

# *The Orkney Naturalist*



**Bulletin of the  
Orkney Field Club  
2018**



# Orkney Field Club

Founded in 1959

Aim: To encourage the study and conservation of the natural and cultural heritage of the County



Orkney Field Club is a registered Scottish charity, No. SC 012459

**Orkney Field Club** promotes the enjoyment, study and conservation of local wildlife. The Club manages land for wildlife, responds to conservation policy issues, promotes biological recording and runs training events. OFC was a founding partner of the Wildlife Information and Records Centre, located in the Orkney Library & Archive, which holds records of Orkney species, sites, habitats etc in a database. This valuable data is available to all interested parties. Records are submitted to OWIARC by a network of County Recorders who encourage everyone to participate in the collection of data.

**Subscriptions (2018)** are Adults £10, Family £15, Concessionary £6, Student £3.

**Membership Secretary** is Brian Ribbands, Queenamidda, Rendall, KW17 2PA, tel. 01856 751439 or email [queenamidda@waitrose.com](mailto:queenamidda@waitrose.com).

**Walks and Talks.** Club nights – normally illustrated talks – are usually held in Kirkwall on the third Friday of each month except in summer. Meetings are advertised on Radio Orkney, on the Club's website – [www.orkneycommunities.co.uk/fieldclub](http://www.orkneycommunities.co.uk/fieldclub) and the Club's Facebook page - [www.facebook.com/OrkneyFieldClub](http://www.facebook.com/OrkneyFieldClub). Field meetings are held frequently, chiefly during the summer, at a wide range of locations, including the outer isles. Short notice meetings, taking advantage of natural events or favourable weather will be advertised via the Facebook page. Non-members are welcome to all events. For more information, please contact OFC Secretary, Jenny Taylor, email [jenny@jtlarch.co.uk](mailto:jenny@jtlarch.co.uk).

**Newsletters** are normally sent out to members three times per year and are also available on the Club's website. They give members news, information and a programme of events.

**The Club's Bulletin – *The Orkney Naturalist*** – is the main publication of the Orkney Field Club, and it is produced in spring each year. It is free to members. It contains a wide range of articles about Orkney's natural history and annual summaries of records from Orkney's County Recorders for various taxonomic groups of wildlife. For enquiries about the Bulletin, including guidelines for those wishing to submit articles, please contact the Editor, John Crossley by emailing [flawsjohn@gmail.com](mailto:flawsjohn@gmail.com).

**Resources** are made available to members, who have access to the Club's slide collection and a comprehensive range of reference books and other equipment, including microscopes. Contact the Orkney Wildlife Information and Records Centre for details – [www.orkneylibrary.org.uk/obrc](http://www.orkneylibrary.org.uk/obrc)

## Club Office Holders 2017-18

<b>President:</b>	Peter Slater	<b>Secretary:</b>	Jenny Taylor
<b>Vice-president:</b>	Dick Matson	<b>Treasurer:</b>	Brian Ribbands
<b>Chair:</b>	Penny Martin	<b>Membership:</b>	Brian Ribbands
<b>Vice-chair:</b>	John Crossley		Lindsey Taylor
<b>Other committee</b>	Helen Aiton	Anne Gascoigne	Megan Taylor
<b>members:</b>	Alastair Forsyth	Sydney Gauld	Graeme Walker

As I write this there is sleet on my window and a gale-force wind buffeting the chimney. Thus a good day for biding in and re-living Orkney Field Club's activity and reminding myself that actually the weather in 2017 was "nae too bad". As usual, I will provide a brief chronological résumé of events and leave my colleagues to go into greater depth about particular species recorded and special finds.

Finding an agreeable 'weather window' for the New Year Ramble is an annual challenge, however, we enjoyed calm and bright blue skies for sociable, short walk from The Bu to Breck and Gyre in Orphir. A large gathering of Great Northern divers were spotted in Scapa Flow and many colourful fungi and lichen admired in the Gyre woodland. We got back to the car park about 15 minutes before sunshine was replaced by a terrific hailstorm.

Ensuing stormy conditions brought some unusual creatures to Orkney beaches: "By-the-Wind-Sailors" *Velevella velevella* were washed up on west-facing coasts in considerable numbers. Orkney Skate Trust also recovered in excess of 2000 hatched Common skate egg-cases from the same beaches.

Our first Club Night of 2017 gave a taste of really 'challenging' weather, with a talk about The Northwest Passage by Anne Gascoigne. Arctic storms, snow and 15m seas scuppered her hoped-for sightings of marine and land mammals and native plants, although images of bleak tundra and icebergs gave the audience an insight into conditions which earlier explorers would have endured – and in much less comfort.

In February a hardy work party set about maintaining young trees around the Peedie Sea and also worked up an appetite for our Non-Christmas Dinner. Over 20 folk turned up to the latter, proving that this month seems to be a popular time for a get-together. The January diets have been forgotten, many people have empty social calendars and so a meal and blether is something to look forward to in an otherwise-dreich month.

Our next Club Night saw a return of the popular 'Nature Showcase', with short, snappy presentations on a variety of topics. This format provides a platform for anybody who is just starting out on a project or is wanting to update us on earlier findings, but does not have enough material for a lengthy talk. This year we learned about limpet movements, Arctic skua plumage, Emperor dragonflies and the status of Great Yellow bumblebees.

Early flowering Celandine, Butterbur and Marsh Marigold had been noted by the time of our next Club Night, when Marc Herridge told us about his role with the British Divers Marine Life Rescue 'Large Whale Disentanglement Team'. After taking part in a successful rescue of a Pilot whale at Dingieshowe in 2015 Marc was encouraged to train as part of this sole UK-based specialist group who could be paged at any time to assist cetaceans which have become enmeshed in fishing gear or discarded rope, often in deep water locations.

April events followed in quick succession. Dr Peter Slater gave us an insight into the “Wonders and Woes of Madagascar”, with his selection of slides showing something of this island’s biodiversity, accompanied by a thoughtful commentary on present-day threats to native species and habitat. On the following day some nine participants stretched their brains and honed their ID skills at a Sphagnum moss workshop tutored by John Crossley. Making use of the laboratory facilities offered by Heriot-Watt ICIT, we collected and dissected specimens from around Stromness Loons. By the end of the day we were adept at distinguishing between seven different mosses - and at working the high-tech, high-power digital microscope/laptop/display screen combo!

Icy, snowy showers and gale force winds meant our annual expedition to Bag The Bruck at Marwick took place a week later than planned, but our effort was rewarded (if that is the right word?) by a sizeable haul of marine litter. The majority of this was again plastic and it was

noticeable that we found less large pieces but far more small fragments and short lengths of twine and netting. Perhaps cultural change has at last reduced the volume of indiscriminate dumping? Perhaps recent stormy weather had broken up the bigger debris? But smaller bits are the most dangerous to wildlife, looking as they do like tasty morsels and easily swallowed by fish, mammals and birds.



The marine theme continued throughout May, with two training opportunities offered by the Co-Coast Scotland scheme. Their team visited both Sanday and Stromness to demonstrate scientific methods, surveying and recording techniques to willing volunteers. For Orkney Nature Festival we hosted a very popular and well received event called “Get Your Skates On!”. Aply led by Penny Martin we started with a background talk and slide show then went out to collect Skate and Ray egg-cases from Skail Beach. Penny had some examples of egg-cases which she had tagged in differing ways, and feedback from participants was helpful in furthering this project. We would like to thank Quoyloo Old School Hall for the excellent venue – and the

“Get Your Skates On!” display (Anne Gascoigne)

Weather Gods, for providing us the sunniest, warmest day of the whole week-long Nature Festival.

Longer, lighter evenings encouraged the Flora Group to reconvene, and we started with an outing to Toab. Several rarer farmland species were noted, but most interest was reserved for a very striking and unusual orchid which was deemed worth of further study in case it was actually a Common Spotted orchid *Dactylorhiza fuchsii*, last recorded in Orkney in 1973. Our external referee from Kew declared it wasn't, but the whole exercise provided opportunity for close observation, practise using floral keys and robust discussion.

Mid-June saw folk heading out to Stronsay, where island residents made us very welcome and helped with transport to their east coast cliffs. A large contingent walked to the Vat of Kirbuster and onwards to Burgh Head for spectacular cliff scenery and seabird colonies. Plenty Early Marsh orchids were admired and a detour taken to the broch at Lamb Head. On the beach there remains of a whale were investigated. Local folk again offered transport back to the pier and everybody agreed we had enjoyed a most interesting – and varied – day.

The ever-helpful Sea Mammal Research Unit from St Andrew's University were back to Orkney in July, continuing with Harbour seal tracking and research. Dr Monica Arso Civil offered to speak to us, we managed to find a suitable venue, and so enjoyed her presentation about future fieldwork and some preliminary conclusions from their time here in 2016. Shortly after this another scientific team, this time from the National Museum of Scotland, were in the County in order to sample saline lagoons. As a bonus two of the curators also had specialist interests of their own, and we were treated to talks on the NMS invertebrate collection and on carrion insects. The latter area included an absolutely fascinating insight into 'forensic entomology'; (in other words, what insect larvae do to the corpse of a homicide victim and how this can assist criminal investigation!).

Outside again, and favourable weather again, for a hectic series of events for National Dragonfly Week. Graeme Walker will be providing further details so all I am going to say here is, well done for this organisational feat, for enthusing folk everywhere and for getting out to Shapinsay, Sanday, Eday, Eglisay, Papay, Rousay, Hoy - and to Stenness. *Odonata* species are known to be strong, resilient creatures and these characteristics also came to the fore in our County Recorder during his busy nine days.

The Flora Group took themselves off for a full day visit to Snelsetter in South Walls where despite grey skies, a colourful range of flowering plants was located. We were rewarded with many Scottish Primroses, Sundews, Field Gentians and a surfeit of Eyebright sub-species.

August 1st took us to Flotta for a long day – and what a stunning day to visit! Full-on sunshine, a light breeze and best seats in the house (Stanger Head actually) to see the new aircraft carrier *HMS Queen Elizabeth* make her way out of Scapa Flow. More dragonflies were found, Field and Autumn gentians side by side, blue butterflies and Lion’s Mane jellyfish all made for memorable highlights to discuss on the ferry home.



Hunting the Eyebright at Snelsetter (Barry Jones)

The next day brought completely different weather as the Flora Group explored the Orphir hills in low cloud and chilly drizzle. However, a range of localised species including Autumn hawkbit and Stag’s Horn clubmoss made the wet walk worthwhile. Within a couple of days Club members were off again, this time to fill in some gaps in botanical records for Northwest Hoy. By ferry to Moaness, minibus to Rackwick then meeting up with some Hoy residents the group followed the path past the Old Man en-route to St John’s Head and Enegars. A precipitous route down from Cuilags was a test of everybody’s knees, but the weather remained dry and (always a bonus) the day was midge-free.

By now thoughts – and the natural world – were turning towards Autumn. Slime moulds were particularly abundant this year, whilst fungi species (in both grassland and woodland) were photographed widely. County Recorder Julian Branscombe flew in from Papay to lead a fungi foray for us at Binscarth; a location which remained sheltered despite a fierce, tree-rattling gale sweeping in from the East. We found over 30 species of fungi, plus had sight of a Peregrine and skeins of Barnacle geese overhead.

Onset of darker evenings is a signal to begin indoor talks again, so we prevailed on Julian’s good nature to be our speaker for the September Club Night. He introduced us to the birds and bugs of Ghana and also raised some important issues affecting conservation in West Africa, where a burgeoning population and economic need is putting pressure on endemic species. It was another presentation which gave us much to think about afterwards.

Our next evening talk was combined with an (efficient and swift!) AGM. After ‘business’ we were delighted to welcome Anne Bignall to share her study of Orkney otters. As part of her MSc programme at ICIT Anne monitored Eday’s otter population over several months and her patience was well-rewarded. A mix of trail-cam footage and close-up photography enabled Anne to identify and follow individual adult otters and cubs and the data she collected suggests an upbeat, positive future for the animals there.



Binscarth fungi foray (Anne Gascoigne)

to be our final outdoor event for 2017 as a series of ‘named’ storms soon came crashing across Orkney, thwarting attempts to host either a winter beach walk or migrant wader watch.

Families were to the fore (as both watchers and watched) for our annual Grey Seal Pup Walk along the South Ronaldsay coast. Yet again the wind was benevolent and the sun came out for viewings of 70-plus pups at various stages of maturity, plus plenty activity from nearby bull seals. Unfortunately, this proved

However, things continued indoors with an excellent Club Night talk from Alastair Forsyth encouraging us to conserve and watch wildlife in our own gardens. Alastair is passionate about Recording (invertebrates in particular) and explained a range of digital aids and platforms which make submitting records relatively easy and quick. There really is no excuse why we shouldn’t all be doing more to contribute to Orkney (and National) biodiversity databases.

As well as events discussed above Orkney Field Club participated at Orkney International Science Festival and we had a presence at Orkney Wildlife Information and Records Centre open day. Our team effort in the annual Environmental Quiz resulted in a joint-second place; helped (or hindered?) by supernumerary Alan Leitch joining us from the RSPB team.

It is also worth noting that Orkney Field Club continues to be well-represented on several stakeholder bodies: including Orkney Local Access Forum, Outdoor Orkney, Orkney Nature Festival Steering Group and Orkney Local Biodiversity Action Plan Steering Group. Several members have been directly involved in discussions with SNH/RSPB regarding stoat eradication in Orkney, and the Club supports the aims of Orkney Native Wildlife Project in achieving this goal. We also submitted robust environmental objections to plans for industrial-scale wind farms at both Costa and Hesta Heads.

Credit must go to the Walks & Talks team for organising events both indoors and out. We extend thanks to speakers and leaders who gave their time so generously and to landowners who have assisted our visits. A special mention must be made of the hospitality and warm welcomes we have had when visiting smaller island communities. As I conclude this piece the wind is still howling outside, but I have enjoyed recalling the range of activities which Orkney Field Club engaged in throughout 2017 – and more importantly, just how wonderful Orkney is when the weather co-operates!



## Microplastics in Orkney

*Dr Angela Capper<sup>1</sup>, Catherine Tait<sup>2</sup> and Ria Devereux<sup>2</sup>*

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Plastic is ubiquitous in all aspects of modern day life with >300 million tons produced every year. Numerous advantageous properties keep plastics global demand high, including durability, versatility, lightweight, low cost, and being bio-inert. Such properties simultaneously contribute to their persistence in the marine environment, to the detriment of marine biota. Awareness of the environmental impacts of oceanic plastic pollution date back to the 1970s, however, increasing current trends in plastic demand and product consumption are projected to worsen the magnitude and scale of impacts, many of which are not fully understood.

Projections of the rate of plastic production and waste to 2050 suggest that a global total of 12,000 million tonnes of plastic waste will be discarded. Disposable packaging and other single-use plastics (including disposable consumer products, cosmetics, and agricultural packaging) contribute a major source of waste, as most are discarded within a year of manufacture and subsequently lose their material value. Within the UK, domestic and commercial plastic packaging waste equates to 40 kg per person per year. Mismanaged waste is the principal cause of plastic release to the marine environment. Single use items including cigarette butts, plastic bottles, food wrappers, bottle caps, and straws constitute the most abundant items picked from shorelines globally. Once on the shoreline, plastics have the potential to fragment into microplastics (Fig.1).



Fig. 1 – Weathered plastics becoming microplastics

Microplastics (usually classified at <5 mm) can be primary (pre-production pellets often termed ‘nurdles’ or microplastics released directly into the environment such as tyre dust, scrubbing agents in personal products, fibres from washing clothes) or secondary (weathered by UV and wave action and fragmentation of larger debris including lost fishing gear, paint from ship hulls). The global release of primary microplastics is estimated at 1.5 million tonnes per year corresponding to a world equivalent per capita release of 212 grams (the equivalent of one empty grocery plastic bag) thrown into the ocean per person/per week worldwide. The majority of microplastics are from primary sources generated from land-based activities (98%), with only 2% generated from activities at sea. The greatest proportion of microplastics comes from the laundering of synthetic textiles (an average wash can release nearly 2,000 microfibrils). Most enter the marine environment through road run-off (66%), wastewater treatment systems (25%) and wind transfer (7%). Road markings and weathering by vehicles and tyre dust are also big contributors (Fig. 2).

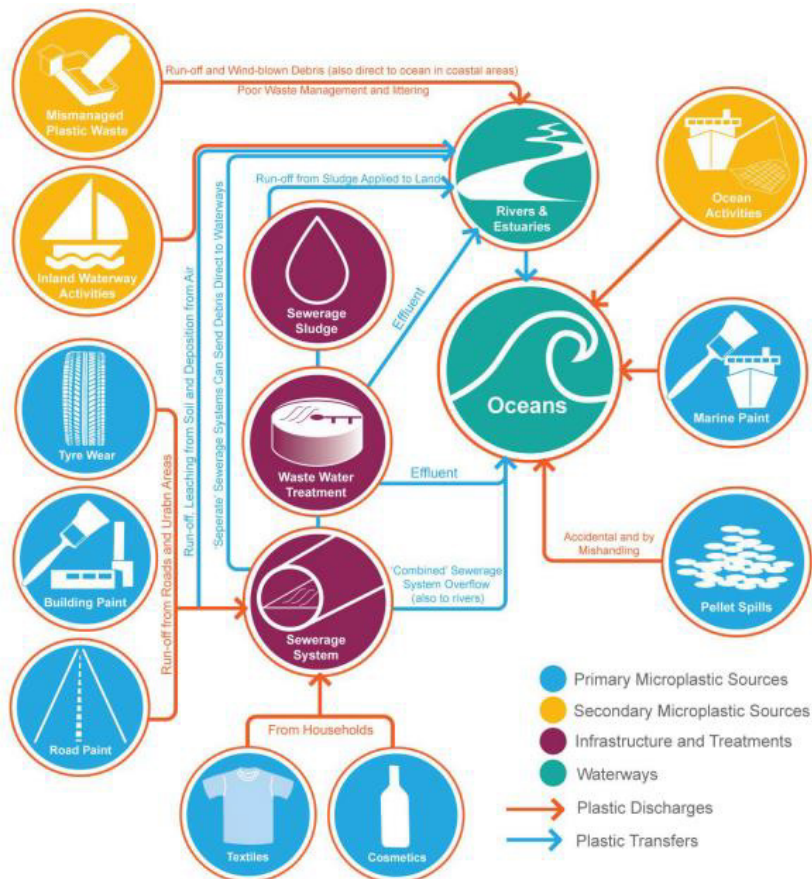


Fig. 2 - Schematic of the sources and pathways of microplastics to the marine environment (Sherrington et al., 2016).

Microplastics have been found in every marine environment from open ocean to coastline, from sea surface to deep sea sediments and Arctic sea ice. The extent and true magnitude of microplastic pollution in the marine environment however, remains unknown. Depending on their density, microplastics can float on the water surface or sink to benthic environments and accumulate in areas with restricted circulation and sediment accretion.

Microplastic abundance is usually positively correlated with human population density. However, small remote islands appear to be equally susceptible to microplastic contamination. A recent study by Blumenroder et al., (2017) found microplastic loading in Scapa Flow, Orkney had high concentrations of microplastic fibres and particles in sediment (2,300 and 730 per kg dry sediment respectively), similar to sites sampled along the industrialised Firth of Forth. A large proportion of this thought to have originated from other land masses and deposition is likely linked to the strong currents around Orkney.

