NFBR

NATIONAL FORUM
FOR
BIOLOGICAL RECORDING

Newsletter 46 – July 2013

Ladybirds, by Imogen Robertson

Imogen says "*I have been submitting records to the UK Ladybird Survey for ages. The ladybird survey got me interested in ladybirds – a couple of years ago my mum found the website and said it would be a good idea to submit the ladybirds we were finding. From the website, Dr Helen Roy and others I learnt loads about ladybirds, then read the ladybird encyclopaedia so that I would know all of the different types. I love to photograph them and to draw them, so when we started designing our triptychs in art class at school I wanted ladybirds to be the main feature. The left picture is a sketch of a Seven-spot, the middle is Cream-spot using mixed media, and the right is a painted Harlequin.*"

Charitable status for NFBR

On Monday 22nd July, Graham Walley, NFBR chair, announced that the Forum has achieved charitable status. Originally founded in 1986 (as the National Federation for Biological Recording), NFBR has been a catalyst in developing major initiatives in the world of wildlife recording:

- The NFBR was a pioneer in setting standards for recording wildlife, and especially the development of computer-based systems.
- It was a partner in the Co-ordinating Commission for Biological Recording in the 1990s under Sir John Burnett, recommending in particular that "a phased development of a national system is desirable to meet present and increasing future demands for biological records and [to] bring some coherence to the present disparate range of activities".
- The NFBR was subsequently instrumental in negotiations leading to the establishment of the National Biodiversity Network and is a founder member of the NBN Trust.
- With the increase in cover of local biological records centres, the NFBR encouraged the setting-up of the Association of Local Environmental Record Centres in 2009 to specifically represent their interests.
- At our 2005 conference, it highlighted the decline of natural history services in the UK's museums, making twelve recommendations. Regrettably the situation has deteriorated in the last eight years.
- The NFBR holds an annual conference, encouraging all aspects of biological recording including both species and habitats. This conference moves around the country to allow local participation.

Graham commented that the move to charitable status aims to allow the NFBR to seek public funding, enabling it to help more people get involved in biological recording and to facilitate future developments. He thanked John Newbould and the small team who worked hard to produce an acceptable constitution, which reflected the aims and objectives of the former Federation.

The present trustees are Graham Walley (Chairman), John Newbould (Secretary), Clare Langrick (Treasurer and Membership), Steve Whitbread (Vice-chairman), Trevor James, Paul Harding and Helen Roy. The trustees are assisted by an advisory council of 15 members drawn from voluntary and official organisations involved with recording the UK's wildlife.

Membership remains at £10 for an ordinary member and £20 for an institutional member and is open to anyone with an interest in biological recording.

National Forum for Biological Recording
Charity no 1152948
Registered Office: 3 Brookmead Close, Sutton Poyntz, Weymouth DT3 6RS

NFBR

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Editorial

Welcome to the 46th NFBR Newsletter, the first since NFBR was granted charity status (see page 2). Many thanks to all the contributors for this issue, and a special thank you to Imogen Robertson for letting us make use of her beautiful ladybird artwork on our cover page.

Part of this issue has been 'themed' around social media, communications technology and biological recording. I'm especially grateful to Steve Whitbread for suggesting the theme and providing a number of contributions, both to this newsletter and to NFBR's own social media activity.

As well as being of interest in its own right, the communications/media theme is a reflection of how the Forum is seeking to equip itself to be better able to promote biological recording interests and to encourage effective communication, collaboration and data/information flows.

At the NFBR's 2011 *Future of Biological Recording* conference Charles Roper gave an inspiring presentation on the use of social media (still a brave new world for some of us at the time!) and for this newsletter we asked him to provide an update. In keeping with the topic to hand, instead of an article this took the form of a live online interview via Facebook. This gave everyone who picked up on the publicity the opportunity to follow and participate in it as it happened.

The result was thoroughly interesting and enjoyable. Intense at times, it prompted participants to give their views as to which are the most useful social media tools and it sparked ideas that wouldn't otherwise have occurred. You can read the summary in this issue or you can follow the whole thing (which contains a lot of useful extras) via the Facebook link above.

So well did the event work that we're holding another online discussion (an 'afternoon into evening' debate) on 7th August 2013. The focus this time will be different aspects of training and mentoring for identification and record making, and will comprise a series of different 'interviewees' from different backgrounds each with their own views and experience. This will be run on our Google email discussion group, and do please use all means to publicise it to others – training is a vital part of support for biological recording, particularly in relation to enthusing and developing new recorders.

We intend to get the next Newsletter out in December, so please get in touch if you have biological recording news, reports, articles or photos to share. Contact me, or share your views more widely via our email discussion forum, our Twitter feed, or on our Facebook page.

And if you're not already a member, please consider joining NFBR and helping our work to support biological recording for wildlife conservation.

Martin Harvey, July 2013
editor@nfbr.org.uk

The **deadline for sending in articles for newsletter 47** is
29 November 2013

Biological recording from the local perspective: NFBR Conference 2013

Trevor James, NFBR Conference Programme Coordinator

During 2012, the debate amongst many organisations involved with biological recording had been about whether the way biological recording was being carried out was really 'fit for purpose' in the modern world. The National Biodiversity Network's annual Conference in November had focused on this issue, and a number of approaches, largely from the national perspective, had been put forward, suggesting a range of options, not least the concept of 'citizen-science'.

The NFBR Conference (18-19th April 2013, RNLI College, Poole, Dorset) was a deliberate re-focus on the same issues, but looking at what was both being done and needs to be done from the perspective of people working on the ground, trying to both celebrate achievements, and also pose the question – what more do we really need?

The main event for the first conference day was a workshop session, ably led by Sue Townsend (Field Studies Council) and NFBR chair Graham Walley. The question to be debated was: do we have the people and tools to deliver the right information for all the various ways we want to use it? A lively discussion produced some common areas of concern, where future effort would usefully be directed (see box opposite).

The main conference session the following day was held in the well-equipped lecture theatre at the RNLI College. Our keynote speaker was Nicky Court, Manager of the Hampshire Biodiversity Information Centre. Her topic was "Fifty ways to make good use of local data". Her talk title reflected the bright idea coming from national to local government – that there might be "fifty ways to save – examples of sensible sharing" (as if local organisations had not been doing this for years). As Nicky reflected, in local records centres this is second nature, and actually results in a useful cross-fertilisation of data use. The Hampshire BIC example is particularly impressive, with a Recorder 6 data holding of 35,000 habitat parcels, and a MapMate species database of some 3.8 million records, of which 33% are precise to 100 metres. The importance of up-to-date data is taken seriously, and their use of habitat data defined by the Somerset Integrated Habitat System enables good quality GIS analysis.

Nicky presented her '50 ways' to use data, covering the usual suspects of planning advice, development proposals, support for ecological survey, catchment management, SSSI designation and so on. A specially interesting example was the use being made of species and habitat data to model 'habitat suitability' across Hampshire. This integrated service, focusing a broad spectrum of local (often volunteer-led) data for use by a wide range of local (and some national) users, demonstrated clearly the great strength of local recording and the local use of data. Are these data always fit for purpose? Her answer was 'no', but their influence helps, and can compensate for the low quality of data that is occasionally put forward by private consultancies. Finally she emphasised that an important aspect of all this was engagement with the local community.

The rest of the morning session was given over to looking at examples of a range of 'local' projects from different places. First of these was from the National Trust: Andy Foster gave us a brief run-through of NT's overall operation in relation to biodiversity, where their own survey team's efforts are augmented by voluntary input. The focus is closely on 'what is there, and what needs doing', so a practical focus to data collection. Staying with NT, and focusing on our host county, Dorset, David Brown introduced the National Trust-led "Cyril Diver Project". This is making extensive use of local volunteer surveyors to re-examine in great detail the habitat development and changing biodiversity of the nationally significant Studland peninsula and its Heath. David showed us how the original survey by Diver had produced a detailed record of the ecology of Studland in the 1930s, which was being repeated. Use of modern techniques of GIS allows a closer understanding of the physiographical and habitat changes to this unique site, in particular the processes of coastal accretion and colonisation. Given the nature of the locality this insight is providing much-needed data for potentially understanding climate change effects, and demonstrates the importance of local studies in the bigger picture. 'Citizen Science' in its true sense is very much a part of this.

Linda Smith of the Hertfordshire Natural History Society then presented "Getting to the heart of it – monitoring a landscape scale woodland creation project", a review of work being carried out to establish a baseline for future monitoring of a large-scale afforestation project in Hertfordshire: the Woodland Trust's Heartwood Forest, near St Albans. This is actually the largest such project in the UK, covering some 335 ha, of which 312 ha has, until recently, been arable. She outlined the use of a small army of volunteers, not only for planting, but also for monitoring biodiversity changes. This includes monitoring tree survival rates, measuring the extent of natural colonisation processes, changes in bird, mammal and different invertebrate populations. As such, it is a large 'citizen-science' project. One particularly interesting result so far has been the demonstration that natural seedling survival of trees has been vastly better than that of planted ones, and produced a far better habitat for other wildlife!

Matching people, resources and needs: areas of concern highlighted during conference workshop

- There are simply not enough expert field recorders – said 4 times! Problems listed include dispersal and not matched to need, training needed, mentoring needed, too much reliance on amateurs – not really free. Progressing skills, feedback and lack of equipment also cited.
- Motivating is key for future uptake.
- There is a need for structured development of skills for voluntary recorders. This should involve mentoring, matching skills to need and regional networks.
- More identification/recording resources needed e.g. mentoring networks, identification guides (on line and paper-based); funding needed for development
- ID →RECORDING→DATAFLOW→USE
- Good quality interpretation skills are also needed.
- Ecosystem services are poorly understood.
- Need to address reporting by consultancies and agencies to ensure records are shared.
- Need to continue to demonstrate the use and value of data collected.

