

Recorder News

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- Rowson, Turner, Anderson & Symondson (2014). *Slugs of Britain and Ireland.* (Adrian T Sumner)

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The Endrick Mouth

Given this name by the 19th century local naturalist James Lumsden, the area covered takes in not only where the River Endrick flows into the south-east corner of Loch Lomond, but also the hinterland wet meadows, open fens and occasionally flooded woodlands.

To the south of Balmaha in VC.86, the flora of the loch shore zone is at its most diverse where lagoons give some shelter from erosive wave action during storms. Between the high and low water marks in mid to late summer, the welly-booted botanist should keep an eye open for Awlwort *Subularia aquatica* and the two Waterworts *Elatine hexandra* and *E. hydropiper*; the latter by far the most widespread in these mesotrophic to locally eutrophic waters. Needle Rush *Juncus filiformis* is still to be found in short turf at the water's edge, but it is being slowly lost to shore erosion since the level of Loch Lomond was raised in 1971 as a major water supply. On the same Stirlingshire side of the River Endrick, Elongated Sedge *Carex elongata* is a feature of the flood woodlands where the species often grows as an epiphyte on fallen trees.

LOCH LOMONDSIDE

what is special about the region for the botanist

by John Mitchell

What immediately strikes one about Loch Lomondside from the botanical literature is the number of species known to be present which are classified as nationally rare or scarce, off-the-cuff three dozen or more. This is not altogether unexpected considering the region's varied geology and topography. The differing habitats represented range from tidal marshes alongside Loch Lomond's only outlet to the Clyde Estuary, some of the country's finest oakwoods, through to the dwarf heath found on the summits of no less than thirteen munros. There are hotspots for noteworthy plants needless to say, this short article describing just two – the low-lying Endrick Mouth for marshland/aquatic species, and, in contrast, Glen Falloch's high western hills for arctic/alpines, a legacy of much colder times in Scotland's climatic history.



Fig.1 *Lysimachia thysiflora*. Unlike other *Loosestrifes*, it is usually very shy at flowering.



Chairs column

I am sitting in my hotel room in Shetland writing and listening to the peep of the *Shadler* (Oystercatcher) and the thump of a helicopter's rotors. It is really very far north, closer to Norway than Aberdeen, on the same latitude as the southern tip of Greenland and generally a pretty tough place to survive.

One species of butterfly, the Large White, breeds here; four species of bumblebee and quite a few birds common on the mainland such as the Robin, are absent. But there are lots of breeding waders such as Redshank, Lapwing and Curlew and the incessant calling of Starlings is all over the place.

With all this wildlife and people coming to watch it how often do they record what they see? Having worked in the business I know how few records tend to filter down from guides and groups. This is partly because you see so much, where do you start recording? Perhaps a way would be to work with Wild Scotland, (which represents Wildlife and Outdoor Activity Companies) to encourage recording one group a year. For example, this year it could be butterflies. By narrowing down the species group, it makes it easier to do physically and also you could work with the relevant scheme or society to promote that species.

Very few people record everything, so by focusing on specific groups and making identification resources available, we could hopefully increase records of poorly recorded species or improve geographic coverage. At the moment, there is no strategy to what we are being asked to record; and it just seems that there is demand on active recorders to record more and more. Whilst any strategy would be voluntary it would be a useful discussion to have between the voluntary, NGO and Government sectors.

Which brings me on to local data hubs and regional support for volunteers. If we are to encourage more recording then it helps if there is a one stop shop to send your data to get it validated, verified and then uploaded to the NBN. Ideally this would be fairly local to you and the hub could provide advice and information as required, preferably through some kind of forum and perhaps an annual meeting.

With a hub would have a resource to support existing volunteers and encourage new ones. This is done now across organisations but there is precious little joined up working and volunteers, especially the number of them, is often a key part of grant funding. But many volunteers just want to record interesting things and aren't that bothered about which organisation it is for. Wouldn't it be great if there was a supported regional pool of volunteers and a list of events or projects they could get involved in?

Citizen science is a phrase on many people's lips. I recently attended an excellent SNH event on this. I can commend Michael Pocock's, presentation which was very good. See http://www.snh.gov.uk/policy-and-guidance/sharing-good-practice/presentations/document/?category_code=SGP&topic_id=1626



Editorial

Greetings from Sarah, the assistant editor to whom Anne-Marie has entrusted this edition. Quite fun, doing this, if a lot of swearing!

As a keen organic gardener I appreciated the earthworm article in the last edition. Good soil condition, as indicated by worm activity, is bee-in-bonnet issue for me. But the lack of data for Scotland was unsurprising if sad given the importance of soils. The Natural History Museum London started a survey in 2009(?) led by OPAL and the Soil Centre at Imperial College, London. The results of 3000 soil and earthworm samples was published in June 2010. That survey has finished but I wonder if a Scottish survey could be launched, based on the OPAL model which involved many school children. There are ID guides and workbooks on their website <http://www.opalexplornature.org/?q=Soils>. If anyone knows teachers looking for an environmental project to start in September or next March then perhaps this could be a good one. The British Earthworm Society website is <http://www.earthwormsoc.org.uk/> for ID, help and records.

My suggestion above does however, remind me about Jonathan's concerns expressed in the Chairs column. Biological recording is very organised and thorough for many taxa but quite haphazard for many others. Christine has a comment about this in her report on SBIF and Teyl de Bordes in his article on Whitmuir raises some interesting questions about continuity in recording on the same farm. If anyone has any suggestions for Teyl please send to me saraheno@riseup.net and I will forward.

Some new apps: the Field Studies Council has developed iPhone apps for some of its excellent Aidgap guides. See <http://www.field-studies-council.org/publications/iphone-apps.aspx>

If anyone is using an app for ID and or recording and which you can recommend, do feel free to write about it for BRISC.

