



Welcome to our first issue!

Welcome to the first issue of Scottish Invertebrate News: The Scottish Invertebrate Conservation Newsletter.

With the publication of 'A Strategy for Scottish Invertebrate Conservation', we are entering a very exciting time for invertebrate conservation in Scotland.

This biannual newsletter aims to update everyone

who is interested in invertebrate conservation in Scotland. It will include articles on new initiatives, the latest discoveries, and opportunities to get involved. It will also provide updates on the progress of the Strategy, and a calendar of events, from introductory bugwalks to talks to under-recorded species ID workshops.

Contributions for future issues are very welcome - this is *your* newsletter!

We hope you enjoy this first issue, and that it inspires you to take part in the conservation of our native invertebrates!



Southern cuckoo bumblebee (*Bombus vestalis*) © Nick Owens

Southern cuckoo bumblebee in the Borders

Bob Dawson, of the Bumblebee Conservation Trust, collected two male Southern cuckoo bumblebees (*Bombus vestalis*) in the Borders in July 2009. Identification was confirmed by Murdo Macdonald of the Highland Biological Recording Group. This is a new species for Scotland, making 19 species that can be found here. [Bob Dawson](#)

Scottish Invertebrate Discoveries

Aspen hoverfly disperses!

The saproxylic Aspen hoverfly (*Hammerschmidtia ferruginea*) survives in only about a dozen scattered localities in north east Scotland, and are traditionally viewed as poor dispersers. Dispersal distances are critical for conservation so a study began in 2009, funded by SNH and supported by the RSPB at their Inch Marshes NNR. 1000 adults were spot-marked, and checked for at regularly spaced Aspen log along three 5km transect routes. Marked Aspen hoverflies were found on logs up to the limit of 5km, which is further than they were believed capable of dispersing! Work will continue in 2010 to determine how much further these hoverflies may disperse. [Graham Rotheray](#)



Aspen hoverfly (*Hammerschmidtia ferruginea*) © Iain MacGowan

Every year new invertebrate discoveries are made in Scotland. From amazing ecology, to records of species new to Scotland or science, this section highlights just a handful of these fascinating discoveries!



Bourletiella viridescens © Tim Ransom

Highland Springtail record is a UK first

The first confirmed UK record of *Bourletiella viridescens* was found in August 2009 at 900m in the Cairngorms. Tim Ransom photographed the tiny springtail, which was later identified by Frans Janssens and verified by Dr Peter Shaw. This species is widespread in Europe, preferring cool, montane grassland. [Peter Shaw](#)

'Extinct' caddisfly found in Scotland

The Pincer-tailed caddisfly (*Hydroptila tigurina*), has turned up in Scotland. Last seen in Britain in 1881, it was thought this species may be extinct in the UK. The micro-caddisfly was found in Assynt by David Pryce, one of the co-ordinators of the Riverfly Recording Schemes, and is the first record of this species in Scotland. This new record is over 350 miles north of the previous one, raising the possibility that this species may turn up in other areas. [Craig Macadam](#)

Pincer-tailed caddisfly (*Hydroptila tigurina*) © David Pryce



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2010 International Year of Biodiversity

At least 65% of all species on the planet are invertebrates. They provide us with food, agricultural, medical and technological benefits, are essential food for most birds and mammals and are integral to ecosystem function.

2010 is the International Year of Biodiversity. This is the year to get involved! Take part in surveys, create new areas of invertebrate habitat and, most importantly, share your knowledge and enthusiasm!

What are you doing for invertebrate conservation in 2010?

Invertebrate Discoveries
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Scottish Invertebrate Discoveries Continued

Ladybirds: Natives Vs. Invasives

There is a mix of good and bad news regarding ladybirds in Scotland in this issue. As is traditional, we will deal with the bad news first...

Harlequin ladybird invades Glasgow

The invasive non-native Harlequin ladybird (*Harmonia axyridis*) has been found by Norman Storie (RSPB) in Kelvingrove Park. This highly variable ladybird originates in Asia and was deliberately introduced to North America in 1988 to control Aphids. It has since spread to Western Europe, arriving in the UK in 2004. This species preys on our native invertebrates, including the eggs and larvae of butterflies, moths and even our Scottish ladybirds! The presence of the Harlequin ladybird in Scotland is deeply worrying, and a threat to our native species. For more information, help with identification or to report a sighting, please visit: www.harlequin-survey.org.

