Welcome to Lancaster for the NFBR and BRC conference

National Recording Schemes and Societies -

celebrating the past, looking to the future

12th – 14th May 2016
Lancaster University

NATIONAL FORUM FOR BIOLOGICAL RECORDING

BRC Biological Records Centre

Contents


Jodey Peyton

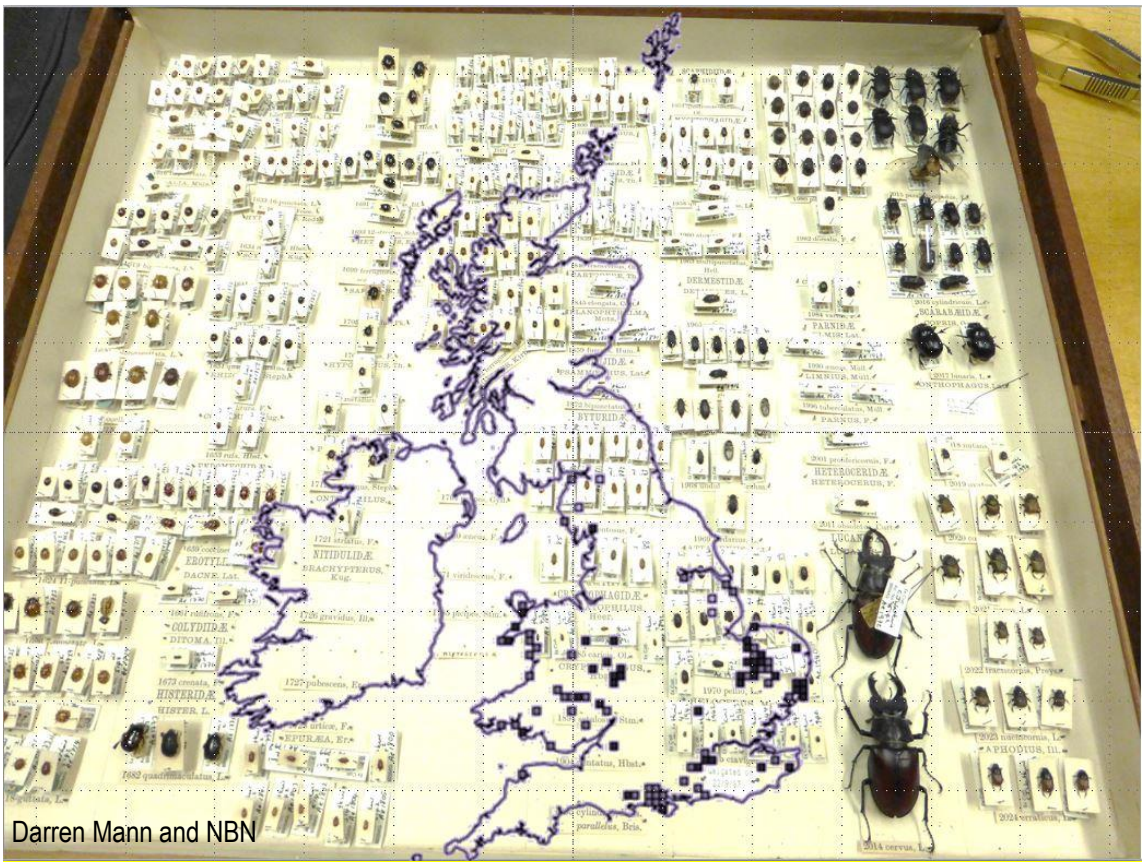
Conference Objectives

The inspiring and long-standing contributions of volunteer-led National Schemes and Societies (NSS) are critical to biological recording in the UK. NSS perform many and varied roles, from engaging and supporting recorders to interpreting data and identifying trends. As a group, they are as diverse as the wide range of taxa they represent, for example in terms of age, size, capacity and organisational structure. While their aims and motivations vary, core values include improving our understanding of the UK's biodiversity, providing information to help conserve it and creating opportunities for others to learn about and enjoy it.

Their contribution is widely appreciated and hugely valued by decision-makers, conservation practitioners and researchers. NSS face challenges, such as turnover of members, competition for resources and increasing demands on their time and expertise, but also new opportunities arising from emerging technology, growing interest in and support for 'citizen science' and an increased need for biodiversity surveillance and monitoring. The NSS, in all their guises, show great resourcefulness and innovation in rising to these challenges and seizing opportunities.

The conference will celebrate the achievements of NSS and help to build on these achievements in future by:

- Highlighting the crucial and evolving role of volunteer-led NSS in UK biological recording
- Raising awareness of resources and opportunities available to NSS and their volunteer recorders
- Facilitating collaboration between NSS and other partners on local and national scales to achieve common goals.


Darren Mann and NBN

#NFBR16

Join the conference mini-bioblitz!

Submit a sighting: http://www.nfbr.org.uk/?q=sighting_conf2016

Submit a list of records: http://www.nfbr.org.uk/?q=list_conf2016

Conference Talk Abstracts

Keynote address: The role of volunteers in the conservation panoply

Stuart PM Roberts

Bees, Wasps and Ants Recording Society

Biological recording is essential for providing sufficient data on which to base major decisions on policy and conservation. A number of broad options are available for data provision, and the pivotal role played by volunteers is highlighted.