Finally, Paula Lightfoot, representing the national recording scheme Seasearch, gave a talk entitled "Dive into conservation? - integrated marine recording and recorder motivations". Since the mid-1980s, Seasearch has provided a way for volunteer SCUBA divers to record marine species, habitats, environmental data and human impacts in a structured way, making the data fully publicly available to support decision making. Seasearch data has led directly to positive conservation measures, such as the expansion of a SAC boundary in North Wales, the establishment of Scotland's first No Take Zone in Lamlash Bay, the designation of marine Local Wildlife Sites in Sussex and the prevention of scallop dredging in parts of Lyme Bay. However, the disappointing outcome of the Marine Conservation Zone process in England, which saw only 31 out of the proposed

127 sites put forward for designation, highlighted the risk of promoting 'data use for conservation' as a motivating factor to engage volunteers. Paula presented the results of a recent survey about what motivates volunteers to stay involved in Seasearch, and about volunteers' views on data accessibility and use. The survey found that data use for conservation is a key motivation, but other factors such as improving identification skills and meeting like-minded people are equally important. Ongoing recruitment of volunteers is essential, and the role of regional coordinators is vital to the success of the project. Over 50% of volunteers felt that recording would be a waste of time if their records weren't made fully publicly available, and while some felt that private and public sector data users should be obliged to support the project financially, they did not feel that access to data should be withheld as this could result in poor decision making. Paula finished by concluding that we should do more to share experiences, ideas and technology between 'marine' and 'terrestrial/freshwater' recording sectors, and there could be a role for NFBR in facilitating this communication.

Following the NFBR Annual General Meeting, the afternoon session turned towards assessing just how useful what we are currently doing really is, and how we might improve things. First, we returned to the question of recorder motivation, which can be very varied, depending on the perspective and the topic. Roger Morris of the Hoverfly Recording Scheme came to give us a talk on "What motivates biological recorders? – a Dipterist's view", which stemmed from a recently published article in British Wildlife that had highlighted concerns over the longer-term supply of in particular specialised recorders. He started by remarking that, sometimes "we need to break eggs to make omelettes" – i.e. we need to stir things up a bit. So he emphasised that if a recording programme wasn't seen to be active it would die. He also emphasised the changing ethos of recording, the shift away from 'collecting', and the ageing workforce of people who actually know what they are doing. In the Hoverfly Scheme, he reckoned there were some 27 really active recorders only across the UK.

There has been some improvement in recruitment and training, with some support from projects like OPAL and from Natural England. But this did not get round the issue of a steady loss of specialist resources in places like regional natural history museums. For example, most of the material used in training courses was directly supplied by a few key volunteers. Another issue he focused on was the importance of 'leadership', and how difficult this was to support. There is a need especially to recruit 'motivators', and some kind of 'career progression' needs to be developed to support these rare people. However, recording itself is not really a 'career'. These are issues that statutory bodies and academic institutions need to understand, and things they need to really engage with if we are to continue to get good data.


The RNLI College in Poole – an excellent venue.

Martin Harvey, speaking with experience both from local records centre and national experience with programmes like iSpot, gave us a thoughtful talk on "Missing links? - joining local and national recording", in which he re-examined the question of whether we were effectively 'recording once and using [data] often'. His initial conclusion was that, despite 'progress' with things like NBN, MapMate, Recorder 6 and other software, we had still got problems with data flow. The perceived increase in recorders (despite what Roger Morris had just remarked on) coming on stream through things like iSpot and iRecord as well as ever-changing systems of recording, presented their

own problems of correlation and co-ordination. A particular feature is the accelerating use of internet technology, especially by the young, and their expectation of 'instant' responses. In order to come to grips with this plethora of diverse recording activity, Martin strongly supported the NBN approach, using the iRecord model as a basis for moving forward, if only to try and integrate these disparate sources of data.

Trevor James, past-chairman of NFBR, gave a talk based this time on local experience with data in Hertfordshire, giving also some thoughts on issues that he considered need to be explored nationally. The talk "Putting records to work – indicators, predictors, criteria" was in a sense re-visiting old ground – the use of species data in processes like habitat definition and measuring 'quality' of habitats etc. However, the real reason for the talk was to show how, with modern analysis techniques, and particularly the development of key 'attributes' of species, occurrence records could be much more powerful as tools in managing and developing the natural environment than currently has been the case up to now. The examples given were from the Hertfordshire 'Living Landscapes Project', which had used detailed data of less common and habitat-specific species to identify ecological networks and the potential for habitat connectivity enhancements to be carried out. Some work nationally on species attributes has already been developed, especially by the Centre for Ecology & Hydrology, but he highlighted the need for further such 'attributes' to be developed of other species groups, such as different invertebrate species, so that their occurrence data could be integrated into this type of ecological analysis. In this way, even simple, species-focused recording by 'amateurs' could provide vital tools for landscape management in a way that we have never previously been able to do. There are still challenges, though, not least gathering the data in such a way that these 'attributes' can be quantified and made real use of.

The final talk of the afternoon was from Tom Oliver of the Centre for Ecology & Hydrology. He talked on "Assessing the resilience of local ecological networks", which focused especially on work being undertaken to define and promote the importance of 'ecosystem services'. This was in effect a follow-on from the previous talk, as much of the work being carried out seeks to identify things like trophic roles of species. He emphasised that there is a step-change needed in action to counter the overall decline of the natural environment's ability to self-manage. Enhancement of local ecological networks, as had been shown by the previous talk, was therefore a highly important objective. Enhancing the 'resilience' of the natural environment is key to this. So, for example, predicting the potential effects of climate change requires that we understand the importance of species 'traits' in being able to understand potential effects. He emphasised that we need more investment to underpin what we are already doing with recording. He also emphasised the increasingly recognised importance of all this for overall human well-being. His final call was to support what Sir John Lawton had emphasised in his seminal report on 'Making space for nature' - we need the natural environment to be 'better, bigger, more and joined', but to do this we need the data.

Feedback from our 2013 conference was positive – a good programme in an excellent venue. Thanks to all who took part in organising, presenting and attending. The full presentations can be found via the NFBR website conference page. And you can join NFBR to get the first opportunity to join our 2014 conference at reduced rates.

Communications and social media in biological recording

At the NFBR's 2011 Future of Biological Recording *conference Charles Roper (Biodiversity IT Officer at Sussex Biodiversity Record Centre) gave an inspiring presentation on the use of social media (still a brave new world for some of us at the time!) and for this newsletter we asked him to provide an update. In keeping with the topic to hand, instead of an article this took the form of a live online interview via Facebook, initiated by NFBR vice-chair Steve Whitbread. This summary provides a flavour of the discussion – there's much in the original interview on the NFBR Facebook page.*

Steve Whitbread: Charles, your 2011 NFBR conference presentation highlighted the difference between one way, website communication and the interactive, multi-way exchanges possible using various social media tools. How was it that you first started using them?

Charles Roper: OK, well, we should define 'social media' first. From Wikipedia: "*Social media refers to the means of interactions among people in which they create, share, and exchange information and ideas in virtual communities and networks.*"

I was engaged in virtual communities and networks before the World Wide Web really took off in this country. I used Compuserve, a distant precursor to Facebook in many ways. What hooked me was the ease with which I could find and socialise with like-minded people. I could join virtual groups online and chat about the things I love.

Not a great deal has changed apart from the technology has improved and we have mass adoption. Online services and in particular the Web were always intended to be a means for humans to share information and interact with one another. It definitely makes a big difference if you actively use social media personally and can transfer that energy and enthusiasm to your work.

SW: And I suppose that mass adoption - because things are now easier and faster, provides many more people with that opportunity to interact and exchange ideas, and manage relationships with folk on the other side of the county/world.

CR: Yes, exactly. The technology has reached a stage where it's very easy to participate. It wasn't so long ago that it took serious knowledge even to buy and setup a computer. Connecting to the internet was an arcane art. The communities of that era were quite self-selecting. But now, the Internet is a given. We can simply buy a smartphone and the Internet is just there, and the social networks are just an easy app download away.

SW: So of the wide range of available tools, which do you find most useful for yourself or for SXBRC?

CR: For myself, Twitter mainly. And blogs. I'm a big blog fan. Blogs are still the marrow of the web for me. They are the playgrounds and mouthpieces of the individuals of the web. These days I am more interested in seeing a blog than a CV.

John Van Breda: Blogs give a much more informal and personal indication of someone than a CV, as does their social media profile in general.

Steve Roe: Blogs demonstrate capability and knowledge in much more depth than a CV.

CR: Also blogs demonstrate a level of passion and commitment to a subject that is hard to fake. I would recommend to anyone looking for work in a particular field to start blogging about it. It's the best way to show what you're capable of, but also is the best way to learn more. You only know what you truly think when you write it down. Mark Avery's blog is a good example. He wields it well. He's outspoken, controversial, passionate. He's able to get people's attention. Not easy these days.

The Sussex Wildlife Trust blog is a good example of a blog produced by an organisation. The editor edits, compiles and publishes the posts on behalf of the staff.

Martin Harvey: One of the difficulties is balancing your time between: reading what everyone else is blogging/tweeting about; contributing to blogs/tweets yourself; and doing real-world stuff like biological recording away from the computer! Any tips for managing this balance?

CR: Good question! There are many, many blogs (ironically) dedicated to productivity and balancing one's attention. I can only offer some tips I use:

- Use an RSS reader (like Feedly) to subscribe to the feeds you're interested in, and ruthlessly curate.
- Twitter is without a doubt the best way to share and discover what is happening right now. Keep a Twitter list of people you really want to keep up with on Twitter and just let go of the rest (Twitter Help Center).
- I use a thing called RSS Graffiti to pull in RSS feeds to our Sussex Biodiversity Record Centre Facebook page, so I don't need to update it myself too often.

Paula Lightfoot: What would you recommend for networking within a defined group of people (rather than broadcasting publicly?) – we want to set up some kind of forum for communication between people involved in natural history education and outreach in Yorkshire. I'd like a closed Facebook group but not everyone wants to be on Facebook.

CR: Google Groups, or a self-hosted mailing list. You can make a Google Group private, or it can be used via the web interface or purely via email. I prefer Google Groups to Yahoo Groups. You still can't beat a simple email list for simple communication.

