



Scottish Invertebrate News

Volume 6 Issue 1

April 2015



Welcome!	1	<i>Welcome to the eleventh issue of Scottish Invertebrate News!</i>	<i>some exciting new Scottish finds, this issue features articles on the Violet oil beetle, conservation project Pearls in Peril and a number of articles on new habitat projects that will benefit a number of Scottish species.</i>
Scottish Invertebrate Discoveries	1-7	<i>We hope you're all enjoying 2015 so far and looking forward to an exciting year ahead full of discoveries and exciting events.</i>	<i>Look out for volunteering and event opportunities on the events page!</i>
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Scottish Discoveries and News: New beetle for Scotland found in East Ayrshire!

The discovery of new species in Scotland is always of interest but it often begs the question of why it has not been found here before. However, when the species is small and fairly obscure there is always the possibility that nobody has looked for it or been able to identify it.

I have been using flight interception traps in Ayrshire for a couple of years and found a number of interesting and scarce beetles, particularly those which depend on old trees and dead wood. One of these, found at Barlosh Moss SSSI in East Ayrshire, is *Epuraea distincta*, a small beetle, around 3mm in length, belonging to the family *Nitidulidae* and which has previously not been recorded in Scotland. There is little information on its habits but the larvae of related species appear to

live in the tunnels of wood boring beetles such as *Scolytidae*.



Epuraea distincta © Bruce Philip

Being small and belonging to a difficult genus, it might be expected that it has simply been overlooked but fortunately for me, and as its name suggests, it is fairly 'distinctive'. Upon checking current scientific literature, I found that it has been mainly recorded from the south of England but in more recent times it has been found in north Wales (1998 and 2003), Northern Ireland (2007) and Cumbria (2012). This record from Ayrshire would therefore appear to fit with a northward spread and perhaps this could be due to a warming climate. However, it is only through ongoing recording and the submission and publication of results that the picture will become clearer. *Epuraea distincta* may be small but perhaps

it has something important to say.

Bruce Philip



Musselburgh's buzzing lagoons

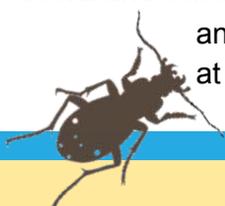
In the spring and summer of 2014, Blue Leaf Nature was commissioned to carry out a biodiversity survey at Musselburgh Lagoons. The surveyor made a total of five visits to the site between April and July to carry out a Breeding Bird Survey and to record the site's invertebrates. Musselburgh Lagoons were used for the disposal of Pulverised Fuel Ash (PFA) from nearby Cockenzie Power Station, which closed last year. Areas of the lagoons, particularly those with PFA-based soils exposed or near the surface, also had an exceptional invertebrate assemblage.

Some interesting new species for East Lothian and Scotland were discovered during the survey including the Vestal cuckoo-bee (*Bombus vestalis*) and Striped slender robberfly (*Leptogaster cylindrica*), which are both new species for Scotland. The Vestal cuckoo-bee is widespread across the Midlands and south of England is comparatively rare in the north of England and has never been observed in Scotland before. This cuckoo bumblebee is a parasite of the Buff-tailed bumblebee (*Bombus terrestris*) and females can be observed in April searching the ground for nests whilst males can be spotted towards the end of summer. The Striped slender robberfly, which feeds on aphids, small flies and spiders, can usually be found in tall grassland.



Striped slender robberfly (*Leptogaster cylindrica*)
©Steven Falk

East Lothian added 11 new species to their list including a micro moth, seven species of true flies and three species of solitary bees. Additionally, 14 species of butterfly, 32 hoverfly species, five bumblebee species, six solitary bee species, four social and solitary wasp species, two Ichneumons and a sawfly species were recorded at the site.



Levenhall Links, Musselburgh is to be host to the RSPB 'Scotland's BIG Nature Festival' this year, due to take place from the 23rd – 24th of May. To find out more, see the events section at the end of the newsletter!

Caroline Moreland



Ayrshire longhorn discovery



Red longhorn (*Stictoleptura rubra*) ©Steven Falk

During 2013 and 2014, Buglife carried out a series of invertebrate surveys at Garnock West, a large coastal brownfield site in the Ardeer Peninsula, near Stevenston in Ayrshire. On the 17th July 2014, a male Red longhorn (*Stictoleptura rubra*) was captured while sweeping heather in an open area of dune heathland surrounded by mature plantation. This uncommon longhorn beetle, with no previous records in Scotland, has a distinctly south-eastern distribution in the UK, but has been spreading north and west in recent years.