Please note that we have some details of the BRISC conference to be located in the idyllic Loch Lomond and Trossachs National Park. What an opportunity to hear some excellent speakers about biological work in the Park and to get in some field trips. Speakers are being finalised as I write, and further details will be on the website and possibly mailed out later this summer

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Across the river into Dunbartonshire VC.99, attention is drawn to the flora of the Twenty Acres wet meadow with its abundant Tufted Loosestrife *Lysimachia thyrsoiflora* (Fig.1) and the wetter eastern end of Aber Bogs with its conspicuous display of Cowbane *Cicuta virosa*, a plant poisonous to stock and one which would have been kept well under control when the bogs were the district's main source of natural hay.

Focusing on the Endrick Mouth's specialities, the Loch Lomond Dock *Rumex aquaticus* (Fig.2) is at present most numerous in the Low Mains, one time arable farmland that



Figure 2 *Rumex aquaticus*. In Britain, the species is confined to southern Loch Lomondside.

was abandoned many years ago due to a rising water table. Caution is required not to confuse the pure plant with hybrids, in particular crosses with the closely related Broad-leaved Dock *R. obtusifolius*. A combination of intermediate characters should serve to identify any suspects.

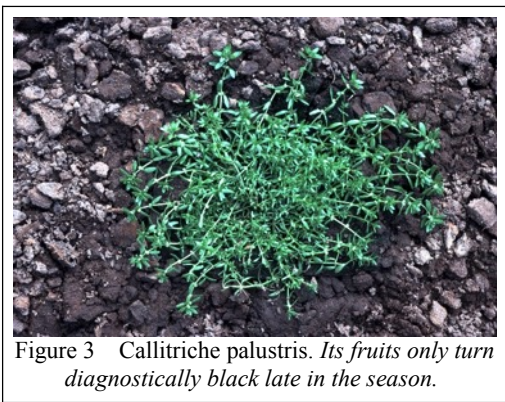


Figure 3 *Callitriche palustris*. Its fruits only turn diagnostically black late in the season.

From one of the area's tallest wetland plants to one of the smallest - Narrow-fruited Water-starwort *Callitriche palustris* (Fig.3). Only identified at Ward's Ponds as recently as 2000, this addition to the Scottish flora has since been found at several seasonally drying out ox-bow ponds further upstream in the Endrick Valley. The Loch Leven Spearwort

Ranunculus x levenensis, discovered growing along the sandy shoreline of the Ring Point in the 1980s, gave rise to the probability of the extremely rare parent plant Creeping Spearwort *R. reptans* occurring there too at one time, its ripe fruits having been carried to the Endrick Mouth in the gut of one of the many hundreds of migratory wildfowl arriving in autumn from the far north. It is tempting to believe that this transient member of the British flora could well turn up again.

Glen Falloch's Western Hills

In times past the Victorian botanists made their way to Inverarnan at the foot of Glen Falloch by Loch Lomond paddle steamer, but sadly this service has long been withdrawn. Today for access to the south facing sides of Beinn Dubhchraig (978m), Ben Oss (1029m) and Ben Lui (1130m) in West Perth VC.87, a popular starting point is the car park at the Falls of Falloch. Although a long walk in to what is the extreme western end of Scotland's botanically famous Breadalbane range, the reward is the most varied montane flora in the whole of the Lomond catchment. At least twenty-five of the species recorded on the more calcareous rocks or in flushes below have been designated nationally rare or scarce.



Figure 4 *Veronica fruticans*. On Loch Lomondside has been found only on crystalline limestone.

Every field botanist has his or her favourite mountain flowers or ferns. Amongst those which gave me particular pleasure when I first chanced upon them in Glen Falloch's western hills was the large-flowered form of Northern Rock-cress *Arabis petraea*, the semi-parasitic Alpine Bartsia *Bartsia alpina*, Rock Speedwell *Veronica fruticans* (Fig.4) Alpine cinquefoil *Potentilla crantzii* (Fig.5), Mountain Avens *Dryas octopetala*, Mountain Willow *Salix arbuscula*, Black Alpine Sedge *Carex atrata*, Sheathed Sedge *Carex vaginata* and Mountain Bladder-fern *Cystopteris montana*.



Figure 5 *Potentilla crantzii*. Away from the Glen Falloch Hills it is also known from Ben Lomond

The blue ribband must however go to the tiny fern Alpine Woodsia *Woodsia alpina* (Fig.6). Having miraculously escaped the clutches of rapacious collectors during the Victorian Fern Craze, at one little visited locality the population totals several hundred tufts of fronds and as such is one of the finest colonies in Britain.

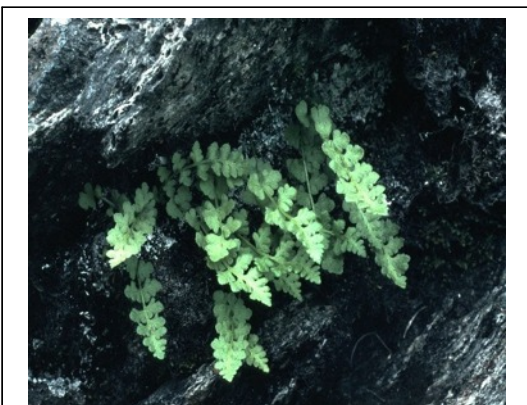


Figure 6 *Woodsia alpina* is a fern of bare rock free from competition

My thanks to Peter Smith for preparing my now vintage slides for publication

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Biodiversity, Management and Recording at Whitmuir Farm Selkirk.

By Teyl de Bordes

The editor asked me to write something on the above subject for this newsletter as we do a fair bit of flora and fauna recording on the farm. To be able to do this I will start with a little background.

