NFBR

NATIONAL FORUM FOR BIOLOGICAL RECORDING

Newsletter 56 – October 2018

Contents

Welcome to Issue 56 of the National Forum for Biological Recording Newsletter.

In this edition we learn about a long term personal project (*Fifteen years of a square metre wildlife project*, pg 8) and a short term burst of recording energy around the country (*UK BioBlitz: Nature Reserves are Not Enough*, pg 5). We hear from a range of people and organisations striving to make species identification and recording easier to achieve (*Latest FSC Identikit developments*, pg 10; *New app makes identifying moths easier*, pg 12; *Supporting Invertebrate Recorders*, pg 19).

Whether you are just starting out in biological recording (*The Power of Traineeships*, pg 14) or have dedicated a lifetime to supporting and promoting it (*The late Sam Berry: an appreciation*, pg 16), thank you for choosing to become a useful part of the great biological recording community of Britain and beyond.

Many thanks to all the newsletter contributors as always; I hope you all find this edition an enjoyable and inspirational read as the nights draw in and your backlog of data entry looms!

El*aine Wright (Editor)* editor@nfbr.org.uk

Cover photo: Cicadella viridis © Liam Olds - learn more about Leafhoppers on pg 14

2018 Conference

The 2018 conference was an enjoyable meeting, with 63 delegates joining us in lovely Shropshire back in May. Our partners this year were the Field Studies Council and Manchester Metropolitan University Biological Recording. Many thanks to Sue Townsend (FSC) and Sarah Whild (MMU) for all their help in creating a useful and interesting event around the topic of "*Skill Development for Biological Recording*".

Speakers from a wide range of backgrounds and organisations gave thought provoking presentations on the skills needed by recorders, how these can be acquired and some inspiring stories from successful training schemes around the country. The final session was dedicated to workshops on how we can all share best practice going forwards. Below is a word cloud of the qualities which were considered necessary to be a "good biological recorder".

UK Awards for Biological Recording and Information Sharing

These annual awards are jointly organised by the National Biodiversity Network (NBN), the Biological Records Centre (BRC) and NFBR to celebrate the great work done by biological recorders around the UK.

Graham Walley (Chair of NFBR) has been working with NBN and BRC staff to create a shortlist for the terrestrial awards, while Paula Lightfoot (NFBR Trustee) has been involved with assessing the marine categories. You can now view all the shortlists on the NBN website; the winners will be announced at the NBN Conference in Nottingham on Thursday 21st November.

2019 Conference: Save the date!
Following a poll of members (via Facebook, Twitter and the mailing list), the 2019 conference will be a Thurs-Sat slot. It is being held at BTO headquarters in Thetford, Norfolk with a theme of "*Outside the honeypot: biological recording in the wider world*". The programme and other details are currently being confirmed, but in the meantime please save the dates: **Thurs 9th May - Sat 11th May 2019.**

Current NFBR Governance
NFBR has a board of six trustees who form the Executive Committee, plus an Advisory Council. You can learn more about the individual Trustees and Council Members on the NFBR website: http://www.nfbr.org.uk/?q=about-us/governance. Current members and positions held are as follows:

Trustees
Graham Walley
Clare Langrick
Paula Lightfoot
Simon Pickles
Sarah Whild
Elaine Wright

Advisory Council
Paul Brown
Teresa Frost
Martin Harvey
Martin Hicks
Maria Longley
Damian McFerran
Jodey Peyton
Steve Prentice
Zoe Randle
Chris Raper
David Slade
Craig Slawson
Alan Stewart
John van Breda
Jonathan Willet

UK BioBlitz: Nature Reserves are Not Enough

Louise Bacon

If, on one dark November day someone who you only vaguely know but who works with your partner, pops round for a quick chat about an exciting new project, just don't let them in! Well, I did have that chat last November with Tina Lindsay, once of Birdfair and all-round project motivator. Her brief to me: how about managing the data and recorders side of a project to do 50 BioBlitzes across the UK in a ten-day window in July? There would be a geographic clustering of sites, about 5 per day, and a live team would visit all of the BioBlitzes. Each site could record for as many hours as they wished up to 24, as long as they were recording whilst we were there.

Oh, and there's a catch. It's a campaign headed by Chris Packham, but whilst organising it over the winter, you cannot publicise that bit! Just to make it more difficult.

Madness, cannot be done, were my first thoughts. Why me? But then, Well, why not? I had no firm employment plans for the summer, and I did have a lot of contacts across the UK, most especially from my time working in the local environmental records centre community.

"OK, sounds fun – lets do it." A list of sites followed and then a winter of planning... Starting in central Scotland, visiting Northern Ireland then back across through England and Wales, finishing in Dorset, and visiting sites ranging from big NNRs to small community projects with little connection to their local naturalist network, this wasn't going to be straightforward. Some sites wanted full-on public BioBlitzes, whilst others were to be more naturalist-focussed recording days, lots to juggle.

People enjoying one of the public BioBlitzes

I soon decided that the best strategy, alongside liaising with every site to find out exactly what they wanted to organise themselves and what they needed from me, was to talk to the relevant LERCs and get them on board. I also reckoned, as they are so good at BioBlitzes, and at understanding confidential stuff, that they would be OK with knowing that Chris Packham was the celebrity involved but that they couldn't tell their recorders until that bit was made public in April.

We also had a long conversation with the Bristol Natural History Consortium, who provided resources and listed the events which were to be public ones.

Chris Packham and Iolo Williams in Newport with LERC staff from SEWBReC © *David Slade*

I spent the first part of 2018 juggling the organising of this alongside a part-time contract with Essex Wildlife Trust, but oh how difficult to explain that I didn't want to extend my contract but I couldn't tell them why!

The project went through 19 LERC areas, and we had direct involvement from 13 LERCs, organising events in their region for us. The biggest challenges were in Scotland and Northern Ireland; in fact Pauline [Campbell] from CEDaR said it was impossible to do, 4 sites on the same day, a week after the big Northern Ireland public holiday in July which is still a very contentious time when many folk go on holiday. And they don't have enough naturalists in Scotland and Northern Ireland. And we all decided that we could keep finding excuses, but that we should just do it

And do it we did. The live part of the project saw 10 of us head off to Stirling, ready to start Day 1 at Ben Lawers. Although we all think of this as the start, Chris actually started two days before with the live launch at Woodberry Wetlands in London, so they had the honour of being the first site, without the full project team present. The project was funded on a very tight budget by a private funder, and most of us worked unpaid or not fully paid for our time, because we thought it a project worth doing.

The live team had never met until that point – we all worked on our aspects – film, logistics, recording, etc. in our own little worlds from our own part of the country. Each day we spent between 1 and 2 hours on each site, meeting the busy naturalists, the site managers, the records centre folk who gave their time to be present on site, and of course the public who also turned up.

Most sites opted for the full 24-hour recording period, and had an excellent range of taxonomic expertise present. The sites that impressed me most were actually the small community projects – we visited a small project each day. The diversity of wildlife on those sites, whilst rarely as high as on some of the big reserves, was still impressive, and is arguably more valuable to publicise. These sites are often undesignated in specific site protection terms, but loved and adopted by their local community, managed by a handful of dedicated volunteers, and intensive recording had never been done on them. So important to show to everyone that such small sites are vital to the biodiversity of the country.

Each day I needed to collate data from the previous day's sites, and try and get a day total and running total for Chris to publicise as the new day started. As we had a 12-14 hour schedule on sites, this meant starting early, to get as much updated as we could, and keep numbers updated on the on-line live map (it's still there, along with the list of sites and the final data on line, link at end of article). By the time we finished the 10 days, I hadn't seen a hot meal for 4 days, a structured meal for 7 days, and had long since forgotten what anything other than a Premier-Inn type room looked like. We were, to be honest, also all a bit smelly as we only had 4 project T-shirts each, to be re-used over the 10day period with no time to wash anything, so I guess some major apologies to everyone we met after day 4!