What impact then, are these microplastics having on our marine environments? Over 220 species have been recorded eating plastic, including molluscs, crustaceans and fish. Benthic invertebrates at lower trophic levels are at an increased risk of exposure due to the accumulation of high density and bio-fouled sinking microplastics which occupy the same size range as microplankton and sand grains. Ingestion can cause physical damage (abrasion, blockage of gut and false satiation), whilst other sub-lethal impacts may be reduced fecundity, feeding or locomotion. Whilst microplastics are mainly found in the guts, some can translocate to other organs. If translocated to edible tissues of commercially important species, this could have potential human health impacts for seafood consumers. Microplastics also have the potential to attract other contaminants in the marine environment such as heavy metals, pesticides and hydrophobic organic compounds such as PAHs, PCBs and PBDEs. However, the importance of microplastics as a pathway of toxin exposure in comparison to uptake by seawater or food has not been fully substantiated and research is still in its infancy.

Last summer, with two MSc students (Catherine Tait and Ria Devereux), we examined microplastic ingestion in in two local species. The persistence of microplastics in sediments increases the risk to benthic invertebrates such as crabs. **Green Shore Crab** *Carcinus maenas* is a common shore crab widely distributed in coastal ecosystems. It is an indiscriminate active predator and scavenger with numerous routes of exposure to microplastics from sediment, incidental ingestion and trophic transfer from prey items. These crabs are also commercially fished in Orkney. Crabs were collected from 10 locations around Orkney with one site in Shetland (Fig. 3, 4).

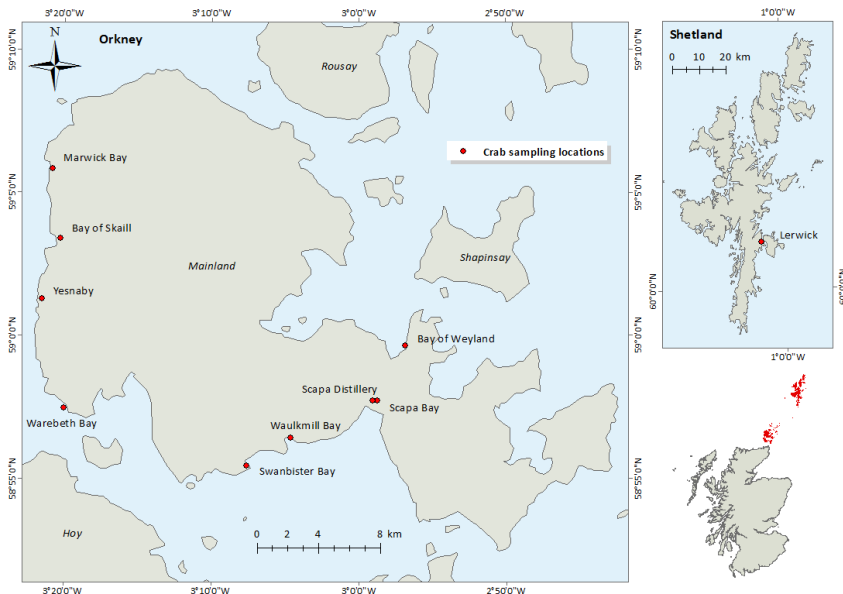


Fig. 3 - Collection sites in Orkney and Shetland.

The digestive foregut was removed and chemical digestion was carried out to remove all organic material to liberate any microplastics in the gut. All microplastics were counted and categorised by colour and shape (fibre, flake, particle) Fig. 5).



Fig. 4 – Green Shore Crab *Carcinus maenas*

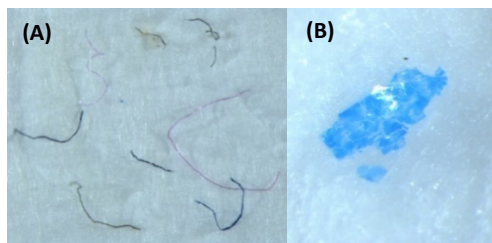


Fig. 5 – Examples of fibres (A) and flakes (B) found in Green Shore Crab *Carcinus maenas* guts in Orkney

From the 80 *C. maenas* examined, 598 pieces of microplastics were found in 98.7% of the crabs examined, ranging from ~4 – 15 pieces per crab. Microfibres were dominant contributing 74% to the overall count across locations. Grey (33%) and blue (33%) were the most common colours observed. Analysis of the fibre types suggest the most likely source is weathered fishing gear and textiles (from laundry in washing machines). Some crabs from Shetland were found with large clusters of microfibres in their gut which could potentially cause blockages (Fig. 6). Whilst ingestion of microplastics by *C. maenas* is unlikely to have human health implications for seafood consumers as stomach contents are not ingested, it does suggest potential sub-lethal impacts to crabs could occur if larger clusters are formed in the gut.

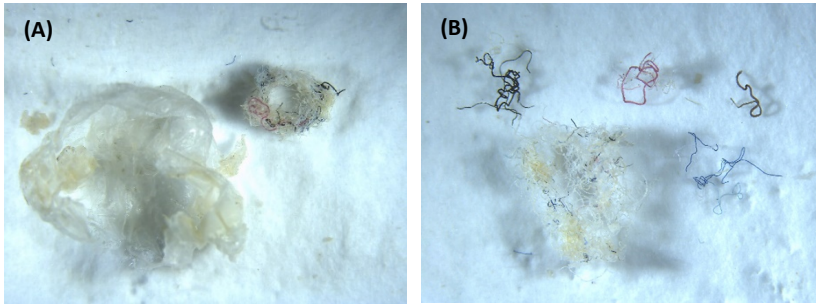


Fig. 6 – A Green Shore Crab *Carcinus maenas* stomach with a tight cluster of microfibres removed from it (A) and separated into colours (B)

The second organisms we examined were cnidarians (including jellyfish, Fig. 7) and ctenophores. Whilst these species hold no commercial importance in Orkney, cnidaria are fished for in 15 countries and consumed. They are also predators consuming larval and juvenile fish and zooplankton so the potential for trophic transfer of microplastics to jellyfish consumers (e.g. fish and sea turtles) is something that should be considered. Six species of cnidaria and ctenophores were collected from 24 sites around Orkney, Shetland and off the coast of Aberdeen. Tissues were digested, then microplastics were counted by colour and shape and categorised. In total, 1,930 plastic items were recorded (85% from the four cnidaria species), of which 94% were microfibres. Of the 46 **Lions Mane Jellyfish** *Cyanea capillata* collected in Orkney and Hoy, a total of 952 plastic pieces (88% microfibres) were recovered, whilst 32 **Blue Jellyfish** *C. lamarekii* collected from all three locations yielded 323 pieces (81% microfibres) (Fig. 8). Microplastics were also present in all water samples collected from the same sites as the jellyfish in Orkney and Hoy with 1,495 pieces of plastic recovered (93% microfibres), with black and blue fibres the most commonly observed colours.



Fig. 7. Lions Mane Jellyfish *Cyanea lamarekii* and Blue Jellyfish *C. capillata*

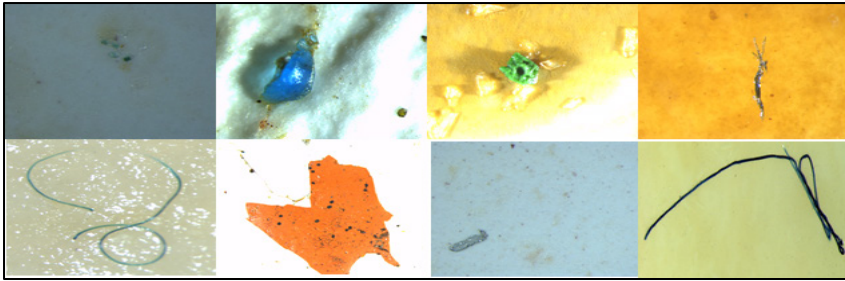


Fig. 8 – Sample of microplastics found in jellyfish and water samples around Orkney

These studies are only a ‘snapshot’ of microplastic contamination in Orkney and surrounding locations. However, the extent of microplastic contamination of marine environments is a growing global concern. So, what can we all do to help? We can all reduce our use of microplastics by smart choices when shopping (Fig. 9).

Boomerang Alliance

## How can we reduce microplastics?



International Coastal Cleanup Day



Change.org

Fig. 9 – Smart consumer choices and recycling awareness lead to big changes

We can also do our best to help with citizen science projects that collate plastic contamination and get involved in beach clean-ups or even just picking up three pieces of litter from the road or beach every time we go out (<https://en-gb.facebook.com/PickUpThreePieces/>). Lots of little things can make a big difference!

How can **YOU** get involved?

Fishing tags are data for global ocean science!



Scientists believe that plastics are moving from the ocean around Newfoundland, Canada, to the coasts of Scotland.

**YOU** can create scientific data by collecting and logging data when you find the kind of fishing tags shown above.

### Next time you are on the beach ...

1. Look for fishing tags.  
They are brightly coloured strips of plastic that usually have text and a number written on them.
2. Note the details.  
The date you found it, the name of the beach or body of water, what the tag has written on it.
3. Email the data to: **fishtagscience@gmail.com**
4. Mail the tag to closest location (or we can arrange a pick up)

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## OWIARC Open Day and Happy Valley BioBlitz 2017

*Lee Johnson and Sydney Gauld*

Orkney Wildlife Information and Records Centre (OWIARC) hosted two events in 2017, beginning with an Open Day held in Orkney Library on the 15<sup>th</sup> July, followed by a Bioblitz at Happy Valley on the 19<sup>th</sup> August.

The Open Day held upstairs in Orkney Library was intended not only to demonstrate the work of OWIARC but also to encourage people to record the wildlife they see whilst out and about in Orkney. The records centre would not exist if it wasn't for all the people that give up their free time to record the wildlife they see and the volunteer county recorders that collect and verify that data. There were displays of specimens (including the Lorimer Collection of butterflies and moths) and information about local wildlife and biological recording. Local experts Graeme Walker, John Crossley, Lee Johnson and Sydney Gauld were on hand throughout the day to identify specimens or just to have a blether about wildlife. Several microscopes were available for folk to closely examine specimens they had collected and other interesting specimens were provided by the experts. One of the microscopes had an overhead projector so that everyone could take a look together at lots of interesting creatures, from live aphids which had been parasitised by wasps, to the tiny and very beautiful scales on a butterfly wing.



OWIARC Open Day (Graeme Walker)

The second event was a BioBlitz at Happy Valley in Stenness. What is a BioBlitz I hear you ask? A **BioBlitz** is an event where wildlife experts and members of the public work together to find as many species as possible within a set location and over a defined time period. It generates a snapshot of the wildlife that is present at that location on that day and generates lots of useful records for the OWIARC. It also gives members of the public a chance to contribute to a scientific survey.



The event began the evening before with some moth trapping which provided 13 different species. The weather on the day of the BioBlitz was windy with heavy downpours and the erecting of the gazebo provided some interesting challenges. Once everything was set up, a steady stream of BioBlitzers of all ages arrived to seek out specimens for our local experts to identify. Identification books and keys were on hand for those species which were identifiable in the field and the experts took home the more difficult specimens to identify with a microscope later.

In total, 134 different species were recorded throughout the event despite the atrocious weather, including 1 mammal (a dead stoat), 12 different bird species (including hen harrier and buzzard), 60 invertebrate species and 61 different plants, ferns, bryophytes, lichen and trees. The children were particularly good at finding the invertebrates including some whopping great slugs and some handsome spiders. Hopefully, a new generation of enthusiasts has been inspired to seek out plants and creatures whenever they are out and about in Orkney.



Species tally at Happy Valley BioBlitz (Lee Johnson)

Thank you to everybody that gave up their time to help with both events.

Westshore is a property on the south coast of Burray lying on the shore of Water Sound. It covers approximately 3.3 acres of which approximately 20% is managed i.e. mown or cultivated. The remainder is mainly strandline, rough grassland and uncultivated weedy areas, although I still consider this as part of the garden.

Since moving to Orkney in 2007, my main interest has been in finding and recording birds. Our first house had a relatively small garden, but in December 2012 we moved just 300 metres along the coast to Westshore. Soon I started to notice a variety of wildlife in the much bigger garden, though at this stage I hadn't thought much about taking this much further.

This all changed in 2015, when I discovered and was inspired by the work of Jennifer Owen, who over a 30 year period, recorded the wildlife in her well-established garden of less than 0.2 acres, 3.8km from Leicester city centre. *Wildlife of a Garden: A Thirty-Year Study*, documents the results and discusses diversity, abundance, seasonality and annual fluctuations relating these to a number of ecological factors.

Another inspiration was the work of Patrick Roper, an ecologist who has been studying and recording all the flora and fauna in distinct areas which have included a square metre patch of his East Sussex garden (he has recorded over 1,500 species!), a window box 63.5cm by 24cm (initially populated with sterile soil), and a 2 square metre section of garden outside his kitchen window.

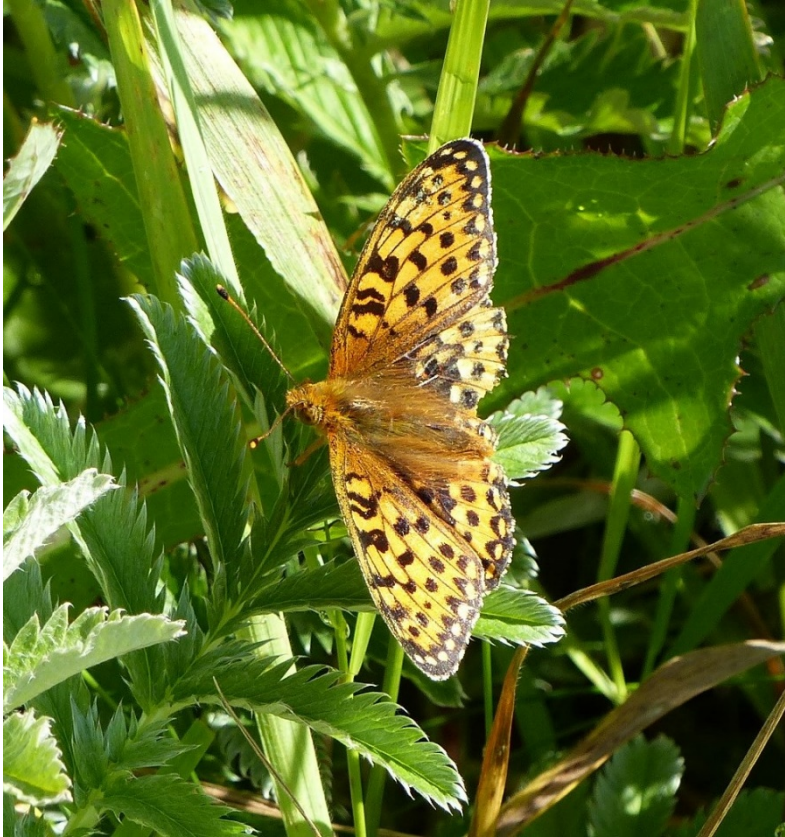
As my interest in the various wildlife groups has grown, my knowledge has consequently greatly improved. I attempt to identify as much as possible myself and am currently building a library of reference and identification resources. I have attended a course on Hoverflies and have booked to attend moss and lichen courses in 2018. However, lack of knowledge should not act as a discouragement to recording garden wildlife. I have found that the individual Orkney recorders (details at the back of this publication) are always extremely willing to help, and there are many identification sites online, including on social media which are specifically Orkney or taxonomy related.

Attempting to record everything means that there is interest to be had throughout the year. It is also a great way to enhance your relationship with your garden and get to know it intimately. The vast majority of the species I have found were discovered just walking around the garden and indeed much was seen whilst gardening. My wife carries specimen pots in her gardening jacket. In 2017 I purchased a moth trap; this has allowed me to record a number of relatively easy to identify species as well as discovering moths and other insects not normally easy to see.

Over her thirty year period of study, Owen recorded 2,673 species, 20 of which were new to Britain and incredibly four species new to science! Since I started actively recording at Westshore, I have recorded 446 species, including a number of rare and uncommon species for Orkney. Although active recording commenced in 2016, it was 2017 which was a particularly productive insect year. Details of these should be in the individual recorders reports in this issue. Notably there are a number of interesting records of Sawflies, with the highlight being

*Pachynematus lichwardti*, a species new to Orkney, found in July 2017. Other rare sawflies seen in 2017 included *Dolerus varispinus*, *Tenthredo olivacea*, and *Tenthredo obseleta*.

2017 was also a good year for Diptera. The stand-out Hoverflies were *Epistrophe grossulariae* and *Meliscaeva auricollis*, and the best 'true flies' were *Palloptera saltuum* and some interesting under-recorded Soldierflies and Craneflies. The most exciting Butterfly appeared in 2016, a Dark Green Fritillary which I managed to photograph during its brief stay.



Dark Green Fritillary (Barrie Hamill)

A Hawfinch in 2016 has been the best bird seen in the garden, although the best birds being seen over or from the garden were in 2017, with the regular White-billed Diver, a Great-white Egret, a White-tailed Eagle and a Hobby.

A particularly interesting arrival in the garden in 2017 was the soldier beetle *Cantharis nigricans* which suddenly appeared in various parts of the garden. This species was first recorded in Orkney in 2015 at two conifer plantations and at one further site in 2016. It was very pleasing to record

the spread of this extremely handsome beetle which suddenly appeared in various areas of the garden.

What then do I do with my records? Well, my Lepidoptera, Diptera (including Hoverflies), Beetle, Sawfly, Bird, and any other relevant records are sent to the local county recorders. Others, such as true bugs are recorded on i-Record, a website for recording and sharing wildlife observations where records are reviewed and can be identified or confirmed by relevant experts.

The table below lists the numbers of species I have recorded at Westshore up to the end of 2017.

Species Group	Species Count
Birds *	125
Vascular Plants	87
Lepidoptera	86
Hoverflies	26
Other Diptera	21
Others	19
Hymenoptera	19
Bryophytes	18
Beetles	17
Seaweeds	7
True Bugs	7
Lichens	5
Terrestrial Mammals	5
Fungi	4
<b>Total</b>	<b>446</b>

\*Includes birds seen from the garden

With regard to the future, I feel I have only just started scratching the surface and there is much more to be discovered, particularly as I learn more about under-recorded groups such as Lichens and Fungi. We also own the shore to the low tide mark and aim to record more in this habitat.

In the early winter of 2016, we built a wildlife pond. Although still in its early stages, there is already a myriad of life present and as it develops the number and variety of species should increase. This is as yet a completely unrecorded habitat in the garden.

My observations have demonstrated that there is no need to travel far to observe and study a surprisingly rich and diverse flora and fauna, much of which is rarely recorded or is under recorded.

Recording has given me an added appreciation of the role of my garden as a habitat for all forms of wildlife, and an awareness of its various micro habitats. I feel I have developed an understanding of interspecies interactions, and the relationships between species and their surroundings.

My curiosity for all forms of nature has considerably expanded, and whilst it has often been a challenge, it has been hugely enjoyable. Anyone can do it – why not give it a go. You don't necessarily have to record in a garden; just choose a small designated area, (though in Orkney perhaps an area larger than a square metre or a window box!). There is lots of help out there with identification. You will be amazed at what you will find and the behaviour you will observe. There are surprising and exciting discoveries to be made and not only will you generate some useful records you will acquire some wonderful memories.