The farm lies at 900 m just South-east from Selkirk in the Scottish Borders. The farm yard sits on an inactive (we hope) volcanic plug. It has medium loam soil with some

peaty areas and seams of marl mixed in for good measure. The farm is 176 ha in size and has about 46 ha of arable land growing mostly winter wheat or barley. The rest is made up of temporary and permanent grass and 24 small woodlands.

I first came to the farm in 1989 to plant one tree for the owners. Soon I started doing more and more work here and I am now part-time factor for Whitmuir Farm. Part of my work was to fill in the many forms required by modern day farming. In 2003 I had to fill in the 2002 annual review form for the Scottish Executive on our ESA (Environmentally Sensitive Area Scheme). You had to comment each year on what the effect had been of your management under the scheme. You also had to suggest changes which might improve the conservation benefit for each element of the scheme. If you left too many boxes empty on the form it might appear you were not trying hard enough, so I always tried to suggest something! On this particular form I said something about introducing orchid spores to some of the grassland, although at that time we only had 7 spikes of Common Spotted Orchid on the whole farm. I always thought these forms were filed away by SEERAD without being read in great detail. However, I got a response as Peter Delaney, the civil servant who dealt with the form, read my comment and asked Scottish Natural Heritage to comment on my suggestion. By chance he asked Sarah Eno, who worked for the local SNH office! Sarah suggested several articles that might help me with orchid introduction. It was now clear that the civil servants were reading the forms!

By 2005 the annual review form asked for far more details. On each element of your ESA scheme you had to state if the number and variety of Small Mammals, Birds, Insects and Plants had increased or decreased and give examples. To qualify for environmental funding in 2014 you really need to prove you are or will be making a difference. Some people may say not before time.



Species-rich grassland in early spring with an abundance of cowslips

But back in 2003 I thought I should start formally recording more information to be able to fill in the annual returns for not just ESA but many of the other forms that hit my desk on a regular basis. I have a background of working for several Botanic Gardens. In my younger days I spent a year working for Nikko Botanics in Japan. Part of my time was doing botanical surveys in the mountains of Honshu. To this day I am probably still more at home with Japanese alpine plants than some of the Scottish local wild flowers! I started surveying

and recording some of the herbaceous plants in our meadows, woodlands and hedgerows. In 2007 I made great strides when I asked my friend Michael Braithwaite to give me a hand. He was able to help sort out all the different Forget-me-nots and Speedwells for a start. It was amazing what a difference it made to have an accompanying expert. Michael was particularly good in making you do the work under his guidance. My brain was totally frazzled at the end of our walk but I had made a lot of progress in my knowledge.

By 2011 Brian Coppins had opened the lichen (130) world of Whitmuir, David Long did the same with our Bryophytes (85) and Laura and Hugh Coventry sorted out the dragonflies. Laura and Hugh presented me with a plastic white spoon (complete with a gold ribbon) to survey for dragonfly larvae on a cold February day. I keep seeing things zooming along the ponds in summer and may need to get them back for a visit soon as my plastic spoon is no good for identifying adult dragons in full flight.



Peltigera sp. Foliose lichen amongst luxuriant mosses

The owners wanted to know why there were no good edible fungi on the place. By this stage I had identified about 8 common fungi and knew it was not really worth doing much more on that front. So I asked Neville Kilkenny a field mycologist from East Lothian to have a look for any edible fungi to put in the odd meal. I knew it was a waste of his time but what the hell, he might as well have a quick look at this fungi barren waste land. When he arrived he walked about 10 yards from his car and within a minute had spotted the first edible fungus. To cut a long story short we are now at around 400 species of fungi, the owners have had some fantastic fungi on their plate and a new world was opened for me.

It turns out Whitmuir is a very special place for fungi. The marl seams mean that we have lime and acid loving fungi growing side by side. The marl also means we have rockrose growing on some of our sunny slopes and there is very special relationship between the rockrose and some woodland fungi. There are not many places in the world you find Fly-agaric in the middle of species rich grassland!

Thanks to Google I found some fantastic recorders who have helped us look at a wide range of species on the farm. All have been amazingly helpful and we have made real progress in recording the flora and fauna. The records do eventually

make their way onto national databases as well. And I would still struggle to do any of it myself despite the guidance and patience from these experts.

There is one area however, that I've become a bit of an expert in myself - Moths! There is an enthusiastic wildlife columnist in our local paper, The Southern Reporter, who goes by the pen name Corbie. He wrote a piece on moths one week, so I invited him to have a look at our farm moths. We had a great walk on a lovely sunny day. He encouraged me to get in touch with Malcolm Lindsay the moth recorder for Selkirkshire. Malcolm came out one night with



Amanita muscaria (Fly Agaric) not edible!

Andy Fitchett, one of the moth recorders for Roxburghshire at the time. A few dark hours later, having been introduced by them to 500 moths in our Moss, I was hooked. I soon had my own Heath actinic moth trap and spent a few years recording the moths all over the farm. I must admit that the last few years I have strayed further afield and recently I have been spending hours hunting the Southern Uplands for some elusive Small Chocolate-tips and neglecting the farm moths a little.

On the recording front a big mention also needs to be made for our local British Trust for Ornithology volunteer bird ringer. He has been ringing birds on the farm for 10 years and has rung thousands in that time. 580 blackbirds, many from Scandinavia here on their winter holidays, have left with a ring around their leg. Probably of particular note is also the fact that he has rung over 130 Nuthatches, a bird that not that long ago, did not go north of the Hadrian's Wall. For years he has been trying to catch up with the large flocks of Fieldfares that visit the farm in winter. It seems they come equipped with net detection radar as they often avoid the nets. The 21 that have made it into the nets represent a lot of blood, sweat and effort.

Since 2011 the Lothians and Borders Mammal Group (LaBMaG) have held a spring and autumn small mammal trapping session on the farm. They put up an intensive trapping transect along the same section of species rich grassland and woodland edge. This has been very informative and great fun.

completely differently. But at least you can try and make informed decisions based on something more than a whim.