The species is associated with coniferous woods, especially commercial plantations. The larvae develop in the wood of various conifers over 2-3 years before emerging as adults. Adults visit flowers such as thistles and brambles. The female has a red thorax and wing cases (elytra), which gives the species its name, while the male has a black thorax, sandy-brown elytra. The legs of both sexes are distinctive, with black femurs and paler tibia and tarsi.

The identity of the specimen was verified by Martin Rejzek, the Longhorn (Cerambycidae) Recording Scheme organiser, and appears to be the first Scottish record of this species.

Scott Shanks

A Flea-ful Fortuitous Find

Whilst on a camping trip in March at Comrie Croft - and doing a quick survey of the mossy woodland habitat - a Snow flea (*Boreus hyemalis*) jumped onto my hand. Having never been recorded on this site or in this area before it was a fortuitous find! The individual in question was an adult female, identifiable by its long ovipositor which she uses to lay eggs. Snow fleas can jump heights of up to 5cm. This is quite a feat considering the snow flea is, on average, 5mm in length – this is the equivalent of a British human female, of average height (167.6 cm), jumping on top of a 5-storey building.



Snow flea (*Boreus hyemalis*) © Gilles San Martin (Wikimedia commons)

The Snow flea, a relative of scorpion flies, is most active between October and April and



predates on other small invertebrates. It can be found in winter hopping across snow and amongst mosses although is largely under recorded – partially due to the fact it is most active when entomologists are least active!

The Highland Biological Recording Group (HBRG)

have currently set a [Winter Challenge](#) until April asking for any records of the Snow flea. If you are also lucky enough to spot one, please follow this [link](#) to find out how to submit your records.

Gabrielle Flinn, Buglife

The Ardeer Peninsular Pollinator Paradise

During 2013 and 2014 Buglife and the Ardeer FRIENDS local wildlife group undertook a series of invertebrate and habitat surveys at Garnock West, a large coastal brownfield site at the north of the Ardeer Peninsula near Stevenston in Ayrshire. This fantastic site is a complex mosaic of high-quality wildflower-rich grassland, fixed dunes, dune heathland, woodland, pine plantation, scrub, carr and several large pools and associated wet areas. Several brownfield sites are scattered throughout the area with hard-standings of concrete and brick and the remains of buildings, paths and man-made ponds.

Over 550 species of invertebrates were recorded during visits to the site, including 163 species of moths and butterflies, 97 species of flies, 75 species of beetles and 112 species of ants, bees and wasps. The quality and diversity of habitats present at Garnock West and the rest of the Ardeer Peninsula would suggest that many other species await discovery. A significant number of Nationally

Rare and Scarce species were recorded during the Garnock West

surveys. These included 2 species of beetles, 6 flies, 2 butterflies, 24 moths and 34 species of bees and wasps. A number of species that were previously unknown in Scotland were also recorded during the surveys. These included the uncommon Red longhorn beetle (*Stictoleptura*

rubra) (see page 2), the Hairy-footed flower-bee (*Anthophora plumipes*), which is widely found in gardens and flower-rich habitats in England and Wales; and the Maritime leafcutter bee (*Megachile maritime*), which is associated with coastal sand dunes in England. A Red-thighed epeolus bee (*Epeolus cruciger*) recorded



A Red-thighed epeolus bee (*Epeolus cruciger*) © Steven Falk

at the site is the only confirmed Scottish record of this species. An older Scottish record collected in 1899 at Irvine Moor is too damaged to confirm the species. This is an important site for biodiversity and supports one of the richest assemblages of solitary bees and wasps in Scotland. The diversity and abundance of pollinating insects at Garnock West was impressive, and their presence will undoubtedly benefit surrounding gardens, allotments and agriculture.

Scott Shanks



Expanding ranges – the invasive tale of the New Zealand flatworm continues

It is now 50 years since the New Zealand flatworm (*Arthurdendyus triangulatus*) was first officially recorded in Scotland, found in the Edinburgh Botanic gardens. For about the first 30 years it was considered a non-native alien species which was just a curiosity but then it was reported to be responsible for the decline of native species of earthworms and hence may have serious implications for both agricultural production and wildlife.