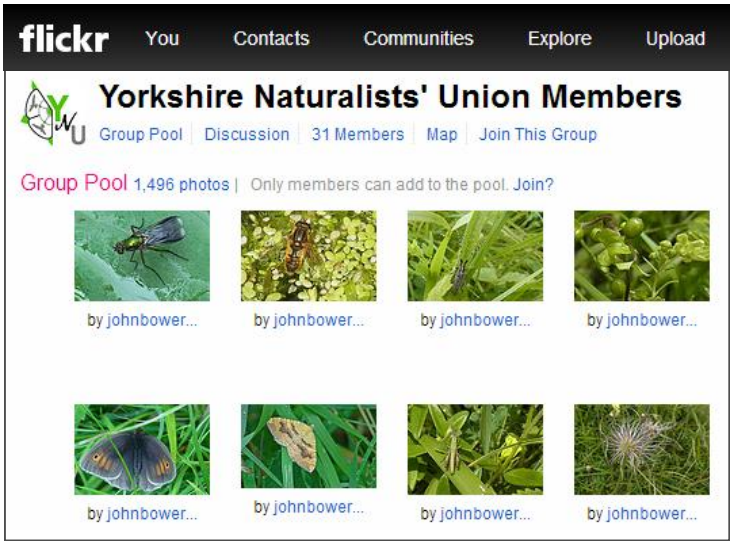
A couple of rules of thumb re forming a group: if the group is a nice-to-have, mainly socialising, sharing type of group, then Facebook is really pretty ideal but if it's a group to get serious work done, and you need to be super-inclusive, then a Google Group would be the better option

SW: Without even having to join a group, Flickr and iSpot seem to have made huge differences to recording activity, enthusing new recorders and giving veterans the opportunity to advise newcomers. Has this also happened at the county level?

CR: Yes, Flickr is a very natural way for people to socialise in the context of natural history. Being able to share pictures you're proud of is a powerful motivator, especially when you receive positive comments. Then of course you can get help with ID. Before you know it, you're part of a community, getting help, giving help and building up a collection. It's fun!

JvB: Do people post to Flickr rather than post a record, because it is easier, focused on the thing they are interested in (the picture) and doesn't need them to provide extra info to fill out the record? We have functionality in iRecord for pushing photos back to Flickr but no one has used it yet.

CR: Ah, the integration of services is something I bang on about a lot. I think it's really important to give people control over the data they share, and enable it to be shared with other services.



PL: In the YNU Flickr group we ask people to provide site and species names (and they do), so they are in effect posting records. We've had the Flickr group for a while and only launched online recording recently so we'll see how people 'migrate' now they have the choice. But automated photo upload from our online recording to the Flickr group would be the ideal!

CR: Flickr is almost certainly the best online photo management and sharing application. You could have e.g. an iRecord group that uploads and machine tags photos to Flickr and potentially pulls data back in the other direction – so long as people tag their photos correctly (Flickr: Help: Tags). What I'd like to see is integrations between iSpot, iRecord and Flickr. I'd like to see iSpot reputations in iRecord, iSpot id help for tricky iRecord records, and Flickr hosting, tagging, etc. for them both.

MH: The other area where integration is important is between the 'traditional' approach of sending in records to an expert and the 'new media' approach of sharing online in a much more public way. Some people are happy with both approaches, but each has strengths and weaknesses, We need to bring biological recording along with some degree of consensus, and ensure that the data we end up is clearly documented in terms of sources and verification.

PL: And also not leave out or leave behind those who not only aren't on Facebook/ iRecord/iSpot/iWhatever but aren't even on the Internet. Currently biological recorders organise themselves into national schemes, local natural history societies, align themselves with LRCs, Wildlife Trusts and other NGOs etc. Do you think this will change with the growth of more dynamic online communities?

CR: Yes and no. The organisations have an opportunity here to be part of those online communities if they provide the focus, people with gravitate towards them if they're offering something of value but we'll also see the forming of specific non-aligned groups, such as the Pan-species Listers. It's very easy to create a group now, so I suppose the real challenge is to be a group worth aligning to.

The emphasis should very much be on community - welcoming in newcomers but also providing a stimulating environment for old hands too.

SW: Excellent. Huge thanks for this trial interview, Charles. It's much appreciated by all.

CR: I've enjoyed the discussion very much. A parting thought: this interview was an interesting experiment. Much of the value gained from social media will come from trying out new things like this. So go forth, experiment, try new things. Poke, prod, bend and break these new tools we have at our disposal. In the words of Theodore Roosevelt: "*Dare greatly*".

Social media and communication tools for biological recorders

Steve Whitbread, vice-chair, NFBR

Modern communications technologies save time (sometimes) and generate possibilities, creating virtual but very real communities, bringing together people otherwise separated by geography, age, culture and even language. Being able to share a geo-referenced, date-stamped photo of a bug on Skye and have someone three time zones away explain why your tentative identification isn't right, so "You'll know what to look for next time." is actually rather wonderful.

Besides being inclined to wonder how a good idea might be turned into made a reality, I'm also happy to trial new tools or techniques that offer the prospect of getting the job done. So it is I find myself acting as guinea pig, conducting this far from authoritative review, whilst seeking to inform NFBR's burgeoning social media strategy and begin to construct a storehouse of useful information on the Forum's website. If this article and its accompanying table (overleaf) prompts a stream of handy hints via our Google Group forum, so much the better.

Where are we now?

Browse through back issues of our newsletter and you'll find that at the dawning of the Third Millennium, affordable home computers, Recorder, MapMate and other database packages, were heralded as marking a new dawn for biological recording – once new and veteran recorders could get to grips with them of course. They weren't without faults, bringing new wrinkles to the fore(head), but the value of being able to communicate ideas; develop plans; report on actions; share, check and interrogate data and present information in an effective way is difficult to overestimate. Specialist tools and agreements about data standards were a vital part of the mix, and recording rode the wave of a global communications boom.

Handheld and desktop communications technologies continue to revolutionise biological recording today, thanks in part to the co-evolution of new devices and communications software. However, whilst Global Positioning Systems and digital cameras (sometimes in the same tough, waterproof package) have transformed aspects of biological recording, whether we're recording with a tablet or smartphone, ticking a form or scribbling in our notebooks, the same Who-What-Where-When are the core of what is recorded. Now, however, the great bulk of records are transferred into accessible databases and (as the State of Nature report demonstrates) put to real and frequent use.

New tools for communication and social interaction are creating opportunities where none existed, turning ideas into practical initiatives, and, perhaps most importantly, offering the means to provide guidance and support. Additionally, whole new frontiers for biological recording are being opened up by what is or might soon be possible with a smart phone or tablet. There is now a wide collection of applications that, incidentally or by design, are of aid in identifying, locating or recording species or habitats and getting the resulting records checked and shared to national, local or project databases.

Going social

Websites are the standard way to set out your wares online, whether it is actual wares, information, or ideas that you seek to purvey. Blogs (presenting topical views) and RSS feeds (providing news from selected sources) add interest, but these forms communication are still largely one-way. In contrast, the addition of polls and discussion fora, to actively encourage participation and multi-way communication, illustrates how

online social interaction is important in itself but also adds value and interest.

Although the Web is full of information about making the most of social media, the vast array and overlap of different social media tools can be baffling. The suggestions raised via the recent NFBR discussion with Charles Roper (see page 9) are a good starting point for the beginner. Viewing what other groups are using to showcase and to further their efforts may be of real benefit when planning a website revamp or deciding what to include in your social media armoury.

There are numerous rapid development systems for creating and hosting websites. Rather than starting from scratch, a 'pick and mix' approach allows would-be web designers to simply select from a menu of offered features; examples are Instant Indicia (in relation to online recording websites) and ScratchPads developed as part of ViBRANT (Virtual Biodiversity Research and Access Network for Taxonomy). Many more general development systems now include snap-on or plug-in social media elements.

Cross-fertilisation between different website production systems – enabling features from one to be used in another - could make a huge difference to how successful different organisations or communities are in achieving their objectives, influencing others or just helping people to enjoy recording and develop their identification skills. So what sorts of things are already on offer?

As well as leaving you a lot to discover for yourself, the examples in the table overleaf include some early-stage pioneering approaches, illustrating how developers and user communities are collaborating in relation to needs and opportunities. It's definitely worth identifying what you need, testing what's currently available against those criteria, and asking for more. Does a realistic solution already exist or do you need to encourage someone to provide the necessary tools?

From desktop to field

iRecord and iSpot, both products of OPAL, should work in any browser. These days, however, "*there's an app for*" an awful lot of things, potentially making handheld devices much more useful. The Ladybird App developed by Bristol University for the Biological Records Centre is an excellent example, with the underlying database management following approved standards, and uploaded records subject to rapid expert verification. The result? Instant conversion of inexperienced phone-owners into willing trainees as part of a rapidly-growing recording force.

Having access to keys, images (of all the right bits), remote expertise and maps of previous locations of (non-sensitive) species and habitat parcels, all in a notebook/ clipboard-sized device is potentially very exciting. I once found that having mp3 files of bird song to hand was a real help in learning to distinguish similar sounding species in the field. Now there is even software to identify bat sounds. This has already led to some impressive biological recording-based field investigations, with the data shared with the local record centre network too.

Adherence to standards that result in high quality, scalable, transferrable, verifiable data is something which all recording software should observe. Any app may then be tailored to meet group or individual user needs, with the developer adding all the bells and whistles they like to the interface. Whilst few are yet adequately dust and waterproof, the advent of 'cheap' tablets suggests that interesting times lie ahead for field recording (for as long as the batteries last).

One growth area for the future in relation to the creation of electronic field guide-cum-key apps and what might develop out of ViBRANT and Wildkey. Whilst there are a

number of excellent recent guides for different groups (hoverflies and mosses spring to mind), the issue of keeping these up to date - amending keys as new species arrive or responding to nomenclatural changes - or possible insertion of images of critical features should make the production of electronic guides an interesting prospect for recording schemes and others. Additionally, multi access keys that whittle away potential species using all discernible characters, rather than leaving you stuck on an early couplet (e.g. because a plant isn't in flower) are ideally suited to electronic media. Distribution maps would always be up to date and just how many field guides and keys would be accessible via your handheld device. There is a lot of interesting potential here for helping to develop recorders' skills.

One area where both recorders and survey organisers should profit from enhanced communication and data sharing is in relation to survey coordination, e.g. achieving a statistical valid sample (of ponds) across a county (rather than those at favourite sites or closest to recorders' homes) or, conversely, highlighting sites/habitat areas where "species X" is best searched for, with the inspected sites being marked off the list. Multi-taxon recording schemes, Nature Improvement Areas *et al.* should also benefit.

