteryx otregiata*, August flight period? Looks good.
- Next, has it been recorded from Dumfries? On checking the Atlas of Britain & Ireland's Larger Moths, I found that, yes there are indeed records for Devon Carpet in Dumfries and Galloway, just getting itself across the border into Scotland.

So, it was very nice to see a species that, so far, has not been recorded widely across Scotland.

All in all, it was a very enjoyable week and a bit, running a moth trap at the opposite end of Scotland from Orkney. I have not



Devon carpet

mentioned micros in this short article - rightly or wrongly I have left them out. Finally, I'd like to offer my thanks again to Mark Pollitt for the loan of the trap.

BRISC PROJECTS : Bursary report

Learning Land Mammal ID : Journey in an unfamiliar land

Cathel Weasel

I arrived in Birmingham, the night before attending my Land Mammal Identification course at the head office of the Field Studies Council in Preston Monfort. After a brief introduction to the site and the basic rules, we, the mammal crew, were thrown together over a quick evening meal. And what an interesting bunch we were! Ecological consultants, civil servants, small mammal keepers and breeders, and even conservation biologists with extensive experience in species reintroductions. After grub, it was straight to the classroom, greeted by our tutor for the weekend, the refreshingly practical Debbie Alston, chair of training for the Mammal Society and a lecturer at the University of Derby. The evening session began with an introduction to the mammals in Britain, 107 in all including 28 native terrestrial mammals, and then an overview of what we would be getting up to for the weekend.

Seeing the world as a small mammal

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

brown (*Rattus norvegicus*) rat, and the rotund edible dormouse (*Glis glis*). As well as going over the characteristics of



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

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

After looking at mammal characteristics, signs and habitation in the classroom, Debbie was keen for us to get out and look. So we found ourselves on our hands and knees in a meadow at the centre's entrance, parting grass to look for fieldmouse runs, latrines with tiny clusters of green faeces, and burrows. All of these we found, but no sighting of the small critters themselves – that would come later that night. Over the weekend, Debbie also covered ways to identify the UK's larger land mammals but our native megafauna are depressingly im-

poverished! However, in practical terms badgers (*Melis melis*) were the largest mammals we tracked signs of over the weekend.

Trapping is the way

On Saturday afternoon, we set our first traps to catch small mammals. There are two principal traps used to detain small mammals non-fatally in the UK. The modest *trip-trap*, an affordable, plastic contraption which has the pleasing quality of a see-through plastic corridor, so you can see whether a critter has entered your trap prior to opening it. On the downside, the unwilling guests have a habit of chewing their way out of the plastic casing. The second is the more robust Longworth trap, which being made of metal is sturdier, but completely opaque. Thus, no critter can be ogled until the trap is opened. We were assigned four Longworth traps each, which we filled with straw for bedding and then oats, raisins and apple for the herbivores (voles and mice) and castors for the insectivores (shrews). Incidentally, legislation dictates that if pursuing shrews (whose high metabolism means they constantly eat and for which you need a license), in England you must check your traps every 16 hours (12 hours best practice), while in Scotland you are required to check your traps every four hours!

On checking my traps the following morning, success! Two of the trapdoors were closed, indicating that I had visitors enjoying my hospitality. Next we had to bag them and box them. I had two fairly laidback bank voles. Laidback they may have been, but I and the others were rather wary handling them – they had teeth after all and looked like they could turn on a dime. On another occasion, I trapped a wood mouse. Then there were the yellow-necked mice. On casual inspection, there wasn't much to



Snipping a bit of fur off a wood mouse, to help recognise whether the same mouse returns

differentiate them from the closely related wood mice. A closer look, however, and you should spot the continuous yellowish-brown band that spans across the top of its chest between the front limbs.