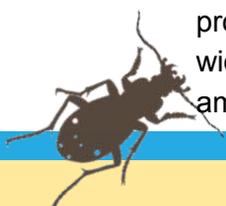
New Zealand flatworm (*Arthurdendyus triangulatus*)
© Brian Boag, James Hutton Institute

The initial Scottish survey undertaken in the early 1990s indicated that it had spread from the botanic gardens to garden centres and from nurseries to domestic gardens and farms. By this time it was widely distributed throughout most of Scotland and major islands. Evidence from continued monitoring has shown it is still continuing to spread in Scotland but its detrimental impact has largely gone unrecorded because there has been no research to

Pearls in Peril – A halfway hello from the team saving Scotland's Pearl mussels

The end of 2014 brought us to the halfway point of the Pearls in Peril (PiP) project, which concludes in September 2016. This project is dedicated to conserving Scotland's population of Freshwater pearl mussels (*Margaritifera margaritifera*), the largest population of this species in the world. The project is now well on track to meet – and in many cases exceed – most of its targets. The PiP

project's remit in Scotland is widespread and varied, with ambitious targets for facilitating



objectively quantify it. However recently published research from Northern Ireland has shown that while some earthworm species may still persist in reasonable numbers other species such as the Lob worm (*Lumbricus terrestris*) are permanently depressed and do not recover even after a number of years. Lob worms and other anecic species feed on the soil surface and therefore are a major source of food for some mammals and birds and there is evidence that flatworm infestations have contributed to the eradication of moles from some fields. Anecic earthworm species also produce vertical burrows and therefore can play an important part in draining soil and helping its structure and nutrient cycling. A desk top exercise has estimated that if the New Zealand flatworm continues to spread it may cost Scottish farmers in excess of £17m.

Since there is currently no way of eradicating it once it has become established, it is imperative that every effort is made to halt or slow its spread. We therefore appeal that vigilance is taken when buying containerised plants to inspect them for flatworms and that farmers check silage/hay bales and machinery when moving them from one farm or field to another. The monitoring scheme, that was started in the early 1990s, is still being continued at the James Hutton Institute. Please send records to Brian Boag or Roy Neilson, The James Hutton Institute, Invergowrie, Dundee, DD2 5DA (email brian.boag@hutton.ac.uk or phone 08449285428) who can supply leaflets giving advice to gardeners on how to minimise the impact of the New Zealand flatworm.

Brian Boag



Freshwater pearl mussels (*Margaritifera margaritifera*) © Sue Scott

riparian improvements across five catchments; implementing in-stream habitat restoration in four catchments; and raising awareness of wildlife crime and other threats against mussels throughout the 19 Scottish SACs included in the project. Staff from several fisheries trusts have also been taking our Pearls in the Classroom education programme into primary schools throughout the north of Scotland.

River Watch

In 2014, PiP launched two River Watch schemes, in Assynt and the Kyle of Sutherland, covering six SACs (Special Area of Conservation). In 2015, River Watch schemes will be launched on the River Naver, River South Esk, River Kerry and River Moriston, and at Fort William and Ardnamurchan. These schemes will inform river users about illegal activities, what to look for and how to report any evidence. Unfortunately, in 2014, evidence of poaching was found at a number of sites in West Sutherland and in North Harris.



Finished enclosures, Callater Burn, Dee Catchment © Steff Ferguson

Riparian Planting

Last year we reported on plans for several kilometres of riverbank to either be planted with native trees or managed in such a way as to protect existing riparian woodland. We are delighted that all of these proposed schemes have now been actioned on the ground.

On the upper River Dee three large woodland compartments have been created along the Clunie and Baddoch tributaries of the River Dee, totalling approximately 19 ha of native woodland creation and equating to 5550m of banks protected. An additional 6100m of fenced banks are currently

being planted with scattered tree cover.

In the South Esk SAC riparian



enhancement has been confined largely to Glen Clova, where funding was secured for the



establishment of native woodland along 5390m of watercourse. Thanks to external funding a further 6700m of fencing work has progressed along the Quharity Burn.

Instream habitat restoration

In 2014, in-stream restoration works commenced on the River Dee, with the removal of three boulder croys from the Aboyne/Birse fishing beats. These croys directed flow towards the middle of the channel, scouring the river bed and increasing the depth and speed of the water. Works were carried out by staff from the Dee District Salmon Fishery Board and the River Dee Trust. Using hand winches to minimise disturbance to the river bed, the boulders were re-distributed randomly in the river to break up the flow, allowing gravel spawning beds to recover. The boulders will provide habitat for freshwater pearl mussels as well as lies for adult salmon.