The Bees, Wasps & Ants Recording Society is used as a case study in what can be done, and the Society's links with academia and the conservation sector are investigated.

The challenges and opportunities provided by citizen science, the burgeoning world of social media and the desire for data accessibility are also discussed in this wide ranging review of the state of play.


John van Breda

Stuart Roberts is a Cambridge educated botanist who has worked as both a school teacher and as a university based research fellow. His interest in the natural world started when he was under 5 and continues unabated to this day. He has been a member of BWARS since he became fascinated with Hymenoptera in 1987, and has served 10 years as Chairman. He is a dedicated recorder and has worked widely in UK and across the Palearctic: from Morocco to Libya and from Spain to Turkey. He has some 65 publications to his name.

Session 1: Collaboration and common goals

Collaboration between BSBI and other organisations at a local and national scale

Louise Marsh

Botanical Society of Britain and Ireland

BSBI's mission statement includes a commitment to work with people in other organisations and other countries to encourage communication and collaboration in pursuit of shared objectives.

Our staff, officers and volunteer recorders embrace this challenge and take every opportunity to work together with others, whether formally (usually at a national or country scale) or more informally at county level.

At a local scale, county groups liaise with other recording and wildlife organisations, training providers, curators of natural history collections and biological records centres to engage and enthuse botanists at all skill levels via local outreach events, Bioblitzes, volunteering opportunities and field meetings. The BSBI VC55 group is offered as a case study but every local group is different and there are as many ways of working together as there are local groups.

At country level, BSBI officers in Scotland, Wales and Ireland work with regional and national organisations to undertake recording projects and provide training opportunities. A recent collaboration between BSBI in Scotland and Cairngorms National Park is offered as a case study.

At a national level, BSBI works with partners such as FSC, Plantlife and BRC/CEH on a range of recording projects including the National Plant Monitoring Scheme and SPLASH and also to support training opportunities such as the industry standard Field Identification Skills Certificates. Whether on social media, in the field or in the boardroom, BSBI is always keen to acknowledge the contribution of other members of the biological recording community, and many of our volunteer members are also enthusiastic recorders of other wildlife.

As BSBI's Publicity & Outreach Officer since 2012, I'm responsible for liaising with media contacts and promoting the society's work to a wider audience via national outreach events, at conferences and across social media.

As a local (volunteer) BSBI group administrator, I work with local authority officers, other recording groups, landowners and BSBI County Recorders in the region to put together an annual programme of field meetings which support the BSBI's recording targets and also help local botanists, at all skill levels, to practice and build up their identification skills in the field. As Editorial Assistant for the BSBI's scientific journal, New Journal of Botany, I engage with the wider academic community to solicit copy and aid publication of papers of interest to botanists across north-west Europe.

As a botany tutor and demonstrator on local training courses, held at University of Leicester Botanic Garden, my role is to assist beginners and improvers as they hone their botanical skills in the field and in the lab. Participants include consultants, undergraduates on the University's Biological Sciences BSc. course and interested members of the public. I still volunteer in my local herbarium whenever possible and occasionally manage to get out into the field to record for the next BSBI Atlas.


Paula Lightfoot


John van Breda

Using the BSBI database to explore the impact of climate change on the British flora

Chloe Smith

Edge Hill University

Climate change is now widely accepted and the effects and implications for this process on local biodiversity is being examined across a number of scales and taxa. The British Isles has arguably the best recorded flora in the world, a product of its relatively small size, high population density and high interest in natural history. One significant and large repository of plant records is the Botanical Society of Britain and Irelands database which records species presence within hectads from the early 1960. Within the UK flora the sedge genus *Carex* has the highest representation of any genus. Hence this is a suitable vehicle to explore the potential impact of climate change. This study mined the BSBI database to assess changing distributions of *Carex* species across the landscape and to place this in the context of meteorological records.

Chloe Smith is a final year Biology student at Edge Hill University. This study is undertaken as part of her dissertation supervised by Dr Paul Ashton. Following graduation she intends to develop the presented work such that it is suitable for publication. Then she intends to seek a career in data handling.

Folded-in, CEDaR and the NSS, a case study

Dr Damian McFerran

Records Centre Manager, Centre for Environmental Data and Recording (CEDaR)

An insight into the on-going development of a regional records centre and how it links though to a number of NSS. The talk will highlight its role in assisting data flow, whilst addressing the expectations and requirements of recorders, funders and policy makers. In this time of change, how has CEDaR retained and developed its links with NSS?

Damian trained as an entomologist and began his association with what would become CEDaR in the early 1990s. For the last 20 years he has managed the records centre and been involved with a number of local, national and international projects. During this time, he has facilitated the flow of data to a number of the NSS, managed the support of old Recorder and assisted the development of Recorder 2000. Periodically he gets the opportunity to drift back to recording and now spends time encouraging a new generation. He has also come through a 10-15 year period of assisting numerous natural history publications. Time is now spent assisting the development of several initiatives, whilst ensuring that CEDaR retains a central role in recording.