What did we achieve? Well, its hard to be certain. I know we had naturalists busy at 50 sites, had the full involved support of 13 Local Records centres, and over 780 naturalists. We recorded over 4800 species. I guess part of our success was extremely good luck with the weather, apart from one very damp day in North Wales in one of the hottest summers on record for the UK.

We spread the word about the importance of a wide range of sites to the biodiversity and health of the UK, and we connected some naturalists with sites they had never considered visiting.

We recorded new spiders for Scotland, new fungi for Northern Ireland, we looked at standard farmland, we had moth traps run at nearly every site, and I am looking forward to working with the Field Studies Council on some follow-up analysis of the whole dataset now that autumn is here and we all have nothing better to do!

The top two sites were both restored extractive-industry local reserves. Kings Dyke (brick pits) on the edge of Peterborough really pulled out the stops and managed to come in top with 1139 species recorded, due, I am sure, in no small part to being on the doorstep of Pete Kirby, who spent much of the 24 hours there finding as much as possible. They were run a close second by Nosterfield Quarry Local Nature Reserve in North Yorkshire, where 1111 species were recorded, including the largest single-site night's moth-trapping ever achieved in Yorkshire, with 214 species.

It would not have been possible without all of the naturalists who turned out, and I could not have organised this without the input beforehand, on the day and afterwards by all of the Local Environmental Records Centres listed below. The data should be soon on the website below, and will be freely available to anyone.

The itinerary, map of sites and data can be found online here:
www.chrispackham.co.uk/chris-packhams-uk-bioblitz-2018

Day	Species Recorded
1	788
2	740
3	984
4	739
5	1154
6	1603
7	1295
8	842
9	1940
10	1313
Total	4828

Thanks to the following LERCs:
Lothian (TWIC); South west Scotland (SWSEIC); Northern Ireland (CeDAR); North-East England (ERIC-NE); North & East Yorkshire (NEYEDC); Shropshire (SEDN); North Wales (Cofnod); Powys (BIS); West Wales (WWBIC); South East Wales (SEWBREC); Cambridgeshire (CPERC); Suffolk (SBIS); Hampshire (HBIC); Dorset (DERC).

The Square Metre in 2018 © *Patrick Roper*

Fifteen years of a square metre wildlife project

Patrick Roper
patrick@prassociates.co.uk

At the Sussex Biodiversity Recorders Seminar in 2006 I gave a talk on a square metre recording project (M3 for short) which was then two and a half years old. The scheme involved a detailed study of wildlife in an unremarkable square metre patch of land and its immediate surrounds in our garden in Sedlescombe, East Sussex (OS grid ref TQ783188). It was undertaken initially just to test some new recording software. The project is now 15 years old and still going strong. It was famous for a bit with appearances on TV and radio, and many magazine articles and talks, but has now settled down to a quiet but much loved (and still studied) fragment of the natural world.

M3 has expanded a bit to take in the surrounding area as there is a close interaction between what lies within and immediately without and this 'penumbra' as I call it broadly encompasses my peripheral field of vision and should not, I think go unreported. I call this sphere of perception The Green Sanctuary and observations and ruminations can be followed on my blog: http://squaremetre1.blogspot.co.uk/

Something I think about constantly, as do all those responsible for proper nature reserves, is how to manage the area. Brambles grow quickly and must be restrained. The area has 14 self-sown trees and shrubs: birch, sallow, holly, hornbeam, ash, hawthorn, oak, sycamore, hazel, rowan, privet, cotoneaster and two species of wild rose. These have to be kept in order and many of the trees are 'pollarded' at one metre tall and shaped as cordons. I like to think of it as a variation on coppice with standards. However, everything arrives under its own steam – I have not introduced any species,

though I do put down bits of wood and rock and have made a one litre pond out of half a two-litre plastic bottle. Also, I do not attract species into the area by moth trapping, for example, or putting down baits.

To look at the ever-growing species list for the project would make it seem like a very special place so far as wildlife is concerned with several 'first records' for Sussex, but it is the regular, detailed and sustained observation that is unusual, not the nature of the habitat. For example, I have once, but only once, seen a slow-worm, whilst a common lizard was quite a little friend for a few weeks one summer. Many plants and animals have put in a single appearance then not been seen again: early hair-grass (*Aira praecox*), common crystalwort (*Riccia sorocarpa*), an earth tongue (Fungi: *Geoglossaceae*), gipsywort (*Lycopus europaeus*) a plant usually found in wet places, an ash-black slug (*Limax cinereoniger*) and a silver-washed fritillary (*Argynnis paphia*) that strayed in from the nearby wood.

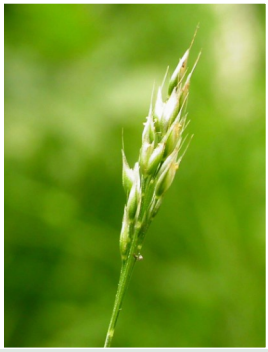
Including things unidentified, I have recorded over one thousand species from the area and have over 500 pages of notes as well as the blog entries.

The Green Sanctuary rapidly became a place of reflection raising as many questions as answers. Why, for example, do I start to notice things that I was not aware of on arrival after I have been present for 15 or 20 minutes? This leads to the thought that we may walk through the countryside too fast. I have noted as well that many 'new' plants appear around the base of a sandstone rock in the penumbra. I think this is because birds perch on the top surface and void seeds which get washed down to the base of the rock accompanied by a generous dose of fertiliser.

There have been many moments of magic: the emergence of a white male ghost moth from a subterranean pupa; a strange cat that once raced through M3 carrying a young rabbit, the pair closely followed by a fox. A few moments later the fox reappeared with the rabbit firmly clamped in its jaws. On another occasion a wood mouse climbed on to the toe of my boot and sat there surveying the area like Cortez "silent upon a peak in Darien".

In the autumn of 2016 a large incense cedar (*Calocedrus decurrens*) blew down across our garden and flattened the area of tall scrub to the south of M3. The greater light levels this has created will, I hope, allow further developments in 2018 and beyond and I look forward to continuing to chronicle the ever-changing wildlife kaleidoscope of this tiny area.

A revised version of an article originally published in Adastra 2017, an annual review of wildlife recording in Sussex published by the Sussex Biodiversity Record Centre.


Dark bush-cricket nymph, early-hair grass & freshly emerged ghost moth © *Patrick Roper*

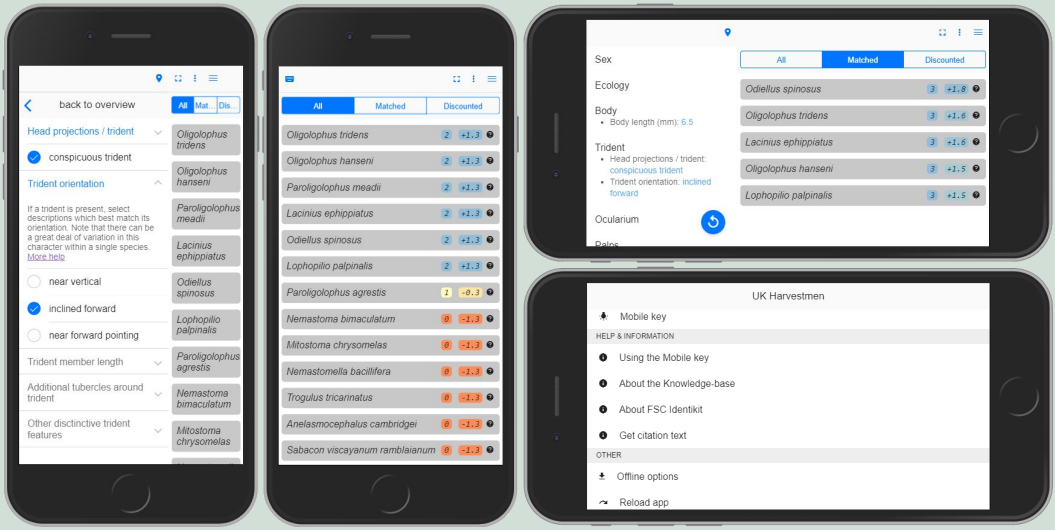
Latest FSC Identikit developments

Rich Burkmar
FSC BioLinks Digital Development Officer

FSC Identikit is an open-source platform for building online ID resources, including multi-access keys, driven by spreadsheets of taxonomic/morphological knowledge. Identikit's roots are in FSC's Tomorrow's Biodiversity project (where it was called the 'ID Framework') but when that project completed at the end of 2017, Esmée Fairbairn agreed to fund development for a further year, enabling us to roll it forward into FSC's BioLinks project.