As a result of all this fantastic recording work we have a better idea of what the flora and fauna on our farm than most other farms in the area. Or do we? The nature of recording is that you end up with snapshots of biological records. Last year, on the 25th of August our BTO Man spotted a Wryneck on the farm. I am pretty sure it is not here today and likewise the visiting Waxwing, Cuckoo and Crossbill we have previously recorded. I know we have moles in our fields and woods but no mole has been recorded for a while. So, should I go out each year on the first of January and record evidence of moles, or is it fine to do so every 5 or 10 years for a mole? Some of the specialist recorders who have been fantastic and freely given up their time might not be so keen to come back to a site they have “done”. One of the challenges now is to come up with a long term recording plan.

We would love to hear from anyone who thinks they can help fill in some of the blanks in our knowledge. I know that we have large gaps in our invertebrate recording for example. Anyone interested in seeing what is happening on the farm should have a look on the Whitmuir Wildlife Facebook page.

Remember those 7 Common Spotted Orchid flower spikes in 2003? We have had to stop counting as there are now over a thousand of them each year!

REPORT ON PROJECTS

2014 BURSARIES

Identifying the Beauty of Sphagnum Moss

By Angela Creevy

With special thanks to BRISC/GNHS for a bursary, I was able to attend an Intermediate Sphagnum Identification Course held at Kindrogan Field Centre in April 2014. With the helpful expertise of Nick Hodgetts Course Leader, as a group we identified 22 of the 34 species of Sphagnum currently recorded in the British Isles (Figures 1a & b) from just four Scottish sites! Most of the species were identified in the field using a hand lens. For the more difficult, easily confused taxa, identification was later verified in the lab using stereo and light microscopes.



Fig. 1a *Sphagnum cuspidatum* ssp. *rubellum* (right) which is distinguished from ssp. *cuspidatum* by forming comparatively looser cushions



Mammal trapping with LaMBaG and High School pupil

The Wildlife Information Centre (TWIC) organised a visit in 2012 to help me find if we still had some elusive coralroot orchid here on the place which had not been recorded since the 1970s. Sadly we did not find it but Dr Rod Corner, the Botanical recorder for Selkirkshire who last recorded it on Whitmuir was optimistic and told me to keep looking. I am very keen to find it again as it was first recorded here in 1895. Roger Manning, a very good all round amateur naturalist came on that particular visit and has been very helpful with subsequent recording visits and bird counts.

Sometimes interesting combinations of recording disciplines have come together. One such occasion that springs to mind is when LaBMaG were on the farm to survey small mammals. We collected mouse and vole droppings from the traps to see what dung fungi were present and the wood mice caught all gave a DNA sample for Amanda Wilson’s ground breaking work on Scottish wood mice origins.



Field Vole, one of the variety of small mammals caught by LaMBaG including Wood Mouse, Bank Vole and occasional Common Shrew. Owl pellet analysis shows Water Shrew and Pygmy Mouse are also around

All this recording effort has resulted in a lot of data which has enabled me to manage the farm for wildlife in a much more structured way. For example I can now make a much better plan on how to graze our species rich grassland. Or so I think...It is amazing how just when you think you have cracked it the weather changes and the vegetation reacts

Looking at Sphagnum leaves under the microscope is something I am fairly familiar with (Figure 2a). Since last October, I have been studying microbial life in Sphagnum in the Flow Country Peatlands as part of my role as Soil Ecology Natural Talent Apprentice with The Conservation Volunteers (TCV).

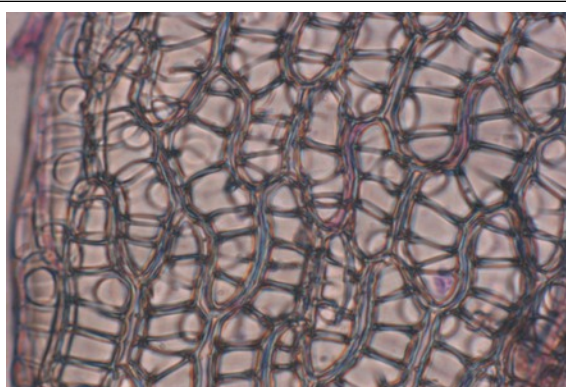


Fig. 2a Sphagnum leaf at x400 magnification using light microscopy

I have been fascinated and overwhelmed by the high diversity of Sphagnum in the Flow Country, and indeed, the microbes it supports (Figure 2b). The course introduced me to a really useful book entitled 'The Intricate Beauty of Sphagnum Mosses – a Finnish Guide to Identification'. Despite not being based on Scottish specimens, this is a really useful resource as it shows the microscopical characters, or the hidden, inner complexity of Sphagnum mosses.



Figure 2b Sphagnum-dwelling microscopic creatures a rotifer appears to be preying on Testate amoebae Hyalosphenia papillo.

Before going on the course I could barely tell *papillosum* from *palustre*! The genus Sphagnum can be split into six sections (Sphagnum, Rigida, Squarrosa, Subsecunda, Cuspidata and Acutifolia) and most sphagnum species can be identified to one of the major sections of the genus. So for anyone new to the wonderful world of Sphagnum, being able to identify which section the sphagnum belongs to is a good starting point. After the course my cabinet at home turned into a Sphagnum herbarium (Figures 3a & b). Now all the specimens are dry I am in the process of mounting and labelling the specimens to aid in the identification of Sphagnum for future surveys.

Importantly, monitoring and conserving this ecologically important genus requires sound taxonomy and accurate

identification by taxonomic experts. Now I am more confident in identifying Sphagnum in the field and laboratory, biological records will be submitted to the Highland Biological Recording Group and other National Recording Schemes.