From cloud to desktop

It's at the other end of the recording process – getting information out – where we are perhaps most lacking (or where there is greatest opportunity) at present. Some standard mapping tool that would enable information about sites, species, habitats, management compartments, hydrology, soils and much more besides to be displayed (though perhaps not all at once) on your home PC , or better yet on your handheld (or Google Glass) would be a really useful way of putting all the information that has been collected to good use. Ideal would be a plug-in that could be used on any local record centre's website. What's available via the NBN Gateway continues to improve and might well provide a model.

Measures to make Gateway data more useful to researchers (with a tool to enable output to be fed directly into the Open Source statistics package R) would be nicely complemented by encouraging the flow of records from academic research and student projects to the NBN. Just as valuable, in different ways, would be the means to harness the Gateway for primary and secondary educational use, whether linked to the life sciences, sustainability or maths teaching. Personally, I rather like the idea of all those records collected before and since the creation of the Biological Record Centre contributing to the learning of future generations.

Conclusion

The table that follows offers a wide range of sites, tools and apps that you can explore. But remember that this article is very far from being a master class. Take its suggestions with a considerable pinch of salt. Try things out and see what best meets your needs. If you have a website, what tools could you use to drive traffic to your site? Does it manage more than one-way communication? The occasional Tweet or link via other websites will drive traffic your way and help to bring you into contact with others. LinkedIn is particularly good for professionals, but here and with social media in your personal life it is groups, reflecting varied shared interests, where you are likely to learn most – not least as to which social media tools are likely to be of most use to you.

Do use our NFBR's Google Group or Facebook page or Twitter feed to tell us what we missed here or to pass on useful links. We'll then be able to do the sociable thing and share them with all. Social media will play a growing role in helping to drive and to support biological recording and information use in future. The only real questions are how and how quickly this will happen.

Steve Whitbread's diversity of life online - page 1 of 4

Online resources, communications and social media tools for the biological recorder Key: ● = input via browser; iOS = Apple iOS phones/tablets; Aos = Android OS phones/tablets; ? = coming soon					
Information Sources					
General	Wikipedia				
Recording related – useful links	Highland BRC Biological Recording in Scotland (BRISC) US - NetNaturalist Social media tools for naturalists				
Recording/Wildlife Useful starting points	NBN NFBR ALERC OPAL	BRC NHM Biodiversity Heritage Library	Much helpful recording/natural history and data analysis information		
National Clubs/Society websites (examples)	BSBI British Lichen Society British Bryological Society Dipterists' Forum Tachinid Recording Scheme British Dragonfly Society Mammal Society				
RSS Newsfeed Readers News items via your phone/PC/tablet	Feedly NewsVibe The Old Reader Digg Reader Set up your own personalised news service by selecting from amongst different categories and providers of news. Very useful				
Mapping					
National	Google Maps	From your smartphone/ tablet	iOS	Aos	
	Bing Maps				
	NBN Gateway	Ever evolving			
	Nature on the Map	The multi-agency overlay map			
	Grid Reference Plotter	10 figure Map/Satellite NGR calculator with altitude & VC			
	Nearby.org.uk	Wide range of spatial info. (Link set up for BRC's post code)			
Local sites	London - iGiGL	Displays accessible local wildlife sites			
Photos					
Photo upload (for ID)	Flickr	1 TB free online storage for your photos			
	Google +	Store on Google Drive			
Photo sharing	Instagram	From your smartphone/ tablet (can connect to FB & Twitter)	iOS	Aos	
Photo ID	iSpot	*Your place to share nature* A real OPAL success		Aos	
	NB Also see the websites/groups/fora/pages of specialist recording organisations				

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Videos						
Whilst there are a range of places and tools for quickly sharing video and other media, the ability to upload films of solitary bees at their burrows, sampling methods & bioblitzes is a boon to film-makers and their audiences, as exemplified by what's available through YouTube and Vimeo, whilst ARKive offers a very different collection of stills and videos						
Recording						
National	BirdTrack	(bird specific)	•	iOS	Aos	
	Bee-Friend	Pollinators		iOS	Aos	
	iRecord	Indicia-based	•			
	Living Record		•			
	rECOrd's RODIS		•		Aos	
	COFNOD's Online Recording Scheme		•			
Local sites	Brighton & Hove – City Wildlife	A pioneering, online recording & mapping system				
	London - GiGL	For wildlife in the metropolis				
Where is my local record centre? What are its contact details? Where is my postcode on the map?						
Projects	OPAL (assorted)	Range of surveys and projects	•			
	Treezilla (Open University)	Tree mapping and ecosystem services	•	iOS	Aos	
Survey apps	Opal Bugs Count	(lots of useful resources here)		iOS	Aos	
	Irish Wildlife App Man	Assorted			Aos	
	Nature Locator (University of Bristol)	Ladybirds		iOS	Aos	
		Lichen Guide			Aos	
		Sealife Tracker		iOS		
		Conker Tree Science: Leaf Watch		iOS	Aos	
Voice recording with (suitable) GPS devices	Gilbert21	Walk, talk, plot & record as you go				
Auto ID Apps	iBats	Identify your bats from calls (via detector)				
	WeBird ?	Identify birds from their song				
Paid App suppliers	Isoperla NatureGuides Ltd	There is a growing number available. It's well worth looking out for reviews by existing users				
Electronic ID Keys						
Existing keys	Tree key	Flower key		iSpot keys (various taxa)		
DIY Key development	Wildkey	ViBRANT		iSpot keys (add your own)		
International Examples						
U.S.	iNaturalist			•	iOS	Aos
	Project Noah				iOS	Aos

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Map/GPS Apps					
	OS Grab-A-GridRef	OS grid refs from Android GPS			Aos
	ViewRanger	GPS compass & OS grid refs		iOS	Aos
	UK Open Maps			iOS	
Communication & Information Exchange					
Online Fora NFBR	NBN	Indicia	ALERC	iRecord	
Business/social networking	LinkedIn	Google Groups	Facebook	Yahoo	
Blogs					
Provide an excellent source of views, comment, information and, sometimes, facts. Some are hugely worthwhile, worth dipping into regularly or even daily		The most widely ready blogs concerning conservation and environmental issues Mark Avery, George Monbiot etc. occasionally touch on recording –related matters	UK and Eire Natural History Bloggers Nature Blog Network		
Micro-blogging/ Social streaming	Twitter	Getting a useful piece of information out there in 140 characters or less is a worthwhile challenge			
	tumblr.	'Twitter with multimedia'			
Twitter Tools (there are lots of free and commercial tools)	Wajam	Extends your Google search to your Twitter followers			
	YooNo HootSuite	For managing assorted SM accounts			
Job & Volunteer Opportunities (plus event/training publicity)					
Environment Job	Countryside Jobs	StopDodo:Com	Environment Post		

Early adoption of Twitter, mid-19th century:

CompleatNaturalist: @CharlieD Are very closely allied species ever separated by a wide interval of country?

CharlieD: Funny you should ask @CompleatNaturalist @Huxley @BBailey I've been looking at these finches …

Steve Whitbread's diversity of life online - page 4 of 4

Website/page Creation		
MediaWiki	Free, open-source build your own web site creation tool e.g. NFBR	
Indicia (Drupal-based)	Menu-driven tool kit for creating/hosting recording websites e.g. Plantlife's Wildflowers Count PondNet (pilots)	
Scratchpads (Drupal-based)	Rapid hosted website creation (developed originally for taxonomists)	e.g. Tachinid Flies, W. Palearctic bees checklist
Facebook Ideal when you have lots of events, news and information to share	Easy page creation – pages viewable by other Facebookers	
	Biodiversity Gardens Project	Excellent example of how Facebook can be used to report 'goings on' & build involvement
	Buglife	Nicely complements the Buglife website
Groups		
UseNet	The origin of group comms dating back to 1980	
Yahoo e.g. UK Wildlife	E-mail/browser-based Yahoo Groups were extremely important for 15+ years but (for some) have been overtaken by other groups & fora	
Facebook Access requires a Facebook account	An alternative/companion to pages for online communities based on some shared interest large and small. Groups can be open/by invite only. It's easy to find lots of existing groups to reflect your interests and to create your own	
	National Forum for Biological Recording - Our Facebook group Pan-species Listers - For equal opportunity recorders – Fast, fun, quite daunting, and lots to be learned Nature Photography – Simply stunning images And lots more beside to discover and contacts to be made	
Google Requires you to create a Google account to create a group	A more flexible alternative to Facebook	
	National Forum for Biological Recording - Our Google group Also handles UseNet newsgroups	
General Tools & Resources		
Events	Eventbrite	(planning, booking, paying, e.g. training courses)
Miscellany		
The Recorder's Year	One novel approach from Scotland	
Sipoll	Investigating the diversity and structure of pollination networks across metropolitan France	
Other Apps in the US	Highlights the variety & what's becoming possible	
ALERC discussion	About Wildlife Apps – Soundly demonstrating the value of such fora in sharing experience, problems & advice	
Google Apps – Non-	Boost collaborative work with free online apps	
Conversation Prism 4	The relationship between all social media tools summarised	

The Garden Bioblitz: citizen science meets social media

Richard Comont

On the weekend of the 1–2 June 2013, an event a year in the making finally happened: the 2013 Garden Bioblitz. For 24 hours over the weekend, hundreds of people all over the UK scoured their gardens for wildlife of all shapes and sizes – birds in the trees, ants in the lawn, bees on flowers, the trees and flowers themselves were all spotted and recorded. Two weeks after the event, 495 people had submitted 22,632 records of 2,424 taxa, 1,743 of which have been identified to species. On average, each and every recorder submitted 46 sightings, with many finding more than 100 species, and some two or even three hundred.

Hard at work identifying the catch. © Chris Foster.

This nationwide hive of activity only happened because of the reach of social media, and the connections it makes possible. The wheels were first set in motion in September 2011, when Bristol-based naturalist Liz Shaw, inspired by big bioblitz events at the Tyntesfield estate and Chew Valley Lake, decided to search out the wildlife in her own tiny urban garden. She wrote a blog post about it under the heading of 'An Urban Bioblitz', and promoted it on the social networking site twitter.

People were taken with the idea, and soon a loose group of twitter-active naturalists, many of whom had never, or very rarely, met in real life, had come together to create and promote a trial event in July 2012. Happily, one of these was web developer John van Breda, then setting up the Biological Record Centre (BRC)'s new online wildlife recording site, iRecord, so we were able to set up an event page where the data went straight to local and national recorders for verification. Promoted entirely via twitter and limited to 50 people, 2,200 records of almost 800 species were submitted in a month. With the proof of concept successful, we decided to go for it, and set a date for summer 2013.