The Riverfly Monitoring Initiative – public engagement and river water quality monitoring

Craig Macadam

National Ephemeroptera Recording Scheme and Buglife

The Riverfly Monitoring Initiative (RMI) is a UK-wide initiative to allow anglers and other non-specialists with an interest in river environments to contribute to a monitoring programme. Participants are trained in field sampling techniques and taught to identify river invertebrates into eight clearly separable morphological groups, concentrating on the 'riverflies' (Ephemeroptera, Plecoptera and Trichoptera).

By comparing what they find with what is expected from a site, the volunteer recorders can pick up changes in fauna that may relate to a decline in water quality. Although crude in the resolution of biological data collected, it can be used to alert statutory agencies, who then carry out more detailed analysis of environmental quality.

The RMI is operating throughout the UK, entirely volunteer-led, and has identified pollution events in several sites, some of which resulted in prosecutions of polluters. An umbrella body, the Riverfly Partnership, co-ordinates the activities of the monitoring groups and provides training and ongoing support. The Riverfly Recording Schemes provide assistance with the RMI and help to develop participants in to fully-fledged riverfly recorders.


Craig Macadam

Craig Macadam is Conservation Director with Buglife and has been studying freshwater invertebrates for over 25 years. He is national recorder for mayflies and stoneflies and a founder member of the Riverfly Partnership. His particular interest is the effect of climate change on the invertebrates of upland watercourses and investigating changes in the distribution of aquatic invertebrates.


Roger Key

Discussion Workshop

This is a workshop to discuss challenges and opportunities for National Schemes and Societies and to share examples of innovation and best practice. Speakers will give brief introductory talks about their subject, and will then facilitate discussions in an 'open space' workshop lasting one hour 15 minutes, during which delegates will be free to move from one discussion to another.

The speakers will facilitate discussion around their chosen topic and then feed back key recommendations to the conference in a plenary session.

The five topics for discussion are:

National Recording Schemes and Societies and Social Media

Matt Smith

Bees, Wasps and Ants Recording Society

"Social Media" is very much a buzzword these days, but the various options and facilities available can be confusing, particularly if you are starting from scratch. What is "social media"? Do we need it? How does it work? Where do we begin? What is the best way of setting things up? Can we capture records via this system? Using the current BWARS social media setup as a practical working example, this workshop will look at how NSS of any size, large or small, can make use of social media, particularly in terms of engaging with people outside of the more "traditional" recording community.

Collaboration and data exchange between National Recording Schemes and Societies and Local Environmental Records Centres

Martin Harvey,
Biological Records Centre

Damian McFerran
Centre for Environmental Data and Recording (CEDaR)

Every biological record is likely to be of interest to both the national scheme (NSS) for that species group, and the local environmental records centre (LERC) for that location. Both NSS and LERC use records for important conservation and research purposes. A long-standing issue in biological recording is how to effectively and efficiently share and make use of records for both these perspectives, so that recorders can pass on their data with the minimum of duplication. This workshop will explore ideas that have worked and look for positive suggestions to improve future collaboration.

Using species data to assess site quality

David Roy
Biological Records Centre

Jon Webb
Natural England

Species have a history of being used to assess site quality. A few are considered of enough importance in their own right to have sites notified on their presence alone. When these are not present, then different types of analysis are required to determine site interest that are reliant on biological records. How do we measure their importance? Traditionally, numbers of rare species has been used to define site quality but other measures do exist, such as abundance, species richness and habitat fidelity. Are there indices and scores that can be used and applied to assist in this process? Is comparative analysis important? Your views will be welcome to help develop answers to these questions.

NBN data sharing badges

Tom Hunt,
Association of Local Environmental Records Centres

Rachel Stroud
National Biodiversity Network Trust

The following workshop will offer an opportunity to discuss a proposed system of promoting NBN data partners within their data capture systems (online recording site, app, website or literature) by awarding data sharing badges. This will also make it easier for partners, volunteers and potential funders to see which projects contribute to the NBN.

Background

Within the UK there are over 196 different online data capture sites, apps, recording groups and organisations. The data flow between these groups and the NBN is unclear and it can be extremely challenging for participants to clearly see if, and at what resolution, their data will flow to the NBN for wider use. For example, 50% of the 196 projects in the NBN database of recording schemes and projects don't yet share data via the NBN Gateway. Additionally, for many projects, such as HLF funded projects, sharing data via the NBN Gateway is a funding requirement and the audit process for this is unclear.

The need to clarify data flows and to celebrate the commitment of NBN data partners to sharing their data as part of this national Network is well overdue. The NBN Strategy consultation process, and the Online Recording Working Group has highlighted the need to implement a system of 'NBN data sharing badges' which can be embedded into online recording sites, project websites and promotional literature.

Does size matter?

Stuart Roberts

Bees, Wasps and Ants Recording Society

Many Citizen Science and academic projects include among their aims one of capacity building. With increased opportunities for submitting data via electronic means, the seam of data to be mined has grown beyond its traditional base.