On the White Water and River South Esk PiP has been granted permission to remove 13 sections of boulder bank protection – a total of 873m. These works will restore natural flow and erosion processes. The bank material is sand, gravel and cobble with little fine sediment, which when eroded into the river will help sustain the in-stream habitat for freshwater pearl mussels and salmonids.

During preparatory surveys PiP staff also found evidence of water voles – the first record of the species at these sites. Bank restoration work will benefit these rare mammals by increasing and improving habitat.



South Esk Bank Protection © Envirocentre

PiP on Twitter @MoTheMussel

Lorna Wilkie

Protecting Cairngorms Nature

Cairngorms Nature was launched in May 2013 and is now a well established partnership delivering an ambitious agenda for nature conservation in the Cairngorms. Cairngorms Nature is all about bringing people who have a passion for nature together. This ranges from large organisations who are delivering conservation on the ground to individuals who want to get involved and make a difference.



A key species of the Cairngorms, Narrow-headed ant (*Formica exsecta*) © Gus Jones

It has been nearly two years since the Cairngorms Nature Action Plan was launched and real signs of progress are starting to become apparent. The numerous waters of the National Park are some of the cleanest in Scotland. Schemes are underway in the Park to trial new methods of upland water storage. One scheme at Allt Lorgy near Carrbridge has reconnected the river with its floodplain in such a way that the river is doing its own work to re-establish its natural equilibrium, rather than using engineered solutions.

The large wetland and wet grassland areas in the Park are havens for many aquatic invertebrates such as species of stonefly, caddisfly, damselfly and dragonfly. There are still, however, threats to the environment from a variety of pressures, some of which have resulted in a drastic reduction of numbers of invertebrates in recent years.

After hundreds of years of decline, montane scrub is so impoverished in the UK that many people don't even realise it is missing. In July 2013 landowners and managers of estates in the northern Cairngorms met to discuss the feasibility of restoring montane scrub and natural treeline on a landscape scale. There was a very positive drive to take the project forwards, supported by a common desire to see landscape change.

The high altitude ground of the uplands provide some of the most exceptional aspects of the Park's biodiversity. The Green Stimulus Peatland



Restoration Project is a £15 million Scottish Government initiative to reduce carbon released into the atmosphere by helping to restore degraded peatlands. SNH and the Cairngorms National Park Authority have recruited a peatland restoration officer specifically to work with landowners in the National Park.

The farmland and grassland habitats of the low ground of the Park have a history of low intensity management and high value for nature farming. However economic pressures can result in more intensive practises and threaten a decline in biodiversity value. It is vital that farming systems in the Park remain well managed and productive and continue to deliver a biodiversity gain.

The challenges to conservation and biodiversity that the Cairngorms face are very real. In order to maintain this jewel of global significance it is essential that all parties come together to deliver biodiversity gain so that we can leave a rich legacy for future generations



COAT trainees © Charlotte Milburn

Cairngorms Nature will continue to find more and more ways people can get involved. We will be celebrating nature with our park-wide Cairngorms Nature Festival on the 16th and 17th May 2015. There will be events to suit all ages and abilities as well as volunteering opportunities and it will be a fantastic weekend to come and explore what makes the Cairngorms so special.

Join us on [Facebook.com/cairngormsnature](https://www.facebook.com/cairngormsnature) and Twitter @CNPNature to keep up to date!

Charlotte Milburn

Species Spotlight: Violet oil beetle



Violet oil beetle (*Meloe violaceus*) © David Fenwick

The Violet oil beetle (*Meloe violaceus*) - one of three species of oil beetle currently known in Scotland - has been recorded across the UK, and is the most commonly found oil beetle in Scotland. This charismatic beetle plays an important part in its ecosystem and is of particular importance as an indicator species for populations of solitary bees.

Oil beetles, also known as blister beetles are so-called due to an oily substance, containing Cantharadin, that seeps from their joints when feeling threatened. Cantharadin can cause internal blistering if consumed and is distasteful, acting as an effective defence mechanism. Unfortunately, due to a loss of wildflower habitat and changes in the management of the countryside over the past 100 years, oil beetles (and their solitary bee hosts) are declining rapidly – as are many invertebrates that rely on similar habitats.

Habitat

Active from March to June, Violet oil beetles can be found within wildflower habitat residing in coastal cliff-top grasslands, glades and rides, upland unimproved grasslands and woodland edges. Adults are known to have a particular affinity for feeding upon soft grasses, Lesser celandine (*Ranunculus ficaria*), Dandelion (*Taraxacum*) and Cleavers (*Galium aparine*).