What is a bioblitz?

A bioblitz is perhaps best described as a 'Time Team' for wildlife: the idea is to get naturalists together with the general public to search an area for as many species as possible, in a fast but intensive survey of all the species at a site. Bioblitzes were invented as a concept in the USA during the 1990s, and arrived in Britain in 2009.

More information and a list of events can be found via the Bristol Natural History Consortium.

A team of five of us spent the spring setting everything up. We wanted the bioblitz to be accessible to everyone, not just experienced naturalists, so a lot of effort went into simplifying the recording form on iRecord, and creating a checklist of 20 common garden species for beginners to look out for. We also put a lot of time into promoting the event on twitter, and via a series of blog posts.

Where did you hear about the Garden Bioblitz?	Percentage of respondents
Television	66.79
Other	9.31
Twitter	8.58
Blogs	6.02
Word of Mouth	4.56
BBC Wildlife Magazine	2.55
Facebook	1.64
At a bioblitz event	0.55

Many of these were on our personal blogs, but we also wrote or were featured in a series of guest blogs and articles, notably for the National Trust, NBN, OPAL and the RSPB. The opportunity for these extra blogs, and the chance to reach a wider audience, came about almost entirely through twitter conversations. Through the same avenue we were mentioned in a bioblitz-themed edition of BBC Wildlife magazine, and, on the Friday before the big event, BBC 2's Springwatch finished with a five-minute section of the presenters carrying out their own Garden Bioblitz. Despite our best efforts on social media, almost two-thirds of the Garden Bioblitz recorders first heard of the event through the TV!

The great thing about social networking, and twitter in particular via the use of hashtags (a clickable tag to link otherwise-unconnected posts on a single topic), is that it can engender a feeling of community between likeminded people tens, hundreds or thousands of miles apart, who may have never met in real life. This aspect made the Garden Bioblitz feel like a virtual field trip – people were scouring their gardens and sharing their findings and photographs of interesting specimens in real time. Identification became a fast, interactive process, with links to useful sites posted, experts weighing in on species ID (and pointing out when it's just not possible from a photo!), and the excellent iSpot site in heavy use.

Overall, the event was great fun, generated a huge number of records accessible to recording schemes, and engaged a lot of new people with biological recording – all made possible, or at least much easier, by the power of social media.

The Garden Bioblitz achieved an impressive participation rate across the country, and the final results can be seen via iRecord, with additional tagged observations on iSpot.

In the struggle to find as many species as possible,
even towels were used to catch moths! © Chris Foster.

Use of biological records by ecological consultancies – good news for wildlife!

Louise Moray, Biodiversity Information Officer, EPR Ltd: www.epr.uk.com

Introduction

As an ecological consultancy we regularly commission biological data searches from local record centres and species groups. The purpose of this article is to highlight why we request such data, how we use it and how this use helps us to deliver benefits for flora and fauna.

Who are we?

At Ecological Planning and Research (EPR) in Hampshire we offer sound ecological advice of the highest quality. Whether we're conducting an Ecological Appraisal, protected species survey or Environmental Impact Assessment, our service is professional and impartial and has wildlife protection at its heart.

We regularly request biological data from local record centres and species groups in order to inform the ecological surveys we carry out. All data is used in accordance with the issuer's conditions and is invaluable to our work at every stage of the process. When planning surveys it assists in identifying features of ecological value. During surveys it helps us identify potential impacts and develop appropriate mitigation. It can also help plan for the future by identifying potential for benefits and appropriate enhancements to a site.

Identifying ecological value

One of our primary tools in early assessment of ecological value of a site is searching background data. One recent example is a Great Crested Newt survey which was carried out on a site containing numerous ponds. First inspection may have concluded that these were not likely to support Great Crested Newt , particularly with the stream flow, however the presence of local records suggested that they might well be there. The data showed a large population of Great Crested Newt in ponds upstream of the site. Having access to this data highlighted the ecological value of the site, helped plan effective survey work as well as ensuring adherence to the law.

Impacts and mitigation

Protected heathland birds were the subject of a recent survey. Data was used to create distribution maps of their breeding territories, with supporting tables in a report to show territory counts.

These were used to understand species distribution and to interpret changes in numbers and locations of territories as part of describing the ecological baseline of a site. This data was also used to understand the potential relationship between breeding territories and predicted noise from construction and traffic, thereby helping to inform the design of the scheme and necessary mitigation.

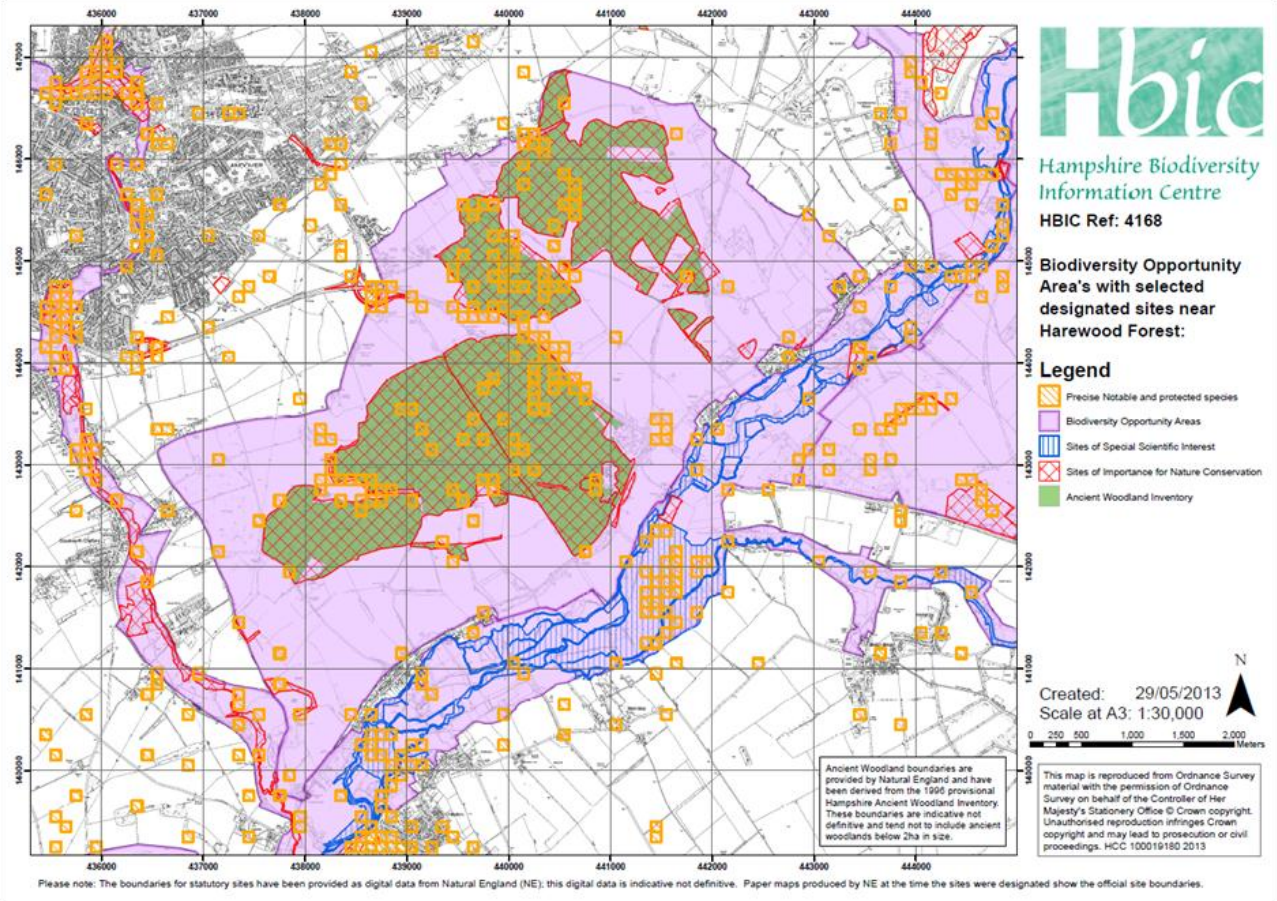
Biodiversity enhancement

Wildlife in general, from highly protected species to the garden Hedgehog, really does benefit from ecological consultancies' effective use of biological records. Such records were used to good effect on a residential site recently. The site contained brash piles which looked potentially suitable for Hedgehog, a priority species listed in Section 41 of the NERC Act (2006), but there were no signs of Hedgehog being present during any of the site visits. The data search did however return recent records of Hedgehog within close proximity of the site. EPR recommended that a Hedgehog box be included as part

of the development as an enhancement, in line with the requirements of the National Planning Policy Framework. The box was located in suitable habitat on the edge of the development site. The records provided enabled us to justify the inclusion of the box, which is highly likely to be of significant benefit to the local Hedgehog population. Without these records it is unlikely that we would have suggested such an enhancement.

Biodiversity Opportunity Areas

There is also great potential for biodiversity enhancement when data searches identify Biodiversity Opportunity Areas (BOA) near a site. Harewood Forest, Andover BOA, shown below, is used here as a hypothetical example to illustrate how EPR might design biodiversity enhancements into nearby development proposals using such records.



Harewood Forest Biodiversity Opportunity Areas

If carrying out ecological work on a proposed development site on the edge of this BOA, for example, we would overlay Hampshire Biodiversity Information Centre data with the Harewood Forest BOA map and our own initial ecological scoping fieldwork to give us guidance on the future ecological surveys that might be required at the proposed development site.

With knowledge of the adjacent BOA, we could design valuable ecological enhancements into the development proposals. In this example, if fieldwork identified a lack of connectivity to the central woodland and Site of Importance for Nature Conservation, we could propose new hedgerow planting, with grassland buffer, to create a new 'wildlife corridor' connecting the proposed development site with the surrounding landscape and BOA. Species records obtained from a data search would be used to target species-specific enhancements within the corridor. For example, Hazel could be planted to benefit Hazel Dormice, and fruit bearing shrubs could be planted to benefit species of bats and birds.

Another hypothetical example might be a potential development site on the edge of the river and Site of Special Scientific Interest (SSSI). An ecological buffer to the designated site could be proposed, and species records could be used to design habitats within the buffer as well as other species-specific enhancements such as the installation of wildlife boxes.