2018 has been a year of intensive development of Identikit and Esmée Fairbairn's support has enabled us to completely restructure the software 'under the hood' to add the capacity to deliver ID resources in the field – even where an internet connection is not available.

We expect to publish these 'mobile-first' features in Autumn 2018 and we will likely showcase the developments by publishing mobile-first implementations of our resources Harvestman of Britain and Ireland (https://harvestmen.fscbiodiversity.uk/) and The Conifers of Britain (https://conifers.fscbiodiversity.uk/).
The screenshots give a flavour for how the harvestmen resources look and feel in the new mobile-first implementation.



A feature of the Identikit software is that it is web-based which means that it can run on any mobile device that supports a 'modern browser' – we don't have to create a version for Android, a version for Apple and so on. We've taken advantage of new (and developing) technologies to create a 'Progressive Web App' (PWA). As well as looking more like a native app than a website, once installed, a PWA can be invoked from an icon on your phone's home screen – just like a standard app.

The PWA technologies enable the app to download all necessary images, knowledge-base files and so on, whilst within range of Wi-Fi and then use these in the field where no Wi-Fi or data are available.

Anyone can use FSC Identikit on their computer to develop a new ID resource just by creating a spreadsheet of taxonomic/morphological knowledge which Identikit then reads to generate the ID resources like the one shown above. No programming is required. The multi-access keys and other ID resources are driven by the content of the knowledge-base spreadsheets.

Just creating a resource for personal use can be a great learning experience that helps you get under the skin of a taxonomic group. For those who wish to take their resources further and make them available for other people to use, it isn't complicated to publish an FSC Identikit resource on almost any website. For those without access to a hosting website, we may well be able to host their resources on our FSC Biodiversity projects website.

If you want to keep abreast of developments with FSC Identikit, the best way is to sign up to our dedicated Identikit email newsletter here:
https://www.biodiversity.uk/identikit-signup

If you just want to get started right away, then look here:
https://fscbiodiversity.uk/identikit

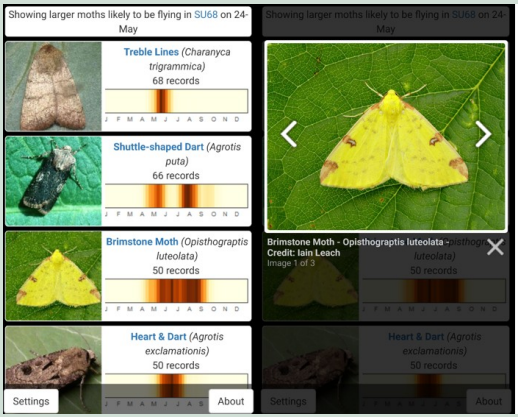
To explore some resources created with Identikit, look here:
https://www.fscbiodiversity.uk/identikit-resources

As an important element of FSC BioLink's digital outputs, FSC development and support for Identikit is assured until the end of 2022 at the very least. We know of some exciting new ID resources being built by people using the FSC Identikit. We very much hope and expect that many more will become available over the course of the BioLinks project.

New app makes identifying moths easier

Dr. Tom August, Biological Records Centre

What's Flying Tonight is an app developed in partnership with Butterfly Conservation and UK Moths over a period of three years. We make use of the millions of records gathered through Butterfly Conservation's National Moth Recording Scheme, to provide an illustrated list of the larger moth species seen at this time of year in your area. With moth images, flight charts and the frequency that each species has been recorded based on your location and the date, *What's Flying Tonight* can help with species identification.



There are approximately 900 larger moth species in the UK, which can make learning to tell them apart a daunting task. We designed the app to make this easier by showing you which species are likely to be flying anywhere in the UK on a given night. Because different species fly at different times of the year and are found in different parts of the UK, this can greatly reduce the potential list of moth species and decrease the chance of misidentifications.

The app uses data from the National Moth Recording Scheme to work out what you are likely to see. This scheme has been running since 2007 and, thanks to the work of many volunteers, has gathered 25 million records of moths, providing a detailed map of which moths are likely to be seen at any time and place in the UK.

What's Flying Tonight is designed to work like an app from a Smartphone or tablet, but will also work from a computer. It can use the GPS in your device to automatically locate the correct moth records, but you can also manually change the date and location.

Moths are an important part of the UK's biodiversity, for example they are an important source of food for bats, birds and many invertebrates and are pollinators of plants. Sadly over the past 50 years two thirds of moth species studied have decreased in population size and 62 species were lost completely from Britain during the twentieth century. Habitat destruction is thought to be the main cause of these declines and extinctions.

Moths are sensitive indicators of the health of the natural environment and a vital part of the food chain. The aim of the National Moth Recording Scheme is to monitor the current distribution of each moth species and the change in distribution over time, and to make use of the records for conservation, education and research.

Try What's Flying Tonight here: https://shiny-apps.ceh.ac.uk/whats_flying_tonight/

Learn how to get involved in the National Moth Recording Scheme here: http://www.mothscount.org/text/27/national_moth_recording_scheme.html

This article originally appeared on the CEH website.

National Plant Monitoring Scheme (NPMS) 2018 Newsletter

The NPMS was launched in 2015 and is delivered by a partnership of the Botanical Society of Britain and Ireland, the Centre for Ecology and Hydrology, the Joint Nature Conservation Committee and Plantlife. Its main aim is to collect data to provide an annual indication of changes in plant abundance and diversity throughout our semi-natural habitats. We are pleased to announce the publication of the 2018 Summer newsletter, which can be downloaded here.

As well as rounding up news from the scheme over the past year, this issue reports on some of the rare and unusual plants found by our volunteers, discusses the frequency of orchids and invasive alien plants found in NPMS plots, and features an interview with our French sister scheme, Vigie-flore. Visit www.npms.org.uk to view squares that are available for survey in your area, and to get involved in the collection of the UK's largest ever dataset on plant communities!

New BRC / BSBI Plant Recording Card on iRecord

Over recent months BRC have been working with the Botanical Society of Britain and Ireland to bring a 'square bashing' data input mode to iRecord. The results of this can be found at www.brc.ac.uk/irecord/enter-vascular-plants and a PDF overview of the functionality is available to download here.

The development of the card has led to many improvements to what iRecord has to offer the plant recorder, and we have many other enhancements in the pipeline. The card allows one to enter lists of species at either the monad (1 x 1 km) or tetrad (2 x 2 km) levels, and also collects visit information, such as the number of recorders (independently from recorder names) and the time spent recording. We hope that such 'metadata' about recorders' visits will be incorporated into future analyses, providing as they do some indication of the effort expended in a square.

Other enhancements to the iRecord interface include the ability to specify the vice-county when recording a 'straddling' square, the presence of vice-county boundaries on the map when selecting a square, and the ability to enter 'visit'-level notes about the recording session.

The recording of the plant list for a square has also been developed in order to allow the entry of as much useful data as possible: recorders can enter finer-scale grid references for unusual finds (either 6-, 8-, or 10-figure grid references), with the ability to also enter GPS-derived precisions for 10-figure grid references, so that records are not entered with spurious accuracy. Six- and 8-figure references are assumed to represent the corresponding cells of the OS grid, and so have an automatic precision attached. Additional information that can be entered includes life-stage, status (i.e. planted, invasive etc.), standard measures of local abundance (e.g. DAFOR or counts), determiner names, altitude, comments, and of course the option to add a photo.