I would like to thank all the Orkney recorders who have helped me with identification, particularly those who have accompanied me in my wanderings around Westshore. Finally, I would like to thank my wife Linda for her indulgence and assistance.

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Soldier beetle *Cantharis nigricans* (Barrie Hamill)

## Some Fish in Orkney Waters

*Penny Martin*

As a scuba diver, I very much enjoy diving in Orkney waters all year round. We had many great dives in 2017, but a few stand out because of the amazing fish that we saw.

Under the cliffs on the north side of Copinsay there are some deep caves. Within these live many beautiful violet-blue **Leopard-spotted Goby** *Thorogobius ephippiatus*. There are several species of Gobies commonly seen in Orkney waters. This one is much less frequently seen and is difficult to photograph, as it inhabits vertical rock faces and hides in crevices and caves.



The sea bed around the caves has many large boulders and on several occasions we found Angler Fish, sometimes known as Monkfish *Lophius piscatorius*.



This fish has a very large head a small body. The wide mouth extends all the way around the head, and both jaws are armed with long, pointed teeth. Some of the fins are articulated, so the fish is able to walk along the sea bed, to hide amongst seaweed and boulders. Although it has no scales, fringed appendages resembling short fronds of seaweed act as camouflage. It has long filaments along the middle of its head which it uses as a lure to attract other fish. Its stomach is expandable, so that it is not unknown for these fish

to swallow prey of their own size. Female Anglers can grow to a length of more than 2 metres (6ft 7in).

On another day, we dived on the south side of Skail Bay and I glimpsed a fish that I had never seen before but instantly recognised, a **John Dory** *Zeus faber*.



**John Dory** *Zeus faber*, side view



**John Dory** *Zeus faber*, rear view

We see Wrasse all around Orkney throughout the summer and they can be tempted to come closer by breaking open an urchin which they will come and feed on. They are fascinating fish with thick protruding lips, and strong teeth, both in the jaws (for biting and rasping) and on the pharyngeal bones in the throat (for gripping and crushing). These teeth enable them to enjoy a mixed diet of shelled animals, including barnacles, urchins, other crustaceans, and molluscs.

Wrasse are unusual in that they are able to change sex during their life. In both the **Ballan** *Labrus bergylta* and the **Cuckoo Wrasse** *L. bimaculatus*, this starts when the fish are about six years old and become sexually mature. In any one stretch of coastline there will be a single dominant male and when he dies the next most senior female undergoes a sex change and becomes the next 'top' male! In spring, when courtship starts, the already colourful male Cuckoo Wrasse becomes even brighter so as to attract as many females as possible.

Whilst not usually caught for the plate in the British Isles, large numbers of wild Wrasse are now used by fish farms to help remove sea lice from salmon cages. Unfortunately, owing to their slow reproductive rate, it will be some time before farmed Wrasse can be used for this purpose.



Here are three of the species of Wrasse seen in Orkney waters. They frequent rocky sea bed habitat and can be found amongst the many wrecks around our coast.



**Corkwing wrasse** *Symphodus (Crenilabrus) melops* male. This is a small fish, rarely exceeding 8-9 inches in length. It is usually mottled brown/green but the male in breeding season becomes much more brightly coloured with blue centres to the scales and blue spots on its fins.



**Ballan Wrasse** *Labrus bergylta* is the biggest and most common species. It can grow to around ten pounds in weight. It is stoutly built, with a broad body and large scales. A single, long dorsal fin extends all the way along the back. The tail fin is rounded. Colour ranges from brown/reddish to dark green, with light spots and a paler belly.



**Cuckoo Wrasse** *Labrus bimaculatus* is much more colourful than its Ballan cousin, and can have colouration more associated with tropical fish than a species found around the British Isles. It is much smaller than the Ballan Wrasse, only growing to a maximum of around two pounds. There is a clear difference between adult males and females. Females and immature males are a mix of pink, orange and red. Females have three black spots on their back behind the dorsal fin while these are absent on males. Mature males have blue heads and orange bodies, with blue stripes and mottled patterns running the length of the body and on the edges of the fins.

Twelve miles west of Birsay is a submerged bank of pinnacles, rising from a seabed depth of 80 metres to 6 metres from the surface, and known as North Shoal. Marine life here is spectacular, with the rocks and gullies covered in sponges, corals, anemones, hydroids and much more.

Whilst I was there, I took a photograph of what I thought was a **Tompot Blenny** *Parablennius gattorugine*. I proudly posted the photo on a marine Facebook page and was then informed it was a **Red or Portuguese Blenny** *Parablennius ruber*.



This is a much rarer fish that is seldom seen in UK waters. This is the second confirmed record from Orkney. It grows to around 15cm in length. It has large pectoral fins, a dorsal fin that runs the full length of the back and an anal fin running for approximately half the body length. Eyes are prominent with several fringed tentacles on the head and the mouth is small. Colour can be a vivid red with darker and lighter bars and blotches present on the flanks, although individuals can also be a duller brown or orange.

This species was previously thought to only be present in Portuguese waters (hence the name) but it is now apparent that it has a much wider distribution than first realised and is found in British and Irish waters. It now appears that Red Blennies reported from Britain and Ireland have been confused with the closely related Tompot Blenny for many years, with the two species only being differentiated in the early 1980s.

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[www.British Sea Fishing.co.uk](http://www.British Sea Fishing.co.uk)

All photographs by the author.

Many people, whisky drinkers anyway, have heard of the Angel's Share - the bit that gradually evaporates from spirit barrels – but very few people will have heard of the associated fungus, *Baudoinia compniacensis*. Early last year there was a flurry of observer activity after a plea was sent out by the Records Manager of the Highland Biological Recording Group (HBRG), for any sightings of *Baudoinia compniacensis*. This is a conspicuous black, sooty, granular fungus growing mostly in ethanol-rich environments. Also known as The Distilleries' Shadow, it can be found on the external walls of most distilleries, bond warehouses and some adjacent vegetation. At the time, the Fungal Records Database of Britain and Ireland (FRDBI) (British Mycological Society, 2017) showed only a single *B. compniacensis* record dating from 1949.



The fungus was first recognised and described in 1872, by a French pharmacist named Antonin Baudoin, after he collected samples from distilleries around Cognac. A definitive description was given by Annelise Kjølner (1961). However it was not until 2007 that the precise nature of the organism was identified, and named *Baudoinia*, a new genus, after the man who first brought it to scientific attention (Scott *et al*, 2007). Canadian mycologist James Scott described seeing it and wrote in 2010: “It was everywhere - on the walls of buildings, on chain-link fences, on metal street signs, as if a battalion of Dickensian chimney sweeps had careened through town” (Rogers, 2011). For me, this meant one thing - visiting distilleries, so off I went to Highland Park, where management helpfully gave me free access to exterior surfaces and I saw that the fungus was

clearly abundant and easy to sample. It is also at Scapa Distillery. In *Picture 1* of Blair Atholl Distillery, Pitlochry, the typical staining is very obvious. Whilst it is apparent on the walls at Highland Park and in nearly all distilleries I visited, the thickest deposits seem to be on stainless storage vessels and associated pipe-work and on some painted surfaces. *Picture 2* shows my not very subtle cross scratched in the *Baudoinia* deposit on a Highland Park stainless pipe. It's still there so I can see how it might re-colonise.



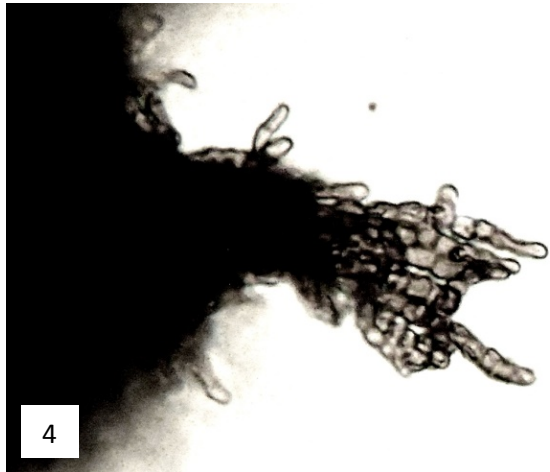
Only a few days after the HBRG request I visited some Highland and Speyside distilleries, en-route to an urban Bond Warehouse near Stirling. Don't get me wrong, these visits were to specifically collect samples of *Baudoinia* soot. The fungus grows well away from the highest concentrations of ethanol and may be found some distance from distilleries, up to a mile away in some cases (Rogers, *ibid*). Whilst there is no sign on houses near to Highland Park, where it seems to be localised at the distillery, I did find it on houses a few hundred metres from the bond warehouses near Stirling. It grows on trees and foliage too; near the warehouses I found it thriving



on the trees, shrubs and their epiphytes but not on very recent growth, new buds and fast-growing shrubs. I noted that ground-mosses and fallen twigs were also infested and that bracket fungi growing on a few trees were partially covered. Mollusc grazing-trails through the soot are

noticeable on painted and stainless surfaces (see *Picture 3*) and on building fabric. At the time of writing, I have not found the culprits. I made a count of invertebrates present in nearby woodlands and found many coleoptera, mollusca and isopoda under stones and logs. There is scope for research into the way molluscs are selecting and grazing and how invertebrates are faring or adapting at these locations.

I could not be sure of my identification without expert verification, so I sent samples away. It requires culturing in the lab before diagnostic characters become clearer. The structures in *Picture 4* are cell chains at high magnification. For field observers, it really does only resemble granular soot. As for the possibly inebriate molluscs, they are sleeping just now (February). But I am still on their case and I aim to identify them. Should Orkney residents or visitors wish to see this fungus, it is clearly visible on the Rowan tree next to the visitor car park at Highland Park. There are mollusc trails on some red safety notices.



*This article is abridged from an original in The Highland Naturalist (HBRG Journal April 2017)*

## Acknowledgements

Thanks to Bruce Ing for microscopic examination and confirmation and Murdo Macdonald for encouragement (both HBRG).

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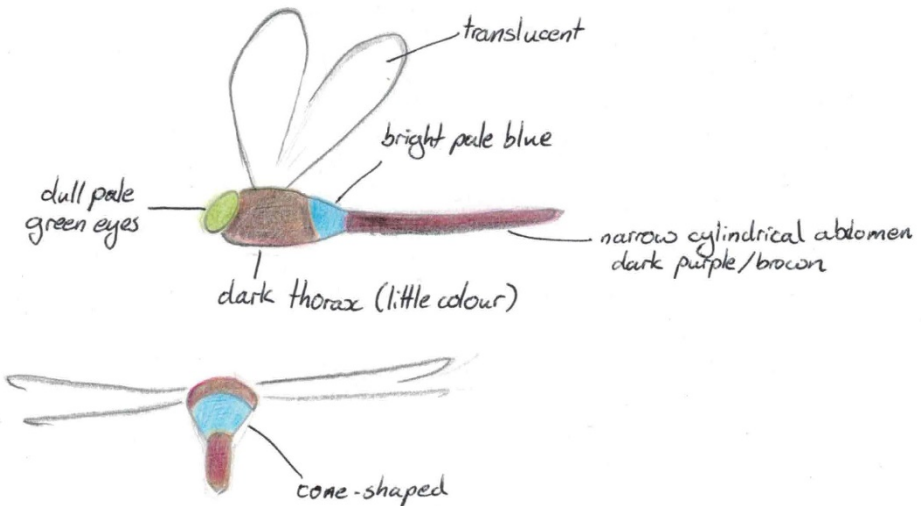
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All photographs by the author.

Early Summer once again saw Orkney set in a national context, this time with records of two migrant dragonflies. As is often the case with migratory birds, the eastern side of the archipelago was the beneficiary of these visits. The sightings were both at a time when southerly winds were favourable for migrants to reach British shores and they accompanied similar reports for these species from the rest of the UK and Southern Ireland.

### Lesser Emperor *Anax parthenope*

On 15<sup>th</sup> June, a medium-sized dragonfly was seen at Scottigar in North Ronaldsay by Samuel Perfect, a member of the Bird Observatory staff. Sam did not have a camera with him but made copious field notes of the encounter, which were later used in the successful IDing of the insect. Fortunately, Sam was able to study the dragonfly at close range for several minutes and was sufficiently well-versed in the UK list to realise that this was a little out of the ordinary. The combination of the size of the insect, the overall colour of the thorax and abdomen, the blue saddle on segment 2 of the abdomen, and the green eyes were indicative of Lesser Emperor. This sighting was only the second Scottish record for Lesser Emperor, with the first also having been in Orkney, in Sanday, during June 2000.



Sketch of the Lesser Emperor *Anax parthenope* (Samuel Perfect)

### Red-veined Darter *Sympetrum fonscolombii*

On 20<sup>th</sup> June, a red-coloured darter dragonfly was seen on Copinsay, by James Silvey and Sarah Money, when a team of RSPB Scotland staff were carrying out survey work for Great Yellow Bumblebee. They had not expected to find a dragonfly on such a small island with limited access to fresh water. The insect was netted and photographed, before being released. The most likely

identity for the dragonfly was a Common Darter *Sympetrum striolatum*, a species not recorded in Orkney, but common in mainland Scotland. The record was sent off for verification and the Scottish dragonfly recorder, Pat Batty, kindly forwarded the details to Graeme Walker in Orkney for his opinion.



Red-veined Darter *Sympetrum fonscolombii* (Sarah Money)

Other than the red abdomen, several features of the insect did not sit well with the initial diagnosis. The panels on the side of the thorax had a blue/white wash rather than a yellow one, the eyes were brown above and blue below, the hindwing bases were yellow and the wing veins were red. These features are diagnostic for Red-veined Darter *Sympetrum fonscolombii*, so the former identification was rejected in favour of the latter. Red-veined Darter is a frequent visitor to the UK, mainly in the south of England. Early Summer influxes occasionally lead to breeding attempts and an emergence of 'home-grown' individuals in the Autumn. Red-veined Darter had not previously been recorded in either Orkney or northern Scotland, with the next nearest record being from the Dundee area.

Several days later, on 22<sup>nd</sup> July, an unidentified 'reddish darter' was seen very briefly at Whitemill, Sanday by Russell Neave. This was probably a Red-veined Darter, perhaps even the same individual but, sadly, its identity could not be verified.



## Flapper Skate cases

*Penny Martin*

Hatched egg cases from **Flapper Skates** *Dipturus intermedia* continue to be collected from Orkney beaches in large numbers as shown in the table. This is of great interest as *D. intermedia* is classed as Critically Endangered on the IUCN Red List and there is nowhere else in the British Isles recording comparable numbers. Other than that important populations exist off the northern and western coasts of Scotland, little is known about the distribution of these skates, and almost nothing about their breeding areas.

	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Jan	2070	368	3263	1034
Feb	1194	398	2586	1182
March	1369	433	1761	
April	1090	168	943	
May	249	43	431	
June	695	63	324	
July	806	28	69	
August	347	37	144	
September	391	19	213	
October	137	53	264	
November	161	74	297	
December	279	73	545	
<b>Total</b>	<b>8788</b>	<b>1757</b>	<b>10,840</b>	

Figure 1. Numbers of egg cases found, by month, 2015-2018

Large numbers consistently come in on Skaill Beach, Birsay Bay, Skipi Geo and Aikerness, with small numbers on various beaches on mainland Orkney and some of the other islands. The relatively low number in 2016 may be due to Flapper Skates laying eggs only every other year, as has been reported. It will be interesting to see if such annual variations recur.

Can it be supposed that the cases originate from breeding areas nearby? To begin to answer this question it would help to know more about the movements of egg cases. For this purpose a

tagging experiment was carried out in 2017. 600 egg cases marked with small coloured cable ties were put into the sea and are being monitored to see when and where they come in. Much thought was given as to how to mark the egg cases, the factors considered being longevity, ease of application, visibility, possible effects on buoyancy, cost and, of course, the undesirability of contributing to marine plastics. In the end and with some reluctance, it was decided that only plastic tags were be fit for purpose.

The egg cases were well soaked and put into the sea on 10th Sept 2017. Three batches of 100 marked with green, red and yellow tags were placed by divers on the sea bed at three points across the mouth of Birsay Bay at 27m, 30m and 36 m onto a boulder sea bed. Another three batches of 100 marked with orange, purple and blue tags were similarly placed at three points across Skail Bay at 26m, 27m and 25m onto a boulder sea bed.

## Results

So far, in the period 8 October 2017 to 25 February 2018, 30 have been found washed up at Birsay Bay, comprising 16 red, seven yellow and seven green. Seven have been found at Skail Bay, comprising three orange and four blue. To date, none have been found elsewhere.

This has surprised me as I expected many more to have been found on the beaches. It could indicate that the tide took many away from the beach or that they could possibly lie on the sea bed for at least some months before being washed in.

We will continue to collect skate cases and welcome any records of egg cases found, marked or unmarked. If you find any, please remove them from the beach so they are not double counted. Please report to [Physiopenny@hotmail.co.uk](mailto:Physiopenny@hotmail.co.uk) or on Orkney Skate Trust Facebook page.



Very occasionally, an egg case is washed up with an embryo in. Samples are sent for DNA analysis (Penny Martin)

**Red Campion** *Silene dioica* is common in Orkney and may be seen nearly all year round in gardens, along field edges, road verges, woodland and coast. Last year on one plant in my garden I saw a small group of shiny black aphids. It does not take long to get close to an identification via the Internet. Type ‘black aphid on *Silene dioica*’ and you will make the same discovery as me – and find InfluentialPoints.com. And so, it appears that the only black aphids seen clustered near the flowers of Red Campion are one or two in the *Brachycaudus lychnidis* species group (henceforth *B. lychnidis* agg.). From there you might check records – I did and found only one record of the aggregate in the UK, south of London. That was enough to make me take more photos and do more research. But I needed first to grasp a little of the biology of aphids.



Red Campion with *Brachycaudus* infestation

Briefly, they are usually tiny insects, 3mm or less, with a life-cycle involving flightless females giving birth to female nymphs without mating (*parthenogenesis*). These mature quickly and the number of insects multiplies rapidly. After a series of moults (*ecdyses*), each of which leaves a visible empty exoskeleton (*exuvia*), they reach maturity. Winged females may develop later in the season, allowing them to colonise new plants. Winged males may mate with these; in Orkney these probably result in overwintering eggs that hatch in April.



A mixed group of *Brachycaudus*

*B. lychnidis* agg. are shiny black, with a distinctive waxy ring at the tip of their abdomen, seen only when fully mature at their final stage. Before then they are various shades of brown. They are very prone to fungal infection and predation. This means there may well be a lot of different shapes, colours and sizes, as well as *exuvia* and, late in the season, winged versions.

I noticed that some of the aphids were fat and quite pale; it became clear that these were predated and I actually watched the emergence of a Braconid wasp. Left with the developing aphids, it quickly began injecting eggs into semi-mature nymphs. Other nymphs and mature aphids were prone to a cloaking fungal infection and they did not fare well in my small study-batches; in fact most of my captives were quickly infected by the fungus or attacked by the wasp and few survived.

These aphids are very common in Orkney, which now has records in 21 National Grid 1km squares around Mainland. I hardly found a single Red Campion during the year without a small colony of *Brachycaudus* aphids. However I really wanted to see if I could identify either of the species hidden under the *B. lychnidis* name, either *B. lychnidis* s.s. or *B. klugkisti*. A key distinction lies in a microscopic feature - the number and length of hairs on the third antennal segment.



- *B. lychnidis* has 15-24 hairs on the third antennal segment, the longest of which are 32-53  $\mu\text{m}$ .
- *B. klugkisti* has 6-15 hairs on the third antennal segment, the longest of which are 17-29  $\mu\text{m}$ .