Fig 3a Labelled Sphagnum specimens drying out in a cabinet in preparation for the creation of a Sphagnum herbarium

In closing, the famous Joni Mitchell line "you don't know what you've got till it's gone" wasn't written for Sphagnum, so a more appropriate line could be: "If you don't know what Sphagnum you've got, how will you know when it's gone?"

Two bursary reports of Nick Hodgetts Mosses and Liverworts Course, Kindrogan 26th May to 3rd April 2014

First by Rory Whytock

Through my work as an ecologist I travel all over Scotland, spending many days and weeks at a time in the remotest corners of our beautiful country. Knowing that many sites and species in Scotland are under-recorded, I am always endeavouring to do my best to identify as much as I can and contribute to the biological databases (particularly when in the remote areas). In the past 8-12 months I have been learning more about bryophytes, but was finding that it is not the easiest taxa to get to grips with! With the help of Biological Recording in Scotland and Glasgow Natural History Society who very kindly provided me with a bursary, I was able to attend a Mosses and Liverworts course taught by Nick Hodgetts.

The course was hosted by the Field Studies Council at Kindrogan and ran for seven days. On the first evening I met the rest of the group from the course, which began with an introductory talk from our course tutor Nick. The next morning we headed to the South side of Loch Tummel, all full of enthusiasm for the day ahead. We covered quite a few different habitats and got stuck into most of the more common species. I think Nick had visions of exploring the woodland, but due to everyone's enthusiasm and the richness of the site we had only managed to get around 50ft from the minibus by the end of the day! We headed back to the field centre where we studied our collected samples through the microscopes whilst eating cake.

Monday was spent at a place called Tullach Hill, where I encountered many new species and learnt a huge amount. Quite a lot of time was spent looking at base-rich springs and flushes and looking at the aptly named but certainly not less interesting “brown mosses”. After another night on the microscopes and some more cake I was ready for my bed in preparation for another day on the hills.

The following day was spent identifying Sphagnum mosses, with lots of species I was keen to see being found and very useful field characters learnt. The knowledge and enthusiasm of our tutor Nick could not be underestimated and it helped the whole group learn within each individuals own capabilities.

On the Wednesday we decided to have a consolidation day, where we could try and cover what we had already learnt and concentrate on remembering them all! This day was spent around the Kindrogan and was a well needed relaxing day after a heavy few days taking in masses of information.

The last two full days were very intense again and covered three different sites, the Black Wood of Rannoch, Schiehallion and Ben-Y-Vrackie. And of course, a lot more cake. All in all, I learned a vast amount, and it was nice to meet so many great people. A massive thanks has to go to our course tutor Nick Hodgetts, who has an incredible knowledge and the patience of a saint!

Since the course I have continued my passion by learning and recording mosses and liverworts on a more regular basis. In order to help engage people in my region with identifying and recording bryophytes, I have been enquiring about taking on the county recorder role for my vice county. Although nothing has been arranged at the time of writing, I am hopeful of filling this role in the near future. Whatever happens, I look forward to sharing my knowledge with others and hope to encourage more people to become interested in this amazing, yet largely under-recorded group.

Second report by Sharon Yardy
All photos were taken by Julie Masson.



Examining epiphytes at Kindrogan.

I became interested in mosses and liverworts about 3 years ago and have since attended short FSC courses, as well as recording meetings with local groups and the British Bryological Society. I really wanted to attend this course as I have previously been on Nick’s Sphagnum course and

thought a week long course would help to consolidate knowledge and gain more confidence in microscopic identification.

Thirteen of us attended this course, mostly arriving for dinner on the Saturday evening. After dinner there was a short presentation on bryophyte reproduction and discussion of some common features of pleurocaps and acrocaps mosses, leafy and thalloid liverworts and sphagnum. The rest of the week was spent going out to a variety of habitats in the mornings and returning mid afternoon to key out species and microscopy work.

We left early on the first morning for a woodland site at Allt Ruith Chastle, Loch Tummel (NN8860 c.200m), which had a burn running through it to familiarise everyone with some of the commoner species of moss such as *Hylocomium splendens*, *Rhytidiadelphus squarrosus* and *Thuidium tamariscinum*. Monday was a trip to some flushes, healthland and mixed areas at Tullach Hill (NN8663 c.400m) where we got to grips with some of the brown mosses and the liverwort *Ptilidium ciliare* on the drier ground.

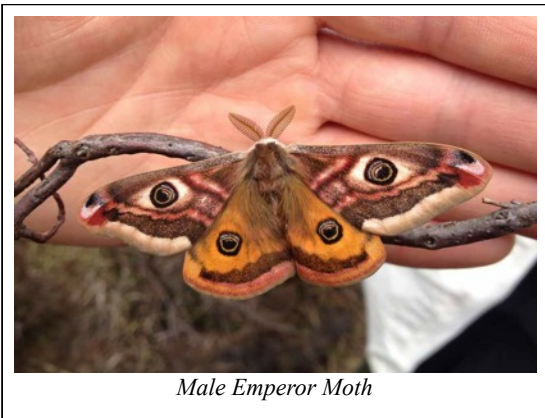
Tuesday was dedicated to Sphagnum with a brief introductory lecture and a visit to Maud Loch (NN7266 c.400m) where it was useful to see both subspecies of *Sphagnum capillifolium* growing near each other. Wednesday was spent in the grounds at Kindrogan looking at epiphytes such as *Radula complanata* and *Frullania tamarisci*. Then on Thursday we visited two sites Blackwood of Rannoch (NN6156 c. 220m) and McGregor’s Cave, Creag an Tuathanaich (NN7058 c. 220m).



Still at work late in the evening!

The most enjoyable day for me was Friday examining some montane species on Ben Vrackie at Bealach na Searmoine (NN9361 c 570m) and Coire na Beinne (NN9462 c550m), where we saw species such as *Grimmia torquata* and *Hedwigia stellata*. A brief distraction from the bryophytes was this male emperor moth at Maud Loch.