A longer version of this article originally appeared in the BRC newsletter.

The Power of Traineeships

Nia Bowen
National Museum of Wales

The Natural Talent Traineeship scheme was created to improve taxonomic expertise for under recorded and difficult groups in Britain. With our biodiversity at risk and the State of Nature Report exposing us as one of the world's most nature depleted nations, it is clear we need conservation plans and decisions based on evidence instead of guesswork. The species most often studied and recorded are usually based on societal preferences. Birds are colourful and easy to identify, gaining them attention from the public and scientists alike, leading them to be highly overrepresented in literature and biological records. However, groups which can be considered uncharismatic such as insects, with the exceptions of Odonata and Lepidoptera, are highly under-represented despite the crucial role they play in ecosystems.

Despite our long understanding of taxonomic bias and the need for biological recording to be more taxonomically representative, the situation has remained largely unchanged since the 1950's. There is the persistent worry that taxonomic expertise won't be passed on before we lose the experts who have gained it. To remedy this, we need more people learning the taxonomic expertise to identify organisms to species level and spreading this knowledge as ambassadors. That's just what this year's Natural Talent trainees have been doing! We're running training courses, creating identification resources and carrying out public outreach. These activities will hopefully attract people toward our groups and create records for us to better understand our biodiversity: after-all how can we restore or protect what we never knew we had?

Cercopis vulnerata *© Liam Olds*

My traineeship at the National Museum of Wales has been based around leafhoppers, planthoppers and froghoppers found in grasslands. They are members of the Order Hemiptera, meaning they feed using piercing and sucking mouthparts and they have two sets of wings. There are around 400 species and they are often the most abundant insects found in grasslands. While most are difficult to identify and require the use of keys (that are expensive, outdated, or difficult to understand) and microscopes, there are still many that can be identified in the field. For those who care to take the time, they can be easily found with a sweep net and a pooter. This means this group is within reach for most biological recorders - they just need more promotion.

Leafhopper assemblages have the potential to be widely used as indicators of habitat quality. Through quantified standardised sampling, which is easily achieved through collection using a vacuum sampler, we can use the abundance and species diversity data to compare the quality of sites. We can also compare data between years for the same site showing its progress or deterioration. Many species are incredibly fussy eaters, sometimes being restricted to a single species or genus of plant, which can by proxy show the plant species and communities that must be present. There is extensive literature on the effects of management, such as grazing and cutting, on the spe-

cies assemblage which we can use to measure the site for its conservation quality. Plants are often used for this as they provide the underlying basis for the habitat. However, they unfortunately cannot show the whole picture if habitat management or insecticides are damaging the invertebrate population but not the plant community.

Learners on a Leafhopper course © *Nia Bowen*

My traineeship has given me the confidence to identify these fascinating creatures with the help of my mentor Dr Michael Wilson and the previous trainee Phoebe Williams in the wonderful National Museum of Wales. With access to reference collections and literature, I have gained taxonomic skills which I am incredibly grateful for. I have had the opportunity to do lots of fieldwork, collecting specimens and making my own biological records. But I haven't stopped there: I have been spreading the word about leafhoppers! I spoke to teenagers at the BES A' level Summer School alongside other CIEEM members who were speaking to the students about how important ecology is in the real world and possible career paths. I've attended events with the museum and I have run my own leafhopper full day courses with the Wildlife Trust of South and West Wales, hopefully recruiting more hopper recorders. In the final part of my traineeship I will be creating an online multi-access identification key using FSC software. This will be free and designed to be easy to use for anyone interested in hopper ID, so watch this space!

Unfortunately, this is the last year that this traineeship will run in its current form. I believe that traineeships with a taxonomic remit like Natural Talent are important not only for the understudied organisms whose awareness needs raising but also for ecology and conservation. The first draft of The People's Manifesto for Wildlife was recently released; it's a great read, clearly stating many of the challenges we face and full of common sense that will hopefully lead to a recovery for our wildlife. In the next draft I would personally like to see a Minister for Biological Recording. All our knowledge on the state of nature is based on biological records. Ensuring conservation decisions are based on sound evidence should be a priority and the manifesto already states: "I believe conservation policies should be informed by sound science and fact". Therefore I believe a section is needed highlighting the issues in biological recording, including taxonomic bias, to raise awareness of the issues and provide solutions. The obvious proposal addressing our taxonomic bias is, as you may have guessed, traineeships with a taxonomic remit. Natural history museums are perfectly placed for expertise to be passed on, with access to curators, literature and species collections. Skills from traineeships can spread as trainees are tasked with making these groups more accessible, acting as ambassadors and teaching others.

For more information about leafhoppers go to the recording scheme website: www.ledra.co.uk or the online photo gallery: www.britishbugs.org.uk

More information about Natural Talent can be found from The Conservation Volunteers

Troudet, J., Grandcolas, P., Blin, A., Vignes-Lebbe, R. and Legendre, F., 2017. Taxonomic bias in biodiversity data and societal preferences. *Scientific reports, 7(1),* p.9132

The late Sam Berry: an appreciation

Paul Harding

Professor Robert James Berry, normally known as 'Sam', was a crucially important and influential friend to the biological recording community, particularly in the 1980s. His role was recognised (belatedly) by the NBN Trust with Honorary Membership in 2009.

As Professor of Genetics at University College London (1974-2000) and subsequently Emeritus Professor, President of the Linnean Society (1983-1986) and President of the British Ecological Society (1988-1989), Sam was part of the academic 'establishment'. He used his connections and natural air of authority very effectively to bring people together and make progress on topics that interested him. He was a natural communicator and was usually pleased to talk to anyone with something interesting to say. In addition to Sam's varied biological interests and expertise, he was a strong advocate for the role of the Christian faith in science. He was a lay member of the Synod for 20 years, and wrote or edited several works on natural theology.

Peter Marren (The New Naturalists, 1995) summarised Sam's personality as "clear thinking, bearded, northern bluntness, wry humour, interesting". He appeared relaxed and was never concerned about convention. I have a vivid image of Sam one hot summer afternoon, in the top floor meeting room at the Linn Soc, wearing crumpled shorts and a 'gardening shirt', eating a pie out of a Fortnum & Mason's paper bag, before brushing off the crumbs to begin chairing the meeting.

That meeting was one of the Working Party convened by Sam through the Linnean Society, beginning in late 1986. The Working Party followed on from an open meeting on biological recording convened by the Biology Curators' Group (BCG) in 1984, the Biological Recording Forum in 1985 and the formation of NFBR in 1986. Many practitioners in biological recording were in ferment and were finding it very difficult to get our voices heard (Harding, 2011, The origins of NFBR. NFBR Newsletter, 42).

Following the 1984 BCG meeting, Eric Greenwood FLS, who had chaired the discussion on support for recording, encouraged Sam to use his role as President of the Linn Soc to engage with this 'can of worms'. Our own Trevor James, then a newly admitted FLS, had encouraged Eric to make the connection through Sam's presidency – Trevor had known Sam from work (and alarming driving experiences) on Orkney in the late 1960s.

Sam developed a clear understanding of the importance of recording by 'amateurs' and the role of those who helped collate, manage and use biological records. He had drawn significantly on such records for his New Naturalist series volumes Shetland (1980) and Orkney (1985) and was particularly aware of the importance of local records centres through people such as Elaine Bullard in Orkney and Linn Soc contacts including Claire Appleby (Wiltshire BRC), Eric Greenwood (BCG) and Trevor James (North Herts Museum Service).

Biological Survey: Need and Network, the report of that Working Party was brought together by Sam from an assorted mix of material contributed by some of its members. Sam did this whilst on holiday in Scotland, allegedly between bagging a few Munros. Its six basic recommendations are as relevant now as they were in 1988. Sam, with a customary sense of purpose, used this brief document (usually referred to as "The Berry Report") to heighten awareness among higher strata of the scientific community about the increasingly parlous state of biological recording in the UK. This led to a multi-agency meeting at the Royal Society, hosted by the Natural Environment Research Council in February 1989, and so to the establishment of the Co-ordinating Commission for Biological Recording (CCBR) a year later. Through his engagement with the issues over a period of about five years, Sam managed to move on perceptions of biological recording so that it was taken seriously, almost for the first time, in the context of CCBR and later in the development of NBN.