At first someone else did the ID from samples I sent away but later I was able to do it, with difficulty. 9 of the accepted records are for *B. klugkisti*, the remaining 12 for *B. lychnidis* agg. However it is likely that *B. klugkisti* is the only species present in Orkney.

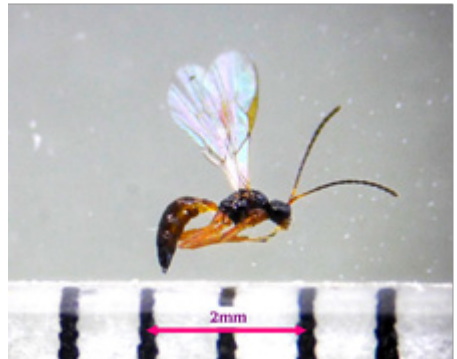
The distinctive waxy ring of a mature aphid

My enthusiasm was shared by others and one result is a number of other records in Scotland, now see in the NBN Atlas for Scotland.

### Acknowledgements

Early support: Bob Dransfield (Academic, aphid expert and UK aphid verifier for iRecord).

Identifications: Murdo Macdonald Highland Biological Recording Group (HBRG).



One of the Braconid wasps, possibly *Aphidius* sp.

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All photographs by the author.



Orkney Vole (Paul Wilson)

The most celebrated mammal in Orkney, since 1904 at least, has been the **Orkney Vole** *Microtus arvalis orcadensis*. The publication of what was then known as *Microtus orcadensis* in The Zoologist magazine (Millais, 1904) sparked an Orkney Vole tourism boom. Edwardian naturalists flocked to Orkney to tick off this new mammal. The next two years saw a rash of notes published by people wanting to add their name to the vole's story. More than a century on, this pattern continues, as shown by this article!

John Guille Millais was the seventh child of John Everett Millais, a leading light in the Victorian Pre-Raphaelite Brotherhood painting movement. In 1886 John Guille Millais had been returning from a fishing trip to the Loch of Harray when he noticed a vole that was large and dark, so much so that he wondered if it could be a melanistic **Water Vole** *Arvicola terrestris*. He decided that wasn't the case but felt it did not match any other British vole. He confirmed this to himself when he had a specimen procured for him the following year.

His interest in Orkney Voles continued and he ended up keeping them in captivity, being the first person – in modern times at least – to discover they made good pets. As an aside, it is worth noting that the much-missed Eric Meek also found out that they took well to caged life. When Eric had caught one for a film, he put it in his son's old hamster cage overnight – within 20 minutes the vole was going round and around the hamster wheel!

It is not known why Millais waited two decades before making his discovery public. By 1904, British mammals were the principal focus of his life, as he was busy writing and illustrating the *Mammals of the Great Britain & Ireland*. The volume of this huge work covering voles came out the following year (Millais, 1905).

Prior to the *Zoologist* paper and this treatise on British mammals, it had been assumed that the voles, volos or cutticks in Orkney, were Field Voles *Microtus agrestis*. The need to avoid making assumptions is a salutary lesson to all of us with a fascination with natural history.

The origin of the Orkney Vole is a tale much longer than the caudal appendage of this wee furry beastie. Naturalists were at the forefront of this story in the early 20<sup>th</sup> Century, but latterly it has been archaeologists and molecular biologists who have thrown light on the history of the creature. I have had no part in any of these studies but I could see that these scientific findings would be of interest to naturalists, rather than languishing as dense papers in journals such as *Molecular Ecology* and *Evolution*. So, with some help from the archaeological community, an article was written for *British Wildlife* magazine (Branscombe & Dobney, 2016).

That article is the place to go for the 114 year history of our understanding of the Orkney Vole. In summary, by the mid-20<sup>th</sup> Century, the Orkney Vole had been recognised as a subspecies of the **Common Vole** *Microtus arvalis* (with the Orkney Vole becoming *Microtus arvalis orcadensis* Millais). The Common Vole is found across continental Europe, and on the Channel Isles, but – Orkney apart – there is no record of this species ever having been present anywhere else in Britain or Ireland.

The evidence is now fairly strong that this species came directly to Orkney (bypassing mainland Britain) with the first farmers about 6,000 years ago from somewhere around the west side of the mouth of the Rhine. The arrival of the voles is mysterious – none of the possible explanations seem at all likely – but in the *British Wildlife* article, I favour them being brought here deliberately, perhaps as a luxury food item or even a pet.

I make no apology for favouring a theory despite having done no studies myself. As we can't even be sure how the **Stoat** *Mustela erminea* arrived in 2010, we'll always be left with nothing more than best guesses for the nature of the arrival of Orkney Voles. The more of us that try and think this through, the better our collected postulations can be. Incidentally, the possibility of them having been a delicacy has been given more support by the recent publication of Romaniuk *et al.* (2016) which documents burnt Orkney Vole bones from Skara Brae, suggesting that they had been cooked.

Bones and teeth from archaeological deposits indicate that they soon became much larger than their continental ancestors. The 'island size effect' which can encourage large size in small animals in the absence of significant predation and competition can explain this – although should we rule out selective breeding by vole farmers, keen to get a morsel closer in size to a guinea pig than a mouse? Orkney Voles are still significantly larger than continental Common Voles but studies have shown that after an initial rapid mushrooming in size, Orkney Voles have actually got progressively smaller from the Neolithic to today.

### **The autecology of the Orkney Vole**

The vole is a herbivore feeding on a wide range of grasses and herbs in rough grassland in Orkney, largely what can be gathered from above-ground runs, but possibly also on roots to some extent. It is a 'keystone species' which ensures that Orkney's breeding birds are set apart from Shetland's more impoverished avian fauna. We boast breeding Hen Harriers *Circus cyaneus*, Short-eared Owls *Asio flammeus* and Kestrels *Falco tinnunculus* whilst Shetland lacks them all.

This was the basis for a doctoral study by Peter Reynolds who had been working for the Nature Conservancy Council in Orkney. This study transformed our knowledge of 'our' voles – the copy

of his Aberdeen University PhD thesis in the Orkney Room of the Library and Archive in Kirkwall is a precious asset available for all in the county.

Reynolds showed that our Short-eared Owls had Orkney Voles as their principal prey item. He found that Orkney Voles only make up about 10% of the Hen Harrier diet (although this prey item could still be vital at certain points in the harrier breeding cycle).

Reynolds carried out quantitative surveys of Orkney Voles in different habitats in Orkney. Densities were highest in damp rough grassland. The species was found to be more or less absent in improved grassland used for intensive grazing or silage cutting and in arable crops. In areas dominated by modern farming techniques, the species only hangs on along linear features such as ditch sides and road verges. His density estimate for each land-use type used by voles, combined with data on their extent across Orkney, allowed him to estimate the population of Orkney Voles as being around one million individuals at the end of each winter, rising to about four million individuals at the close of the breeding season in autumn.

### **The Status of Orkney Vole**

The Orkney Vole has had a long-standing presence on Orkney's larger islands such as South Ronaldsay, Mainland, Rousay, Westray and Sanday. Orkney Vole remains have been found at archaeological sites on the Holm of Papay and South Walls (Cantick Head), but there is no modern record of the species from these isles; Branscombe & Dobney (2016) offers a summary of the speculation as to potential reasons for this.

Whilst islands like Hoy and Walls, Papa Westray, the Holm of Papay and North Ronaldsay remain vole free the range of Orkney Vole has increased. The species spread naturally to Burray from South Ronaldsay following the building of the Churchill Barriers. It is not clear whether they were able to cross the barrier itself, after its 1944 completion, or whether their arrival on Burray followed the build-up of extensive vegetated sand dunes on the east side of No. 4 Barrier from around the 1980s onwards. The latter seems much more likely, and would be given support if a survey on Glimps Holm & Lamb Holm found the creatures absent on these isles.

Eday also now has Orkney Voles after an Eday farmer introduced 'spare' voles which had been live-trapped on Westray as part of a study into the genetics of mice on the island. Around 15 voles were taken to Eday and released at points on the west and east coast in the centre of the island. Within three years the species was present in suitable habitat throughout this island of 27 km<sup>2</sup>.

Despite these modest range increases, it is clear that the Orkney Vole had a huge decline in Orkney during the 20<sup>th</sup> Century. Early publications describe Orkney Voles as abundant in hay fields and cereal crops. The work of Reynolds clearly showed that it had been lost from these habitats as agriculture became more mechanised.

In 2010, Stoats arrived. They have increased exponentially in the county as shown by the numbers of sightings which have been recorded. The current frequency of sightings and early trapping results from the RSPB/SNH Orkney Native Wildlife Project in winter 2017/18 indicate that high densities have already been reached in some areas of West Mainland. It is likely that the ready availability of Orkney Voles as a prey source means that Stoats can be much more successful in Orkney than they have been in Shetland. In addition to the impact on Orkney Voles themselves then this will then allow the high Stoat numbers to cause a bigger impact on ground-nesting birds than has been the case in Shetland.

Reynolds (1992) laid out a methodology for vole monitoring and the calculation of population densities from the resulting data. However, there has been no systematic use of this methodology

since. The RSPB has undertaken some annual surveys recording signs of Orkney Voles on their reserves, but the RSPB believes that this data is only of limited use. Monitoring needs to be more rigorous and better replicated – the Orkney Native Wildlife Project has this as one of its priorities.

Orkney Voles have generally been considered to have relatively stable population levels. This is in contrast to the marked peaks in numbers of this species and other voles and lemmings in continental Europe. A cyclical boom and bust gives an abundance of voles in ‘vole years’ leading to high breeding success for their mammalian and avian predators, and the population then returning to a lower level, presumably driven by the high predation rates.

It has been considered that lack of mammalian predation (particularly an absence of **Fox** *Vulpes vulpes*, Stoat and **Weasel** *Mustela nivalis*) means that this cycle has not been a regular occurrence for Orkney Voles since they arrived in Orkney. Genetic sampling of the modern Orkney Vole population has shown the genetic diversity within the Orkney Vole population to be much greater than that in the Common Vole populations across continental Europe today, as referred to by Branscombe & Dobney (2016).

This finding is bizarre. Introduced populations usually have a reduced genetic diversity due to ‘founder effects’ when just a handful of individuals set up a new population. The only plausible explanation of the contrary situation is that large numbers of voles were brought to Orkney in pre-history (avoiding founder effects) coupled with the genetic diversity of Common Voles in Europe having been reduced significantly over the subsequent 6,000 years – perhaps due to frequent genetic bottlenecks when very few Common Voles survived due to high levels of predation (as often follows high vole numbers) and perhaps habitat change too. The Orkney Vole seems to represent a ‘genetic ark’ which holds the ancestral genetic diversity which has been lost in the original donor population(s).

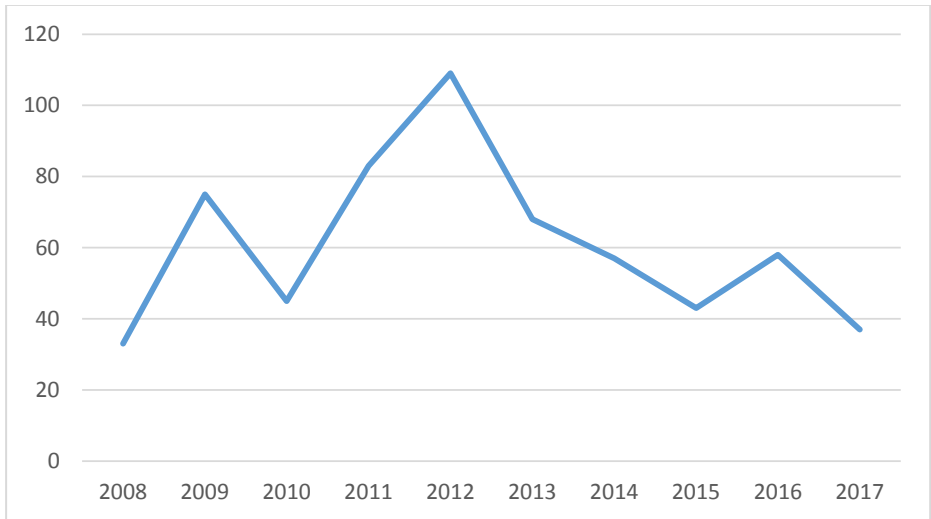


Figure 1. Short-eared Owls in Orkney – apparently occupied territories (data from Orkney Bird Reports)

Whilst the Orkney Vole population was thought likely to have been relatively stable, the relatively snowy winters of 2009/10 and 2010/11 led to Orkney Voles being seen with great frequency in



summer 2011 in 2012, presumably due to snow cover protecting the voles from aerial predation during those winters.

The chart above shows the Orkney Short-eared Owl breeding population (measured as ‘Apparently Occupied Territories’) over the last 10 years. This shows a huge peak in the owl population matching the apparent profusion of voles in 2011 and 2012.

It is tempting to take the Short-eared Owl population level as a proxy measure for the Orkney Vole population. It may well do so, but two important caveats need to be considered. First, breeding Short-eared Owls are notoriously hard to survey so there will be a considerable margin of error in all these figures. In addition, this owl species is known to have erratic dispersal patterns, meaning that the numbers in Orkney can be affected by conditions for the species in other parts of its range, rather than just relating to the conditions in Orkney alone (which would be the case for a wholly sedentary species).

Whilst bearing these reservations in mind, it is clear that the Short-eared Owl breeding population has dropped since 2012 and it is also felt that vole numbers have reduced over the same period. This graph suggests that the current Short-eared Owl population is similar to that in 2008. However, growing attention has been paid to Short-eared Owls by the Orkney Raptor Study Group over this period, so the 2008 figures are more likely to be underestimated than was the case for the 2017 records.

There is great concern that areas which had regular breeding Short-eared Owls in the past, but where Stoats are now seen frequently, there now appear to be fewer apparently owl occupied territories, or even none at all. A relationship cannot be proven at present, but it could well be that owls are being affected by the predation pressure that the booming Stoat population is exerting on voles. The heavy dependence of Short-eared Owls on Orkney Voles means that this raptor is very much a species to watch in the light of the advent of Stoats in the county.



Short-eared Owl (Morris Rendall)

Incidentally, the 2012 and 2013 breeding seasons were also very successful years for Hen Harriers in Orkney. Whilst Orkney Voles are a smaller part of the harrier's diet, it could be that an effect will appear there too.

### **What future for the Orkney Vole?**

Will the Orkney Native Wildlife Project achieve its aim of eradicating Stoats? It is very important that it does, but to do so, the project will require all the help it can get from farmers, landowners, naturalists and the rest of Orkney's public.

If it does, our vole – and the raptors that depend on it – are safe. But what if it doesn't?

It is possible Stoats will be completely eradicate the Orkney Vole. The vole has had six thousand years in isolation from any predator like the Stoat. It could have begun to lose the genetic traits that enabled it to coexist with predators in continental Europe. This possibility cannot be ruled out but I don't believe it is the most likely. I feel it is much more likely that Orkney Voles will survive at lower densities. If so, the Orkney Voles can be expected to steadily decline in size due to larger, slower animals being more prone to Stoat predation. Perhaps Orkney Voles would even return to being the same size as their continental ancestors. A population crash could also lead to a big reduction in the hidden – but unique – genetic diversity of the Orkney Vole.

I feel a county where Orkney Voles are scarce would be a much poorer place. We'd see its characteristic avian predators much less. A link with Orkney's first farmers would be diminished. Like many others, I will do all I can to help this ambitious Orkney Native Wildlife Project succeed in its aims.

### **Footnote**

If anyone would like a pdf copy of the 2016 *British Wildlife* article, please email me at [julian@jbranscombe.co.uk](mailto:julian@jbranscombe.co.uk)

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## The Orkney Native Wildlife Project

**A summary of the measures that are being taken by the partnership between RSPB Scotland and Scottish Natural Heritage to address the issue of non-native stoats (*Mustela erminea*) in Orkney (March 2018).**

*This article has been abridged by Helen Aiton and John Crossley from a project description provided by Sarah Sankey (RSPB)*

Whilst there have been historic records of stoats in Orkney, there have been no records in recent decades until 2010. Thanks to records submitted by the community in Orkney over the past seven years, it can be shown that since then stoats have become established throughout the Mainland, Burray and South Ronaldsay (Figure 1). Camera footage of a stoat in Hoy was recorded in autumn 2017. There were initiatives to remove stoats in the years following the first sightings but these were unsuccessful.

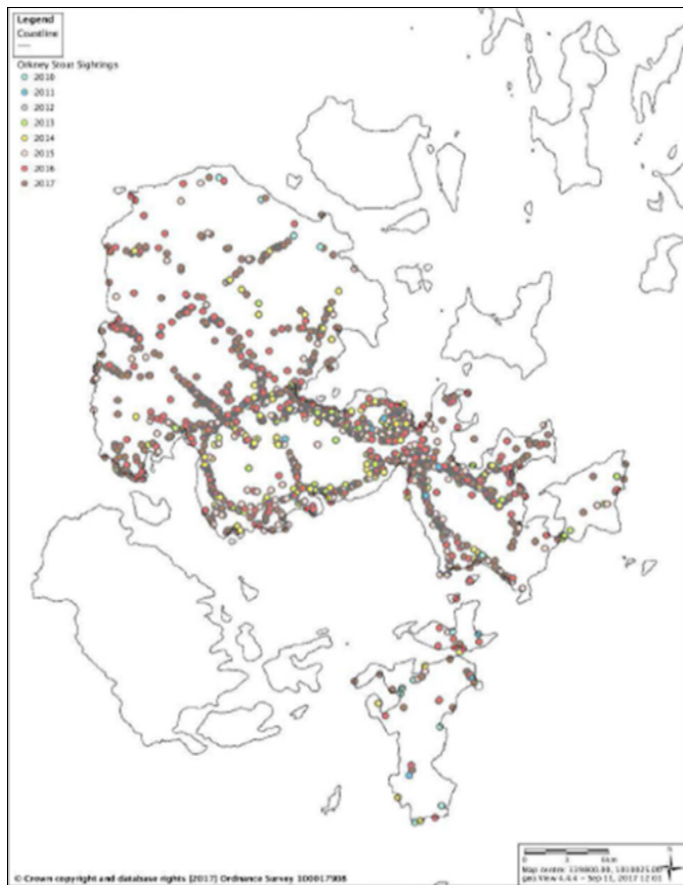


Figure 1. Locations of stoat sightings submitted by the public from 2010 to August 2017.

To safeguard the wildlife of Orkney now and into the future, RSPB Scotland and Scottish Natural Heritage (SNH) combined resources to develop the largest stoat eradication project in the world to date. The Orkney Native Wildlife Project was created and a Technical Advisory Group (TAG) set up to guide development, which included experts in stoat biology and the development and delivery of eradications.

First, we needed to know whether, given the large area inhabited, stoats could be removed in their entirety from the county and, equally importantly, whether the islands could be kept stoat-free afterwards. In 2016, RSPB Scotland commissioned a feasibility review of a proposed methodology and biosecurity plan by a world-leading expert from New Zealand. This review concluded that both eradication of stoats and prevention of future reinvasions were feasible. However, the report stressed the need for immediate action to prevent stoats spreading to the outer isles, as stoats are accomplished swimmers, known to be capable of swimming several kilometers across open water.