Overall, we all had a great week and learnt a lot from Nick, who is an extremely patient and knowledgeable tutor. I am very grateful for BRISC for the funding to enable me to attend this course.



Male Emperor Moth

Record a Raptor – the 2014 Lothians & Scottish Borders wildlife survey is here! By Louise Lund Christensen

Since the beginning of my internship at The Wildlife Information Centre (TWIC) in March this year, I have been working on developing a new wildlife survey for launch in May 2014. After much deliberation here at TWIC, we decided that this year's survey should focus on birds of prey – more specifically, Buzzard (*Buteo buteo*), Kestrel (*Falco tinnunculus*) and Red Kite (*Milvus milvus*).



Birds of prey are important components of healthy, functioning food webs, and they provide a lot of valuable ecosystem-services (nutrient recycling, pest control, carrion removal, etc.). However, in spite of their ecological importance, raptors are often involved in wildlife conflicts.

Historically, birds of prey have had a bad reputation with game-keepers, as they are thought to prey on game etc. But not all raptors are as vicious as that – they simply don't have the appropriate tools! Red Kites and Buzzards mainly feed on carrion, whereas all three species have a preference for small

mammals (voles and mice), small songbirds and even invertebrates! Their bill and claws are not strong enough to allow them to take any larger prey.

Buzzards are currently the most common birds of prey in Scotland. However, if we look back 20 years or so, Buzzards were in fact quite rare. Quite the opposite trend is seen for Kestrels. Whereas they used to be widespread in the Lothians and Borders, there has been a 57% decline in Scottish Kestrel numbers since the mid-90s (*Breeding Bird Survey*, British Trust for Ornithology (BTO)).

Red Kites went extinct as a breeding species in Scotland in the late 19th century. Since then, Red Kites have been reintroduced into several areas in Scotland and England during the 1980s, and populations have slowly begun expanding. Currently, Red Kites are neither resident nor breeding in the Lothians and Scottish Borders, but they could potentially establish here in the not too distant future.

To help protect our local raptors, it is important that we know where they are. We hope this survey will inform us on the distribution of Buzzards, Kestrels and Red Kites in our area, and that it will spark a greater appreciation of these beautiful birds.

To take part in the survey and submit a record, return one of our survey postcards to TWIC or submit your sighting online at www.wildlifeinformation.co.uk/raptor_sightings.php where you can also find more information about the survey and illustrations of each of the three species.

Update from the Scottish Biodiversity Information Forum (SBIF)

By Christine Johnston

In the last newsletter I reported that we are compiling some case studies and, thanks to the authors who have completed their draft texts, the case studies are coming together well. They are just going through the editing/page make-up stages.

Planning is continuing for the proposed trial of the elements of the data pathway, which was also reported in the last newsletter. The trial will be facilitated by the National Biodiversity Network (NBN) Trust and a call for volunteers to help with the trial will go out as soon as the parameters of the trial are established.

Background work has also started on a data needs survey of Forum supporters which will give an insight into whether and how data needs are currently being met. In understanding these needs the Forum should be better placed to inform activities and discussions surrounding how data needs can best be met in the future. Aspiring to meet data needs is in turn related to levels of recording and data collection activity, and to supporting recorders, subjects that Jonathan has talked about in his column.

Recently the Forum acquired the domain name www.sbif.org.uk. Using this link will take you to the same web pages that were accessed via www.wildlifeinformation.co.uk/sbif.php although this old link will continue to work. I would welcome your feedback on the content of the website, in particular whether pages

such as the Resources page is useful. Is there anything else you think the webpages should cover?

As a result of setting up the new domain I can now also be contacted on coordinator@sbif.org.uk; again my previous address will continue to work, but I intend to migrate to the new address over the course of the next few months.

Scottish Biodiversity Information Forum Co-ordinator The Wildlife Information Centre, Caretaker's Cottage Vogrie Country Park, Gorebridge, Midlothian EH23 4NU Tel: 01875 825968 Email: coordinator@sbif.org.uk Web: www.sbif.org.uk Twitter: SB_Info_Forum



BRISC ANNUAL CONFERENCE AND AGM

SATURDAY 4th OCTOBER 2014

at

Loch Lomond and Trossachs National Park

BIOLOGICAL RECORDING IN OUR NATIONAL PARKS

- Tea and coffee will be served from 9.45am and the Conference will start at 10.15am sharp.
- There will be field trips in the afternoon and transport will be provided. The conference will finish at 5pm.
- The conference will look at current and historic biological projects that have run in the park and how the data from these projects was and is being used.

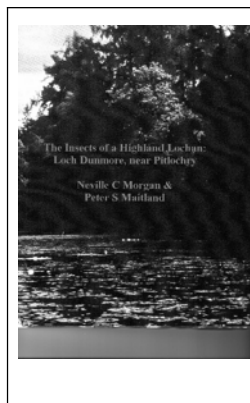
Loch Lomond & The Trossachs National Park Headquarters
Carrochan, Carrochan Road, Balloch, G83 8EG

Directions: For a map and directions to the National Park Headquarters click here <http://www.lochlomond-trossachs.org/images/stories/Looking%20After/PDF/Travel%20directions/Directions%20to%20new%20HQ.pdf>

There is a half hourly train service to Balloch from the low level station at Glasgow Queen Street, it is a 6 minute walk to the National Park Headquarters from the station.

The full programme and booking forms will be published on the website in early August.

BOOK REVIEWS



Morgan, Neville, C & Maitland, Peter, S. (2013) *The Insects of a Highland Lochan: Loch Dunmore near Pitlochry.* Fastprint, Peterborough,

ISBN 9781780356709, Hbk.