Sam died on 29th March 2018 after several years of declining health. A full Obituary was published by The Daily Telegraph on 21st April 2018 detailing his career in genetics research, his main scientific and theological publications and his many appointments, awards and honours. Obituaries have been published on-line by NBN and A Rocha.

NBN Updates

Mandy Henshall, National Biodiversity Network

NBN Conference 2018

There is still time to book for this year's event, which is being held on Wednesday 21 and Thursday 22 November. For the first time, it will take place in Nottingham, the home of the NBN Secretariat, with the venue being the Albert Hall, in the centre of the city.

The theme is "The NBN in a changing climate" and each morning and afternoon session has its own mini-theme, covering "Engagement, involvement and facilitation", "Working together for our national biodiversity" and "Adapting to change". We also have an afternoon of Network Knowledge Exchange Sessions on the Wednesday, which you can sign up for on registering.

The UK Awards for Biological Recording and Information Sharing, a joint initiative with NFBR and the BRC, will also be presented on the evening of Wednesday 21 November.

More information and how to book can be found on the NBN website:
nbn.org.uk/news-events-publications/nbn-conference-2/nbn-conference-2018/

Exploring more options for data sharing

The NBN Trust is going to be exploring the options available to allow greater facilitation of data sharing via the NBN Atlas. This will include consideration of a system to enable data to be made available at a higher resolution for approved users. We will also be investigating ways in which we can strengthen our partnerships with data providers to provide multi-regional and national data and information, and services for commercial users with the intention of generating new income streams for both the NBN Trust and data partners.

We will be contacting key stakeholders over the next few months to discuss these options and opportunities for collaboration. In the meantime, if you have any comments or questions please contact our Chief Executive, Jo Judge, by email at j.judge@nbn.org.uk.

NBN Atlas Isle of Man

Back in April, we were delighted to announce the launch of the NBN Atlas Isle of Man. Having been formally launched during Manx Wildlife Week the new Portal came about through a partnership between Manx National Heritage, Manx Biodiversity Partnership, Manx BirdLife, Department of Environment, Food and Agriculture (DEFA) and the National Biodiversity Network. https://isleofman.nbnatlas.org/

NBN Stakeholder Group – call for volunteers

Do you want to play an active part in the running of the NBN Trust? Are you able to use your individual experience to think strategically?

Following the NBN Trust governance review, and as part of our strategic aim to engage and involve NBN members in delivering the strategy, we are creating a new NBN Stakeholder Group. This group will provide the opportunity for Network participants to share their views and expertise and will act as a line of communication to the NBN's Board of Trustees. The Stakeholder Group will be discussing strategic decisions on the direction of the NBN Trust and we are looking for volunteers from across the Network, representing the diversity of the NBN membership, to participate. https://nbn.org.uk/news/nbn-stakeholder-group-places-left/

NBN Atlas revised Terms of Use and Guidance for Using data

Earlier this year, we made some revisions to our Terms of Use and Guidance for Using Data from the NBN Atlas. The main change relates to the introduction of a fixed charge notice which can be issued if a data user is found to have breached the Data Partner's Terms, NBN Atlas Terms of Use or the licence conditions associated with data accessed through the NBN Atlas.

As you will be aware, all data on the NBN Atlas is governed by one of four data licences with the CC-BY-NC licence not allowing commercial use of the data. Downloading or viewing data available on the NBN Atlas under a CC-BY-NC licence, for the purposes of producing a report or advice for which the data user is receiving any sort of payment (including cost recovery), is considered to be a breach of the licence. Find out more on the NBN website: nbn.org.uk/news/nbn-atlas-revised-terms-of-use-and-guidance-for-using-data/

Experts needed for species groups!

We are pleased to have published the new sensitive species policy for the NBN Atlas. This was written in conjunction with many Network members who have helped to shape and solidify the NBN's position on the display of sensitive species, and the criteria that define them.

We have had some species experts who have volunteered themselves to review the lists of their species groups against these new criteria, for which we are very grateful. However, we still need more! Please get in touch if you are able to help us review sensitive species: https://nbn.org.uk/news/experts-needed-for-species-groups/

Supporting Invertebrate Recorders

Keiron Brown, FSC BioLinks Project Manager

Identifying invertebrates can sometimes seem like a specialist/expert only activity so a number of organisations are opening up their facilities in order to break down the barriers affecting new and existing invertebrate recorders.

These 'drop in' sessions bring together experienced and aspiring recorders, open up reference collections and allow access to equipment (such as microscopes) and literature libraries (containing publications that may be out of print or prohibitively expensive to recorders).

The Angela Marmont Centre for UK Biodiversity (situated in the Natural History Museum and open 10am to 4pm most weekdays and the first Saturday in the month) have been offering an advisory service for some time, and similar support has been available to members of the British Entomological & Natural History Society through their Members Open Days (located at their Dinton Pastures facilities in Berkshire). Both sites allow access to substantial insect collection, comprehensive identification literature libraries and are a great resource for both new and existing recorders.

Two new projects that look to strengthen the invertebrate recording community are now following suit and expanding the range of invertebrate recorder support 'hubs' by hosting a series of free drop-in support sessions. As well as allowing access to equipment, these sessions provide an informal environment to meet fellow invertebrate recorders and get support from dedicated project officers.

The FSC BioLinks project (from the Field Studies Council) is hosting support sessions through their 'Open Lab Days' at FSC centres in London (FSC London: Bushy Park), Shropshire (FSC Preston Montford) and Worcestershire (FSC Bishops Wood). All of these sessions include access to microscopes, lab equipment and literature libraries.

The Tanyptera project is hosting similar sessions across North West England in Cheshire (Chester Zoo) and Merseyside (Merseyside BioBank and World Museum). Access to World Museum collections is also available upon request at all three locations.

You can find links to all of the above services from the FSC BioLinks project webpage about these invertebrate recorder support sessions: www.fscbiodiversity.uk/openlabdays.

For updates and course information from the FSC BioLinks project, sign up to the free e-newsletter at www.fscbiodiversity.uk/biolinks-signup

Recording Scheme Spotlight

Each month the NFBR newsletter celebrates one of the many and varied National Recording Schemes in the UK. These schemes help to ensure accurate species identification, help with dataflow and are an essential part of the British wildlife re-cording community.

Tell us a bit about the scheme

The Conchological Society of Great Britain & Ireland was founded in 1876 as part of the Victorian flurry of forming such organisations, its stated objective being "to promote the study of Mollusca in its widest aspects for the benefit of the public". In the 20th century, distribution mapping and recording of species became a key activity for the Society and eventually honorary Census Recorder posts were created to coordinate the recording efforts. Within Mollusca such study tends to be divided between marine and non-marine habitats, hence the marine recording scheme operates largely independent of its non-marine equivalent (which will be featured in a future issue).

How is the scheme run?

The current voluntary Marine Census Recorder is Simon Taylor, who oversees the dataset of records and acts as the hub for all contributors. Simon is supported by a network of experts from within the Society and beyond, all submitting records and acting to ensure that the data is accurate and correctly determined. As well as the Society's website (www.conchsoc.org) the recording scheme is facilitated by a Facebook group (British Marine Mollusca) and participates actively in others (e.g. NE Atlantic nudibranchs). Simon also acts as a verifier on the iRecord portal. The data is openly shared via the NBN Atlas (www.nbnatlas.org).

Do you run events such as field days or training courses?

The Conchological Society has run field meeting for many years and continues to do so. Each year there is generally a week-long meeting which involves intensive shore work and usually offshore sampling as well. There are also several one-day excursions as well as trips organised by those active within the recording scheme, some of whom aim to survey in areas known to be under-recorded or particularly biodiverse and so likely to produce new records. There are occasional workshops which mainly focus on the smaller species which require microscopic examination and sometimes dissection. Dedicated training days can be organised if interest is shown.