The review recommended that a mixture of all available humane and legal traps, together with use of detection dogs, will be needed to eradicate stoats. Assuming that female stoats would not range far because of the high density of food available in Orkney, it has been estimated that about 8,000 lethal, humane traps would need to be placed in areas of cover at a density of 14 per km<sup>2</sup>. Traps currently legal to use are Department of Conservation of New Zealand (DOC) series traps in approved housing of cubbies or tunnels; we also intend to use self-setting Good Nature traps should they become legal in Scotland (they are currently legal in England). In the later stages of the programme fully-trained dogs will be required to detect trap-shy or difficult to trap stoats to ensure complete eradication. The dogs will be used to locate but not kill animals. It was suggested that eradication would take five years.

### **Project funding**

Following this, a project was developed and funding sought from the Heritage Lottery Fund. The project would not only eradicate stoats and deliver comprehensive biosecurity measures but would also build public support for wildlife and monitor priority wildlife into the future.

Total project costs were estimated to be at least £5 million. In March 2017, a Stage 1 bid to develop the project was submitted and in July £64,600 was awarded for this stage. At this time £3.4 million was earmarked for eradication, if an application for Stage 2 funding was successful. A funding bid was submitted to EU LIFE in September 2017 and the partners are currently looking for other sources of funding to ensure the project has adequate contingency. Internal resources from SNH and RSPB have also been dedicated to the project.

To secure the next phase of HLF funding, actions agreed with HLF and TAG for development phase (Stage 1) have to be completed. It was agreed that these actions should include seeking support from the Local Authority to deliver the project; trialing traps, baits and lures to develop the most effective methodology possible; writing a detailed operational plan for the eradication; and carrying out comprehensive community consultation. This last is aimed at building public support for the project and developing activities that people will engage with in the long-term and will protect the wildlife of the islands.

During the nine-month HLF development phase the partnership has been consulting widely with the local community and stakeholders. A Project Development Officer was recruited to coordinate the community consultation. 40 meetings have been held across the inhabited islands. Over 800 people filled in a project questionnaire that was distributed across the islands and online. The consultations and questionnaire results are being used to inform and design the project and the activities it will develop, including an education programme that will see young people and schools actively engaged in the project. There will be a comprehensive programme that will monitor native wildlife populations during and after the project and will allow population trends to be determined for Orkney's key species into the future.

### Trapping Trial

A trapping trial was deemed important as there is little information about using traps, baits and lures to catch stoats in the UK, or about the behaviour of the stoats in Orkney, or the impact of traps on other species. Given the scale of the project it is imperative that the eradication project starts with the most effective methodology possible.

The trial started in December 2017 in three areas between Kirkwall and Finstown, each 5km<sup>2</sup> in area. Hot spot areas were selected to ensure enough stoats were trapped. Within these areas two trap types were tested at over 100 locations (either 2 DOC 150s in a baffled wooden tunnel or a DOC 200 in a wooden cubby) within improved grassland habitat, rough grassland and moorland with different bait and lures. Prey and stoat population densities were measured using transects, cameras and monitoring tubes. Effectiveness of traps and interaction of other animals with traps was further assessed using trail cameras. Figure 2 shows the traps being tested.



Figure 2. Traps being tested in the trapping trial. – Clockwise from top left: self-setting Good Nature trap, double set DOC 150 in a tunnel and DOC 200 in a cubby.

Un-set Good Nature traps are currently being trialed at Brodgar with cameras recording interaction to gauge interest and likely kill rate.

Initial data analysis shows that 32 stoats were caught in the initial ten-week period. The rate of capture reduced markedly with time and the majority of stoats were caught on the moorland during the winter period. This data provides valuable information for the eradication methodology.

### **Biosecurity - preventing spread to islands**

In August 2017, the partners set up the 'Orkney Mainland Predator Invasion Biosecurity Project' to reduce the chance of dispersal to currently stoat-free islands. Five areas of coastal areas of mainland Orkney have networks of DOC 200 stoat traps present, as shown in figure 3. There are 160 traps in total and they were initially checked every two weeks and now once a month. So far, these traps have caught 18 stoats.



Figure 3. Areas of trapping in Orkney Mainland Predator Invasion Biosecurity Project.

Support from landowners and tenants is critical to the success of the project as the trapping methodology requires a trap to be placed every 250m or so across Orkney mainland and linked isles. Therefore, in consultation with landowners, the National Farmers Union of Scotland (NFUS), Scottish Agricultural College (SAC) and the Scottish Government Rural Payments and Inspections Directorate (SGRPID), the project partners have developed a 'Landowner Access Protocol'. This has now been trialed for siting and checking of traps, with over 100 landowners in the trapping trial areas and through the biosecurity trapping.

### **Responding to sightings in the isles**

The partnership also responds to sightings of stoats from the outer isles using a 'Predator Incursion Response'. Camera monitoring and traps are deployed in a 3km area around the reported sightings and further action follows to prevent spread and colonisation of the island if a sighting is confirmed. To date, incursion responses have been carried out in Sanday, Rousay and Hoy. One report has been confirmed in Hoy with a trail camera. As Hoy is such a large island, as well as increasing number of traps in the known area we have expanded the network of traps and cameras to establish stoat range across the island. To date we have not confirmed stoat presence anywhere else on Hoy but neither have we yet trapped the confirmed animal, despite concerted effort. This is a good reminder to us as to how hard it is to 'get the last one' and demonstrates why we need good plans.

### **Lessons learned to date**

The biosecurity trapping and trapping trial has shown that one person cannot check quite as many traps as had originally been thought. Due to the risks of splitting the area of eradication to the success of the project, more information is being collected to ensure that traps are placed to maximise catch rate.

One standard DOC 150 trap caught a pet cat paw. The injury was not life-threatening, but highly regrettable nonetheless. These traps have been withdrawn from the field. Only traps with extended baffles are now considered suitable for use.

The trapping trial is yielding very useful Orkney-specific data on stoat trapping and behaviour. The partners intend to extend this trial to gain further information in spring, summer and autumn. The eradication methodology will need to be adapted and refined according to findings.

This will be a demanding project: with eradication attempts, if the project under-achieves it will fail, so it is essential to plan to over-achieve. In no species is this more relevant than the stoat, when any female at any given time is most likely to be pregnant and so capable of founding a new population.

## Little Wonders

Lee Johnson

Globular galls around 8mm in diameter were noticed at the base of the leaves of young oak trees in early June at Hestily, South Ronaldsay (LJ) and also seen by Bob Simpson in Stromness. These were caused by a wasp, the **Curver-leaf Gall Causer** *Andricus curvator f. sexual*. The development of the gall is caused by the saliva of the wasp larva (in Sawflies it is caused by the ovipositing of the female). Gall-inducing wasps often have two generations per year, the second stage is asexual and overwinters. The first stage is usually in the Spring with males and females emerging. Both galls were collected and the inhabitant reared out. Surprisingly the creature that emerged 12 days later was not as expected and turned out to be *Saphonecrus connatus*, an inquiline gall wasp. An inquiline is a species that lays its eggs in the gall (or nest) of another species and comes from the Latin *inquilineus* meaning ‘tenant’ or ‘guest’. *Saphonecrus connatus* has a single generation per year. A huge variety of inquiline wasps can potentially emerge from galls. More than one species can emerge from each gall often living in different parts of the gall tissue so the presence of one does not necessarily mean the original gall causer will not hatch.



A delicate **Braconid Wasp** *Zele albiditarsus* was found in a moth trap in September at Berstane by Nancy Charlton. This was identified by Gavin Broad of the Ichneumon Recording Scheme and has not been recorded in Orkney before. Braconids are parasitic on other insects and this particular species is known to oviposit on Hymenoptera and Lepidoptera. Perhaps it was attracted to potential hosts in the moth trap?

Photograph by Nancy Charlton





Amongst the usual profusion of empty snail shells in the dunes on the Fourth Barrier Beach in August were several **Striped Snails** *Cerneuella virgata* (LJ) which were confirmed by Adrian Norris of the Conchological Society. This variable species has a pale background colour (often with dark stripes), a brown flush inside the aperture, irregular growth ridges and measures 9-18mm. It is often found in coastal dune habitats and has been recorded in Caithness but not previously in Orkney.

The common **Slender Springtail** *Entomobrya nivalis sensu strictu* was collected from Olav's Wood, South Ronaldsay in May 2017 (LJ). It is a more northern species than the similar *Entomobrya intermedia* and has been confirmed by Dr Peter Shaw as a first record for Orkney. Measuring 2mm in length and found all year round feeding on dead plant material in compost heaps and in leaf litter, *E. nivalis* is yellow with burgundy markings and a U shape on the abdomen which is a different shape in *E. intermedia*.



Another very common but previously un-recorded **Springtail** *Orchesella cincta* was found at Berstane in April by Nancy Charlton and Lee Johnson. Measuring around 4mm, they are easier to see with the naked eye than many springtail species. The name *cincta* derives from the Latin for 'banded' as this species has a yellow band on the third abdominal segment. Oddly, they almost always seem to have asymmetrical antennae making them quite distinctive. They are found under stones, in guttering on roofs and sometimes they can be seen climbing walls.

The common **Barkfly** *Ectopsocus petersi* was noted under loose bark in April at Olav's Wood, South Ronaldsay (LJ). Like most *Psocoptera*s, this species has probably been overlooked in the past as there are no other records for Orkney. *Ectopsocus petersi* measures around 2mm and has dark spots on the forewings, it is quite hard to see under bark unless you peer really closely, often only becoming apparent when it moves. Males (pictured) have wings that are longer than the abdomen. They feed on lichens, fungi and other organic material. They are active all year round so are worth looking out for in the winter when other invertebrates may be hard to find. The record was confirmed by Keith Alexander of the Barkfly Recording Scheme.



And finally, **Harvestman** *Opiliones* were seen aggregating in several locations in 2017, sometimes in mixed species groups. The photographed species is *Nemastoma bimaculatum* and is quite common in Orkney. It is black with two pale spots on the cephalothorax and has short legs. This group which numbered more than 20 in total were found under one small stone in



South Ronaldsay but groups of hundreds of individuals can be found. It is thought that this communal living could either give reproductive advantages or perhaps it is defensive. Harvestman give off a foul-smelling scent from the wonderfully named odoriferous gland which repels attackers and one can imagine that an aggregation will smell overwhelming awful to

many predators.

All photographs by Lee Johnson unless otherwise stated.

## Getting into Moth Recording

*Helen Aiton*

Finding or trapping and then identifying moths in your local area can be a highly rewarding experience. This can range from simply recording daytime-flying moths you encounter to setting up a moth trap of your own. The adults of different moth species fly during different months throughout the year, with the greatest variety in the summer months when in Orkney we have virtually no darkness, which adds to the challenge of moth recording as the adults also prefer warm windless days and nights! It is however, very satisfying to monitor the changing species throughout the year.

In Orkney the daytime moths I have encountered over the past few years include the fabulous **Emperor Moth** *Saturnia pavonia* and the sight of **Magpie** *Abraxas grossulariata* moths in their hundreds, both species on the moors; the glamorous **Pebble Prominent** *Notodonta ziczac* and the impossibly exotic migratory **Hummingbird Hawk Moth** *Macroglossum stellatarum* both in my exposed garden at 100m altitude. Who can forget the 2016 invasion of the migratory micro **Diamond-back moth** *Plutella xylostella* in their billions that ultimately devastated our brassica crops?



Pebble Prominent  
*Notodonta ziczac*  
June 2017  
Author's garden in Evie  
(Helen Aiton)

Emperor Moth  
*Saturnia pavonia*  
Female  
May 2015  
Birsay moors  
(Helen Aiton)



Invest in a Guide to Day flying moths<sup>1</sup> or an identification guide to moths<sup>2</sup> and a camera or phone with a macro setting and you will be well on the way to becoming a “moth person”.

## Trapping moths

At night, moths are attracted to light so you could start by leaving an outside light on or the curtains open; many of our garden records have come from doing this, especially later in the season.

If you decide you would like to own a moth trap, it is important to research the different light trapping options available on the market to buy. I would recommend starting with the Butterfly Conservation website: moth counting page<sup>3</sup> which has excellent links. We built our own wooden portable trap and invested in an Actinic Light and sensor which runs off a 12V battery.

It is worth investing in plenty of transparent tubes to store the moths in – we cool the moths in the fridge before photographing and identifying them. Moths are very delicate and should not be handled as this will damage the scales on their wings. We release them into long grass so they can hide during the day.

Identification of some night flying moths can be difficult at first. You may be looking for subtle differences in seemingly virtually identical brown moths; however the more familiar you get with your moth guide the easier it becomes. There is also an Orkney Facebook community of very supportive and knowledgeable moth people who are very happy and able to help with identification<sup>4</sup>. The UK moth website has an excellent online guide to moth identification<sup>5</sup>.

Once a year I submit our moth records to the County Recorder via the useful Excel spreadsheet he provides.

I hope that this article will tempt you to start recording the moths you see – every submitted record is precious in these times of climate change.

## Useful information sources

<sup>1</sup> Lewington, Richard. 2016. *A Guide to the Day-flying Moths of Britain*. Field Studies Council. (This folding laminated sheet is great for popping in your rucksack!)

<sup>2</sup> Townsend, M., Waring, P. & Lewington, R. 2007. *Concise Guide to the Moths of Great Britain and Ireland*. British Wildlife Publishing  
(All resident and immigrant larger moths are described and illustrated in their natural resting positions. The ring binder format allows the book to lie flat on its own.)

<sup>3</sup> Butterfly Conservation website:  
[http://www.mothscount.org/text/86/equipment\\_and\\_where\\_to\\_get\\_it.html](http://www.mothscount.org/text/86/equipment_and_where_to_get_it.html)

<sup>4</sup> Orkney Moths and Butterflies – a public Facebook group

<sup>5</sup> UK Moths. <http://www.ukmoths.org.uk/>  
(An online guide to the moths of Great Britain and Ireland)

How does one set out to record the flora of all parts of a whole county, as we are doing for BSBI's *Atlas 2020*? Ideally, in a planned and systematic way using some method of representative sampling, but in practice a more *ad hoc* approach has emerged, arising from an enthusiasm for plants and for exploring the more attractive and interesting parts of the county. In this way, until two or three years ago, many thousands of records were collected (particularly, I should say, by Eric Meek). After that, analysis of results made clear what was still to be done; one consequence is that the isles have featured greatly in the last few years' efforts. Now with just two years left to complete the project it is clear that coverage is already very good, if not yet complete, and there remain the treats of visiting some remaining outliers and tracking down some more elusive species.

3954 individual plant records were made in 2017, which is 10 more than last year! Nine islands were visited, in addition to the Mainland, some of them more than once. Several of these visits were Field Club or Flora Group (an OFC sub-group) outings or were made in even more informal groups; rigorous attention to plant taxonomy was desirable but not compulsory! The first outing of the year was that of the Flora Group to Horrie, St Andrews on 14 June, courtesy of and with the guidance of Anne Manson. The area is typical of much Orkney farmland, mainly improved grassland but laced with farm tracks, ditches and the occasional wet hollow or remnant bit of heathland, or, in this case, a disused and water-filled quarry. Among a list of 83 mainly common species recorded were a few less common ones and a rarity. **Pignut** *Conopodium majus* and **Wood Horsetail** *Equisetum sylvaticum* were growing along a field boundary and **Fairy Flax** (or

**Purging Flax**) *Linum catharticum* on bare-ish ground along a track, while some orchids along a ditch side gave much pause. Both **Northern Marsh** *Dactylorhiza purpurella* and **Heath Spotted Orchids** *D. maculata* and the hybrid between them *D. x formosa* (new for the 10 km square) were there, and a peculiar-looking, tall, pale one with broad and heavily spotted leaves that just might have been **Common Spotted Orchid** *D. fuchsii* (formerly rare in the county and believed now extinct); however, this proved not to be the case: the national orchid referee's verdict on photos was that they were ordinary **Heath Spotted**. The real find of the day (though already known to Anne M.) was **Cut-leaved Cranesbill** *Geranium dissectum*, a very scarce species in Orkney and a first record for the 10km square.



Hybrid Early Marsh x Northern Marsh  
Orchid in Stronsay (John Crossley)

A Field Club trip to Stronsay on 18 June was to the southeast coast of the island including Brough Head; the spectacular cliffs here are backed by species-rich heath and marsh and though this was not billed as a botanical outing there was an opportunity to fill some gaps in the floral record and see some unusual plants. The first of these, just south of Brough Head, was **Saltmarsh Flat-sedge** *Blysmus rufus*, last recorded here in 1974 and growing, unusually, not in conventional saltmarsh but in the spray zone above the cliffs. Not far away in flushed marsh was a display of at least 60 **Early Marsh Orchids** *Dactylorhiza incarnata* ssp. *incarnata* and with them three blooms of what appeared to be the hybrid between this and the spotted-leaf variety of **Northern Marsh Orchid** *D. purpurella* var. *cambrensis*; this was later confirmed by the national orchid referee. This hybrid, without identification of a subspecies or variety of either parent, has been recorded only once before in Orkney (in Stronsay as it happens) and as far as I have been able to discover this particular combination of parents has not been described before anywhere. After that, Orkney's only **Brookweed** *Samolus valerandi* plants, well-known from the site but unfortunately barely in flower at this date, were admired.



Allseed (John Crossley)

Weather stopped the next planned Flora Group outing to Winksetter; the one following was to the Snelsetter/Kirk Hope area of South Walls on 24 July. The weather was nothing special but the plants certainly were. The small area round the gloop at Helliack was spectacular, with at least 550 **Scottish Primrose** *Primula scottica* plants, **Field Gentian** *Gentianella campestris* and the diminutive **Allseed** *Radiola linoides* in the grassy heath, with **Sea Spleenwort** *Asplenium marinum* in the gloop itself. **Marshall's Eyebright** *Euphrasia marshallii*, one of the few reasonably identifiable eyebrights (it's very hairy) was growing on the exposed cliff edge, the first site for this nationally rare and endemic species so far discovered on any of the southern shores of Orkney. **Foula Eyebright** *E. foulaensis*, nationally scarce but locally quite common in Orkney, was plentiful and its hybrid with *E. marshallii* was recorded from samples sent off to the national referee. Total species count for the day was an impressive 174.

The Field Club visited the southeast part of Flotta including Stanger Head on 2 Aug; farmland, road verges, sea cliffs, heathland, shallow lochans and flooded quarries offered much to explore. The flora was similar to that of South Walls, though without the specialist species of very exposed cliffs and with a bit more variety reflecting the diversity of habitats. Both **Field Gentian** *Gentianella campestris* and **Autumn Gentian** *G. amarella* ssp. *septentrionalis* were plentiful near quarries at Stanger Head. Nearby sheltered cliffs facing Hoxa Sound support tall herb and scrub vegetation, including **Sherard's Downy Rose** *Rosa sherardii*, last recorded here in 1932

by Henry Halcro Johnston and **Yellow-styled Hawkweed** *Hieracium latobrigorum*, last recorded here in 1933 by James Sinclair. A nice surprise on the walk back to the pier was to see a solitary, sky-blue flower of **Cornflower** *Centaurea cyanus* growing in a grass re-seed, a first for the island.

Shortly after the Flotta outing the Flora Group made an evening visit to the Hill of Dale, by Scorradale, Orphir. The area is mostly dry heath, with a little species-rich neutral grassland by the roadside and some springs and runnels further up the hill. There was an opportunity to examine several species of sedge in the wet ground and also to compare **Heath** and **Marsh Louseworts** *Pedicularis sylvatica* and *P. palustris* side by side. Chief find of the day (actually spotted by Jenny Taylor a couple of years previously) was **Stag's-horn Clubmoss** *Lycopodium clavatum*, scarce in Orkney but more frequent in the Orphir hills than anywhere else.