EPR record returns

In accordance with guidelines from the Chartered Institute of Ecology and Environmental Management, here at EPR we carry out our own annual record return of data collected from our project work which is in the public domain, thereby contributing to the wider biological records database. Ecological consultancies generate large volumes of data, but not all of this is being returned to record centres as it can be a long-winded and difficult task at the end of a busy survey season. However we feel it is vital to contribute to the central biological records database that we so heavily rely upon. Plans being considered for a central portal for species record returns will hopefully encourage more consultancies to return their data. This will be beneficial to us all when assessing the ecological impacts of proposed development, and whilst designing mitigation and enhancement measures during our ecological assessment work, which ultimately ensures that wildlife continues to directly benefit from the sharing of biological records.

Acknowledgements

Many thanks to Lizzy Peat at Hampshire Biodiversity Information Centre for producing the Harewood Forest BOA map, and to my colleagues at EPR for their input into this article.

For more information on the "central portal for species records" mentioned above, see the ALERC website (goo.gl/5tjzT).

ALERC is working with the National Biodiversity Network Trust, the Biological Records Centre and the Chartered Institute of Ecology and Environmental Management to develop a biodiversity data management website for ecological consultants.
Key features include:

- Data entry forms designed for specific survey methodologies.
- Data entry in the field (via smartphone or tablet) or in the office.
- The ability to set a data release date for each project as agreed with the client.
- A range of data download options including GIS formats.
- The ability to tag records as 'sensitive' to restrict their availability to only approved users.

The system will enable consultants to share their records without any extra effort. Data will be available to local environmental records centres through the 'LRC download' page on the iRecord website and verified records will be shared via the NBN Gateway.

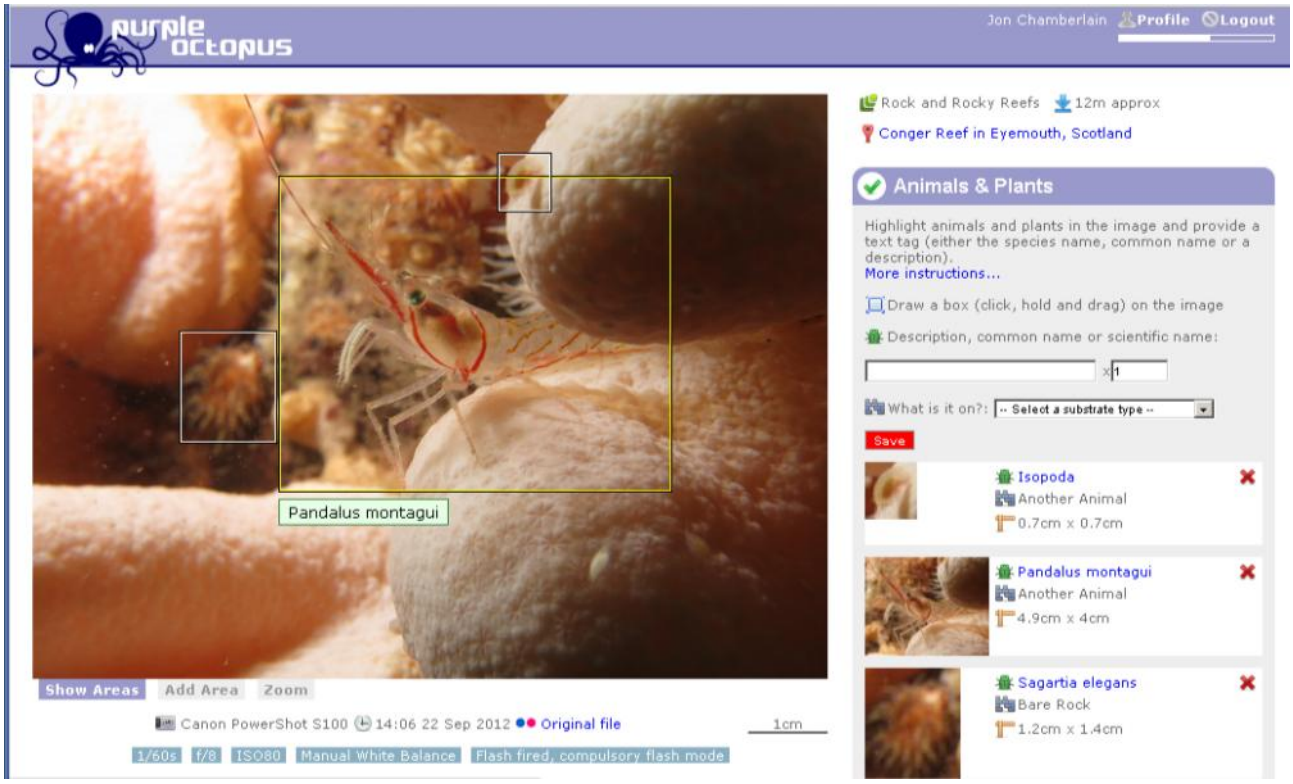
Purple Octopus – recording undersea interactions

Jon Chamberlain, University of Essex, jchamb@essex.ac.uk

The popularity of SCUBA diving and underwater photography has grown in recent years, with one benefit being that enthusiastic citizen scientist divers are now documenting the underwater world.

One way to share underwater pictures is through social networks such as Facebook, with groups being set up for specific taxa (for example, NUDIBRANCH LOVERS), specific locations (for example, Seasearch East) or both (for example, NE Atlantic Cnidaria). Although sharing information in this way is natural and intuitive for Facebook users there are several drawbacks, most notably that the data is not archived or searchable in a meaningful way.

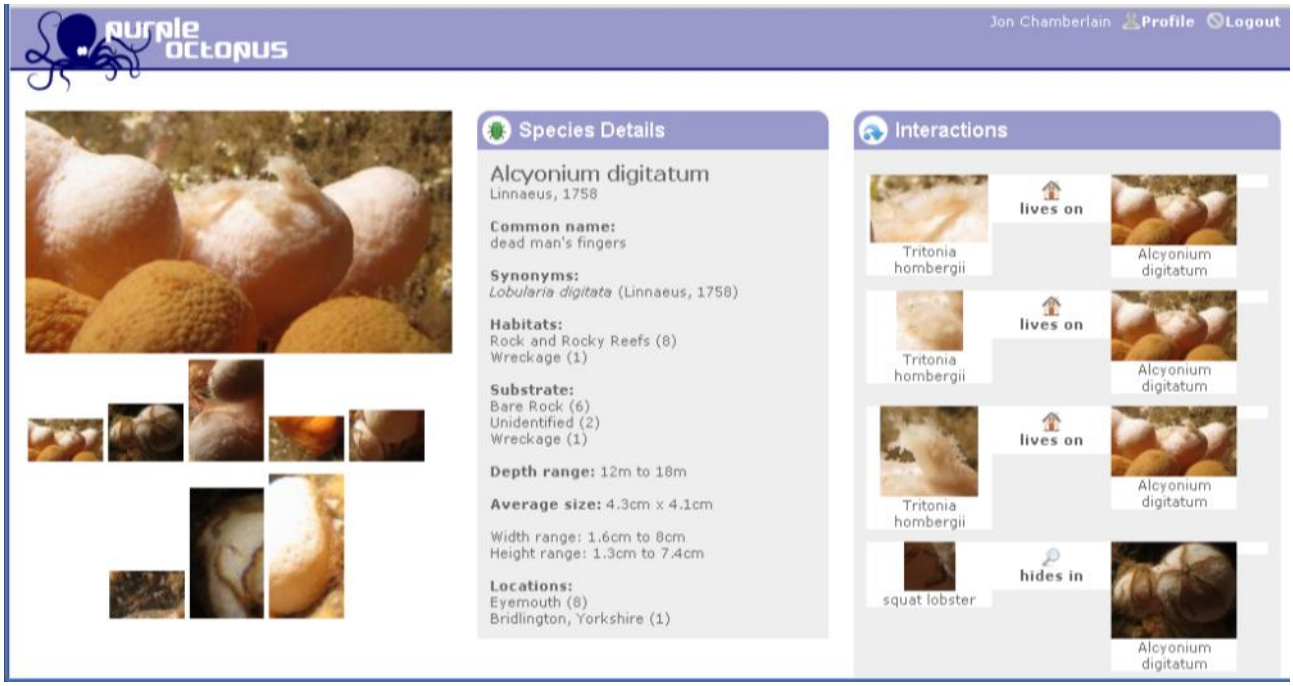
A team from the University of Essex that have been researching crowdsourcing recently teamed up with the Coral Reef Research Unit, also based at Essex, to develop a website for annotating underwater images using voluntary effort from amateurs and experts alike. Earlier this year saw the beta launch of Purple Octopus (www.purpleoctopus.org), a portal created to host various experiments and projects in marine image annotation.



Divers can upload their images to the site to show what they have found or to get help in identifying species, but with an estimated 230,000 marine species worldwide, it can be hard to determine what species are in each image. By using descriptions, common names or scientific names, users can tag areas of an image, in much the same way tagging works in Flickr or Facebook. Other users can then help with the identification and the system also tries to find species by searching the World Register of Marine Species (WoRMS) database. Some marine species are very difficult (if not impossible) to identify from a picture, but even so photographic evidence is a useful way to study species morphology and distribution.

As well as identifying marine life in the images, users can also add how the species are interacting with each other. Species are frequently seen feeding on other species, but

there are some less common symbiotic interactions for defence, cleaning and mimicry that are very interesting.



The data that is entered into the site is immediately available to be explored in real time. Users can either search by species or by location to see what sort of species and interactions have been found. This allows researchers in specialist fields to check and validate the images for new discoveries very quickly.

The aim of the Purple Octopus project is to create an open environment for divers to share images and learn about marine life whilst ensuring the data is archived and accessible. The website is in the advanced development stage and will soon be linked in to social networking platforms and mobile devices.

Behind the scenes for the State of Nature

The recent publication of the *State of Nature* report attracted a lot of attention across both new and old media, as well as prompting a lot of debate among biodiversity organisations. One of the many people involved in the production of *State of Nature* was Andy Musgrove, Head of Monitoring/Senior Research Manager for the British Trust for Ornithology (and a long-standing NFBR member). We asked Andy for some inside information.