Can the schemes and societies that promote biological recording cope with the ever increasing demands placed upon them? Can NSS be too small to survive - or too big to manage? How do NSS recruit and retain officers? At what stage do schemes feel they need to employ staff? How should non-scheme members be encouraged to become members? Is there a need for more careful management of expectations among potential data users? Please help us to provide some answers to these thorny questions.

Session 2: Celebrating the diversity and achievements of National Schemes and Societies

Water beetles – towards the end of Phase 2

Garth Foster

Balfour-Browne Club and Aquatic Coleoptera Conservation Trust

Phase 1 of the recording scheme for water beetles in Britain and Ireland began in 1904, as such one of the earliest, if not the earliest, arthropod recording schemes in the world. Professor Balfour-Browne promoted the study of water beetles until the 1950s.

Phase 2 began in 1979 and is reaching a climax with Red Data Books, identification handbooks and at least one hard copy atlas published in the past six years. There is still much to do.


Sharon Flint

Garth Foster is an emeritus professor of SRUC, formerly the Scottish Agricultural College. He has been Secretary to the Balfour-Browne Club, an international study group for water beetles since 1976 and also chairs the Aquatic Coleoptera Conservation Trust, dedicated to the study of rare and endangered water beetles in Britain.


Steve Whitbread

Wriggling into recording - setting up the Earthworm Recording Scheme

Keiron Brown

The Earthworm Recording Scheme

Earthworms are widely recognised as ecosystem engineers that are of great importance to healthy ecosystems in the British Isles. Although not as cute as some groups, earthworms are generally well-liked by the public and are regarded as 'friends' of farmers and gardeners. Darwin was an admirer of earthworms and is considered the father of earthworm science as he spent much of his time observing these fascinating organisms and running experiments that demonstrated the power of the humble earthworm. Despite this, they are hugely under-recorded and very little is known about the distribution of the 31 species that inhabit the British Isles.

In 2009 the Earthworm Society of Britain (ESB) was formed with the aim to fill these knowledge gaps and work towards the eventual production of the first ever *Atlas of Earthworms of the British Isles*. Seven years later the National Earthworm Recording Scheme is successfully producing and collating earthworm records, though there is still a lot of work to do before an atlas is produced. However, getting there wasn't easy. Many existing recording schemes have slowly developed over decades so there has been a steep learning curve for the ESB. Add to that the difficulties of encouraging people to record something that is rarely visible, requires a microscope to identify and is not simple to preserve.

Keiron Brown, ESB Recording Officer, takes you through the successes and issues the ESB have experienced over the past seven years and what it is like to develop a traditional recording scheme in a modern world.

Keiron Brown works for the Field Studies Council as the Project Officer for the development phase of the upcoming BioLinks project and is proud to state his main passion is biological recording. Originally from Cumbria and graduated in Biology from the University of Newcastle upon Tyne, Keiron began volunteering for the Soil Biodiversity Group at the Natural History Museum 6 years ago. This is where his passion for earthworms developed and he is now the Recording Officer for the Earthworm Society of Britain (ESB), one of the leading earthworm recorders in the UK, and an experienced earthworm identification trainer. After becoming part of the biological recording community, Keiron began a blog simplifying some of the more complicated aspects of biological recording such as the web of organisations involved and data flow.

Keiron Brown

Marine life recording at the Marine Biological Association: developments and plans for the future

Esther Hughes

Marine Biological Association

The Marine Biological Association (MBA) has been collating, sharing, and supporting marine life information recording since 1884. Celebrating past recording schemes such as Sealife Signpost and looking to the future of marine life recording, this talk will focus on our various current recording schemes such as Shore Thing, Wakame Watch, Mitten Crab Recording, and Sealife Survey, all which are verified online via iRecord by marine experts and which can be found archived in the Data Archive Centre DASSH and freely available on the NBN Gateway, GBIF and Local Record Centres. We will explore the MBA's roles, challenges and opportunities in marine biodiversity recording, data flow and wider outcomes.

Esther is the Data Manager in DASSH, the Archive for Marine Species and Habitats data based at the Marine Biological Association (MBA) in Plymouth. She facilitates the flow of biodiversity data to the MEDIN Data archive and the NBN Gateway and further afield. The role also involves responding to public marine life reports, supporting recorders, and verifying marine records. She is a dedicated recorder of marine macroalgae and other finds along the way.

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Paula Lightfoot

Wildlife Recording in Weardale *Quickfire talk*

Carol Inskipp

Weardale Wildlife Group

Carol Inskipp

When I moved to Stanhope in Weardale in 2012, this coincided with the initiation of the three-year Heritage Lottery funded North Pennines WildWatch project. I was inspired by a meeting held at the project's launch to take part as much as I could. Now that I am aiming to retire soon, I decided to focus on recording wildlife in Weardale, which is particularly under-recorded, especially for invertebrates and bats, as well as birds. After the WildWatch project ended, I moved on to taking part in invertebrate recording for the five-year HLF-funded Cold-blooded and Spineless North Pennines AONB project. The invertebrate groups I have recorded are: butterflies, dragonflies, bumblebees, hoverflies and moths. Bumblebee recording was part of the AONB Nectarworks project and included surveying bumblebees in gardens. The training courses offered by the AONB in invertebrate identification have been invaluable in learning field identification of hoverflies and bumblebees (I already had quite a good knowledge of the other groups).