ConchSoc at Scarborough 2014 © *Paula Lightfoot*

Any highlights or achievements you would like to share from the past year?

A couple of us spent a week exploring the shores of Lewis in the Outer Hebrides in the spring, which produced a huge wealth of data with some notable finds including

some of the biggest and most attractive chitons (Class Polyplacophora, the species we found was *Tonicella marmorea* (O. Fabricius, 1780)) we had ever seen in the UK and also a beautiful live specimen of the tiny pyramidellid gastropod *Turbonilla jeffreysii* (Jeffreys, 1848) which is rare even to find as a dead shell in samples of shelly grit.

There is a steady trickle of species recorded which are new to the British list, although they are mainly introduced through human vectors or as a result of the creep northwards of warmer water species due to climate change. The recent discovery of the small mussel *Arcuatula senhousia* (Benson, 1842) in the Solent almost certainly signals the accidental introduction of a species which now has a near global distribution.

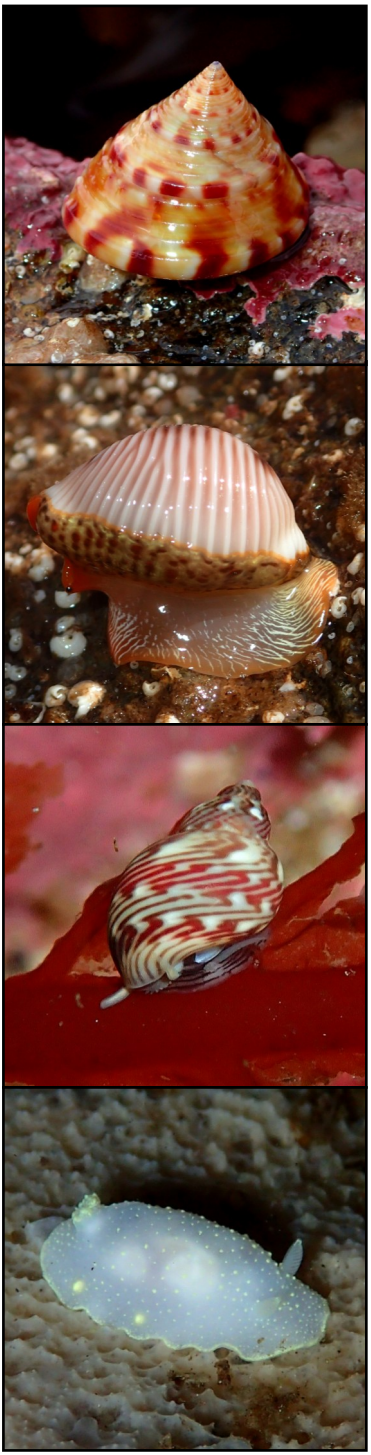
Can you tell us about a particular species that readers can look out for?

The Mollusca is a hugely diverse Phylum and one group which people often forget are actually molluscs are the cephalopods (squid, octopus, etc), amongst the highest evolved of all invertebrates. All beach-stranded, fished or dived observations are welcomed, especially with photographs. One of the easiest ways to record cephalopods is to report strandings of cuttlebones, keeping an eye open for any that look an unusual shape or colour as they could be a different species to the familiar *Sepia officinalis* Linnaeus, 1758.

Speaking of photography, advances in technology have made underwater observation so much easier these days and sea-slugs are hugely popular subjects, often being both colourful and elegant in form. You don't have to be a diver to find them though and a thorough search of seaweed at low tide could easily produce a list of several species for a sharp-eyed surveyor.

How should readers get in touch if they wish to know more about your scheme?

Visit the Conchological Society's website www.conchsoc.org, join the Facebook group British Marine Mollusca or email Simon Taylor marine@conchsoc.org.



Images top to bottom: *Calliostoma ziziphynum, Trivia monacha, Tricolia pullus, Cadlina laevis* all from Belmullet © *Paula Lightfoot*

Local Environmental Records Centre Spotlight

Each edition the NFBR newsletter celebrates one of the Local Environmental Records Centres [LERCs] in the UK. These organisations are centres for the collation, management and dissemination of biodiversity data on a local scale, making biodiversity information available to decision makers throughout the UK, alongside supporting Biological Recorders in a myriad of ways. Answers provided by Ian Egerton, Manager.

The **Centre for Environmental Data and Recording** (CEDaR) is the Local Records Centre for Northern Ireland, including its 334 miles of coastline. This area consists of six Vice-Counties; H33 Fermanagh, H36 Tyrone, H37 Armagh, H38 Down, H39 Antrim and H40 Londonderry. Northern Ireland (NI) also includes Lough Neagh, the largest freshwater lake in the British Isles and Strangford Lough, the largest inlet. Rathlin is Northern Ireland's largest island, which is situated off the north coast, and famed for its dramatic landscape and unique geological features.

Tell us a bit about the LERC

CEDaR was established in 1995, and is funded by Northern Ireland Environment Agency (NIEA), with funding in-kind by National Museums Northern Ireland (NMNI). CEDaR works in partnership with the local recording community, conservation bodies (eNGOs) and several Government Departments. We are based at the Museum's Headquarters at Cultra, within the extensive leafy grounds of the Ulster Folk and Transport Museum, seven miles outside Belfast on the south side of Belfast Lough.

The CEDaR Management Group meets monthly, and has representation from NIEA and NMNI. The Group meet with Damian McFerran, Record Centre Manager, to discuss and agree work priorities and general direction of travel. We are further guided by a CEDaR Advisory Group, which meets annually. This group includes representatives of the wider recording community, environmental consultants, Government Departments and NIEA. CEDaR is currently in the final year of its 10-year Business Plan, so we are busy reflecting and reporting on this period and reviewing strategic plans to support future plans.

We primarily use Recorder 6 and Marine Recorder to hold 2.7 million terrestrial and around 890K marine records. An additional 30K records have been sourced via the NI Seal Monitoring Survey, and are collated on a bespoke database. Additionally, we manage an Indicia/iRecord based online recording tool (CEDaR Online Recording) which has generated 86K records since its launch in 2012.

Our present structure supports three FTE positions, with other work areas dependent on additional funded contracts, placements and volunteers.

Damian McFerran, Record Centre Manager: CEDaR Reporting Officer. Collates, manages and disseminates data, responsible for day-to-day management, develops projects and recording initiatives, ensures key objectives are met and steers strategies to meet growing needs for biological evidence. Interested in the study of several invertebrate groups, including the spiders and dragonflies of Ireland. Also, currently working on the provision of evidence for Irish Red Data Lists, e.g., Spiders and Lichens.

Pauline Campbell, CEDaR Database Officer: Collates, manages and disseminates

terrestrial data, supports and encourages recording, delivers annual programme of species and habitat identification training, promotes National Plant Monitoring Scheme in NI; mentoring volunteers and surveying squares, working with partners to support BioBlitzes, and manages CEDaR Online Recording. Interests include botany, birds and some invertebrate groups including Lepidoptera. Involved with The Irish Naturalists' Journal (Treasurer), and Association of Local Environmental Records Centres (ALERC) (Director).

Sally Stewart-Moore, CEDaR Marine Biodiversity Data Officer: Collates, manages and disseminates marine data, supporting and encouraging recording through outreach events and BioBlitzes, supports Marine Invasive Species survey and is Local Seasearch Organiser. Interested in coastal and off-shore marine recording.

A supplementary work area is made possible through additional funding through the Environment Fund; **Niamh Carmichael, Surveillance Office**, is producing Habitats Directive Article 17 terrestrial species reports (draft reports due October 2018). CEDaR has been fortunate to contract a temporary support worker. **Michael McCourt** is assisting answering seasonal bat calls and disseminating data. **Rachael Carey**, Ulster University student, has just joined us to spend her 40 week placement with CEDaR. She will be working on mapping and interpreting data.