NFBR: State of Nature *brings together an impressive array of information from a wide variety of sources, and must have taken a lot of work to coordinate. What was the initial prompt for going down this route?*

AM: I think we've all felt over the years that birds and butterflies have had a great deal of coverage in terms of their trends, largely because these are very visible groups of species which are reasonably easy to identify, and as such have large numbers of observers collecting enormous quantities of records. However, these two groups form only a relatively small part of our biodiversity in terms of overall numbers. If we really want to understand the "State of Nature" in the UK, then we really do need to talk about everything, from lichens to Blue Whales, notwithstanding the greater difficulties in recording the status and trends of all the other taxonomic groups.

NFBR: An impressive amount of publicity surrounded the launch of the report, with many picking up on the headline that "60% of species have declined over the last 50 years". Beyond that, what other messages would you most want people to take from the report?

AM: Three main messages. Firstly, to point out that there were only about 5% of species for which we could generate anything resembling a trend measure, thus we really need to increase our knowledge enormously concerning most species. Secondly, I wasn't so much taken by the 60% of species declining figure, which of course implies 40% of species are increasing; I thought it was far more significant the numbers of species which were changing (either increasing or declining) significantly. To me this implies an environment undergoing great change. Thirdly, a positive message is the number of dedicated groups out there who are willing to work closely together.

NFBR: The report describes volunteer recorders as the "unsung heroes of conservation" (your words I believe!). Do you see these volunteers as being doomed to continually recording further declines in our biodiversity, or is there a more optimistic outcome to work for?

AM: An interesting question as it draws attention to the difference between being a recorder and being a conservationist. Clearly, most of the former would also classify themselves as being the latter, but of course a large part of the motivation within recording can simply be that of discovery and documentation. As I say, whilst many species are in decline, many others are increasing. The picture is therefore one of change, and I see volunteer recorders being absolutely critical in documenting this. Yes,

it can be depressing to see Turtle Doves slipping away almost before our eyes, but it is also fascinating to see new colonising species, whatever the individual reasons may be per species.

NFBR: As you've mentioned, one of the issues that the report highlights is the small proportion of species for which enough data is available to monitor trends. What's the way forward here: more recorders in general? better methodologies so that the data we have can work harder? more professional surveys? more steering of volunteer effort to record in a way that will produce better information?

AM: All of these will help, but to me one of the most important things is simply that of good, accessible identification literature. It is well recognised that once a group has a good identification guide available, recording will follow; moths and hoverflies are excellent examples here. We do live in a really exciting time though in this regard, with a lot of information that was previously the preserve of specialists now appearing online. Some really great examples are the British Bugs website and the Bees, Wasps and Ants Recording Society website which are packed with incredibly high quality information. More of the same please!

NFBR: As well as your professional interest in birds, it's clear that you have a passion for wildlife of all sorts. What enthused you to become a biological recorder?

With a father who was a mad-keen rock-climber, we always spent a lot of time outdoors as a family. I never quite got the point of climbing up a crag just to come back down again, so instead spent my time observing the natural world. I started with birds, as many people do, and graduated to butterflies, dragonflies and moths at university. Since then I've tried to increase my taxonomic focus whenever possible, and find the voyage of discovery continually fascinating.

NFBR: One of your current 'spare time' projects is the "1,000 in 1km" species challenge – what's your latest total and how high can you go?

At time of writing (8th July), this year I've seen 984 species in my home 1 km square of TM2499, in Shotesham to the south of Norwich. I suspect another couple of days will see me top the 1,000 mark, a challenge I set myself for the whole year. I'm sure I'll keep looking though - perhaps 1,500 might be possible? [Update: at 26 July Andy had passed the target and was on 1,136 species for his square - three other people are past the 1,000 mark and many more are making good progress towards it!]

NFBR: What's your favourite species and why?

Well, Hobby takes some beating but in general, it's often something I've just recently discovered, particularly if it's visually attractive but something I've clearly overlooked for years. I recently found a tiny green and black soldierfly on Shotesham Common called *Oxycera trilineata* – the Three-lined Soldier. Check out Steven Falk's photos on Flickr, it's an amazing fly. How could I not know this existed, and what will be the next thing!

NFBR: Many thanks Andy (ed: and as organiser for the soldierflies recording scheme I can't fault your choice of favourite species!)

Related links

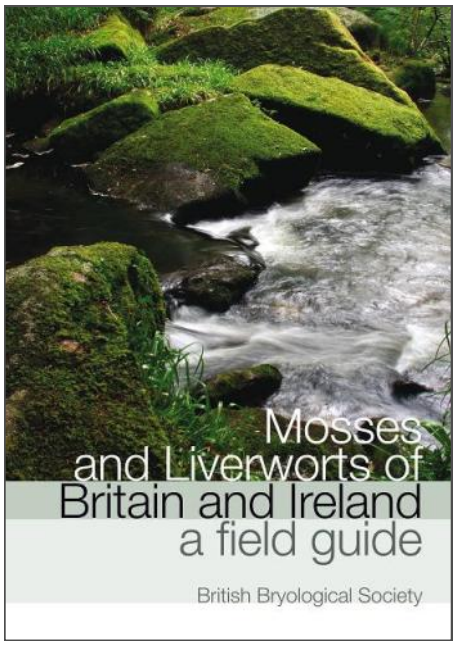
- *State of Nature* report on the RSPB website
- NFBR's comment (pdf download) on *State of Nature*

Beginning to record bryophytes

John Newbould; email: johna72newbould@yahoo.co.uk

For many years, I have had more than a passing interest in the National Vegetation Classification but had two major failings: I had never learned the identification techniques for mosses and liverworts, nor for lichens. In 2012, in Purbeck, we started to undertake project work for the Diver Project (see the 2013 Conference report). Part of this project included training naturalists in recording groups of plants and animals new to an individual.

Initially a small group of us, who mostly surveyed together in west Dorset, realised that without persistent practice after the initial training event, it was fairly pointless turning up for the training. For me, I had two major learning curves. Firstly, being a botanist, I rarely used a microscope, although I owned one and secondly, having undertaken field botany for around 40 years, I rarely used keys. Fortunately, one of our small group (Mike Edwards) concentrates on entomology where both microscopy and keys are essential tools. Another group member (Laurence Taylor) had attended training sessions led by John Poland using his botanical vegetative key.



Even before the training day, we undertook a field visit and collected around 30 bryophyte samples from nearby woodland. With microscopes, hand lenses etc. at the ready we assembled around my dining room table for a half day most weeks in November and December and practiced using the *Mosses and Liverworts of Britain and Ireland* – a field guide published by the British Bryological Society. This handbook helped with most identifications, but between us we had bought in earlier times E.V. Watson's British Mosses and Liverworts and the Moss Flora of Britain and Ireland by A.J.E. Smith, and the line drawings in these proved invaluable when in doubt.

Arising from Thursday at our 2013 Poole conference with Sue Townsend of the Field Studies Council, conference identified the whole business of mentoring trainees is difficult as experts' time is limited and training establishments may be many miles away. From Dorchester, for example, we have to travel for at least two hours to get to a Field Studies Council site. At the Diver Project training day for mosses attended by around twenty people, Mike Edwards, Laurence Taylor and I volunteered to set up a beginners peer group to work on developing skills in recording Bryophytes. We said that we could help six people. Fortunately, we were able to beg and borrow additional microscopes. We also had the use of the Studland Knoll Beach Discovery Centre or occasionally the large meeting room at the National Trust's Purbeck team office, Currenden Farm, at no charge.

We started with twelve people, and met monthly but we really need to meet more often with a combination of fieldwork and microscopy. By April, we were down to eight as work and other commitments prevented some people attending. We collected samples and handed out smaller samples for identification. Even with three of us this could have difficulties, as sometimes two or even three species are present as well as one or more liverworts. The BBS handbook has good pictures and often shows mini distribution maps. However, it really helps if internet access is available to check distributions on the

NBN gateway. It was surprising how often in our ignorance, we initially keyed out a species which is only present on the west cost of Scotland. It was here that Mike's skill with keys came into its own, as we would work our way back to find the erroneous couplet.

Were we successful? Well there are only three queries outstanding in around 150 records and certainly at least two of these we expected as the record was out of the usual Dorset range. Will such a system work with other groups? With insects, Mike feels that the main difficulty is that it may be difficult for each member of the party to have the same insect but he expects to get around this using photo microscopy with an image transmitted via a data projector onto a screen. We have tried lichens, which are much more difficult as there is no one simple key. However, an electronic key is available, which helps. Again the difficulty is ensuring that each member of the group has access to the same sample. We have attended two FSC Lichen courses, which have helped but a day with an expert is just not long enough. Once again, access to the internet is very useful as there are some excellent photographs on websites together with NBN maps.

How could NFBR members take this type of mentoring forward? Natural England has made funding available to FSC for the Biodiversity Fellows programme. This is fabulous, but on the two courses I have attended our small Dorset group were the only people who had a nucleus of a mentoring group. Roger Morris referred to this isolation in his Conference talk. The difficulties revolve round having equipment and a location. A village hall in Dorset starts at £5 an hour so a six-hour session needs to raise £30 for a day. Very few halls have public internet access. They can provide tables, but seating is often too low. For botany, birds and butterflies and moths, access to a site with a competent trainer is all that is required, but developing internet skills to input the data requires suitable premises. This is a national problem requiring innovative local thinking by local natural history societies and/or record centres, supported by suitable scheme of financial assistance. The success as Roger points out is when a national recording scheme receives a valuable tranche of relevant data from a new recorder.

Mike Edwards (who organises training for the British Natural History and Entomological Society) has now joined NFBR Council, and we also have strong links with the Field Studies Council, and I hope time will be made available to discuss ways mentoring can be taken forward.

Photos by John Newbould (bryophytes workshop) and Martin Harvey
(top: *Rhytidiadelphus squarrosus*; below: *Pseudoscleropodium purum*)

News updates

compiled by Martin Harvey

Linnean Society - nominations sought for Bloomer Award

The H.H. Bloomer Award is made to an amateur naturalist who has made an important contribution to biological knowledge. The award was established in 1963 from a legacy by the late Harry Howard Bloomer FLS. Nominations are made to Council who award the medal at intervals to any person not at the time a member of Council.