I have tried to focus on unrecorded or under-recorded grid squares as well as areas which I found to be especially rich in

invertebrates, notably some overgrown long disused quarries, and a few flower-rich roadside verges and river banks. I set a moth trap at least once a week in my Stanhope garden on suitable nights. Another activity I have especially enjoyed during the 2014 and 2015 summers is bat-recording using an EM3 recorder as part of the North Pennines AONB bat recording work.

In this talk I will discuss the role of NSS and their volunteers within these two highly successful projects and in my own personal biological recording journey.

Carol Inskipp grew up in Co. Durham and grew to love the Durham Dales. She left the county to go to university and work, returning to Stanhope in Weardale four years ago. She has worked as a secondary school teacher and freelance for 21 years writing environment education materials, mainly for WWF UK and Scottish Natural Heritage. She has a special interest in birds and their conservation in the Indian subcontinent, especially in Nepal and has visited the country over 20 times. Together with her husband, Tim, she produced the first distribution atlas of Nepal's birds in 1985 and 1990 and co-authored a number of books on conservation of birds in the region, as well as field guides to the Indian subcontinent, Nepal, Bhutan and Sri Lanka with Tim, Richard Grimmett and a Nepalese colleague, Hem Sagar Baral. She has recently co-authored a Nepal bird Red Data Book with a Nepalese team which included the production of a new bird atlas for the country which is available online. Since living in Weardale she has developed a great interest in recording wildlife, including birds, butterflies, moths, hoverflies, bumblebees and dragonflies locally, in Weardale, in the North Pennines AONB.

Mapping fish tomorrow: the BRC Freshwater Recording Scheme *Quickfire talk*

Dr Ian Winfield

Lake Ecosystems Group, Centre for Ecology & Hydrology

The recording of freshwater fish has for many years been a relatively neglected area of organised biological recording in the UK. To date, the recording of these animals has been largely restricted to periodic bursts of activity by a few individuals and short-term projects. This unsatisfactory situation arises partly because of the low public profile of fish and partly because they inhabit a medium which is difficult for the would-be recorder to cover by direct observation. However, recent developments are combining to improve greatly the potential for active and widespread biological recording of the UK's freshwater fish.

Although still falling far below the levels of interest shown for other vertebrates such as birds and mammals, the public profile of freshwater fish has greatly increased recently through the activities of natural history photographer and cameraman Jack Perks (www.jackperksphotography.com) whose crowd-funded project 'Below the Waterline' (www.btwlfishproject.com) filmed over 40 species. The outstanding images produced by this project have resulted in an unprecedented increase in media interest in our freshwater fish, encouraging their increased recording.

Within the general public, recreational anglers frequently 'enter' the world of freshwater fish and routinely make recordings that would be impossible for anyone else. Each year, over a million anglers each spend many days by the UK's fresh waters and together constitute a potentially invaluable source of information for fish recording if their observations can be brought together. The recent development of several fish-recording Apps (e.g. AquaInvaders, Deeper, Fishbrain, Go-Fish and others still in development) now gives these anglers the power to record fish observations (including length, weight and other features) on the bankside and many are starting to do so in the context of social media. The challenge for the BRC Freshwater Fish Recording Scheme is to tap into the resulting accumulations of data.


Clare Langrick

Ian works within the Lake Ecosystems Group of CEH, with over 28 years of research experience encompassing diverse areas of freshwater fish ecology. He has a particular interest in population and community dynamics, including interactions with non-native species, roles in lake ecosystems, effects of climate change, the use of hydroacoustics for studies of fish and their habitats, and the applied issues of the conservation of biodiversity and fisheries management. Most notably, he leads long-term population studies on the major fish species of Windermere which have been conducted since the 1940s and which now constitute a unique lake fish dataset of global standing. He has been an Assistant Editor of the Journal of Fish Biology and is currently a member of the Editorial Boards of Aquatic Conservation: Marine and Freshwater Ecosystems, Freshwater Biology, Journal of Fish Biology and Journal of Limnology. He has edited or co-edited eight conference proceedings and a section of a major encyclopaedia, and is a co-editor of the standard reference text for cyprinid fishes. Ian also frequently co-supervises student research projects at several universities, particularly at Lancaster University where he also teaches. He was President of the Fisheries Society of the British Isles from 2011 to 2015 and currently is a Fellow of the Institute of Fisheries Management and sits on a number of regional, national and international advisory bodies. To date, Ian's research has led to 169 scientific publications, 325 contract reports and 38 popular articles, together with numerous appearances in regional, national and international media.

Using technology to aid conservation: life history analysis of the hen harrier in England

Stephen Murphy

Ornithologist, Natural England

The hen harrier is a rare and declining breeding bird in England. This detailed study started in 2002 with a wing tagging and radio-tagging programme. It is essential to gain knowledge into the annual life history of a species to inform and plan restorative conservation initiatives.

This was successful to a certain extent, but due to the remoteness of the breeding and wintering sites many of the tracked birds "disappeared", or flew beyond the study area. Sightings of unmarked and wing tagged birds were valuable but infrequent and heavily weighted towards coastal sites frequented by birdwatchers.