The magnificent badger sett; and searching in vain for latrines

Another highlight of the weekend involved a survey of a badger sett, located along the banks of the River Severn. After an exciting shimmy down steep banks, we were greeted with an extensive network of holes, that even the experienced ecological consultants among us were amazed. Several entrances extended thirty meters in all directions. The site was ideal for badgers, rarely visited by human, an extensive linear corridor along the river allowing them to travel safely across landscapes; many berries in the vicinity; and rich red earth that was easy to shovel. Surprisingly, however, aside from the sett and related runs, we saw few identifiable signs of the badgers themselves. Footprints were overlain and didn't hold their form in the crumbly earth, and we couldn't find a single latrine.

Putting it all together

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

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

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

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



Want to Study Wildlife?

BRISC (Biological Recording in Scotland) have been offering bursaries towards attending a training course in natural history field studies since 2009. Since then we have been pleased to welcome partners to the scheme, some of whom have particular criteria

- [BRISC](#) and [GNHS](#) (Glasgow Natural History Society) bursaries are open to everyone.
- [NatureScot](#) bursaries are targeted at those aged 25 and under.
- The [Inverness Botany Group](#) welcome applications from those living/recording in the Highlands.

- Bursaries are open to anyone living in Scotland.
- The bursaries will be for £200 or 75% of the cost of the course, whichever is lowest.
- Courses must be chosen from the taxonomic courses listed under the Professional Development Programme

Application forms are on the BRISC website and should be submitted to bursary@brisc.org.uk by **31 January 2022**

A walk to Fethan Field, Innerleithen, Scottish Borders

Fi Martynoga

There is nothing particularly dramatic or scenic about the field on the Fethan Road, the old track from Traquair to the Glen Estate, yet it has always held my interest. It first caught my eye when we were viewing our house before its purchase, made in 1984. The neatly cut track contours round a hill on a steep slope and we commented on the dedicated hand-labour that had made it, who knows how long ago.

I think that the steep slope is the primary reason for this field being more botanically rich than any of the surrounding ones. It is also permanent pasture that has never been under the plough, which must be significant. Gorse inhabits the crest of the hill and Hawthorn is slowly colonising the lower slopes, getting grazed back for decades until the bushes thicken up so much that the leader is out of reach of mouths and can get away. The grazing is by cows from April to October and sheep for some of the winter months, although the farmer always seems to rest it for at least three of them. This regime is dictated by the perceived needs of stock, not by environmental considerations but it serves pretty well, particularly because there is no dosing with the artificial fertilisers that are thrown on to the rest of the farm.

Early summer is the most fruitful time to visit. I walk through a broad shelter belt of conifers to reach the field, nibbling Wood Sorrel and watching the progress of the Foxgloves on its western side, where the gate is marked by a Norway Maple, a tree frequently planted fifty or sixty years ago on what was then the Kirkhouse estate. Immediately I enter the field I am likely to see Mountain Pansies among the Heath Bedstraw, Crosswort, Tormentil and Bird's-

foot Trefoil. If I look uphill, away from the track, I can spot lots of Pignut, and Bitter Vetch, an unusual plant for these parts. In the Gaeltacht until a hundred years ago, they were valued for their tubers. Not only do they provide a liquorice-tasting snack, but they subdue hunger pangs and are said to expel wind. In the Highlands they were also used to flavour bootleg whisky, and so were well known and sought after.

Other vetches appear, Meadow Vetchling, Bush Vetch and Tufted Vetch. The last always surprises me, as it seems amazing that it can survive grazing. White and Red Clover abound, three species of Buttercup, three of Sorrel, and the three most common thistles, Marsh, Creeping and Spear, do well but do not dominate in the damper spots. Where it is drier, you can readily find Selfheal, Germander Speedwell, Heath Speedwell, Yarrow and Harebell starting to show, and, everywhere, Hawkbits, Stitch-worts, both Greater and Lesser, Common Mouse-ear, Chickweed, and Common Milk-wort.

There is nothing unusual in these plants save for their profusion. The fields either side of this one are on broadly similar slopes but neither has anything like the diversity. One is very wet as it is cut through with channels from a spring line and the other has been under the plough in the past and is still cut for silage. Both of them are heavily grazed by voracious sheep and seem to grow little but a narrow set of species of grass. The wet one has Soft Rush (and some Hard Rush along the bottom fence-line) and, everywhere, thistles and docks. Where I might expect to see Brooklime and Water Forget-me-not, which are both present on the banks of the small burn that runs through the western edge of Fethan Field, they are absent. There are no Spotted Orchids which make an occasional appearance at the bottom of Fethan.