Nominations can be made to the Linnean Society on a the relevant form, downloadable from http://www.linnean.org/The-Society/awards_and_grants/Medals+and+Prizes (scroll down the page to find "H H Bloomer Award"). And for more on Bloomer himself see the Conchological Society's page here: http://www.conchsoc.org/eminent/Bloomer-HH.php

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Verifying and sharing wildlife records via a central data warehouse system

The Biological Records Centre (BRC) is carrying out trials of online verification of biological records, using the iRecord system as a test for online verification tools. This is a project for Natural England, with funding from the Defra Fund for Biodiversity Recording in the Voluntary Sector.

There are many potential benefits to be gained from having a more centralised data verification system that many data-capture tools can feed in to. Data then become available in one place for expert verifiers to check, and allows the data to be visible immediately to taxonomic recording schemes, local environmental records centres and other specific survey and monitoring projects. The centralised structure allows a range of online verification tools to be developed and maintained for the benefit of a wide community of experts, integrating the suite of data verification rules that have been developed by national experts for NBN Record Cleaner. A key benefit is the potential to make verified data available more efficiently via the NBN Gateway so that it can be used to support environmental decision-making, and to keep a visible 'audit trail' of the verification processes applied to each record.

Following work earlier this year with verifiers from Botanical Society of Britain and Ireland, the National Moth Recording Scheme and the Marine Biological Association, the next phase of the project brings in two further partners, Thames Valley ERC and Worcestershire Biological Records Centre. Among other issues, this initial phase raised questions around dataflow, editing of records, and tracking of verification decisions that will need further attention. BRC will shortly be circulating an online questionnaire to gain feedback from a wider range of people involved with verification of biological records (this will be announced via the iRecord forums and elsewhere).

Meanwhile, use of iRecord by data gatherers and recording scheme verifiers continues to grow, and several improvements have been made to iRecord recently in response to feedback and suggestions by verifiers and recorders. These include:

- The ability for verifiers to view a recorder's experience, i.e. how many records of a particular species and taxonomic group they have made and how many have been verified.

- The ability for verifiers to give recorders 'trusted' status if they are confident of their expertise.
- Integration of new verification rules for over 2,600 taxa from a range of invertebrate groups including bees, wasps, ants, riverflies, ladybirds, shield bugs and ground beetles.
- The ability for recorders to change the determination of a record in response to feedback from a verifier (previously they had to delete and re-submit the record)
- 'Dashboards' have been added, which provide a visual summary of the proportion of each user's records that have been verified over time.

A key improvement that will be introduced soon is the integration of the new version of the UK Species Inventory. This will make it possible to give someone verification access to any level in the taxonomic hierarchy rather than the broad 'taxon reporting groups' used at present, e.g. it will be possible to assign someone as a verifier for Carabidae (ground beetles) rather than Coleoptera (all beetles).

Several recorders have been in touch to ask why their records are not yet on the NBN Gateway even though they have been verified. The Biological Records Centre is working with the relevant national recording schemes to mobilise the verified records, but in some cases this is waiting for the integration of the new UK Species Inventory to enable datasets to be split up taxonomically according to the coverage of each scheme.

If you have further suggestions for improvement please post them in the iRecord forum or contact irecord@ceh.ac.uk

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Citizen science at The Open University

iSpot was established as part of Open Air Laboratories (OPAL), but now has a home within the OpenScienceLab at The Open University, alongside the new Treezilla project.

Launch of Treezilla

The latest citizen science project to be launched by The Open University is Treezilla – the Monster Map of Trees. This has the modest aim of mapping every tree in Britain, while emphasising the ecosystem services that trees provide, such as carbon dioxide storage and water conservation.

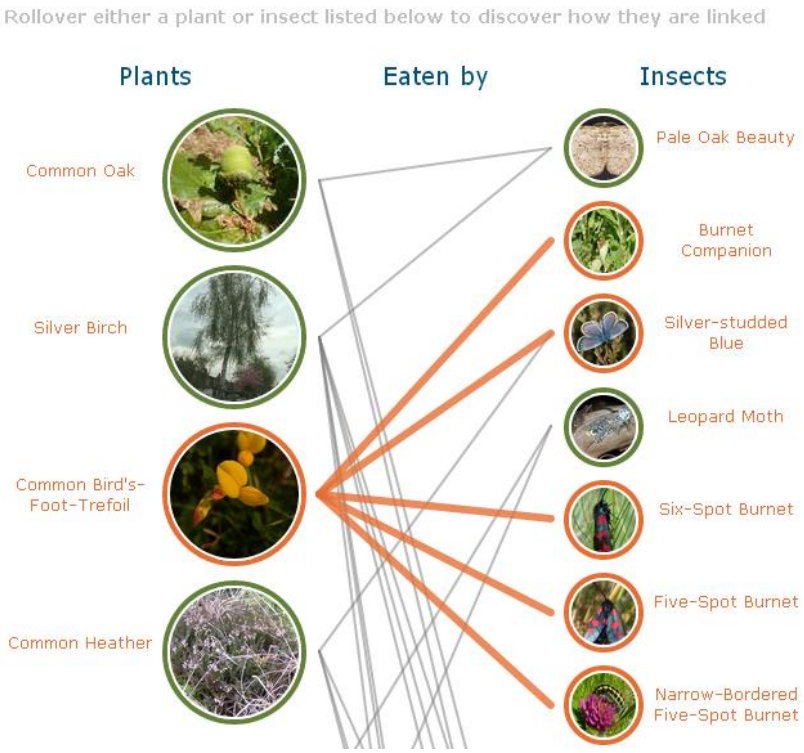
Anyone can add tree records to Treezilla via the website or app (Android or iOS). It's also possible to bring existing datasets into Treezilla for display and editing, and a number of local authorities and other organisations are making use of this (for examples search for Edinburgh or Walsall on Treezilla), and the project is keen to hear from anyone who would like to share tree data in this way.

New on iSpot

iSpot aims to help people learn about identifying and recording wildlife. Use of the site continued to grow during 2012, reaching a record peak of over 9,000 wildlife observations being contributed in the single month of July 2012. Despite the increased number of observations, the number of species reported was slightly lower than in 2011, perhaps reflecting the poor weather during much of the summer in 2012.

If you're experienced in identifying wildlife and enjoy helping others to learn, iSpot would love to hear from you. Our less experienced wildlife-watchers are always grateful for any help that you can provide, whether you just want to help out occasionally or play a more active role. Please contact iSpot for further details: www.ispot.org.uk/contact_us.

And it's now easier to find the species groups that you're interested in on iSpot, thanks to the UK Species Inventory at the Natural History Museum. We recently updated the iSpot dictionary to the latest version of the UKSI, and this has allowed us to take advantage of the taxonomic hierarchy that is now available.



Other new features added to iSpot recently include the ability to display and record ecological interactions. If you look at an observation on iSpot that has been identified to species level, any interacting species will be displayed at the bottom of the page. And if you see a butterfly feeding at a flower, or a predator catching its prey, try to get photos of both halves of the interaction and then you can link them on iSpot, adding to the list of recorded interactions.

The ecological interactions feature has been developed in partnership with the British Ecological Society and the Biological Records Centre, whose database of insects and foodplants provides much of the underlying data displayed on iSpot.

Book review

- Stuart Ball and Roger Morris. 2013. ***Britain's hoverflies. An introduction to the hoverflies of Britain***. WildGuides/Princeton University Press. Softback. 296pp. ISBN 978-0-691-15659-0.

This WildGuide encapsulates a sizeable lump of the knowledge Stuart Ball and Roger Morris have built up in their own recording and data analysis as well as from their years of experience in training and helping others – from complete beginners onwards. Roger's presentation to the 2013 NFBR conference revealed that whilst a large number of records are gathered in each year, these are increasingly of the more common, more easily identifiable species and suggested that this was for want of mentors to provide ongoing inspiration and support.

From the beginner's viewpoint, this new WildGuide provides a hoverfly ID crib, illustrated throughout with excellent and clearly annotated photos. A simple guide lets you allot your hoverfly to a particular tribe. If it has a concave head and sports a black face and scutellum, it's one of 29 species of Bacchini of which 14 can be identified with the guide, e.g. for *Melanostoma scalare* it illustrates and draws attention to the characteristic shape of the female's abdominal markings. Similarly, the excellent photos of male foreleg ornamentation can be used to distinguish many of the otherwise similar *Platycheirus* species. It's probably the next best thing to having a 'mentor in your pocket', pointing out where two species can be distinguished on the colour of a particular antennal or leg segment, or where microscopic examination is vital.

There are a few faults that might have been picked up in the design or editing phases but highlighting these is akin to complaining about the wrapping of your gift horse. More significantly, there are a couple of annoying typos that have the potential to lead people to the wrong identifications: at the top-left of page 69 there are two photos of male abdomens of *Melanostoma* hoverflies, but unfortunately they have both been labelled as *Melanostoma scalare* – the top one should be labelled *M. mellinum*. And on page 210 there is table highlighting the differences between four genera of Eristalini, but the colour of the antennae have been reversed: *Anasimyia* and *Parhelophilus* should be shown as having orange antennae, and *Helophilus* and *Lejops* should be given as black. But these points are all correctly covered elsewhere in the book's text and photos, so hopefully will not cause too many problems.

Still growing, Britain's hoverfly fauna numbers 281 species. They vary widely in abundance, covering a broad range of habitats and (larval) feeding niches, as well as exhibiting rapid responses to environmental change, so their records potentially provide much useful

information. When the BENHS guide to *British hoverflies* (by Stubbs and Falk) was first published in 1983 it prompted a leap in records submitted to the national Hoverfly Recording Scheme. With the new guide facilitating recording of two-fifths of species and encouraging greater interest in hoverflies and other Diptera, it is likely to produce a further boost to recording and will have a lasting impact.

In summary, *Britain's Hoverflies* is a triumph, slotting neatly and inexpensively into the gap between the BENHS British hoverflies guide and the recent review of their ecology by Rotheray and Gilbert (*The natural history of hoverflies,* Forrest Text 2011). It will be a boon to those wanting to develop their knowledge and identification skills, as well as for nature reserve staff looking to expand on the content of their walks and talks programmes or wanting information about species status. Highly recommended and an example for others to follow.

Review by Steve Whitbread and Martin Harvey

The spectacular hoverfly *Chrysotoxum festivum* © Martin Harvey.