The older literature refers to the hen harrier as a bird that breeds in the uplands and disperses to the coast in the autumn and winter months, but was this correct? In 2007, the advent of micro-weight satellite tags allowed the species to be studied as never before, from cradle to grave, without any observer biases.


Stephen Murphy

Born Liverpool 1962, Stephen has been a Natural England Ornithologist since 2002. He has a lifelong love of birds, and his specialisms include field scientist, radio and satellite tracking raptors, analysis of spatio-temporal tracking data and life history analysis.


Stephen Murphy

Session 3: Resources for NSS and their recorders

An Introduction to Pantheon: the invertebrate online analytical database

Jon Webb

Senior Invertebrate Specialist, Natural England

Pantheon is an analytical database developed to analyse invertebrate samples from sites. It is a joint Natural England/Centre for Ecology and Hydrology project focussing on species primarily found in England. The steering group also includes representatives from Buglife, RSPB and academia.

To date over 12,000 species have been typed, this being about a quarter of the total macro-invertebrate fauna (estimated at 40,000). It remains limited to those taxa and families where there is enough ecological information to give a fair level of coding accuracy. These include species such as beetles, flies, true bugs, moths, bees and many more.

Users import their sample species lists of invertebrates into Pantheon, which then analyses those species, attaching trait values, scores and assemblage codings against them. Pantheon can display the ecological requirements of each species give as well as summing them to provide numerical scores. This information can be used to determine site quality, inform on species ecology and assist in management decisions by revealing the key ecological resources.

The production of Pantheon will have immense benefits for invertebrate nature conservation in the UK. Users from all communities can test samples to get an indication of site quality and on-site management issues. Pantheon will also establish a shared terminology for describing invertebrate interest which will greatly augment invertebrate nature conservation. Users will include those involved in citizen science projects, those looking at their local patch, and Natural England advisors and other Government and national NGO bodies dealing with nationally important sites. Simply put, Pantheon will revolutionise invertebrate conservation by allowing analyses of species lists to be completed in seconds rather than it taking days of searching through dispersed sources of information.

Jon has worked in the field of ecology since 1996, ranging from a botanical surveyor, working in a museum, as climate change specialist, and, for the most part, as an entomologist for Natural England. His tasks include field work, training, protected sites casework, red listing and much more. Jon spends a good deal of his time resourcing and leading on pro-active projects, such as the conservation status reviews of invertebrates and the building of relational databases, such as ISIS, Pantheon and more. Jon has a good overview of all English insects, but has a fondness for the Staphylinidae. Jon has a particular interest in dead wood and wetlands. Jon has spent periods of time working abroad, including Slovenia, France, Romania, Latvia and Honduras.

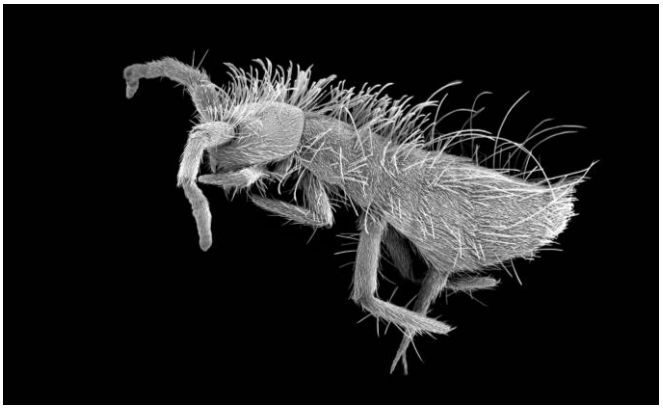
Perceiving the imperceptible: can modern technology open doors for uncharismatic species?

Thom Dallimore

Edgehill University

Biological recording is an all-encompassing method of gathering important data about the distribution of living things, their ecology, and how they are effected by anthropogenic pressures. However, the number of records and recorders are often biased by the 'charisma' of the species, and where records for groups such as birds, butterflies and bees have been hugely important and successful, smaller and less desirable species are still overlooked.

The recording of aesthetically challenged species has a tendency to be steered by a limited number of enthusiastic groups of individuals with little or no financial resources. Here we discuss the implications of recorder preference and what society might gain by increasing our understanding of undesirable species. We also look to the future to discuss the wide range of technological advances that are making it possible to relate to previously imperceptible worlds.



Thom Dallimore has previously worked in the conservation sector for a number of years for organisations such as The Wildlife Trust, Natural England and the WWT. He currently works at Edge Hill University carrying out research into soil microarthropod ecology and population genetics, and is also engaged in taxonomic and ecological surveillance work on mosquitoes. He is an avid supporter of biological recording and is in the process of developing a new key to the mosquitoes of Great Britain with the FSC, and a new South Lancashire atlas for Springtails.

Museum Collections – just a load of dead stuff?

Darren Mann

Head of Life Collections, Oxford University Museum of Natural History

In bygone days local records centres were firmly embedded within local museums and each museum had a curator who would enable access to both data and specimens. Sadly this is no longer the case, but museums still need recorders and recorders still need museums. A collection is the one of the few biodiversity databases where each record (= specimen with data) can still be re-validated in light of taxonomic changes or to verify the identification of that outlying record.