Life Cycle

After mating, female Violet oil beetles burrow into bare ground, nearby flowering plants such as Lesser Celandine, where they lay their eggs. Larvae (also known as trianguluns) then hatch and climb flowers where they await their free journey to the next stage in their life cycle. To become an adult, oil beetles must be transported to a solitary mining



bee's nest. They do this by waiting for foraging mining bees on flowers in order to seek the opportunity of climbing on their back. This is a game of luck as the trianguluns often climb on the back of the wrong host such as social bees, flies and wasps. They are then transported to the nest of a mining bee where they feast on the pollen and nectar store – collected by the bee to feed her own young – and eventually emerge as adults.



Oil beetles rely on a healthy solitary mining bee population to survive and are therefore a good indicator that these pollinator numbers are high. As such, it is important we monitor the numbers of the Violet oil beetle and other oil beetles in order to gauge the health of mining bee populations in a given area.



Violet oil beetle trianguluns © John Walters

Conservation

Oil beetle numbers are falling due to habitat fragmentation, loss of wildflower rich habitats and a decline in wild bees. To protect these fascinating creatures we must protect their habitat and alter land management practices to minimise disturbance and enhance habitat availability. In order to successfully conserve the Violet oil beetle, it is also essential for us to fully grasp where in Scotland they are located. Buglife are collecting all oil beetle records and encourage everyone and anyone to get involved with finding these creatures. To find out more identifying oil beetles and submitting records, please see the website: <https://www.buglife.org.uk/oil-beetle-survey>.

Gabrielle Flinn, Buglife

The Kingdom grows a little greener– Fife's Buzzing



Commercial PS sow seeds in Dunfermline Public Park © Suzanna Bairner

This exciting new meadow creation project between Buglife and Fife Council has so far planted over 3,800 plugs and 7.6kg of native wildflower species into Dunnikier Country Park and its adjacent Golf Course in Kirkcaldy and the Public Park in Dunfermline. School children from

Commercial Primary School in Dunfermline and Kirkcaldy High School as well as volunteers from Dunnikier Park Development Group and Greener Kirkcaldy and trainees from Fife Council Access Team have helped with this meadow creation and enhancement at these parks.

Parks selected for meadow creation and/or enhancement this spring include Ravenscraig Park and Dunnikier Park Golf Course (Kirkcaldy), Cotswald Park (Kennoway), Poplar Road Park (Methil), Guardbridge Park (Guardbridge), Public Park (Dunfermline) and Riverside Park (Glenrothes). Volunteers are invited to come along to help with plug planting and seed sowing at each of the parks. Dates have yet to be confirmed and if interested or you require more information please get in touch with Suzanne Bairner (suzanne.bairner@buglife.org.uk and 01786 447504).

Suzanne Bairner, Buglife

Walk Wild Toryglen

As Spring starts to take hold in Glasgow the Toryglen meadow project comes to an end, but something new is bursting forth from it like a phoenix from the flame!

In February, we received news that funding for £4,000 has been donated by 'Grow Wild UK' to support the expansion of the wildflower meadow network at Toryglen's stunning community woodland: Malls Mire.

In 2014, the local community, with support from Buglife, Urban Roots, and TCV, created a native wildflower meadow at a site overlooked by flats in Toryglen. In the coming years this will provide enjoyment for both the people who live in and visit Toryglen, and the myriad of amazing pollinators and other wildlife that inhabit the area.

Now, Grow Wild have supported us to take this small meadow achievement woodland-wide through the project: 'Walk Wild Toryglen'. Buglife used their expertise and understanding of pollinators to create this project, and the reigns will now be handed over to the fantastic environmental charity Urban Roots to make it happen.

So, may 2015 bring many more wonderful pollinators, beasts, and wildflowers to Toryglen! Keep your

eye out for activities such as:

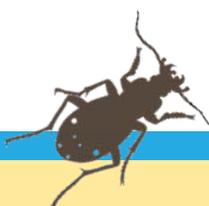
- A day with grazing sheep at the community woodland meadow, giving local children a taste of how some meadows are managed in the countryside
- Bug walks for the community led by Buglife experts
- Artwork created by local a youth group that relates to their urban greenspace and its wildflowers
- A celebration event to open a 'woodland wildflower trail' at Toryglen's community woodland



Green-veined white (*Pieris napi*) © Harry Woolner

More information can be found on the [Grow Wild webpage](#) and the [Urban Roots webpage](#).