We live in an era of 'Big data', where we have increasingly good quality global datasets on species distribution and environmental characteristics, and biological recording schemes have played a vital role in these developments.

This book represents the opposite end of the Big data spectrum; an intensive and meticulously detailed study of the insect fauna of a small Perthshire loch undertaken over a 5 year period in the 1950s. The study was initiated as an investigation of the food of brown trout. The first author, along with Alexandra Waddell who co-authored earlier publications but died prior to the publication of the current book and latterly Peter Maitland, sampled and identified insects emerging from different habitats of the loch. The work involved daily collections from emergence traps, supplemented for some periods by detailed diurnal records. In the process of establishing the methodology, they also contributed to the study of the comparative performance of different emergence traps and developed a new design. With a ballpark figure of insects identified of around 75,000 across 130 species, the result is an incomparable record of the phenology and production of aquatic insects.

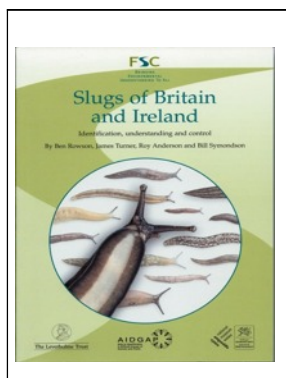
Following an overview of the study site and context of the work, the bulk of the book is structured by taxonomic group, with species in each group considered in turn. The species accounts consist of a standard table of yearly total abundance at each sample site followed by a figure detailing the phenology, again showing yearly variation. In some cases there is also information on the diurnal pattern of emergence and wing sizes/body masses. Each species is then discussed in the light of other studies on the same taxa, although the literature coverage of these sections is not comprehensive. The data on diurnal emergence are drawn together toward then end in the context of the significance of food availability for trout. This is followed by similar sections on seasonality, factors affecting emergence patterns and the broader significance in terms of the ecology of the loch.

One of the first things that came to mind on reading the text was the potential to do a repeat study to compare with contemporary patterns and perhaps look for climatic change effects. A study of the benthos was completed 10 years after the original work which already indicated some changes in the fauna. Unfortunately the nature of the loch has changed markedly in the last half century, now supporting a carp fishery rather than the original trout. The attendant changes in habitat and ecology are likely to mean that relatively few of the original species remain.

We are beginning to appreciate the importance of long-term datasets in understanding a range of biological phenomena and it is a shame that the sampling was not continued in some

way. With current trends emphasising geographical extent over localised detail, the contents of the book are a testament to the kind of detailed and long-term work that is required to really characterise the dynamics of even a single community of insects in a small loch.

Dr Rob Briers



Rowson, Turner, Anderson & Symondson (2014). *Slugs of Britain and Ireland*. AIDGAP Guide OP160. FSC Publications, Telford. ISBN 978 1 908819 13 0 (Pbk) £14.50

Terrestrial slugs are important members of ecosystems, and can have significant effects on plant communities as a result of their food preferences. Several species are pests; for example, in recent years it has been reported

that the so-called “Spanish Slug” has been spreading and causing untold damage to crops. Others are ancient woodland indicators. Studying these species requires an up-to-date means of identification, yet no guide to the slugs of the British Isles has been produced for more than 30 years, a period in which several new species (including the “Spanish slug”) have been reported. This new guide is therefore very welcome, and it certainly does not disappoint.

This is, in fact, not simply another identification guide, but a result of a detailed study of the slug fauna (including some “semi-slugs”) of the British Isles, supported by the Leverhulme Trust and the National Museum of Wales, in which external appearance, internal anatomy (genitalia) and DNA sequences have been analysed. This not only ensures that external features used to identify a species are actually correlated with the more objective criteria provided by the genital anatomy and DNA, but has also resulted in the recognition of a number of new species as members of the British and Irish fauna.

The guide opens with a comprehensive Introduction, describing exactly what a slug is and the advantages of being a slug; origins of our slug fauna; recording and conservation; and slugs as pests. The keys themselves are not of the dichotomous type, which the authors rightly feel would be of limited value in a group in which external features can vary substantially within a single species. Instead, pictorial keys are used, in which several external features are compared for a set of related species (e.g. genus or subgenus). Several different characters can therefore be used simultaneously to identify a species; features that are especially important for identifying a particular species are enclosed in a red box.

The keys themselves occupy only a small part of this book, and most of it consists of accounts of individual species, normally with a page of text and a distribution map opposite illustrations of a typical form of the slug and several variants. The text covers identification, similar species, pest status, range, habitat, and biology. Finally, there is advice on dissecting slugs, with illustrations of the genitalia, and even brief sections on slug eggs and slug shells.

How well does this guide work? As the authors point out, “not every single slug you find will be identifiable”, but with the help of this guide many more of them will be than hitherto. As an example, the large *Arion* species are very variable and notoriously difficult, but I immediately found it was possible to distinguish them with much greater confidence.

The individual species accounts provide further information which is very helpful in doubtful cases. I shall find this guide invaluable on my recording excursions this year, and hope perhaps to come across some of the newly recognised species that I didn't even know existed.

Adrian T. Sumner

Some dates for the diary

British Dragonfly Society

July, August & September – various training courses in Scotland

<http://www.british-dragonflies.org.uk/content/upcoming-events>

British Bryological Society

13th-14th September 2014 Autumn 2014 AGM
RBGE, Edinburgh

Butterfly Conservation Trust Scotland

Numerous recording events across Scotland

Sat 4th October 2014 Annual Meeting

Battleby, Perth

http://butterfly-conservation.org/244/events.html?uf_Class=Scotland

Scottish Wildlife Trust

Sat 20th Sept 2014 AGM and Members' Day

Location to be confirmed

<http://scottishwildlifetrust.org.uk>

SOC Scotland's Bird Club

31 October 2014 - 2 November 2014 Annual Conference –

A sound approach to bird watching

<http://www.the-soc.org.uk/the-2014-annual-conference>

Copy deadline for Autumn Issue

Saturday 13th September 2014

All material in electronic format to the Editor [anne-marie@smout.org]. For postal address see BRISC contacts p. 2

NBN Gateway News

The 14th NBN Annual Conference will take place on Friday 21st November at The Royal Society. The theme is: "Climate, Collaboration and Collection - informing the new conservation agenda"

The programme and speakers will be announced in due course, but we are pleased to have been able to take into account comments received as part of our survey following the 2013 Conference and to that end, we are sure we will have an interesting Conference with lots of opportunities for networking and interaction. Keep an eye on the NBN website for further programme and booking information.