We are also grateful for contracted assistance from **Andrew Van Breda** for CEDaR Online Recording development and technical support. Throughout the year CEDaR has some flexibility to react to areas requiring additional focus, such as commissioned work from ALERC (the Association of Local Environmental Records Centres) in order to take forward development and our Information Request service and assistance tackling GDPR, and fieldwork by experts who carry out dedicated species surveys.

L-R: Sally, Michael, Damian, Pauline, Rachael and Niamh outside the CEDaR office.

Tell us about the local recording scene

CEDaR has established strong working relationships with eNGOs and conservation groups, such as Ulster Wildlife, RSPB, BTO, BSBI, Butterfly Conservation NI, NI Bat

Group, Seasearch, Woodland Trust, The Conservation Volunteers, NI Fungi Group, etc. We are also delighted to work with an increasing number of landscape partnerships such as Mourne Heritage Trust, Lough Neagh Partnership, Belfast Hills Partnership and Causeway Coast & Glens Heritage Trust. Additionally, CEDaR supports the work of a network of Field Clubs across Northern Ireland, such as Belfast Naturalist Field Club, along with similar local groups, such as North Down Birdwatching Club.

We are also fortunate that the majority of our 11 local council areas have passionate Biodiversity Officers, who have developed projects such as Don't Mow, Let it Grow; Bee-licious and Biodiversity Games.

Although we primarily work with NI recorders, we also have established relationships with recorders and experts all over Ireland, and have successfully managed all-Ireland recording projects, such as DragonflyIreland, OrchidIreland and LichenIreland. We enjoy a productive partnership with our Republic of Ireland counterparts, National Biodiversity Data Centre and National Parks and Wildlife Service. We are constantly astounded by the passion, work and commitment of our recorders and are eternally grateful for every record they submit.

Tell us about how you support local recorders

Supporting local recorders and recording initiatives are core objectives, and underpin everything that we do. This support takes many forms and has been developed over time in response to changing needs and technology.

CEDaR has been instrumental in publishing books, such as The Rare and Threatened Bryophytes of Ireland, County Floras and Rare Plant Registers, Dragonfly and Orchid guides, etc.

Working with local experts, we have assisted the production of numerous web sites on plant and animal life, Minerals, Rocks and Fossils, etc. These are housed through the Museums' suite of web sites, Habitas (see: http://www.habitas.org.uk/). Each site contains a combination of informative species accounts, images, distribution maps, local species identification keys and additional information.

Through the help of local and national experts, an annual programme of 10-12 species or habitat identification training courses are delivered. These aim to tackle the identification skills required for common species like Ladybirds, as well as more 'difficult' groups such as Ichneumon wasps or Ground Beetles. We have also provided training in QGIS, iRecord Verification and dissection techniques. Additionally, we help promote external events and offer assistance with local recording projects and BioBlitzes. A monthly circular of local events goes out to over 730 subscribers.

A further tier of support is offered through our Environmental Recorders Group (ERG). Due to our unique funding model, we are able to divert income generated through commercial information requests into a fund to support NI's community of recorders. Grants for equipment such as moth traps, binoculars, etc. are available to ERG members. CEDaR also holds a supply of equipment and resources, such as microscopes, camera traps, moth traps, pheromone lures, field guides and books, and these can be supplied on loan to local recorders to encourage and support recording.

What are the top three sites you would recommend to visiting wildlife recorders?

It is so difficult to just choose three sites to recommend, as NI is brimming with cracker areas to visit and see wildlife. Certainly top spots would include Strangford Lough, a designated SPA, SAC, ASSI, RAMSAR site and wonderful place to watch our

winter waders; including over 75% of the entire population of Branta bernicla hrota (Light bellied brent geese). You can also see Halichoerus grypus (Grey seal) and Phoca vitulina (Harbour seal), as they haul-out on the rocky islands. Plus, you can also explore a rich variety of marine and inter-tidal habitats.

The entirety of County Fermanagh is also worth a visit, taking in the stunning landscape of Upper and Lower Lough Erne, the Limestone pavement and Calcareous grasslands of the West Fermanagh Scarplands, and the ancient 'woody' estates of Crom and Florence Court. Probably the most botanically rich county within NI, species you can find include Trichomanes speciosum (Killarney Fern), Spiranthes romanzoffiana (Irish Lady's-tresses) and Cirsium heterophyllum (Melancholy Thistle), and one of the last remaining locations for Polystichum lonchitis (Holly-fern).

No visitor should come to NI and not take a trip along the North Coast. From the stunning beaches such as White Park Bay ASSI, where you can watch diving Morus bassanus (Gannet) and Fulmarus glacialis (Fulmar) nesting on the cliffs, to the 'Green Glens of Antrim' which hold beautiful Estates like Glenarm, with interesting species like Pyrola media (Intermediate Wintergreen), Geranium sylvaticum (Wood Cranesbill), Leptidea reali (Reals wood white) and Argynnis paphia (Silver-washed fritillary). Further along the coast, the Garron Plateau SAC is a must see for any visitor, with the most extensive area of intact upland Blanket Bog in NI, containing site(s) of the very rare Saxifraga hirculus (Marsh saxifrage).

Any highlights or achievements you would like to share from the past year?

We are currently working toward the launch of our NBN NI Atlas, which will be a major achievement. Maybe a highlight and good example of how we support our recorders is demonstrated though a drive to tackle an under-recorded species group. In June, with the help of a local expert, we ran a Clearwing moth identification training course. We purchased some pheromone lures and butterfly nets in advance to lend to interested recorders. With so few records of these moth species on our database it was an opportunity to gain some new and valuable distribution information. Thanks to the enthusiasm stirred up and the help of local verifiers, recorders have turned up new sites for Synanthedon tipuliformis (Currant clearwing) and Synanthedon formicaeformis (Red-tipped clearwing).

Find more information about CEDaR online

Website: https://www.nmni.com/CEDaR/

Twitter: @cedarnmni **Facebook:** @CEDaRnmni **Email:** cedar.info@nmni.com

Lower Lough Earne *By Falcon, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=1573318*

From field records to online data

Online Recording

Large numbers of records continue to arrive via iRecord (and the many websites and apps that feed in to its linked database). This allows BRC to make the records available for verification and sharing, in conjunction with the relevant national recording schemes.

At June 2018, **over 5 million records** were available within iRecord, of over 30,000 different species.

A minimum of 38% of these have been reviewed by the expert volunteer verifiers who check the records on behalf of the recording schemes. In fact the total verified for recording scheme use is higher than 38%, because some schemes verify iRecord data outside of iRecord itself. Of the records checked within iRecord, 98% have been accepted or corrected

The largest number of records is for butterflies, followed by plants and moths, but there is a very wide taxonomic coverage overall, with records for over 150 species groups.

New verifiers are joining iRecord on a regular basis - the vast majority of these are recording scheme volunteers, and we are very grateful to them for the time they donate to checking the quality of the records and providing feedback to recorders.

Click here to see an animated data visualisation by Tom August showing how records accumulated on iRecord over the year in 2017.

In May 2018, the Orange-tip butterfly was the species most frequently recorded on iRecord

Data flow to the NBN Atlas

We work with the national recording schemes to pass records from iRecord to the NBN (National Biodiversity Network) so that the data can be shared via the NBN Atlas. With support from Natural England we have developed an automated export process that will speed up the flow of records to the NBN, for those recording schemes that wish to make use of this. This opens up the prospect of records being made available more quickly, providing more up-to-date information for conservation and research.

Digitising new data

BRC is able to provide support for recording schemes to digitise data that has not yet been captured electronically. A current project in this area is digitising Diptera (fly) records from Steven Falk's notebooks. Steven is a well-known entomologist and his notebooks cover a wide range of sites and species from many families, containing data that has not been widely available previously. There are twelve volumes of notebooks and plenty still to do, but this project will make a fantastic new resource available for use in recording schemes and elsewhere.