This presentation aims to demonstrate the importance of museum collections not only as a source and depository of data but also as a valuable learning tool for recorders.

Professional museum nerd and amateur entomologist. At aged 15 I embarked on two weeks work experience at the Herbert Art Gallery & Museum, Coventry under the tutelage Adam Wright, Chris Palmer and Ray Barnett. The following year I was mentored by Steve Lane and others during the 'Coventry Ecological Survey' and haven't stopped playing in museums, identifying insects and square bashing since. Now Head of Life Collections at Oxford University Museum of Natural History, where I do lots of admin, some collections work, some teaching and some research. National Scheme Organiser for Scarabaeoidea, so manage and validate records, check IDs, and occasionally escape the office to try and re-discover the 'rare' and the 'elusive' across the UK by digging in dung.

Developing an ID resource with support from a museum *Quickfire talk*

Chloe Rose

Identification Trainers for the Future, Natural History Museum

I have spent the last 12 months working at the Natural History Museum on a work-based training programme, designed to address a critical and growing shortage of wildlife identification and recording skills in the UK. 'Identification Trainers for the Future' is a HLF funded project led by the Museum in partnership with the Field Studies Council and NBN Trust. My interest in hymenoptera came about when I started volunteering for the Bumblebee Conservation Trust. However with newfound confidence and skills, thanks to the museum, I decided to delve into the world of parasitic wasps

during a 3 months curation project. I worked alongside Dr Gavin Board, Senior Curator of Hymenoptera on a genus known as *Alexeter*, a group of wasps which parasitise sawflies.

There are around 6,000 known species of parasitic wasps in the UK. However, little is known about many of these groups, few of which have well illustrated keys, making the area of study considerably less accessible. Gavin and I therefore worked on constructing an easy-to-use identification guide for this poorly understood group of wasps.

This project involved re-curating 400+ of the museum specimens, studying variances in each species to find reliable characteristics and creating images using a stacker camera, with a depth of field at a microscopic level.

When faced with a genus that has a number of similar looking species within it, writing a key becomes tricky as characteristics are minute and very subtle, like a slight kink in a vein on a wing or the minor change in pattern on a textured surface.

All in all, this was a challenging but very rewarding time of my traineeship and I look forward to seeing 'A Guide to British *Alexeter*' published soon.

Alexeter multicolor Chloe Rose

Alexeter niger Chloe Rose

My curiosity for natural history stems from many years of study, both out in the field and academically. I graduated in Ecology and Biogeography at Brighton University and since have been immersing myself in anything wildlife orientated, with the long-term goal of a career within the ecological sector.

I first began working for the RSPB at the South East regional office as an administrator. I worked within the wildlife enquiry team and always being eager to learn more, jumped at any chances to volunteer whether it was carrying out dormouse, nightjar, corn bunting or bumblebee surveys. There were also opportunities for me to inspire people about the natural world, something I am passionate about, through nationwide projects such as Big Garden Bird Watch and the Big Wild Sleep Out.

I thoroughly enjoyed working with a highly dedicated and passionate team however, when I saw the traineeship with the Natural History Museum – 'Identification Trainers for the Future', I knew I had to grab it with both hands. I have since finished this 12-month traineeship where I have gained a wealth of skills and knowledge. I have had the opportunity to work alongside world experts, visit stunning locations throughout the UK during field studies and inspire a range of audiences by delivering educational workshops, presentations and creating identification resources. It's safe to say, it has been a dream come true.

Accidental or 'meant' mentoring, the art of paying it forward

Pete Boardman

Natural England Lead Adviser – Field Unit, Natural England

A recent experience made me consider how important mentoring is in the whole process of biological recording even if it is a little hard to define at times. Most mentoring follows the concept of "paying it forward" without the prospect of ever seeing the end result, like hearing a really promising joke but never getting the punchline. Even though we might never see the results of our enthusiasm, commitment or what might seem like unrewarded work, the biological recording world is by far a better place for it happening, and we should encourage this. I look at planned and accidental mentoring through the projects I ran at the Field Studies Council and how either method can have fabulous results and give examples. I consider my own development and the people who were important within it. I end with a plea - Why not look up someone who was fundamental in your own development and let them know the role they played, they may be totally unaware, but I bet they'll be thrilled to hear.

Pete is an entomologist and biological recorder who spent 13 years as a freelance habitat manager and entomological surveyor, mostly on sites around the Meres and Mosses of Shropshire, Cheshire, and Staffordshire. He worked at the Field Studies Council for 8 years running three externally funded projects; Biodiversity Training Project (HLF-funded), Biodiversity Fellows (Defra-funded), and Invertebrate Challenge (HLF-funded). He has recently joined the Natural England Field Unit as an entomologist. He is a Fellow of the Royal Entomological Society, and sits on the committee of the Dipterists Forum, and has been significantly involved with Shropshire's local records centre (SEDN). He's authored county atlases on craneflies, shieldbugs, and was fundamental in helping with the production of ones on the smaller moths of Shropshire, and Shropshire's aculeate hymenoptera, and is currently working on a springtail atlas for the county. He once saw a slug eating a chip.