Kidney spot ladybird at Dumbreck Marsh

BTCV Scotland volunteers found the Kidney spot ladybird (*Chilocorus renipustulatus*) while carrying out management work at Dumbreck Marsh LNR, near Kilsyth. This is only the third record of this species in Scotland! It was identified by Ruth McGuire (North Lanarkshire Council) confirmed by Craig Macadam (Buglife) and Dr Helen Roy, (Ladybird Survey). For more information on our native ladybirds or to submit records, visit: www.ladybird-survey.org.



Harlequin ladybirds (*Harmonia axyridis*)
© Francis Rowland

Striped-stretch spider found in Aberdeen

The Grampian Spider Group survey of Loirston Loch, on the south side of Aberdeen, discovered a female Striped-stretch spider (*Tetragnatha striata*). This is only the second Scottish record of this Nationally Scarce spider. It was found in a small remnant of reedbed in an area heavily managed for fishing. The only previous Scottish record was from Loch of the Lowes in Perthshire. [Mike Davidson](#)

Return of the Pink prowler

Oonops domesticus, or the Pink prowler, has been found in Hamilton, by Chris Cathrine. This tiny spider has not been recorded in Scotland since 1994. The Pink prowler is nocturnal and lives in houses, while its widespread relative the Four-spined prowler (*O. pulcher*) tends to occur outdoors. However, both can be found indoors, and identification requires examination of leg spines at magnification.

Surveyors Needed!

The Aage V. Jensen Charity Foundation is currently preparing new Nature Plans for its three Scottish estates, and needs the help of expert invertebrate volunteers!

The Aage V. Jensen Charity Foundation is currently appraising the biodiversity at its Scottish properties:

- Invertrossachs Estate (northern slopes of the Menteith Hills, near Callander)
- Comer Estate (in the shadow of Ben Lomond)
- Claonaig (the gateway to the east of the Kintyre Peninsula, overlooking Kilbrannan Sound)

All three sites have been managed based upon surveys undertaken when they were purchased in the late '80s and early '90s. New Nature Plans are now being developed for the three sites, and so updated data is required. Naturalists with specialist interests are encouraged to contribute to this process, and free short-stay accommodation is available to volunteers.

The Foundation contributes to nature conservation throughout the world through ownership of reserves and supporting research and other projects. Its goal is to give the general public the opportunity to experience a rich and diverse nature – now and forever.

This is an excellent opportunity to ensure invertebrates are included in the future management strategies of three important and diverse sites. For more information, contact Craig Macadam (tel: 01786 447 504 / craig.macadam@buglife.org.uk).

Endangered bumblebee mimic hoverfly survives!

Fifteen years ago, shallow holes were cut into live pine trees at Beinn Eighe NNR for the conservation of the endangered bumblebee mimic and symbol of the Malloch Society, *Callicera rufa*. A survey last year found these holes still in use by this beautiful hoverfly generations later. This highlights the importance of protecting trees with natural holes. [Graham Rotheray](#)



Callicera rufa © Ellen Rotheray

Gardening Scotland 2010: 4th - 6th June Buglife Volunteers Needed!

Well managed gardens are an important refuge for wildlife, including invertebrates. Where better to spread this message than the biggest gardening event in Scotland?

Buglife will be providing a stall at Gardening Scotland 2010, promoting the 'Strategy for Scottish Invertebrate Conservation', the Initiative for Scottish Invertebrates (ISI), and, most importantly, Scotland's fantastic invertebrates themselves!

Volunteers with a passion for invertebrates are needed to help man

the Buglife stall. Full tickets will be provided to volunteers, allowing free access to the event on the day. There are a total of five places available over three days*, so this is an excellent opportunity to not only promote invertebrate conservation to a wide audience, but also to enjoy Scotland's biggest gardening and outdoor living event.

For more information, please contact Chris Cathrine (tel: 01786 447 504 / chris.cathrine@buglife.org.uk).