Harry Woolner, Buglife



Bings for Wildlife

This Inner Forth Landscape Initiative (IFLI) project, funded by Heritage Lottery Fund, Central Scotland Green Network and contributions of the Life+ financial instrument of the European Community, will manage two derelict coal bings for wildlife with the help of volunteers.



Fallin Bing Site Circumference (Google Maps)

The Inner Forth area was at the heart of Scotland's industrial revolution and was particularly important for our coal industry. Large spoil heaps (known locally as bings) have been left scattered across the landscape through the demise of coal industries and are an important reminder of our past.

Many of these brownfield sites have been reclaimed by nature and provide valuable habitat for a wide range of species, particularly invertebrates. These brownfield sites contain important habitat features such as species rich grassland, bare ground and early successional habitats that are fragmented in the natural landscape and act as important 'stepping stones' across the Inner Forth area.

With the help of volunteers from The Conservation Volunteers, the local community and surrounding areas, this project will manage two bings for wildlife that lie within the Inner Forth area. The two sites that will benefit from this project are Fallin Bing in Fallin, near Stirling and Garibaldi Bing near Carronshore, Falkirk.

So far at Fallin Bing, over 2,700 wildflower plug plants have been planted and about 3 hectares of birch scrub cleared from across the site. A diversity of wildflowers was planted to include early flowering species such as Colts foot (*Tussilago farfara*) and Lesser celandine

(*Ranunculus ficaria*) as well as later flowering species including Vipers bugloss (*Echium vulgare*). Birch is



encroaching across the site and areas have been cleared to reduce its spread and prevent the shading of wildflowers which are important for a range of pollinating insects and other wildlife. Additionally, a farmer was hired by Stirling Council who has cut and lifted a large area of meadow (c. 1.5 hectares) along the entrance to the site and bottom slopes of the bing. This area was then sown with Yellow rattle (*Rhinanthus minor*) seed, a hemiparasite that feeds from the roots of grasses, thus reducing grass growth and promoting wildflower species diversity. Yellow rattle requires a winter frost for germination so was sown in late November. Buglife and IFLI can't wait to see what the meadows look like at the bing this spring and summer!

Buglife send a huge thank you to everyone who came along to the Fallin Bing work party on the 24th of January!

Suzanne Bairner, Buglife

Monitoring Bog Bugs

In the past last 200 years, over 80 % of raised bog habitat in the UK has been lost or damaged, through drainage for agriculture, peat extraction or forestry. Protecting our remaining peatlands is essential. Raised bogs and blanket bogs are not just important habitats for rare and threatened wildlife, they also play a role in the storage and regulation of huge amounts of carbon and water, helping to reduce green house gas emissions and prevent local flooding.



Disturbed and Damaged Bog at Fannyside Muir © Scott Shanks

Globally, peatlands are estimated to hold up to one third of the Earth's terrestrial carbon, despite only covering about 3% of the world's surface!

Buglife's Slamannan Bog Restoration project is centred on Fannyside Muir, an area of degraded, lowland raised bog in the Slamannan plateau, near

Cumbernauld. At Fannyside Muir, much of the bog surface has been cut-over with drainage ditches and dry areas have been invaded by scrub, which is inhibiting the natural regeneration of the bog vegetation. Following restoration, the water-level within the bog should be closer to the surface, which helps promote the growth of specific bog vegetation such as Sphagnum mosses, cottongrass (*Eriophorum sp.*), Cranberry (*Vaccinium oxycoccus*) and sundews (*Drosera sp.*). As the bog recovers, we hope that bog-specialist invertebrates such as the Large heath butterfly (*Coenonympha tullia*) will recolonise from existing pockets of good habitat.

Monitoring the site is important to ensure that the restoration activities are having the desired effect on the bog. It is hoped that volunteers will be able to help with monitoring tasks. Training for volunteers will be provided for all monitoring activities.



Small pearl-bordered fritillaries (*Boloria selene*) © Scott Shanks

Hydrological monitoring: This will involve regularly checking ground water levels in dip-wells across the site. Some dip wells will be in sections of the bog that have had no intervention, while others will be near drainage ditches that are to be blocked.

Vegetation monitoring: This will involve recording the abundance and diversity of bog plants in fixed 2m x 2m quadrats in different sections of the bog.