If I pause on the Fethan track and look downhill to the Quair and the little road to Glen, I can feast my eye on even greater diversity. The river is fringed with ancient alders which have not been pollarded for a century and a half, at a guess. Some are massive and magnificent. A couple of maiden trees have passengers, a rowan on one and a birch on another: air trees, or bird trees, that confuse the unwary as they mingle their leaves with those of their host. The river has large patches of Water-crowfoot and smaller ones of Monkey Flower, said to have escaped from the textile mills. Beyond its banks the road has rich verges. Several clumps of Common Rock-rose support a colony of Northern Brown Argus butterflies that fly in the summer. Other yellow flowers like (what I think are) two different species of St John's Wort, Lady's Bedstraw and Common Toadflax can be found along here. It's also the spot for Wood Cranesbill and glorious displays of Meadow Cranesbill and Meadowsweet. This is the area I raid for rose hips to dry for tea. Both Dog-rose and Sherard's Downy Rose are frequent and fruit prolifically. The latter ripens earlier and is more tasty, but the hips are covered with sharp hairs, so any tea made from them must be rigorously strained.

If, instead of walking home on the road I loop back through another strip of woodland to join the Southern Upland Way, I can find Moschatel. One year it carpeted a wet section under the trees but recent growth of conifers has it on the run. Once out of the woodland, I'm back on the usual bitten-to-the-quick pasture and my game of 'Spot the Flower' dwindles as I clock just a few Dandelions and Daisies. But the riches of Fethan Field have fed my craving for variety and I feel pleased with the outing, though I will have seen nothing really out of the ordinary.

Bioblitz Success, Innerleithen

Isabella Stuart Grey

Traquair House held its first Bioblitz this year on September 18th and 19th, hopefully marking the start of an annual tradition. The event was split into two sections, the biological recording on Saturday and the public engagement on Sunday. However, we did mix things a little bit by inviting PhD students from Edinburgh to shadow some experts and learn a new hobby.

We had a great turnout from enthusiasts like the Gallwasp specialists, 30+ members of the Fungi group, Buglife Scotland, lichen specialists and a few all rounders. A great find was a *Eriozona syrphoides*, a rarely seen bee mimicking hoverfly that has only been recorded twice before in the Borders. We also put out some trail cams and managed to catch a pine marten lurking up the trees, visiting Traquair just the night before!

Our total capture was 404 species which was not bad for our first time. On Sunday we had pond dipping, fungi walks, moth release, wild foraging and badger talks. We had about 200 people come during the day which was quite a success on a day with such a bad forecast. The public favourite was definitely the fungi walk! We hope to hold the next Bioblitz sometime in May for a different variety of species in the area.

Editor notes - Thanks to Isabella for this brief report. It was a terrifically well organised event with lots of new people and old hands, peering at specimens on tables beneath marquees and talking to experts. The Wildlife Information Centre was there on Sunday, when I couldn't attend sadly.

Smarter wildlife recording

Mark Pollitt (SWSEIC)

This article was kindly shared by Mark from his blog (30 Sept 2021) on the SWSEIC website. The blog includes a lot of screen shots which may be really helpful. <https://swseic.org.uk/news/events/blog/>

It hasn't taken long for wildlife recording to embrace the power of the smartphone technology. You can now find hundreds of wildlife related apps; this article will help you find some of the most useful ones aimed at helping you to identify, record and share your wildlife records.

Smartphones have an obvious benefit for logging wildlife records – your phone immediately knows three of the [four Ws essential for a wildlife record](#) (when, where and who) and a basic record can be quickly created simply by entering the 'what' – a species name – from a list on the app.

So what's currently on offer, and which ones should you use? Here are a few pointers to some of the most useful apps, focussing primarily on those with a core wildlife recording element.