* Places: 1 Friday, 2 Saturday, 2 Sunday



Common red soldier beetle (*Rhagonycha fulva*) © Chris Cathrine

GARDENING
SCOTLAND
2010



Stocktake of Scottish Invertebrates: What do we know?

The publication of the Strategy for Scottish Invertebrate Conservation was a fantastic step forward in conserving Scottish invertebrates, and sets out a framework in which this will be tackled. However, key to any action is an understanding of the current knowledgebase. Without this, it is not possible to identify knowledge or skill gaps or to develop and prioritise any action. A stocktake of the current understanding of each invertebrate group is currently being undertaken through the compilation of Species Knowledge Dossiers.

The Species Knowledge Dossiers will provide a summary of the current information available for each of the invertebrate orders occurring in Scotland. This includes producing checklists of species found in Scotland, conservation status, distribution, expert

contacts and details of recommended identification guides. This will provide the first checklist of all invertebrates known to occur in Scotland, while also identifying priorities for conservation action, and groups where knowledge is deficient for Scotland. It will also highlight where essential resources, such as identification keys, are unavailable, hindering conservation efforts.

Flameshells (*Limaria hians*) © Calum Duncan, Marine Conservation Society



While this mammoth undertaking would be a daunting task, volunteer support has been outstanding. Experts are kindly volunteering their time to draft knowledge dossiers. This exercise has already provided some interesting results. The table opposite summarises the numbers of species found in Scotland in relation to the UK totals for each group with a completed dossier.

There appears to be a division between the proportions of UK terrestrial and freshwater invertebrate species occurring in Scotland, with higher percentages of freshwater species. However, this assessment is still in its early stages, and other patterns may become apparent as information is compiled for other groups.

The Species Knowledge Dossiers will provide basic summary information on all Scottish invertebrates in a single place for the first time. This will help direct conservation efforts, and identify knowledge gaps. The results will not be definitive, and these dossiers will require regular updates, but they will provide a powerful tool for invertebrate conservation.

Group		UK Species Total	Scotland Species Total	% UK Species Occurring in Scotland
Scientific Name	Common Name			
Ephemeroptera ¹	Mayflies	51	38	75%
Trichoptera ²	Caddisflies	196	163	83%
Plecoptera ¹	Stoneflies	33	27	82%
Chilopoda ³	Centipedes	47	26	55%
Diplopoda ³	Millipedes	62	43	69%
Isopoda: Asellota ³	Waterlice	4	2	50%
Isopoda: Oniscidea ^{3,4}	Woodlice	39	24	62%
Araneae ⁵	Spiders	658	441	67%
Opiliones ⁵	Harvestmen	26	17	65%
Pseudoscorpiones ⁶	Pseudoscorpions / False scorpions	27	13	48%
Mollusca (non-marine) ⁷	Non-marine molluscs	212	147	69%

Information kindly provided by: 1 Craig Macadam, 2 Ian Wallace, 3 Gordon Corbet, 4 Glyn Collis, 5 Mike Davidson, 6 Gerald Legg, 7 Adrian Sumner

Expert Help Needed!

The production of the species knowledge dossiers relies upon the kind contributions of expert volunteers. The dedicated and enthusiastic invertebrate experts provide the foundation of all conservation action in the UK, and of the Strategy for Scottish Invertebrate Conservation. There are a number of species groups for which we require urgent assistance in producing Species Knowledge Dossiers. These include:

Microcoryphia (Bristletails)

Protura (Proturans)

Diplura (Two-pronged bristletails)

Thysanura (Silverfish and Firebrats)

Phthiraptera (Lice)

Thysanoptera (Thrips)

Strepsiptera (Twisted-winged parasites)

Pycnogonida (Sea spiders)

Porifera (Sponges)

Polychaeta (Polychaetes)

Hirudinea (Leeches)

Nematoda (Nematodes)

If you are able to help with the compilation of these or any other invertebrate groups, please contact Chris Cathrine (page 4).

Solway Shingle Surveys

Coastal shingle beaches support a great diversity of invertebrates and other biodiversity, yet are often overlooked. Dumfries and Galloway Local Biodiversity Partnership has recognized the importance of this habitat and has included it as a priority in the Local Biodiversity Action Plan (LBAP). Furthermore, SNH have contracted Buglife to undertake systematic surveys at a number of sites on the Solway Firth.