Finally, on 27 August, an impromptu OFC outing to the Old Man and St John's Head in Hoy. There were two aims: to explore the boulder fields beneath the cliff-top and a gully north of the Old Man and to compile a comprehensive plant list for the St John's Head area, 2 km further north, which has apparently not been done before. It is probably not much known that there is an accessible undercliff just north of the Old Man and that the broad gully of Stours Kinora can be descended to the sea (though we did not do it, not being keen to scramble back up). The boulder field is surprisingly rich in plants, including ferns and herbs such as **Grass of Parnassus** *Parnassia palustris* and **Roseroot** *Sedum rosea*. **Sea Spleenwort** *Asplenium marinum* was new for the 10 km square. We were hoping to find **Wilson's Filmy-fern** *Hymenophyllum wilsonii*, but failed. Further north, St John's Head on the other hand supports a fairly restricted but distinctive montane flora, including **Alpine Bearberry** *Arctostaphylos alpinus*, **Stiff Sedge** *Carex bigelowii*, **Bog Bilberry** *Vaccinium uliginosum* and **Trailing Azalea** *Kalmia procumbens*, this last at a site last recorded in 1994. A specimen was collected from a Hawkweed still in flower and later sent to the referee for identification; it proved to be **Orkney Hawkweed** *Hieracium orcadense*, which sounds like an Orkney endemic but is not.

## Selected records of note

Entries in this section of the report are restricted to new finds and re-finds of relative rarities, and a few other records of special interest.

The terms given for status – 'Nationally Rare' etc. – of species in the following list correspond with those in the Orkney 'Rare Plant Register' (2015). Species are listed in taxonomic order (Stace, 2010). Records were made by the author unless initialed.

## Natives and archaeophytes

(An archaeophyte is a plant species which is not native to a geographical region, but which was an introduced species in 'ancient' times [in practice, before 1500], rather than being a modern introduction.)

**Small Adder's-tongue** *Ophioglossum azoricum* (Nationally Scarce, Locally Scarce/Data Deficient), Holm of Papa Westray, between Ramni Geo and Sheepi Geo, HY507520, in short, sheep grazed coastal grassland, 27 June 2017 (JB): DNA analysis from a specimen taken has now confirmed the identity of this *Ophioglossum* from the Holm where it was first found in 1993.

**Common Adder's-tongue** *Ophioglossum vulgatum* (No conservation designation but locally Data Deficient), North Ronaldsay, Linklet Bay links, in damp links grassland, frequent in HY7653 and HY7654 (JEC and AU): formerly recorded here as *O. azoricum*, now proved by DNA analysis to be *O. vulgatum*.

**Hybrid Field x Marsh Horsetail** *Equisetum arvense* x *E. palustre* = *E. x rothmaleri*, North Ronaldsay, Nouster, HY75045253, in damp, grassy track verge, 29 July 2017 (JEC & AU, conf. C N Page): new county Record.

**Wilson's Filmy-fern** *Hymenophyllum wilsonii* (IUCN<sup>1</sup> Near Threatened, Locally Scarce), Hoy, Ward Hill Red Glen, HY21880135, 8 Aug 2017 (JEC, JBR & JT): new site within existing 10 km sq. The fern was growing on a large old Rowan tree, high up the glen; maybe the first record for Orkney on a tree rather than rock?

**Hart's-tongue Fern** *Asplenium scolopendrium* (Locally Scarce), Stenness, Tormiston Mill HY32127, one plant on millpond bank, 24 Jan 2017 (TD): new site in existing 10 km sq. Also Deerness, New Lighthouse garden, HY579061, frequent on bank under trees, 30 Oct 2017: new for 10 km sq.

**Golden-scaled Male-fern** *Dryopteris affinis* subsp. *affinis* (not often recorded, local status unknown), Rendall, near Varne Dale, HY40781844, on ditch bank among gorse, 25 July 2017 (conf. A R Church): new for 10 km sq.

**Narrow Male-fern** *Dryopteris cambrensis* (not often recorded, local status unknown), Rousay, Blackhamar, HY38783206, beside hill track, 2 Sept 2017 (JEC & JBR, conf. A R Church) and Rousay, Loch of Loomachun, HY39873086, same date, same recorders: new for 10 km sq. and island. The Blackhamar plant was determined as subsp. *cambrensis*.

**Narrow Buckler-fern** *Dryopteris carthusiana* (Locally Rare), Holm, White Moss, HY4850, HY4860, and Culdigeo, HY4900, in cut-over blanket bog, several sites, 13 Aug 2017: new for 10 km sq. and 2<sup>nd</sup> + county records. This fern is not as rare as was hitherto supposed, in the east Mainland anyway.

**Narrow Buckler-fern x Broad Buckler-fern** *Dryopteris carthusiana* x *D. dilatata* (local status unknown), Holm, White Moss, HY48690581, in cut-over blanket bog, 13 Aug 2017: 2<sup>nd</sup> county record.



Dense-flowered Fumitory (John Crossley)

**Dense-flowered Fumitory** *Fumaria densiflora* (Locally Rare), Burray, near Cellardyke, HY48690581, 31 July 2017. Growing with other fumitories on the edge of a field of bere beside the main road – a good place to see this and others in the genus. Also Sanday, Hermisgarth,

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1 International Union for Conservation of Nature



HY663429, 16 Aug 2017. With more records in recent years this species can be classed as Locally Scarce rather than Locally Rare, though still known only from Burray, Sanday and Stronsay.

**Sherard's Downy Rose** *Rosa sherardii* (Locally Scarce), Flotta, King's Hard, ND37699287, on coastal slope, 2 Aug 2017 OFC): update for site and 10 km sq (last in 1932).

**Grass-of-Parnassus** *Parnassia palustris* var. *condensata* (No conservation designation for what is only a variety), North Ronaldsay, Linklet Bay links, HY7654, on damp links, 13 Aug 2017 (HN): first record for the variety since 1934 and first in N. Ronaldsay since 1920, though it is likely to have been overlooked.

**Least Willow** *Salix herbacea* (Locally Scarce), Rousay, summit of Twelve Hours Tower, HY38943128, in montane heath, 2 Sept 2017 (JEC & JBR): new for 10 km sq.

**Dune Pansy** *Viola tricolor* subsp. *curtisii* (Locally Scarce), Sanday, Lama Ness, HY68344340, in dry links grassland, 15 Aug 2017: new site and update for 10km square (last in 1979).

**Allseed** *Radiola linoides* (IUCN Near Threatened), North Ronaldsay, Lighthouse, HY78395606, and Tor Ness to Antabreck tetrad, HY75M, in wet, heavily grazed acid grassland, 28 July 2017 (JEC & AU): new for 10 km sq. and island.

**Herb-Robert** (seashore subspecies) *Geranium robertianum* subsp. *maritimum* (Locally Rare), St



Herb-Robert on seashore (John Crossley)

Ola, Loch of Carness shingle ridge, HY46581376 and HY46721360, 1 July 2017. Herb-Robert has been recorded here several times but not identified to subspecies level since 1922. It is the only known site in Orkney, although there are historic records for the Loch of Work. (The nominate subspecies occurs elsewhere as an uncommon, established alien.)

**Dove's-foot** **Crane's-bill**

*Geranium molle* (No designation, but nearly Locally Scarce and believed declining), Sanday, Galilee, HY756461, in dry sandy

pasture, 6 Aug 2017: new for 10 km square. Also North Ronaldsay, Southness, HY76925266, sand dunes, 29 July 2017 (JEC & AU): update for 10 km sq.

**Northern Yellow-cress** *Rorippa islandica* (Nationally Scarce), Westray, near Ness, HY76925266 (where locally abundant on pool margins in improved grassland), 25 May 2017: update for 10 km sq. Also Swona, two sites near Loch of the Tarf, ND3883 and two near The Haven, ND3985, in cattle-trampled pool margins, 12 Aug 2017: new for island and 10 km sq.

**Field Gentian** *Gentianella campestris* (IUCN Vulnerable, UKBAP<sup>2</sup>, SBL<sup>3</sup>), Flotta, Stanger Head, ND37519255 and ND37699266 and near Kenzie's Tower ND37319336, in short, species-rich grassland, 2 Aug 2017 (Orkney Field Club): new for 10 km sq.

**Autumn Gentian** *Gentianella amarella* subsp. *septentrionales* (IUCN Near Threatened), North Ronaldsay, several sites in Linklet Bay links, HY7653 and HY7654, in damp links, and near Trolla Vatn, HY78425609, in sandy coastal grassland, 28 July 2017 (JEC & AU): update for 10 km sq and island.

**Pink Water-speedwell** *Veronica catenata* (Locally Scarce), North Ronaldsay, Ancum links, HY76745442, 28 July and Bustatown, HY76315317, 29 July 2017 (JEC & AU): new for 10 km sq and island. Also South Ronaldsay, Trena Loch, ND465851, 27 July 2017: new for 10 km sq. All were in muddy, somewhat enriched-looking ditch and loch margins. Possibly this species has been overlooked: it is not quite as obviously different from Blue Water-speedwell *V. anagallis-aquatica* as the name suggests.

**Marshall's Eyebright** *Euphrasia marshallii* (IUCN Endangered, UKBAP, SBL, Nationally Rare, Locally Scarce), South Walls, Helliack, ND32728871, in very exposed coastal grassland, 24 July 2017 (Orkney Field Club conf. Chris Metherell): new for 10 km sq.

*Euphrasia foulaensis* x *E. marshallii* (national and local status unknown), South Walls, Misbister Geo, in very exposed coastal grassland, 24 July 2017 (OFC det. Chris Metherell): 6th confirmed Orkney record.

*Euphrasia micrantha* x *E. scottica* = *E. x electa* (national and local status unknown), South Ronaldsay, Blows Moss, ND45958614, in base-rich flush, 26 Aug 2017 (det. Chris Metherell): new for island and 10 km sq. 4<sup>th</sup> county record.

*Euphrasia confusa* x *E. micrantha* (national and local status unknown), Rendall, Como, HY41101927, in marshy grassland, 25 July 2017 (det. Chris Metherell). 1<sup>st</sup> confirmed county record.

**Cornflower** *Centaurea cyanus* (UK BAP Priority, Scottish Biodiversity List, Locally Rare), Flotta, near Kenzie's Tower, ND37339287, in grass field re-seed, 2 Aug 2017 (OFC): new for 10 km sq.

**Yellow-styled Hawkweed** *Hieracium latobrigorum* (Locally Rare), Flotta, King's Hard, ND37669292, on vegetated cliffs, 2 Aug 2017 (OFC): update for island and 10 km sq. (since 1933).

**Slender-leaved Pondweed** *Potamogeton filiformis* (Nationally Scarce), Shapinsay, Laird water, HY5119, 3 July 2017: update for 10 km sq. Also North Ronaldsay, Loch of Garso, HY772553, 28 July, Hooking Loch, HY764532 and Bride's Ness Loch, HY769521, 29 July 2017 (JEC & AU): updates for 10 km sq.

**Early Marsh x Northern Marsh Orchid hybrid** *Dactylorhiza incarnata* subsp. *incarnata* x *D. purpurella* var. *cambrensis* = *D. x latirella* (national and local status unknown), Stronsay, near

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2 UK Biodiversity Action Plan Priority Species

3 Scottish Biodiversity List

Carlin Geo, HY69242251, in base-rich marsh, 18 June 2017 (OFC det. R M Bateman): 2<sup>nd</sup> county record of the hybrid and 1<sup>st</sup> of the subspecies x variety combination.

**Eelgrass** *Zostera marina* (IUCN Near Threatened), Stronsay, Bay of Franks, near Whitehall, HY6428, several plants washed up on strandline, 4 July 2017 (JEC): update for 10 km sq.

**Saltmarsh Flat-sedge** *Blysmus rufus* Stronsay (Locally Scarce), Stronsay, Carlin Geo, HY695225, in 'perched' saltmarsh, 18 June 2017 (OFC): update for 10 km sq. (since 1974).

**Curved Sedge** *Carex maritima* (Nationally Scarce, IUCN Endangered, UK BAP Priority, Scottish Biodiversity List), North Ronaldsay, west of Northmanse, HY757546, 28 July 2017 (JEC & AU): new site within existing 10 km sq. and island. A very unusual site for this sedge, as it is normally a species of nutrient-poor, damp, sandy sites by the sea; this was coastal heath/grassland and not on sand, possibly a unique habitat in the British Isles. The very close grazing by North Ronaldsay sheep may favour it.

**Northern Saltmarsh-grass** *Puccinellia distans* subsp. *borealis* (Nationally Scarce), North Ronaldsay, Tor Ness to Antabreck tetrad, HY75M, on coastal rocks, 28 July 2017 (JEC & AU): update for 10 km sq. and island.

**Quaking-grass** *Briza media* (Locally Rare), Shapinsay, north of Old Schoolhouse, HY529203, on road verges, 3 July 2017. A re-find of this beautiful grass, last, and first, recorded by Elaine Bullard in 1966 but known to Shapinsay residents from much earlier: update for 10 km sq. and island.

### Non-natives – neophytes and casuals

(A neophyte is a plant species which is not native to a geographical region and was introduced in 'modern' times [in practice, after 1500] and has become established. A casual is a non-native that has not become established. The terms are used in an Orkney context.)

**Common Poppy** *Papaver rhoeas* (Neophyte), Kirkwall, near Pickaquoy, HY442113, in potato crop, 22 Sept 2017, 3<sup>rd</sup> county record and 1<sup>st</sup> since 1996. British Isles archaeophyte.

**Mossy Saxifrage** cultivar/hybrid *Saxifraga x arendsii* (Neophyte), South Ronaldsay, near Burnside, ND45468464, 11 May 2011, apparently well-established in rough grassland: new county record. Also Sandwick, Cruaday quarry, HY2421, in dumped garden waste, 8 June 2017. Garden origin.

**Common Vetch** *Vicia sativa* subsp. *segetalis* (Neophyte), Deerness, Gloop visitor centre, HY589079, in grassy track verge, 17 July 2017: 2<sup>nd</sup> county record, known from this site for some years but not until now identified to subspecies. Also Burray, Westshore, ND46829545, in rough grassland, 29 Oct 2017 (JEC & BH): 3<sup>rd</sup> county record. Europe.

**Australian Sorrel** *Oxalis magellanica* (Neophyte), Kirkwall, The Strynd, HY449109, on wall, 5 July 2005 (CP) and again 3 June 2017 (DC), 1<sup>st</sup> county record. S. America and Australasia.

**Petty Spurge** *Euphorbia peplus* (Neophyte), Burray, Westshore, ND46869551, garden weed, 29 Oct 2017 (JEC & BH): 4<sup>th</sup> county record. British Isles archaeophyte.

**Hedgerow Crane's-bill** *Geranium pyrenaicum* (Casual), Stromness, Hoymansquoy, HY25140834, in abandoned garden, 19 Aug 2017 (JG): new county record. Probable British Isles native.

**Meadow Crane's-bill** *Geranium pratense* (Neophyte), Sandwick, Wester Voy, HY251150, 22 July 2017, Rousay, near Nethermill, HY439311, 21 July 2017, North Ronaldsay, Ancumtoun, HY75S (JEC & AU), 28 July 2017: 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> county records. This geranium occurs elsewhere on road verges. The flower colour is rather darker than in the form of this species as it occurs, as a native, in the British Isles and the origin of these Orkney plants is probably elsewhere in the species' range across Europe and Asia. It certainly brightens up some road verges.

**Pale Willowherb** *Epilobium roseum* (Neophyte), Stromness, Ness Road, near Login's Well, HY25260845, growing with other willowherbs from cracks between stones, 19 Aug 2017 (JG, det. Geoffrey Kitchener): new county record. British Isles native.

**Common Evening-primrose** *Oenothera biennis* (Casual), Rendall, Queenamidda, HY372206, bird seed origin, 25 Aug 2017 (JBR): new county record.

**Nasturtium** *Tropaeolum majus* (Casual), South Ronaldsay, Eastdam quarry, ND445911, among dumped garden waste, 1 Aug 2017: new county record. Peru.

**Lesser Swine-cress** *Lepidium didymum* (Casual), Harray, Rosebank, HY332159, 30 June 2017 (EE): new county record. S. America.

**Wild Turnip** *Brassica rapa* subsp. *campestris* (Neophyte), multiple records over several years but only now confirmed as this subspecies, i.e. the wild type rather than the crop type Turnip-rape subsp. *oleifolia*, after seeds were sent to the national referee. It is very common on the light soils of Sanday, where it is often the main yellow crucifer weed of arable crops, but less common or rare in other districts. Europe.

**Nipplewort** *Lapsana communis* (Neophyte), St Ola, Berstane House, HY46951007, 17 July 2017. *L. communis* is a rather rare alien in the county and until now regarded as a casual, but at least 10 well-grown plants (there may well be more) with plenty of seeds on woodland edge at Berstane House indicate it is established there. British Isles native.

**Curly Waterweed** *Lagarosiphon major* (Casual) was found in a small pool near Kierfea Hill, Rousay in 2016, an unwelcome discovery because the plant is known as an invasive alien. JEC and JBR visited the area, where there are several small pools, in 2017 but could find no sign of it. Hopefully that is the end of the story. S. Africa.

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The wonderful diversity, individual beauty and essential ecological roles of fungi in Orkney are not given justice by my failure to diligently record fungi. For now at least, I am equally poor at collating fungi records. There is a superb basis to our knowledge of fungi in Orkney: *The Fungus Flora of Orkney* (Watling, Eggeling & Turnbull, 1999). This treasure trove of data (albeit lacking an index...) documents around 1,500 fungi taxa from Orkney.

A few years ago I attempted to produce an updated list of Orkney's fungi, applying the modern nomenclature and taxonomy and including species recorded in Orkney for the first time since 1999. Despite my best efforts, the name changes were beyond me at the time. With better cross-referencing of synonyms now readily available online I will attempt this exercise again although I have got nowhere with that ambition in winter 2017/18!

Additions to the Orkney fungus list continue. Derek Mayes is fantastic at looking at things which others have ignored previously. Last year's Bulletin updated us on his dramatic finds of rare rusts (Mayes, 2017). He followed this up by finding the Ascomycete *Baudoinia compniacensis* from the island's distilleries at the end of 2016, as covered by Derek elsewhere in this Bulletin.

Early in 2017, Colin Johnstone was considering some repairs to his shed in Orphir and noticed a number of fungal brackets growing out of the door. It turned out to be the county's first record of **Conifer Mazegill** *Gloeophyllum sepiarium*. In September 2017, Nancy Charlton spotted strange nobbles on a twig at Berstane Woods, St Ola. She sent them to Lee Johnson who worked out that it was *Hypoxylon howeanum*, a pyrenomycete with no accepted English name. In October, Bob Simpson, Alfie Stanger and Lee Johnson found another new species to Orkney when they spotted the **Cinnamon Bracket** *Hapalopilus nidulans* on a dead **Birch** *Betula* sp. at Langskaill Plantation, St Andrews. Lee's purple patch continued and at the end of October she found Orkney's second record of **Contorted Pipe Club** *Macrotrochyla fistulosa* var. *contorta*, growing on birch at Hestily, South Ronaldsay. All of these species are widespread elsewhere in Britain and it is certain there are quite a number of other widespread species which are as yet undiscovered in Orkney.