Multi-taxa apps

For users who wish to record a broad range of species, the **iRecord app**, launched in 2016, has become a popular way to enter records and share them to the online iRecord platform (brc.ac.uk/irecord) which houses over 16 million records, almost solely from the UK. Run by the Biological Records Centre (BRC) and designed specifically to support the UK wildlife recording network, the app allows entry of records across all taxonomic groups. It uses a dictionary of names (both English and scientific) from the UK species inventory to select from, so you shouldn't have any trouble finding the correct species (or genus or family) for your record. If you use

common names to enter records, do watch out for species which share the same name (a Redshank can be a moss, a plant and a bird!) and check the correct scientific name if you are offered multiple options. The app interface could perhaps be described as a little plain, especially when compared to some of the other apps mentioned below; however it works well for rapidly entering wildlife records in the field, which is after all what it is designed to do. You can add a photo to support your record, which is helpful for record verification (see below), though is not essential (*cf.* iNaturalist below). The app has built-in OS mapping and aerial photos to refine the location of sightings.

There are options for additional record information, such as life stage, relevant to the species you are recording. Unfortunately there is no two-way flow of information from the iRecord platform back to the app, so you can't get further information about the species you are recording, see any records you have entered directly on the iRecord website or view other people's observations. Once uploaded, you can't edit your records via the app – you need to log into the iRecord website to make any changes. But as a simple app it is an efficient way to capture your records in the field and send them on so they can be used. For more information you can check out the [iRecord user guide](#).

The other app for multi-taxa wildlife recording is **iNaturalist**. The app and the associated iNaturalist website (inaturalist.org) were developed in the USA and have a global remit, with over 79 million records entered worldwide. The app is linked to the iNaturalist database, and unlike the iRecord app you are able to see records from the database on the app – you can view, map and edit all of your own records, view local sightings by other users

or even browse records from anywhere in the world. Data entry is simple, using the phones inbuilt information to locate and date the record. The app is particularly focussed on records that have supporting evidence, usually in the form of a photograph (although you can upload sounds too). You can enter records without a photo, but it's worth knowing that these will generally not be shared onwards to other organisations. A major feature of the app, particularly for new or inexperienced recorders, is the ability to suggest identifications for the pictures you upload. So for example if you take a photo of a moth on your window the app will give a suggestion as to what species it might be (or a genus or family if it is not confident). Whilst useful, this should be taken as a guide and certainly shouldn't be relied on (see 'Help with identification' below). Overall the app provides a much richer community experience for the user, and is a great way to learn.

A key difference between these two apps is how the records are checked. On the iRecord app, once entered and uploaded from your phone to the website, the data will go through some automated checks to flag records outside their known range or occurring at an unusual time of year. The records are then verified by local or national experts (all volunteers) who check records throughout the country. Verification coverage across taxonomic groups and regions is not 100% complete, but it is improving all the time and verified and unverified records remain available for anyone to use.

In iNaturalist, the wider community of users does the checking, and those records where consensus is reached on the identification (where 2/3 of the people agree) are classified as 'research grade', and are shared onwards to national and global data repositories such as GBIF (Global Biodiversity

Information Facility). Records without any supporting evidence (i.e. without a photo or sound recording) are not checked by other users and thus never become 'research grade'.

iNaturalist users can add observations without identifications (e.g. a photo of a flower and leaf can be recorded as unknown or simply 'Plant') and if a good photo is provided the community of users will help to formulate an ID based on the evidence provided. On iRecord users are encouraged to seek help with ID prior to submitting records (e.g. through some of the excellent online forums and social media groups) to avoid over-burdening volunteer verifiers with ID requests.

Another difference between the apps is the licensing and sharing of your records. If you use iRecord, all records are made available to the national recording schemes and local environmental records centres (LERCs) – this is part of the terms and conditions of using the site. On iNaturalist, you can choose a specific license for your records – the default license is attribution (must acknowledge the provider) and non-commercial, which unfortunately means that information may not be usable for some of the work that LERCs do. If you use, or plan to use, iNaturalist, see SWSEIC note below, for what you can do to make sure your records are available for use by LERCs.