News snippets

The previous article and some of the below news items are taken from the BRC newsletter, which you can read and subscribe to here: https://mailchi.mp/965525af9b07/biological-records-centre-newsletter

New and upcoming publications

The Atlas of the Predaceous Water Beetles is now available and the second volume is in press (Foster, G.N. et al.)

Provisional atlas of the aculeate Hymenoptera of Britain and Ireland - Part 10 is now in press [Part 9 available here].

The *Field Guide to the Ladybirds of Great Britain and Ireland* (Roy, H. & Brown, P.; illustrator Lewington, R.) is available for pre-order, and will be published at the end of November.

Another stocking filler with a November publication date is *Ichneumonid wasps (Hymenoptera: Ichneumonidae): their classification and biology* (Broad, G., Shaw, M. & Fitton, M.), currently available for pre-order with an early bird discount.

Further ahead is the *Atlas of Britain and Ireland's Larger Moths* (due Spring 2019), which is also available for pre-order at reduced cost.

The NFBR Council were delighted to see the publication of *Beetles of Hertfordshire* by Trevor James, former NFBR Chair and honorary NFBR member. This ground breaking account of all 2,483 species of beetle so far recorded in Hertfordshire was published by the Hertfordshire Natural History Society in July 2018. Trevor has also recently been short listed for the *Gilbert White Adult Award for terrestrial and freshwater wildlife* at the 2018 UK Awards for Biological Recording and Information Sharing. Fingers crossed!

Other news

You can view the whole short list for the **2018 UK Awards for Biological Recording and Information Sharing** on the NBN website; winners will be announced at the NBN Conference on 21st November.

The **Biographical Dictionary of British Coleopterists** (compiled and maintained by Michael Derby) is now available via the BRC supported UK Beetle Recording website.

The **Linnean Society YouTube channel** has an interesting selection of short videos and full length lectures on a variety of topics.

The **Natural Environment Research Council** [NERC] is inviting proposals for research projects costing up to £100,000 (100% full economic cost (FEC)) and of up to 12 months' duration under the Environmental Evidence for the Future (EEF) initiative. The submission deadline for proposals is 4pm on 8th November 2018.

The BTO have launched their **Tawny Owl Calling survey**, a recording project aimed at improving knowledge of tawny owl distribution and behaviour in the UK. To take part, you just need to listen for tawny owls at a single location (such as your own garden or a local park) for a 20 minute session once a week. They are happy to receive records of absence, so even if you don't hear anything you can still contribute.

Full data - why does it matter?

Roger Morris

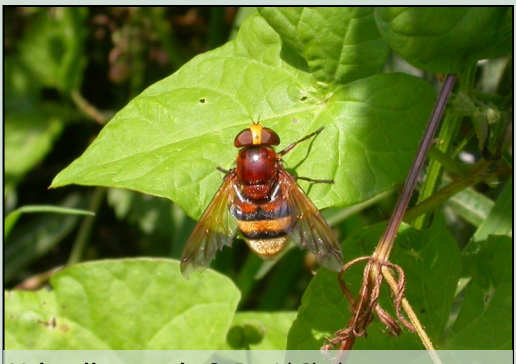
In the early days of biological recording, all that mattered was the creation of dots on maps. Nobody quite knew what occurred where, so a record comprising a four-figure or even two-figure grid reference and a year date was sufficient to create such a dot - job done!

In those early years the information was, at best, sparse. There was a certain amount of interest in first and last dates for species, so there were plenty of recorders who would say 'I'll give you first and last dates but cannot be bothered with the rest'. Again, the early data are not great for complete runs of records throughout the year and, even now, we get a proportion of recorders who don't see a lot of point in recording common species throughout the season. I think this partly stems from a lack of understanding of how data can be used and why it is desirable to have the most comprehensive information possible.

So, what do we need, ideally?

This is a complex question because one could collect all manner of data but it has to be stored and retrieved and then used. Even the very best databases are not well suited to retention of every form of information. For example, habitat information is often very difficult to capture because different recorders interpret habitat differently. Instead, I think we need to look at how the data are currently used and work to that requirement.

From the Hoverfly Recording Scheme [HRS] perspective, we use data to create maps - so a grid reference is essential. Most requests for data are for mapping to 1km resolution but may be more refined on occasions so a minimum of a four-figure grid reference is desirable. Higher resolution (e.g. 100 metres, 10 metres or 1 metre) may be possible if a single record but when one moves about whilst recording 100 metre resolution is probably the best that can be achieved. That is normally enough to locate a record within a polygon forming the outline of a site, so will probably work OK with GIS investigations. Rot holes in individual trees may well be recorded at much finer resolution if you have a GPS.



Volucella zonaria © *David Slade*

The full date is also absolutely essential. Unless it is for a given date, the record cannot readily be used in any analysis to look at phenological changes or relationships with local or national weather patterns. So, data that comprise a date range (e.g. 5-7 July 2018) cannot be used in such analyses. They are also very tricky to store in the database. We do accept data from Malaise traps and other trapping systems but the information has much more limited uses.

Giving first and last dates actually distorts the dataset, so this approach is not helpful.

Myathropa florea*, *Sericomyia silentis*, *Volucella pellucens*, *Episyrphus balteatus © *Elaine Wright*

When we look at phenological change and any links to climate change, we look at the deviation from the historic median, so we need to calculate the new median. That is dependent upon as refined data as possible. So, no matter how common a species is, we want all records and not just first and last dates.

Likewise, we are interested in all records for a given site on a given date. Full lists convey much more information, and the coverage of all species is a critical part of modern occupancy models that I have written about in the past (see Roger's blog post on Data requirements for occupancy modelling 23/05/2018). Common species form the constant background for understanding what might or might not be present using occupancy models.

I like detail on the gender of the animal seen. Until I started extracting this data from photographs we had very little information on the differences in male and female phenology but we now have quite a lot. Not all species behave in the same ways, as I have also shown in my [blog] posts. We continue to benefit from improvements in this aspect of data collection and can now look at how males and females respond to changing weather patterns.

There is a huge amount of interest in flower visit information related to pollinator studies. Demand can only be expected to grow. So, records of flowers visited are very useful. Only last year I was asked for HRS data on visitors to ivy and was able to confidently supply some 5,000 records. What we need though is records where the animal is actually visiting the flower and showing signs of nectaring or taking pollen. Unfortunately, historic data has all manner of information that might or might not be correct, with lots of records of say 'on sycamore' which might mean visiting sycamore flowers or could mean sitting on a sycamore leaf. So notes need to be accurate - I note as 'at x or y' - with the at denoting that a flower visit is involved.

Behavioural notes are also very useful e.g. seen in copula or defending a territory. Other observations can also be helpful as they start to build up a picture of the life of the animal. Such notes are especially useful where larvae have been recorded. If you do record larvae, do make sure that this is noted - we have a lot of records of species such as Cheilosia grossa that clearly don't occur in July as adults, but the data give no hint that it is a larval record. Such records are flagged as doubtful and don't get used in analysis or mapping!

Hopefully this short discussion will help to explain why I can be such a pain in pressing for full dates or proper grid references. The critical issue is that datasets such as those compiled by the HRS are a key tool in understanding what is happening to wildlife and may in some small way influence policy-makers to do the right thing!

National Forum for Biological Recording

The National Forum for Biological Recording is the premier UK organisation for practitioners engaged with biological recording across the UK. Membership includes individual naturalists, national organisations and recording societies, local records centres and their staff. This gives it a unique perspective and an important role.

Whether you are an experienced naturalist or taking your first steps in biological recording, we want to hear from you.

To offer an article for a newsletter, please contact our Newsletter Editor: Elaine Wright on editor@nfbr.org.uk

To join the NFBR, please contact our Membership Officer and Treasurer: Clare Langrick on membership@nfbr.org.uk

For all other enquiries about NFBR please contact our Chairman: Graham Walley on chairman@nfbr.org.uk

Join the discussion on Facebook and Twitter.