BioLinks: Providing biodiversity training in the West Midlands and South East

Quickfire talk

Keiron Brown

Field Studies Council

The Field Studies Council (FSC) has been delivering biodiversity training projects to assist in the recording of difficult-to-identify data deficient groups for the past 10 years. A lot of this work has been focused in the West Midlands, such as Invertebrate Challenge. With support from the Heritage Lottery Fund, the FSC is now developing a new exciting project that hopes to maintain this success in the West Midlands and deliver the same outcomes in the South East of England. BioLinks will build upon previous FSC projects, such as BioFells, and complement the current Tomorrow's Biodiversity project in supporting the biological recording community.

Making the most of the time, hard work and expertise that volunteers donate

Quickfire talk

Rachel Stroud

National Biodiversity Network

An unprecedented commitment to nature observation and environmental monitoring, mostly by volunteers, over several centuries has created one of the largest biodiversity databases in the world for any country with over 120 million records shared nationally via the NBN Gateway.

A priority for the National Biodiversity Network is to improve the availability of high resolution, quality data to provide the evidence base for environmental decision-making in the UK. Making the most of the time, hard work and expertise that volunteers donate means maximising the use of data obtained through citizen science and volunteer recording.

This presentation will provide an brief overview as to how the NBN are working together to give back to our network of volunteers, National Schemes and Societies, recording groups and the many other data partners who make up our unique Network.

This includes developing a new Network website (www.nbn.org.uk), establishing a new data portal (starting with a pilot in Scotland, the Atlas of Living Scotland www.als.scot) and improving tools such as the record cleaner rule sets. These projects will help further engage, educate and inform people about the natural world and grow capacity and capability in citizen science, as well as allowing professional and amateur naturalists to view and interrogate all data types including species occurrences, habitats and spatial environmental layers.

It is important that we continue to recognise and celebrate the incredible dedication, enthusiasm and expertise of the citizen scientists that are contributing so much to our shared understanding of the UK's wildlife and improve the tools and resources available to them.

Rachel Stroud is currently the Interim CEO for the NBN Trust. Rachel works with the Network to implement the NBN Strategy, inturn growing the National commitment to share biological data and information. She works with groups and organisations across the UK to help them share wildlife information they hold more widely and is also involved in supporting opportunities to increase the partnership working of the National Biodiversity Network.

Plenary discussion

Looking to the future – supporting National Recording Schemes and Societies

In this final session of the conference, we will discuss how we can build on the achievements of volunteer-led National Recording Schemes and Societies and support them to continue their valuable work in improving our knowledge of the UK's biodiversity.

NFBR are conducting a survey to better understand how the organisers of National Recording Schemes and Societies perceive current issues in biological recording and whether NFBR could do more to support NSS and represent their views. The initial results of this survey will be presented at the start of this session.

We will then have a plenary discussion during which everyone is invited to contribute ideas and suggestions for how we can build on the findings of the survey and the lessons learned from the conference to deliver outcomes for the benefit of biological recording and biodiversity conservation in the UK.

Your active input into this session will be greatly valued!

Posters and Displays

iSpotnature.org

Michael Dodd, Open University

Moth Trapping for River Flies

Sharon and Peter Flint, Yorkshire Naturalists' Union

A quiet man. Revealing a life's lost work in a digital age

Andrew J. Green

iRecord Surgery

Martin Harvey and David Roy, Biological Records Centre

Botanical Society of Britain and Ireland

Louise Marsh, BSBI

DUMP – Dung beetle UK Mapping Project: Survey, research, conservation, advocacy, outreach and training

Ceri Watkins, Oxford University Museum of Natural History

Identification Trainers for the Future

Stephanie West, Natural History Museum London

Field Trip

Forest of Bowland Area of Outstanding Natural Beauty

The Bowland Fells form a distinctive upland block on the boundary between north Lancashire and the Yorkshire Dales. The landscape is wild and windswept, with steep escarpments, upland pasture and expansive open moorland. The National Character Area is within the Forest of Bowland Area of Outstanding Natural Beauty and also contains areas of moorland, designated as a Special Protection Area due to its international importance for breeding hen harrier, merlin and lesser black-backed gull. It also provides for other important species such as peregrine, ring ouzel and breeding waders.

The peat soils of the fells, including the deep columns of peat associated with blanket bog, store significant volumes of carbon. Blanket bog habitat is also important for water storage. High-quality species-rich meadows can be found in the limestone areas to the east. There are also a large number of important waterbodies throughout the area. Extensive conifer plantations occur to the south-east and east of the area, with fragmented broadleaved woodland largely in the cloughs.

The field trip will start at 10.30am with an introduction to the site, upland management and the local avifauna by Stephen Murphy, Natural England. Transport to and from the site will be arranged by car sharing, and car parking is free. The field trip will conclude at around 3.00pm. Please bring appropriate waterproof clothing and footwear, along with lunch and drinks.

Please note that places are limited to 20 participants. Details of the meeting place will be sent to those who have booked.

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