Species group apps

There are numerous recording apps which refine the cross-taxa approach to focus on a particular species group. Most use the same strengths of the smartphone – its inbuilt knowledge of who, where and when – to make record entry easy and some add on useful ID guides and detailed information about the biology and distribution of each species. Each uses a simple form to for each record, or even a list of records. The

BirdTrack app, managed by the British Trust for Ornithology, is a very popular tool for bird recording, and syncs with the BirdTrack website (bto.org/our-science/projects/birdtrack) which handles millions of bird records every year. Data entry is quick and efficient, and users can enter complete or partial lists (casual records) of sightings at particular place. You can view recent sightings entered by other BirdTrack users, and it allows you to maintain your own year or life list.

Other apps include **Mammal Mapper** (run by the Mammal Society) or those in the iRecord family such as **iRecord Butterflies** or **European Ladybirds** (BRC). These are submit-only apps – you send the data on to a central ‘warehouse’ but you can’t see the records of other users on the app – but each has excellent identification guides with plenty of photos, phenology charts and distribution maps to allow you to learn about the different species. Apple users also have the excellent **iRecord Grasshoppers** app available which has a good ID guide and recordings of the songs of as well as the usual record submission forms. If you are looking to record offshore then the **Sea Watcher** (Bangor University/Sea Watch Foundation) and **Whale Track** (Hebridean Whale & Dolphin Trust, west Scotland only) apps allow you to record marine mammals and some associated species and both have excellent ID guides built-in.

Survey-specific apps

Some apps are specifically set up to support particular surveys or projects. These usually involve following a specified methodology (e.g. recording a specific area or for a specific period of time) and contribute more structured wildlife records which enable more detailed scientific analysis of the results. Examples include the **FIT Counts** app (Centre for Ecology & Hydrology –

CEH), which records insect visits to flowers as part of the UK Pollinator Monitoring Scheme, and the **NPMS** app (CEH) which allows recording the results of the National Plant Monitoring Scheme surveys. The **Big Butterfly Count** app (Butterfly Conservation) supports the nationwide citizen science survey undertaken annually to monitor broad scale changes in the UK butterfly populations. The Mammal Mapper app mentioned previously also allows for more structured recording effort to be logged.

Some research projects may seek help from citizen scientists via their own apps to record or survey species or habitats, but it is always worth checking how the data are to be used and shared and how long the project will last. Records submitted to such surveys, whilst valuable for the particular project’s research, may not automatically be shared with the wider recording community and it may be worth checking with the relevant organisation about data flows and consider submitting important records gathered during such surveys through one of the main recording apps as well.

Help with identification

A small but increasing number of apps have incorporated an element of machine learning to provide help with identification from photographs or sounds. The iNaturalist app provides identification suggestions based on a photo and the location of the record, and in general these ID recommendations are fairly good. Where there is more uncertainty in the ID, the app will often suggest a broader genus or family. Another useful app for identification of photos is **ObsIdentify** (Observation International), which is an app related to a Dutch equivalent to iRecord or iNaturalist. The identification suggestions give a percentage likelihood and are usually very good. Bird song and call identification is the focus of

the **BirdNet** app (Cornell Lab of Ornithology), which allows your phone or tablet to be used to sample and identify the bird songs around you. **PlantNet** is a similar plant-focused image ID app.

In all cases these auto-ID apps should be treated as guides rather than definitive identifications, as they are by no means infallible even when the suggested ID ranks highly. They can however provide very useful pointers for seeking out further information and be a great help if you are learning about a new species group. Particular caution should be used for difficult to ID species groups; some are simply not reliably identifiable from a photo alone (e.g. many spiders and fungi) where other characteristics may need to be checked (e.g. examining structures under a microscope) before ID to species level is possible.