Cinnamon Bracket (Lee Johnson)

My fungal highlight of 2017 was finding an elegant specimen of **Mountain Grisette** *Amanita nivalis* (from the same Genus as the well-known Fly Agaric) growing with **Creeping Willow** *Salix repens* on the maritime heath of North Hill, Papa Westray on 8th September. I'd never seen anything like this, and sent off a photo which enabled experts to make a tentative identification. There are no other *Amanita* species like *A. nivalis* known from Britain, but ideally a specimen will be taken if it reappears in future autumns, to allow for checking its finer characters against the other European *Amanita* species – there is an outside chance that it could be another pale Arctic *Amanita* species, as yet unrecorded for Britain. In the meantime, *Amanita nivalis* can be added to the Orkney list.



Mountain Grisette (Jonathan Ford)

In each of the past two autumns, Orkney Field Club has run forays, in the grounds of Berstane House, St Ola in 2016 and at Binscarth Wood, Firth in 2017. These have produced a good number of records for species which could be identified to species. We also spotted many other fungal fruiting bodies which remained unidentified as the required investment of time was not made in subsequent microscopy, scrutiny of specialist keys and referral to experts.

Many of Orkney's fungi are hard to identify to species (or even difficult to sort out to Genus). There is a lot to be said for simple appreciation, with an exclamation of "isn't that pretty?" and leaving it at that. If in doubt, don't pick it for the pot, given the identification challenges. I have even met someone who thought that there were no poisonous fungi in Orkney – wrong!

Some species are readily identifiable, and something that any naturalist can spot, identify – and report to me to add to the database. Amongst these is the **Giant Puffball** *Calvatia gigantea*. Andrew Upton spotted a number of the dried-out football-sized fruiting bodies in Hatson, St Ola in December 2017, months after they were in their prime. This species loves rich soil and has been recorded in most of Orkney’s inhabited islands and parishes (but plenty of gaps on the distribution map remain to be filled). A similar niche is held by the **Scarlet Berry Truffle** *Paurocotylis pila*. This non-native has been noticed in nutrient-rich spots around Orkney for decades now, and autumn 2017 brought the first record from Papa Westray, from a nettle-patch by old farm buildings, with Lee Johnson also finding it in Burray and Orphir during the year.

I would like to offer thanks to all those who have contacted me with fungi records over the past two years – Nancy Charlton, Linda & Barrie Hamill, Beth & Chris Heatley, Sydney Gauld, Colin Johnstone, Derek Mayes, John Moar, Alistair Skene & Peter Slater.



Giant Puffball (Andrew Upton)

## References

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## Slime Mould (Myxomycetes) Report 2017

Lee Johnson

37 records of 13 species were noted in Orkney in 2017. The most frequently seen species was *Mucilago crustacea* (commonly known as **Dog's Vomit** or sometimes **Scrambled Egg Slime**) which was reported from South Ronaldsay (LJ, PO), Papa Westray (JB), Rousay (BT), Stromness (BS, AG), Waulkmill (CJ), Finstown (LJ, BS), Holm(LJ), Kirkwall (LJ, BS, NC, E L-S) and Evie (AG) on grass from August onwards.

*Ceratiomyxa fruticulosa* (pictured) was recorded in August on a fallen well-rotted log at Binscarth Woods (LJ, BS). This rather attractive and very widespread species has the common name of **Coral Slime Mould** and looks very similar to small icicles which can be between 1-10 mm tall. This species can form extensive sheets on suitable substrates.



*Physarum cinereum* was recorded on moss on the bark of a fallen tree in October during the Orkney Field Club Fungal Foray (LJ). This is a tiny, grey, sessile slime mould commonly recorded on living plants and looks rather like small blobs of ash. Also recorded on the Fungal Foray were *Stemonitopsis typhina*, *Trichia varia*, *Stemonitis sp.* and *Leocarpus fragilis* (LJ).

**Egg Shell Slime Mould** *Leocarpus fragilis* (pictured) was also recorded during October from Wideford Hill on heather (KF), Stromness (AG), Binscarth (LJ) and Langskaill Plantation, Tankerness on fallen conifer needles (LJ, BS, AS). This is an attractive yellow/orange slime mould that is sometimes mistaken for insect eggs. As it matures it turns darker orange and has a brittle outer wall which cracks rather like an egg shell would.





*Lycogala terrestre* and *Lycogala epidendrum* (both commonly known as **Wolf's Milk**) were found on a dead standing stump and a fallen tree over the burn at Happy Valley, Stenness in October (LJ, BS). Both species look superficially very similar but can be separated by the colour of the spores.

*Arcyria denudata* was recorded on fallen Wych Elm at Binscarth Woods in October (LJ). This widespread species is an attractive pinkish colour and can form large colonies on dead wood.

*Comatricha nigra* and *Trichia sp.* were recorded together from a very wet fallen log at Berstane in October (NC). *Comatricha nigra* (pictured) looks rather like tiny black lollipops and is a very common slime mould. I was unable to identify the *Trichia* to species level due to the sporangia collapsing as they often do when specimens are collected.



And finally, *Reticularia lycoperdon* (also known as **False Puffball**) was recorded on a garden bench in South Ronaldsay in May (LJ) and in June at Berstane on a fallen tree (NC). This species can often be found on cut timber such as window frames and fencing as well as on living and fallen trees.

Thank you to recorders Julian Branscombe, Nancy Charlton, Kinlay Francis, Anne Gascoigne, Chris Jex, Elinor Lewis-Smith, Peter Oswald, Bob Simpson, Alfie Stanger and Bob Trigg.

All photos by Lee Johnson.

## ‘Will you walk into my parlour?’-The Spiders of Orkney Lee Johnson.

Never has a creature invoked such a feeling of horror in humans as the humble spider. From a very young age most of us fear them, something about the way they move their legs, the suddenness and unpredictability of their movement or all those multiple eyes staring back at us can have even the toughest reduced to shrieking and often irrational behaviour. On finding a spider in the home the bravest will capture them in a glass and release them outside to the gratitude of the more fearful individuals who would often rather just hit them with a slipper and be done with it. In reality spiders in the UK are harmless creatures often beneficial to humans. As I child I was always fascinated by them and would spend hours watching them go about their business, building webs, protecting eggs or hunting for prey. Orkney has its fair share of interesting spiders some of which I would like to introduce to you in this article.

Firstly, a spider that you won't have to travel very far from your sofa to see, just have a look around the outside upper corners of door and window frames and you may see an orb web which looks like it has not been completed with a section missing. A signal line in the middle of this missing part usually leads to the retreat of the owner of the web, the aptly named **Missing Sector Spider** *Zygiella x-notata*. At night this pretty little spider can often be found in the centre of the web and will rebuild it each morning. This common species can be active right through the winter and will often hunt other spiders. Females usually measure around 11mm and males around 7mm.



A new confirmed record for Orkney in 2017 was the **Walnut Orbweaver** *Nuctenea umbratica* found and photographed by Mary Harris at South Walls, Hoy in April. Mary found a female hiding in some old oilskins left out on a fence. There have been previous unconfirmed records including one at the Wellpark Garden Centre in Kirkwall probably imported in goods. Females measure up to 14mm, the males are up to 9mm. This timid but robust looking species has a brown flattened body enabling it to fit under bark and in crevices where it hides during the day. The abdomen has a characteristic oak leaf-like pattern. The spider

emerges from its crevice to make a web at dusk.

An interesting and rarely seen spider was found by Bob Simpson under an upturned plastic plant pot in his garden in Stromness during November 2017. The **Comb-footed Cellar Spider** *Nesticus cellulanus* is usually found underground or in dark damp locations such as in sewers, mines and caves. This is a fairly small species measuring around 4-6mm. Its colouration seems to be dependent of its habitat so the darker the habitat, the paler yellow the spider will be. The female of the species carries her egg sac (which is often bigger than her body) attached to her spinnerets. The web is made of fine threads in a criss-cross fashion which is covered in sticky droplets. There has been one previous record for this species from Hoy.



The most Northerly record for the **Noble False Widow Spider** *Steatoda nobilis* (pictured) was found by James Flett in Kirkwall during 2017. A male had been photographed by James in the previous year but it had not been possible to positively confirm the identity of the species without a specimen. A large adult female was found in June 2017 and positively identified. Several other specimens were seen subsequently throughout the year as well as webs and egg sacs. This species is native to the Canary Islands and is thought to be transported in goods. First reported in the UK in 1897 in Torquay, records have been largely confined to the south but have been spreading in recent years possibly as a result of global warming. This spider is the subject of much media hysteria with tales of spider bites but is in fact a timid species that will avoid confrontation. The female body length can measure around 15mm and the males 10mm. They build a tangled scaffold web and are usually

associated with buildings. Another member of the *Steatoda* genus is also recorded in Orkney. The similar looking but smaller **Cupboard Spider** *Steatoda grossa* (10mm) can be found in roof spaces, electricity cupboards and other secluded areas around human habitation. They seem to manage very well with little water to drink and will happily consume woodlice which many spider species can't or won't eat. This species has probably been brought to Orkney in furniture when people move here from mainland UK. Global warming may well bring another *Steatoda* species further north to Orkney, the **Rabbit Hutch Spider** *Steatoda bipunctata* which is smaller and darker than *S.grossa* at around 7mm is worth looking out for.

Also new for 2017 was the **Sand Bear Spider** *Arctosa perita* which was found at Eastside beach, South Ronaldsay in June near the entrance to its retreat and again at the Fourth Barrier Beach in September out hunting on the sand dunes. A really beautiful wolf spider (*Lycosidae*) with a body length of around 8mm, this species is widespread around coasts but quite hard to see when it is on sand due to the fantastic camouflage. The female spider constructs a silk-lined burrow in sandy locations with sparse vegetation. It can also be found inland on heathland and in gravel pits. Like other wolf spiders *Arctosa perita* carries her spiderlings around on her abdomen until they are able to fend for themselves.



A much easier spider to find is the **Toothed Weaver** *Textrix denticulata* which is widespread throughout Orkney. Often found under stones and bark, on walls, in vegetation, on the shore and even in houses. A relative of the **House Spider** it measures around 8mm and can run very fast. *T. denticulata* has a white stripe on the carapace, pale chevrons on the abdomen, pale annulations on relatively short legs and long spinnerets making it quite a distinctive spider. It generally constructs a sheet-like web often with a tubular retreat in which it lurks until drawn out by prey.



The **Snake-backed Spider** *Segestria senoculata* gets its name from the distinctive pattern on its abdomen said to resemble that of a snake. *S. senoculata* is an attractive spider with a body length of around 10mm and has six eyes. It makes a tubular retreat in holes in walls and tree trunks (sometimes in old beetle burrows) with silk threads radiating out from the entrance. If a prey item walks across the threads the spider will dash out and subdue it. This spider is nocturnal and males can be found by torchlight wandering around on walls and tree trunks at night.



If you are very observant you may notice the white silken egg sacs of **The Invisible Spider** *Drapetisca socialis* on tree trunks in woodland during the Autumn. A small spider with a body length of up to 4mm in the family *Linyphiidae*, the spider itself is quite hard to see unless it moves hence its common name. It constructs a very fine web on the tree trunk and is regularly seen at Berstane, Binscarth, Happy Valley Hestily and Olav's Wood. It is worth closely examining trees for this pretty species as it is one of the few *Linyphiidae* spiders that can be identified without the use of a microscope.



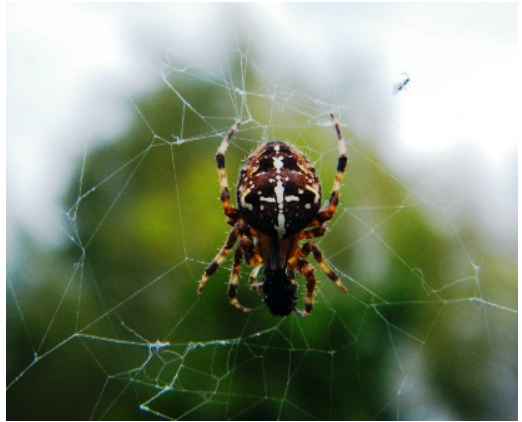
From a very small spider to one with an enormous body, the female **Four Spot Orb Weaver**



*Araneus quadratus* is one you are not likely to miss. Measuring around 20mm body length, she weighs in as Britain's heaviest spider. She builds a strong orb web which can be 40cm in diameter. Close to the web will be a robust tent-like retreat usually with an opening in the bottom where she spends her time hanging around looking adorable (just look at that furry face!). Often found in sedges and rushes, heather and other vegetation, *A. quadratus* is common in the UK but not so in Orkney. There have been a handful of records from Happy Valley, Hobbister, Lyness, Hoy and South Ronaldsay. This species is quite variable in colour and can be yellow, green, red and brown but always has four pale spots on the abdomen and annulated legs. This species can, over several

days, change colour to match its environment. The males are around half the size of females and less rounded in appearance.

Common across Orkney is the **Garden Cross Spider** *Araneus diadematus* which is often seen in gardens building its orb web on vegetation. This species can reach a good size of around 13-20mm and can be very noticeable in the Autumn when the females are gravid, the male is usually much smaller and skinnier. It tends to build its web higher up in the vegetation than the **Four Spot Orb Weaver** but the web is a similar size. This species has a characteristic white cross on the abdomen and can be quite variable in colour.



Probably the most commonly seen spiders in Orkney are the **Lesser Garden Spiders** *Metellina segmentata* and *M. menzei*. Noticeable in large numbers on vegetation from the Spring to Autumn. The two species look very similar and both have a dark ‘tuning fork’ pattern on the carapace. Measuring around 6-8mm, *M. menzei* tends to be seen earlier in the year than *M.*



*segmentata* although this is not definitive and should not be relied upon for identification purposes. The only way to be certain is to examine the genitalia. Males can often be seen hanging around the web of a female and will ungraciously steal food that gets caught in the web. Sometimes he will consume it himself but during the mating season he will wrap it and present it to the female as a nuptial gift in the hope that she will allow him to mate with her. Several males will attempt to do this often resulting in fights between them on the web.

Another spider in the genus *Metellina* is the **Shaded Orb Weaver** *Metellina merianae*. This is a bigger spider than the previous species with females measuring a body length of around 10-12mm (males slightly smaller) and tends to be found in darker areas associated with water such as on damp tree trunks, under bridges, and near caves and in abandoned burrows but also around old buildings where it can hide in gaps in walls during the day. At night they will sit at the centre of the web. The carapace is pale with a triangular mark extending over the eye area, narrowing towards the abdomen, with dark irregular streaks radiating from the centre.



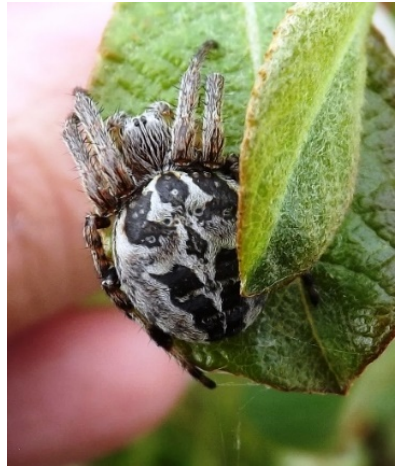
The **Common Candy-striped Spider** *Enoplognatha ovata* is a rather attractive spider which has been recorded in several locations in Orkney. There is a very similar species called *Enoplognatha latimana* but that has yet to be recorded here and seems to have a southern distribution in the UK, preferring drier sites it is almost absent from Scotland. Genital examination is required to separate the two species with certainty but *E. latimana* is thought to be much scarcer than *E. ovata*. There are three forms of *E. ovata* the commonest being *lineata*, which is uniformly pale yellow. The *redimita* form has two red stripes on the abdomen (pictured) and the *ovata* form has one red stripe up the centre of the abdomen. The female body length is around 4-6mm.





A rather delicate spider found in similar locations is the **Common Stretch Spider** *Tetragnatha extensa*. This species has a cylindrical abdomen often with delicate metallic pattern and measures up to 11mm. There are 6 quite similar species of *Tetragnatha* in the UK but only *T. extensa* has been positively identified in Orkney. This spider builds an orb web with the centre missing in wetland vegetation and when disturbed it will leave the web and stretch out to disguise itself hence the name.

The **Furrow Orb-weaver Spider** *Larinioides cornutus* is another spider of wetland habitats. This species has been recorded in Burwick, Earls Bu, Happy Valley, Olav's Wood, Sands of Wright and Stromness and is probably widespread in suitable habitats. The spider makes a strong web in tall damp vegetation often near water with a silken retreat decorated with seeds (and sometimes the remains of flies and other insects it has consumed) nearby in the top of plant stems or in shrubs where the spider will hide when not on the web. They can be quite variable in colour ranging from pale honey to dark grey but are usually covered in pale hairs and have a distinctive attractive black pattern on the abdomen which is diagnostic of the species. The female generally measures around 12-15mm (although larger specimens have been found) and the male which is usually smaller often shares the female's retreat during the day especially during the mating season when the female will tolerate his presence. The spider will remake its web each day which it occupies during the night.



A quick check of stone walls in Orkney should reveal a **Sac Spider** of the genus *Clubiona* (pictured) members of which are very similar. Very common here especially near the coast or around water is the **Reed Sac Spider** *Clubiona phragmitis* (11mm). It makes a silken retreat in folded leaves and can be seen hunting near water.



If you search on flowers or under stones you might find a **Crab Spider** *Thomisidae*. There are currently only two species found in Orkney. These spiders have quite a squat appearance with short rather crab-like legs. These spiders don't make webs but hide in wait to ambush prey often



in flower heads amongst the petals or on the underside of the flower. They hardly move except to grab at prey with their spiny front legs and can tackle insects that are several times their own body size. Crab spiders vary a great deal in colour and some species can change their colour to match their background. Particularly common in Orkney is the **Common Crab Spider** *Xysticus cristatus* (pictured) which are around 8mm in size but you may also see *Ozyptila trux* which is very similar, both are often found at ground level or in very low vegetation. A good place to look

for these in on sunny slopes with stony ground. Climate change may bring **Running Crab Spiders** *Philodromidae* to Orkney. These are much more mobile and worth looking out for.

A new species for Orkney in 2017 was the **Common Ground Spider** *Drassodes cupreus* which was found in its retreat under a stone in Burwick, South Ronaldsay. In order to identify members of this genus to species with certainty microscopic examination of the genitalia of an adult specimen is usually required. *Drassodes cupreus* is a fierce nocturnal hunter with a coppery colouration measuring around 18mm. As with other members of this genus they have prominent long spinnerets reminiscent of fingers and closely set oval posterior median eyes. County Spider Recorder Edward Milner proposes a more suitable common name for this species would be **Reddish Ground Hunter**.





A spider that commonly is found in and around the home are the **Lace Web Spiders** in the genus *Amaurobius*. Both *A. similis* and *A. fenestralis* have been recorded in Orkney and genital examination is often needed to separate the species which are found in similar habitats particularly on stone walls. These spiders construct tube webs in crevices with radiating silken lines near the entrance which the spider uses to detect prey. *Amaurobius* spiders are cribellate which means they have spinnerets that produce woolly silk which is effective in trapping their insect prey. They can often be seen at night near their retreats extracting this silk with their back legs.