Invertebrate Monitoring: Species-specific butterfly transects for Large heath and Small pearl-bordered fritillary (*Boloria selene*) will be walked on a weekly basis during the flight-period of these UKBAP species (late May to late August). A wide variety

of invertebrates will hopefully be recorded on the site through regular moth trapping evenings,



aquatic invertebrate surveys of blocked ditches and bog pools, dragonfly and damselfly surveys and generic invertebrate surveys. There will be lots of opportunities to help with these and learn some identification skills.

Surveys for mammals, birds, reptiles and amphibians will be carried out by specialists before the restoration work begins to ensure that work doesn't disturb ground nesting birds or other protected species, but records of any species seen at the site would be very welcome.

Other volunteering opportunities on the site will include helping with some of the practical work including scrub removal and work to block drainage ditches.

To find out more about the project or to enquire about volunteering at Fannyside, please contact: scott.shanks@buglife.org.uk or call 01733 201210.

Scott Shanks, Buglife

Scottish Environment Week 2015

This February, the 10th Scottish Environment Week was celebrated at the Scottish Parliament. The event was organised by Scottish Environment LINK and consisted of seminars and workshops which discussed the marine environment, the overlap between historical sites and the environment, green spaces and the urban environment and finally food production and food security. A range of NGO's spoke at these events and held drop in sessions for the public including Buglife, RSPB, Stop Climate Chaos Scotland, British Ecological Society and Whale and Dolphin Conservation.

Buglife's Craig Macadam spoke during the urban environment session about 'Bugs, Buildings and Brownfields'. He discussed the importance of green roofs and brownfield sites for invertebrate biodiversity in town and cities. This led to a stimulating discussion with MSPs Ken Mackintosh and Sarah Boyack who directly asked those present what the Scottish parliament could do to help urban biodiversity in order to seek that it may happen. This has led to more formal discussions that are hoped to precede positive action.

Gabrielle Flinn, Buglife



Scottish Invertebrate Events - Spring/Summer 2015

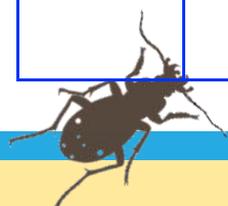
2015 Bioblitz Events

Got a keen eye? Some species identification skills? Can you tell a Narrow-bordered bee hawk-moth from a Tree bumblebee? Then we've got some good news! There are some wonderful opportunities to join in a Bioblitz this year and for those of you have never been on a bioblitz here is a quick summary for you: An event where scientists, naturalists and members of the public work together to find as many species of wildlife as possible within a set location and over a defined time period.

Date	Time	Location	Cost	Booking a Place
25/04/2015	10:00-12:30 & 14:00-16:30	Balallan House, Stirling	Free	Contact Kate Fuller 01324 831 568 or info@innerforthlandscape.co.uk
09/05/2015	10:00-12:30 & 14:00-16:30	Gartmorn Dam Country Park, Clackmannanshire	Free	Contact Kate Fuller 01324 831 568 or info@innerforthlandscape.co.uk
30/05/2015	10:00-12.30 & 14:00-16:30	Scottish Wildlife Trust Jupiter, Grangemouth, Falkirk	Free	Contact Kate Fuller 01324 831 568 or info@innerforthlandscape.co.uk
30/05/2015-31/05/2015	Any time!	National Garden Bioblitz - Your Garden!	Free	For more info: www.gardenbioblitz.org/
06/06/2015	10:00-12:30 & 14:00-16:30	Kinneil Foreshore, Falkirk	Free	Contact Kate Fuller 01324 831 568 or info@innerforthlandscape.co.uk
13/06/2015-25/06/2015	10:00-11:00 & 13:00-14:30	RSPB Lochwinnoch reserve, Lochwinnoch, Renfrewshire	Free	Contact Tabby Lamont 01505 842663 or lochwinnoch@rspb.org.uk
19/06/2015-20/06/2015	Any time- 24 hour event!	St. Andrews, Fife	Free	For more info: www.facebook.com/StABioblitz or bioblitz@st-andrews.ac.uk
18/07/2015	10:00-16:00	Auchinleck Estate, Auchinleck, Ayrshire	Free	Contact: Jennifer Dunn for more info on jennifer.dunn@ea-cei.org.uk
26/07/2015	All Day	Kelvingrove Park, Glasgow	Free	Contact Sarah-Jayne Forster to book: Sarah-Jayne.Forster@rspb.org.uk
08/08/2015-09/08/2015	All Day	Inveresk Lodge, Newhailes Estate	Free	Contact Stuart Whittaker for more info on swhittaker@nts.org.uk
27/08/2015	All Day	RSPB Loch Lomond Bioblitz	Free	Contact Paula Baker for more info: Paula.Baker@rspb.org.uk