Some tips for choosing which apps

If you have a specific interest in one particular taxonomic group, then the apps tailored to that group (e.g. BirdTrack, Mammal Mapper) may well be your best bet as they are tailored to provide useful information for that group. But if you wish to record a broader range of species, rather than having different apps for each one (if they exist) then a general app like iRecord or iNaturalist will allow you to keep all your observations together. You should also ask yourself what you want to achieve. If your goal is to make all your records (with and without photos) readily available to wildlife for use in conservation or decision making by national schemes and societies or LERCs like SWSEIC then currently the simple but effective iRecord is the best option for doing this.

If you enjoy a more community-based approach, a more feature-rich app experience and some automated help with photo ID then iNaturalist is perhaps a better alter-

native – just remember that there are still limitations with data flows to into the UK biological recording network and any records you make without photos are unlikely to be shared. Apps to help with identification certainly can be useful, but don't rely on them to get the correct ID – ultimately you still have the job (and the fun!) of identifying them yourself and hopefully broadening your knowledge at the same time.

More about iNaturalist can be found here <https://swseic.org.uk/2021/09/swseic-and-inaturalist/>

SBIF Update - October 2021

Jonathan Willet

The good news is that our Better Biodiversity Data Project is progressing to fruition! We haven't quite got to the point of being able to announce who the owner of this project will be, but we hope to be able to do this in the next couple of months and at that point the project will formally start.

Large and complex projects are well, large and complex... This being the case we have been working with the prospective project owner to ensure that the project can really get going as soon as staff are in post. The SBIF Working Group (and everyone else) are very keen for the project to deliver, so it is worth taking the time to ensure it does.

As a result of my ongoing work supporting the above, NatureScot have agreed to continue to fund my post one day a week, until the end of March 2022, and The Scottish Wildlife Trust have agreed to continue hosting the post.

Continued page 20

NBN update September 2021

NBN Conference

This year's NBN Conference is on Wednesday 24 November and will once again be held online. The theme is "Biodiversity data – from collection to use".

Following the successful collaboration with the Open University and the iSpot team last year, and their invaluable help with the technical side of proceedings, we are delighted that we are running this as a co-hosted NBN Trust and iSpot/Open University event again in 2021.

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

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

Find out more and book:
<https://nbn.org.uk/news-events-publications/nbn-conference-2/nbn-conference-2021/>

NBN Atlas Project Page

We have been giving regular NBN Atlas updates over the last few months as we dealt with some performance and stability issues. We have now created a Project Page to keep you updated over the next few months.

The Project Page contains a timeline indicating what we are doing to rectify things for the long term now we have rectified the immediate server issues.
<https://nbnatlas.org/project-page/>

Wildlife data from the NBN Atlas is key to tackling the biodiversity crisis

The NBN Trust welcomes the importance placed on UK biodiversity data – as the essential evidence base to reverse the devastating decline in biodiversity – in the "Nature Positive 2030" report published on 22 September by the UK's five statutory nature agencies (Joint Nature Conservation Committee, Natural England, Natural Resources Wales, NatureScot and the Northern Ireland Environment Agency).

The [Nature Positive 2030](#) report sets out the priority actions and achievable steps for becoming 'Nature Positive' – that is, reversing the UK's biodiversity decline – by 2030. While the UK is not currently on track to becoming nature positive by 2030, this aim is achievable if nine changes – that can be delivered rapidly – are adopted by national and local governments, land owners, businesses and others.

One of the nine priorities from the report is:

- "Developing the UK's evidence base so that it is ready to support the larger, transformative changes underway."

All eight of the report's other priority actions need the information and understanding of this evidence to win support and guide decisions.

As the NBN Trust manages the [NBN Atlas](#), the Trust, along with all the organisations and individuals that contribute wildlife data to the NBN Atlas, will be able to play a vital role.

New lead developer for NBN Atlas

We are delighted to announce that after six months working as a contractor for the NBN Trust, Helen Manders Jones has accepted the role of Lead Developer for the NBN Atlas.