Did you know?

Uses of UK Biodiversity Data on the NBN Gateway

Over 95 million records are accessible through the NBN Gateway, but what does this ever expanding wealth of data get used for?

When users download a dataset, or wish to request enhanced access they must submit an online form detailing their requirements to the dataset provider. This request includes a description of their anticipated purpose for the data. The description can be used by the dataset providers to decide whether to grant access to a dataset, and also to see what their data are being used for. On an individual dataset scale this information is extremely informative, but how do we see an overall picture of what the main reasons for using data on the Gateway are?

Using a handy online tool to visualise this otherwise overwhelming quantity of information we have been able to depict the main reasons for requesting enhanced access to data or downloading data from the NBN Gateway. Known as a Word Cloud, these images show the most commonly used words, and the frequency of use being demonstrated by the word's size. You can make your own Word Clouds using a free website such as <http://www.wordle.net/> which is just one of many similar sites. Whilst this is relatively crude analysis, it does allow you to see the diversity of ways the data are used.

A further look at the data shows 33% of requests for enhanced access are for personal interest, almost 15% for educational purposes and 25% for research and scientific analysis. The figures for dataset downloads show a similar distribution with 40% of downloads for personal interest, 20% for educational purposes and 25% for research and scientific analysis. It is important to note that this data is in the rawest form and included those requests which were denied as well as granted.

You can see the visualisation here <http://nbn.org.uk/News/Latest-news/Uses-of-UK-Biodiversity-Data-on-the-NBN-Gateway.aspx>

NBN Gateway - Issue with time limited access requests

The technical team discovered an issue in the NBN Gateway 5, which related to time limited access requests.

The NBN Gateway supports two different access levels and users can request enhanced access to data. Dataset administrators can time limit access grants and data users can request enhanced access for a limited time. Once the time limit passed, the access would be automatically revoked.

Due to a bug in the system, the expiry date was being recorded incorrectly. This was visible to all end users and dataset administrators in lists of granted access, but the problem remained that the expiry dates were incorrectly stored and applied. We were unfortunately unable to recover the originally submitted dates. This issue affected a number of requests, but we are pleased to report that the bug has been fixed and tested. We contacted relevant dataset administrators with a list of time limited access grants that they had applied and are working with them to ensure their intentions are correctly applied to the system.

If you have any queries please do not hesitate to get in touch with us at access@nbn.org.uk

Data loading

So far this year we have loaded around 180 datasets, adding an additional 4.5 million new records to the NBN Gateway. The technical team has now cleared the backlog and aims to ensure that the waiting time for datasets to be uploaded is no more than 10 days, wherever possible.

Download logs

If you are a dataset administrator, two download logs are now available through your account page, so make sure you are logged in to access them.

1. The API* download log provides information on who has been viewing records on the NBN Gateway, through the Interactive Mapping Tool and site reports. It also shows how data are being downloaded using the API, for example by other applications using the REST web services to request records. In your account, this is shown as "View and REST services log" under the available Actions for each dataset which you administer.

**API means application programming interface and specifies how some software components should interact with each other.*

2. The standard download log provides the statistics on who has been downloading records through the NBN Gateway. In your account this is shown as "Download log" under the available Actions for each dataset which you administer.

These will eventually be available as monthly summaries via email, but you currently need to login to your account to gather the information.

Easimaps

Following this update to the GIS system, the current users of Easimaps will now be moved over to the current NBN Gateway database. The changeover should occur seamlessly for all sites that use Easimaps to incorporate NBN Gateway maps into their websites. Further announcements will be made once testing of the updated Easimaps is completed.

Update to GIS system powering NBN Gateway maps

Since the release of the new version of the NBN Gateway there have been a number of performance issues with slow pages and maps. Over these past 8 months, work has been ongoing to develop a set of modifications to the NBN Gateway to bring its reliability up to an acceptable level. As part of this work, an update to the GIS system powering the NBN Gateway has been released. This should improve both the performance and stability experienced with the NBN Gateway maps.

This new release has involved implementation of a new caching layer between the underlying database and the map server. This means that whilst you will sometimes see a delay in returning the first map tile in a layer or your first map of a species, once the result set is cached, further exploration should be very quick, with the response of the Interactive Map Tool at a level expected from online mapping systems.

In Practice

rNBN is a statistical package for retrieving data from the NBN Gateway

rNBN is an R package that uses the new NBN Gateway to make data even more accessible. Written for the statistical programming language R, the package is targeted at researchers and students who may wish to undertake research using the occurrence data held by the NBN.

The package utilises the NBN login facilities, ensuring that when you use it you have access to all of the data that you would have access to if you were to login to the NBN Gateway itself. Functions within the package allow users to search occurrence data by species, year-range, location, dataset and species groups. Other functions include allowing easy lookup of species Taxon Version Keys, retrieval of a species' taxonomical hierarchy, species lists for datasets, as well as access to lists of datasets, groups, organisations and vice counties which can be used in data searches

The package is currently in beta phase, allowing people to use the package and request additional features or changes before the package goes up to CRAN, the central repository for R packages.

For more information and to download the package see <https://github.com/JNCC-UK/rnbn>