Training Opportunities 2015

Date	Event	Cost	Location	Contact to join
16th May	Butterfly Identification and Monitoring Workshop	Free	Palacerigg Country Park	scott.shanks@buglife.org.uk
21st May	Habitat Surveying - Come along to learn about how to survey habitats	Free	Near Linlithgow, West Lothian	info@innerforthlandscape.co.uk
28th June	Bumblebee Identification Course at the Bing	Free	Fallin, Stirling	info@innerforthlandscape.co.uk
4th July	Moth Morning - Come along to learn about moth identification	Free	RSPB Skinflats, Falkirk	info@innerforthlandscape.co.uk
8th July	Introduction to Invertebrate Identification & Sampling Techniques	Free	Balallan House, Stirling	info@innerforthlandscape.co.uk
6th August	Wildflowers and Pollinator Identification Course	Free	TBC	info@innerforthlandscape.co.uk
15th August	Dragonflies for Beginners, RSPB	£7 (members), £10 (non-members)	Kelvingrove Museum, Glasgow	sam.langford@rspb.org.uk



A Call for Volunteers

Date	Event	Cost	Location	Contact to join
9th May	Fife's Buzzing: Plug planting and seed sowing	Free	Ravenscraig Park, Kirkcaldy	suzanne.bairner@buglife.org.uk
16th May	Fife's Buzzing: Plug planting and seed sowing	Free	Silversands, Aberdour	suzanne.bairner@buglife.org.uk
23rd May	Fife Show: Volunteers needed to speak to the public and manning the display	Free	Cupar	suzanne.bairner@buglife.org.uk
29th-31st May	Gardening Scotland: Volunteers needed to speak to the public and manning the display	Free	Ingliston	suzanne.bairner@buglife.org.uk
Summer - TBC	Slamannan Bog restoration project: Volunteers to help with practical work: Scrub removal and drainage ditch blocking	Free	Fannyside Muir, Cumbernauld	scott.shanks@buglife.org.uk
Summer - TBC	Slamannan Bog restoration project: Volunteers to help with monitoring of the bog restoration site: invertebrate surveys (moth trapping, butterfly transects, aquatic invertebrate surveys)	Free	Fannyside Muir, Cumbernauld	scott.shanks@buglife.org.uk
Summer - TBC	Slamannan Bog restoration project: Bog vegetation surveys (fixed point quadrats) and hydrological monitoring (checking water levels in dip wells).	Free	Fannyside Muir, Cumbernauld	scott.shanks@buglife.org.uk
N/A	Ayrshire Biological Recorders Forum: This recording forum is looking for invertebrate enthusiasts to become new members.	Free	Ayrshire	brucephilp@tiscali.co.uk

Other Events 2015

Date	Event	Cost	Location	More info
23rd - 24th May	Big Nature Festival: RSPB Scottish Bird Fair	£12 (day) or £20 (weekend)	Musselborough Lagoons, East Lothian	http://scottishbirdfair.org.uk/
29th - 31st May	Gardening Scotland: Scotland's Gardening Festival	£13.00 - £15.00 per day	Royal Highland Centre, Edinburgh	http://www.gardeningscotland.com/
26th June	Celebrating Scottish Invertebrates: Buglife are hosting a meeting to discuss and celebrate Scottish Invertebrates. There will be talks from a number of organisations and training workshops. (Tickets are limited)	£5.00	Community Fire Station, Oban	Contact Gabrielle Flinn on gabrielle.flinn@buglife.org.uk
27th - 28th June	Scottish Entomologist Gathering: Following the Celebrating Scottish Invertebrates Meeting, Buglife will host the Scottish Entomology Gathering where we will do an invertebrate bioblitz of the local area.	Free	Near Oban, TBC	Contact Gabrielle Flinn on gabrielle.flinn@buglife.org.uk

If you would like to write an article for **Scottish Invertebrate News**, suggest a topic to be discussed, or would like any further information, please contact: Gabrielle Flinn (Editor) gabrielle.flinn@buglife.org.uk or scott.shanks@buglife.org.uk



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www.scottishinvertebrates.org.uk



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