In her short time with us, Helen has clearly demonstrated her aptitude for the role, using her experience and expertise to help us through the performance and stability issues that we faced. She is also helping us with planning for the future of the NBN Atlas infrastructure and will continue this critical work alongside Sophia Ratcliffe, Justin Dee and Mike Prince. Mike is working as a volunteer Project Manager following Caroline Van Dierkson's departure last month.

<https://nbn.org.uk/about-us/who-we-are/nbn-staff/helen-manders-jones/>

Douglas Boyes

The NBN Trust is saddened to hear of the sudden death of Douglas Boyes.

Douglas was the winner of the Newcomer Award in the 2020 NBN Awards for Wildlife Recording and his passion for lepidoptera and biological recording shone through.

<https://nbn.org.uk/news/douglas-boyes/>

iNaturalistUK and its place in biological recording data flow

The NBN Trust is the co-ordinator of iNaturalistUK, with the support of the Marine Biological Association and the Biological Records Centre. Together we want to support and promote the use of iNaturalistUK as one of a suite of recording tools available to the UK's biological recording community. We have a new page to explain how iNaturalistUK complements the other tools available and what we're doing to

to ensure that iNaturalistUK data meets the needs of the UK's biodiversity data community.

<https://nbn.org.uk/inaturalistuk/inaturalistuk-and-its-place-in-biological-recording-data-flow/>

Record wildlife - a fun way to help nature

In addition to the above article, we have also produced some guidance giving more information to those who are new to recording, focusing on iNaturalistUK and iRecord.

<https://nbn.org.uk/record-share-explore-data/record-wildlife-a-fun-way-to-help-nature/>

'Precision' citizen science

Two projects led by UK Centre for Ecology & Hydrology (UKCEH) are providing information for wildlife recorders to help them choose where to record – based on where records are most valuable. Both projects invite your feedback and involvement.

<https://nbn.org.uk/news/precision-citizen-science/>

GBIF and Atlas of Living Australia partnership

More than 12 months of collaboration between developers from the Atlas of Living Australia and GBIF has produced a major upgrade to the ALA's systems that makes them more reliable, more robust and better equipped to manage increasing biodiversity data.

<https://nbn.org.uk/news/gbif-and-atlas-of-living-australia-partnership/>



**Annual General Meeting
Thursday 25th November 2021 at 7.00pm, by Zoom**

The AGM will be preceded by a talk:

**David Smallshire of the British Dragonfly Society,
Devon Group:**

"State of Dragonflies 2021"

<https://uofglasgow.zoom.us/j/92260455573?pwd=ZVpBei80TDFXbloyUzlxTWRyVGfJQT09>

Meeting ID: 922 6045 5573

Passcode: 746176

AGM Agenda November 2021

- Apologies
- Minutes the last meeting
- Chairman's Report
- Annual Accounts and Treasurer's Report
- Memberships and subscriptions
- Election of Honorary Officers and Council
- Any other business

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Other work I have been involved with is setting up meeting with the Biological Record Center (the creators of iRecord) and the Scottish Environmental Record Centres and Recording Groups to showcase iRecord and explain how the app and the Record Centres can work most profitably. If there is interest in BRISC members attending an online demonstration and explanation of iRecord then please do let me know.

The current political climate in Scotland does seem more "green" and we hope that this may lead to a positive reception to future representations requesting funding for the other projects required to deliver the SBIF Vision.

I hope you are all enjoying your Autumnal biological recording.

jjwillet@scottishwildlifetrust.org.uk

BRISC NEEDS NEW COMMITTEE PEOPLE AND A CHAIRPERSON!

Please offer yourself for the committee at the AGM 25th November (or anytime!). It really is not much work, with four meetings a year and one conference. Meetings are now by zoom and likely to continue as such, to enable far flung persons to join and to cut our emissions.

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COPY DEADLINE : 28th JANUARY 2022

Articles, recording news, book reviews, stories of favourite places or species are all welcome. Please send copy in Word or Open Office format. Photos are welcomed but best as jpeg files. If the data is large send them via wetransfer or similar.

Please email to the editor: saraheno@riseup.net

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