The project builds upon the Shingle Vegetation Survey conducted by Randall and Doody (2000), and will concentrate on Mollusca (molluscs), Coleoptera (beetles), aculeate

Hymenoptera (bees, wasps and ants) and a survey of the Narrow-mouthed whorl snail (*Vertigo angustior*). However, surveys will be designed to cover as comprehensive a range of invertebrates as possible.

The project will increase our knowledge of the invertebrate fauna occurring in this globally important area of coastal shingle. This habitat is mainly restricted to north-west Europe, Japan and New Zealand. As much as 30% of the UK coast is thought to consist of shingle, but very little of this is vegetated. The Solway Firth offers nationally important sites for vegetated coastal shingle, and is known to support many rare plants and plant communities – some unique to Dumfries and Galloway! In recognition of their ecological value, a number of stretches of Solway shingle are included within biological Sites of Special Scientific Interest (SSSIs).

The Solway shingle habitats are diverse, and may support a wide variety of invertebrate species. For example, the Nationally Scarce Beautiful pill



Beautiful pill woodlouse (*Armadillidium pulchellum*)
© Paul Richards www.invertebrate-images.co.uk

woodlouse (*Armadillidium pulchellum*) is a feature of Abbey Burnfoot to Balcary Point SSSI.

This is an excellent opportunity for volunteers – experts and novices – to get involved in conserving our Scottish invertebrate fauna. Guided walks will provide the chance to learn about this special habitat and contribute to the survey through collecting records.

This project promises to be exciting, and there may be any number of fascinating surprises!

If you want to get involved with these surveys, contact Craig Macadam (tel: 01786 447 504 / craig.macadam@buglife.org.uk).

Narrow-mouthed whorl snail (*Vertigo angustior*) © Richard Marriott



Invertebrate Events Calendar

From the beginner to the expert, there are events for everyone! This section pulls together many invertebrate events into a single calendar.

With the Strategy for Scottish Invertebrate Conservation, National Insect Week and the International Year of Biodiversity, 2010 promises to be an exciting year!

An up-to-date calendar can be found at: www.scottishinvertebrates.org.uk.



Credits and Information

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:

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Articles written by Chris Cathrine unless otherwise stated at end of article in blue.

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For more information, visit:

www.scottishinvertebrates.org.uk

ISI

Initiative for
Scottish Invertebrates



Scottish Natural Heritage
All of nature for all of Scotland

Date	Event	Location	Cost	Further Information
09/04/10	River Invertebrate Workshop	Stirling	Free	BTCV Scotland: shop.btcv.org.uk
22/05/10	BigBioBuzz Day: Bugwalk	TBC: Cairngorms National Park	Free	stephencorcoran@cairngorms.co.uk
22/05/10	BigBioBuzz Day: Making Insect Homes	TBC: Cairngorms National Park	Free	stephencorcoran@cairngorms.co.uk
22/05/10	BigBioBuzz Day: Talk	TBC: Cairngorms National Park	Free	stephencorcoran@cairngorms.co.uk
28/05/10	Hoverfly Identification	Stirling	Free	BTCV Scotland: shop.btcv.org.uk
04/06/10	Saw-fly Identification	Stirling	£47	BTCV Scotland: shop.btcv.org.uk
23/06/10	National Insect Week: Bugwalk	Hamilton	Free	chris.cathrine@buglife.org.uk
25 to 27/06/10	Scottish Entomologists Gathering	Claonaig Estate, Skipness	Free	craig.macadam@buglife.org.uk
07 to 08/07/10	Introduction to Invertebrates Workshop	Grangemouth	£141	BTCV Scotland: shop.btcv.org.uk
13/07/10	Introduction to Invertebrates Workshop	TBC: Cairngorms National Park	£15	Glenn.Roberts@aberdeenshire.gov.uk
31/07/10	Joint Buglife and Plantlife Guided Walk	Callander	Free	craig.macadam@buglife.org.uk
02/10/10	Introduction to Opiliones (Harvestmen) ID Workshop	Perth	£25	chris.cathrine@buglife.org.uk

In addition to the events listed here, the Field Studies Council organise an excellent series of training courses each year. For more information, visit: www.field-studies-council.org.