And finally, a genus which is almost guaranteed to strike fear in the hearts of most arachnophobes are the **House Spiders** *Tegenaria*. Those enormous beasts that scamper around the floor at night and drop into the bath tub when you are least expecting it. There are several *Tegenaria* species but only *T. domestica*, *gigantea* and *saeva* have so far been recorded in Orkney. This is a difficult genus, members of which can hybridise so examination of



the genitalia is required to identify to species for certain. However, to confuse matters further it is thought that several different species may actually be one species (*Eratigena*). At any rate they are large often ranging from 10mm to 'As Big as a Docker's Hand' and can run at 50cm/s or 'like the clappers'. Like all spiders they have a beauty all of their own and are worthy of closer examination and admiration.

Hopefully this article has inspired you to get out and record spiders, there are plenty of other species for you to see, photograph and discover here and if you have any records, the County Spider Recorder Edward Milner would be pleased to receive them. All photos by Lee Johnson unless otherwise stated.

All photographs by the author.

The 2017 flight season will more likely be remembered for its new local colonists and occasional far-wandering migrants than for its reasonable, if not great, weather. All eight of Orkney's resident species were seen, as well as several vagrants, with a total of 228 records submitted by 36 keen-eyed folk. This amounted to a total odonate count of 1870 individual insects for the year.

Within Orkney, National Dragonfly Week 2017 (15-23 July) was a much broader affair than previously, with an ambitious programme of visiting eight islands in eight days. The aims were to introduce more people to the charms of, and challenges for, dragonflies and damselflies, find possible new sites for the insects and generally give the Outer Isles some return for their support of the Field Club. There were some particularly dreich days within the week, but this did not put off participants, who turned out whatever the weather to learn about dragonflies and discover how to search for them. It was especially rewarding to witness newly-trained folk putting theory into practise and finding damselflies for themselves.

A specific target for 2017 was proving whether Black Darters were breeding on Eday (after their discovery the previous year) and this was successfully established. Excitingly, new island colonies for Common Blue, Blue-tailed, Emerald and Large Red Damselflies, as well as Black Darter, were discovered during 2017. Early Summer saw the archipelago once again set in a national context with the first Orkney record for Red-veined Darter and the second Orkney record for Lesser Emperor (see separate article).

An updated table of the resident species in Orkney by island is shown in Figure 1.

### **Emerald Damselfly *Lestes sponsa***

The main Emerald news for the year involved the discovery of a new colony at Gairy Lochs in South Ronaldsay on 27<sup>th</sup> July (JC/AN). This prompted much discussion as to whether it was a new incursion from the Scottish mainland or a spread from existing sites in Hoy. As no evidence for the species has yet come to light from Flotta, South Walls or Hoxa, it is thought most likely that it is the former method rather than the latter. Emeralds were first recorded on 12<sup>th</sup> July at Whaness pool, Hoy (AN), last recorded on 31<sup>st</sup> July at Lyness Museum pool, Hoy (GW), with the peak number seen at any one site being 52 on 18<sup>th</sup> July at Whaness pool, Hoy (AN). The total number seen during the year was 207.

### **Large Red Damselfly *Pyrrosoma nymphula***

A new colony of Large Reds was found at Stanger Head in Flotta during a Field Club outing on 2<sup>nd</sup> August (BR). The first record (in fact, of any odonate) for 2017 was on 18<sup>th</sup> May at Hundasaeter, Birsay (KJ), the last Large Red was recorded on 16<sup>th</sup> August at Queenamidda, Rendall (BR), with the peak number seen at any one site being 25 on 14<sup>th</sup> June at Queenamidda, Rendall (BR). The total number seen during the year was 254.

### **Common Blue Damselfly *Enallagma cyathigerum***

A new colony of Common Blues was found at Stanger Head in Flotta during a Field Club outing on 2<sup>nd</sup> August (BR) and also at a quarry pool in Graemsay on 8<sup>th</sup> August (ST). Common Blues were first recorded on 30<sup>th</sup> June at Wee Fea, Hoy (BK), last recorded on 8<sup>th</sup> August as mentioned

above, with the peak number seen at any one site being 60 on 12<sup>th</sup> July at Whitestanes Moss, Hoy (AN). The total number seen during the year was 394.

### **Blue-tailed Damselfly** *Ischnura elegans*

A new colony of Blue-tails was found during a Dragonfly Week trip to Rousay at Loch of Scockness on 21<sup>st</sup> July (JC) and also at Stanger Head, Flotta during a Field Club outing on 2<sup>nd</sup> August (BR). Blue-tailed Damselflies were first recorded on 8<sup>th</sup> June at Hooking Loch, North Ronaldsay (SP), last recorded on 21<sup>st</sup> August at Hoxa quarry pool, South Ronaldsay (GW), with the peak number seen at any one site being 75 on 18<sup>th</sup> June at Garso Loch, North Ronaldsay (SP). The total number seen during the year was 627.

### **Common Hawker** *Aeshna juncea*

The first record for Common Hawker was on 22<sup>nd</sup> June near the Dwarfie Stane, Hoy (SS), the last record was on 26<sup>th</sup> August at Queenamidda, Rendall (BR) (a lovely record as the dragonfly landed on him), with the peak number seen at any one site being 6 on 30<sup>th</sup> July at Ford of Hoy (PHo). The total number seen during the year was 41.

### **Golden-ringed Dragonfly** *Cordulegaster boltonii*

With 2016 producing no records for, arguably, our most spectacular dragonfly, it was pleasing to note that several people managed to spot them in 2017. Amazingly, the first record was from mainland rather than Hoy on 21<sup>st</sup> June at Brown Hill, Stenness (SW), the last record was on 30<sup>th</sup> July at Whaness Burn, Hoy (PHo), with the peak number seen at any one site being a whopping two in the Rackwick Road valley on 11<sup>th</sup> July (PHa) and 30<sup>th</sup> July (PHo) respectively. The total number seen during the year was a lowly, but nevertheless welcome, six.

### **Four-spotted Chaser** *Libellula quadrimaculata*

With 2016 producing no records for Orkney's most scarce and localised species, it was especially pleasing to hear of several sightings of Four-spotted Chasers during 2017. The first record was on 12<sup>th</sup> July at Whitestanes Moss, Hoy (BR), the last record was on 30<sup>th</sup> July at the same site (PHo), with the peak number seen at any one site being three. Total number seen during the year was a lowly, but nevertheless welcome, five.

### **Black Darter** *Sympetrum danae*

A new colony of Black Darters was found at Stanger Head in Flotta during a Field Club outing on 2<sup>nd</sup> August (BR). As mentioned above during the introduction, breeding for the species was proved in Eday on 19<sup>th</sup> July, during a Dragonfly Week trip, with the sighting of a maiden flight individual (HC). The first record was on 10<sup>th</sup> July at the road bridge below Nowt Bield, Hoy (MR), the last record was on 19<sup>th</sup> September at Queenamidda, Rendall (BR), with the peak number seen at any one site being 100 on 21<sup>st</sup> August at Howe Road pools, Harray (DM). The total number seen during the year was 333.

### **Lesser Emperor** *Anax parthenope*

On 15<sup>th</sup> June, a male Lesser Emperor was seen at Scottigar, North Ronaldsay by a member of the Bird Observatory staff (SP). This sighting was only the second Scottish record (the first also being in Orkney, in Sanday during June 2000).

**Red-veined Darter** *Sympetrum fonscolombii*

On 20<sup>th</sup> June, a male Red-veined Darter was seen on Copinsay (JS), during RSPB survey work for Great Yellow Bumblebee. This sighting was a first for Orkney.

Many thanks to all contributors who submitted records for 2017:

David Aiton, Helen Aiton, Trish Avis, Michael Braddock, Nancy Charlton, Hannah Cockram (HC), John Crossley (JC), Tracey Crossman, Karen Evans, Robert Foubister, Sydney Gauld, Stan Groundwater, Mary Harris, Peter Hazlehurst (PHa), Paul Hollinrake (PHo), Keith Johnson (KJ), Lee Johnson, Betty Kirkpatrick (BK), Dick Matson (DM), Russell Neave (RN), Emma Neave-Webb, Alan Nelson (AN), Samuel Perfect (SP), Marjolein Robertson (MR), Brian Ribbands (BR), Steve Sankey (SS), Lee Shields, James Silvey (JS), Jenny Taylor, Megan Taylor, Sian Thomas (ST), Ally Thomson, Kate Townsend, Graeme Walker (GW), Gudula Walker, Stuart Williams (SW).



Black Darter *Sympetrum danae* (Graeme Walker)

Island	Species							
	<i>Lestes sponsa</i>	<i>Pyrhosoma nymphula</i>	<i>Enallagma cyathigerum</i>	<i>Ischnura elegans</i>	<i>Aeshna juncea</i>	<i>Cordulegaster boltonii</i>	<i>Libellula quadrimaculata</i>	<i>Sympetrum danae</i>
Hoy	Emerald Damselfly ✓	Large Red Damselfly ✓	Common Blue Damselfly ✓	Blue-tailed Damselfly ✓	Common Hawker ✓	Golden-ringed Dragonfly ✓	Four-spotted Chaser ✓	Black Darter ✓
East Mainland		✓	✓	✓	✓	✓		✓
West Mainland		✓	✓	✓	✓	✓		✓
South Ronaldsay	✓	✓	✓	✓	✓			✓
Rousay		✓	✓	✓	✓			✓
Flotta		✓	✓	✓	✓			✓
Sanday			✓	✓	✓			
Shapinsay		✓		✓	✓			
Burray		✓		✓				
Eday				✓				✓
Egilsay			✓	✓				
Westray			✓	✓				
Graemsay			✓	✓				
North Ronaldsay				✓				
Papa Stronsay				✓				
Papa Westray			✓					
South Walls				✓				
Stronsay								
Wyre								

**Figure 1:** Species presence by island

183 records of 55 species were reported in 2017. This is slightly more records but fewer species than in 2016. As usual a number of specimens have still to be identified.

No new species have been added to the Orkney list this year but three species were found that had no previous detailed records. Two other species had last been recorded in 1977 and 1980.

Most of the species mentioned below had five or fewer previous Orkney records.

*Elaphrus riparius* was found in Rendall at the same site as in 2009 and 2010. In 2016 it was found in South Ronaldsay, its only other known Orkney site.

*Acylpea opaca* was found again at the same 2 sites as in 2016, Stromness and the beach at No.4 Barrier. Several including a mating pair were seen at the latter site so it seems to be well established there.

**Dor Beetle** *Geotrupes stercorarius* appeared again, one was found dead near Sands of Wright. It has now been recorded in 4 of the last 5 years in Orkney. There is no evidence yet that it has bred here but it seems increasingly likely.

**Brown Chafer** *Serica brunnea* appeared at the same site in Rendall as in 2016, again one was rescued from a rainwater tank.

*Cyphon variabilis* was found in South Ronaldsay, the second record in Orkney; the previous one was in 2011.

*Denticollis linearis* was found in a moth trap in Rendall, the third Orkney record; the others were in 2013 and 2014.

*Cantharis figurata* the first record since 1977 of this soldier beetle was in South Ronaldsay.

*Cantharis nigricans* was new for Orkney in Tankerness and South Ronaldsay in 2015 and it was found at another site in 2016. Now it has appeared at 2 sites in Burray; it seems to be spreading. It is a fairly large and distinctive soldier beetle, most likely a recent colonist.

*Ptinus tectus* was found in a trap in the Kirkwall Museum, the first Orkney record since 2005.

The nationally rare *Chrysolina latecincta* (*C. intermedia*) was recorded 7 times in the usual area near Yesnaby, so it seems to be thriving there.

*Hydrothassa hannoveriana*. A beetle photographed in Hoy appears to be this species. I do not have any records of it but there is a dot in the leaf beetle atlas, it seems that larvae were found near Stromness in 1957 or earlier. It feeds on marsh marigold *Caltha palustris*. There are no other atlas dots north of the Solway and it is very localised in England. It really needs a male specimen to be absolutely certain, if it is breeding there should be more but maybe in a very limited area. Definitely one worth searching for.

*Prasocuris phellandrii* is another leaf beetle with an atlas dot but no records here; several were found near the Ring of Brodgar. It feeds on the same plant as the previous species but is much more widespread nationally.

*Perapion violaceum* was found dead in South Ronaldsay, the first record of this weevil in Orkney since 1980.

*Otiorhynchus nodosus* was found at the same South Ronaldsay site. It was on the Orkney list but there were no previous detailed records of this weevil.

*Barynotus squamosus* was recorded at 2 sites, in Burray and South Ronaldsay; there are 4 previous Orkney records.

*Leiosoma deflexum* was found in Burray, this is the first Orkney record since 2011 but this weevil and the next species may have been overlooked.

*Orthochaetes setiger* was found twice in Stenness, also the first Orkney records since 2011.

Many thanks to all contributors:

L Johnson, C J Booth, J Branscombe, L Campbell, N Charlton, B Hamill, B Simpson, S Gauld, B Ayling, A Forsyth, G Walker, S MacKintosh, V Dyson, L Shields. Apologies to anyone missed out.



*Chrysolina latecincta* (*C. intermedia*) (Brian Ribbands)



<b>Species list for 2017</b>	<b>Records</b>		<b>Records</b>
<i>Carabus nemoralis</i>	1	<i>Aphodius rufipes</i>	3
<i>Carabus arvensis</i>	1	<i>Serica brunnea</i>	1
<i>Carabus problematicus</i>	2	<i>Cyphon variabilis</i>	1
<i>Cychrus caraboides</i>	4	<i>Ctenicera cuprea</i>	3
<i>Nebria brevicollis</i>	7	<i>Denticollis linearis</i>	1
<i>Nebria salina</i>	2	<i>Hemicrepidius hirtus</i>	4
<i>Cicindela campestris</i>	2	<i>Cantharis figurata</i>	1
<i>Loricera pilicornis</i>	2	<i>Cantharis nigricans</i>	1
<i>Elaphrus riparius</i>	1	<i>Rhagonycha limbata</i>	3
<i>Brosicus cephalotes</i>	3	<i>Ptinus tectus</i>	1
<i>Bembidion tetracolum</i>	2	<i>Brachypterus urticae</i>	2
<i>Pterostichus niger</i>	9	<i>Plateumaris discolor</i>	1
<i>Pterostichus melanarius</i>	2	<i>Chrysolina latecincta</i>	7
<i>Pterostichus nigrita agg.</i>	1	<i>Chrysolina staphylaea</i>	3
<i>Paranchus albipes</i>	1	<i>Gastrophysa viridula</i>	17
<i>Curtonotus aulicus</i>	4	<i>Hydrothassa hannoveriana</i>	1
<i>Helophorus aequalis</i>	1	<i>Prasocuris phellandrii</i>	1
<i>Cercyon littoralis</i>	1	<i>Lochmaea suturalis</i>	1
<i>Cercyon melanocephalus</i>	1	<i>Galeruca tanaceti</i>	1
<i>Thanatophilus rugosus</i>	5	<i>Perapion violaceum</i>	1
<i>Achypea opaca</i>	3	<i>Otiorhynchus nodosus</i>	1
<i>Silpha atrata</i>	11	<i>Otiorhynchus singularis</i>	4
<i>Nicrophorus humator</i>	6	<i>Otiorhynchus sulcatus</i>	5
<i>Nicrophorus investigator</i>	18	<i>Otiorhynchus atroapterus</i>	1
<i>Philonthus decorus</i>	1	<i>Barynotus squamosus</i>	2
<i>Staphylinus erythropterus</i>	12	<i>Sitona lepidus</i>	1
<i>Ocyopus olens</i>	15	<i>Leiosoma deflexum</i>	1
<i>Geotrupes stercorarius</i>	1	<i>Orthochaetes setiger</i>	2

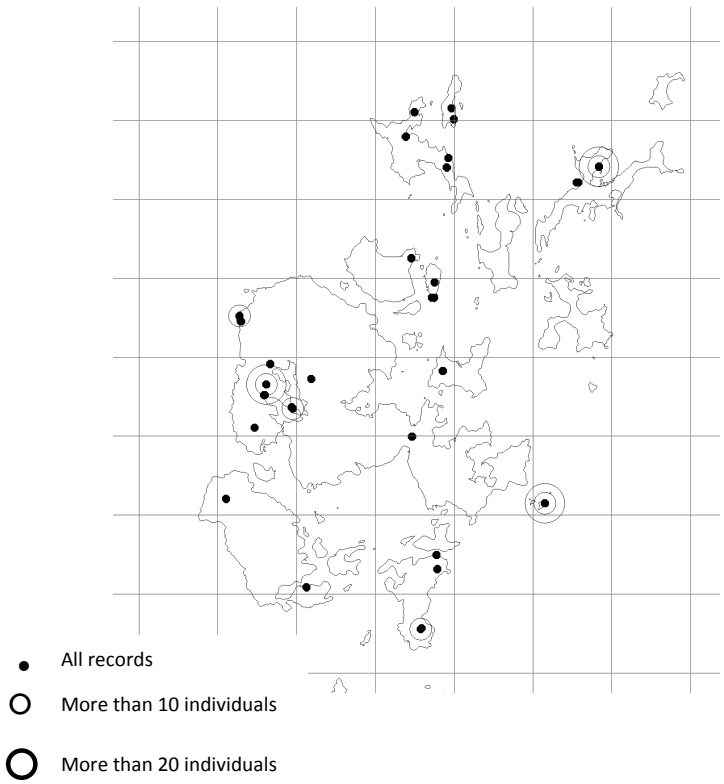
173 records of 16 species were received in 2017. The number of people recording and posting photos on Facebook increased. In previous years' listings, I have indicated who the recorder was in each instance by inserting their initials after the record entry, but there are too many records and too many recorders to do this now.

**Bumblebees**

**Great Yellow Bumblebee** *Bombus distinguendus* (Widespread but generally uncommon. Nationally Notable, UK Biodiversity Action Plan Priority Species, Scottish Biodiversity List)

There were 50 records involving at least 260 individual bees between 25 May and 19 Sept; the great majority were in August. These are much the highest numbers since 2010, following several years of low numbers after what appears to have been a sudden decline in 2011.

Big numbers were recorded at the RSPB Copinsay Reserve on several dates, with a maximum of 62 on 17 Aug. Other high counts were 30 at Queena, Sandwick on 6 Aug; 21 near Saville, Sanday on 17 Aug; 17 at North Flaws, South Ronaldsay on 7 Aug and 14 at Brodgar, Stenness on 16 Aug. These and the other records are shown on the map below.



**Moss Carder Bee** *B. muscorum* (Widespread but generally uncommon, except very locally common in North Isles. UK Biodiversity Action Plan Priority Species, Scottish Biodiversity List)  
There were 16 records, from Marwick Head, Birsay; Queenamidda, Rendall; Russadale, Stenness; Quoyclarks, Orphir; 4<sup>th</sup> Barrier, South Ronaldsay; School, Rousay; Gairsay; Tresness, Sanday; The Ouse, Westray; and Stennabreck, North Ronaldsay, between 4 June and 21 Aug. High counts were 30 at Ayre Sound, near Start Point, Sanday on 16 Aug and 96 near Saville, Sanday the following day. All other records were of one to three individuals; while generally scarce on Mainland this species clearly has strongholds in the North Isles.

**Common Carder Bee** *B. pascuorum* (Widespread and common)

There were 12 records from Mainland and linked South Isles, one from Hoy and one from Gairsay, between 8 June and 13 Oct. There was a high count of 96 at North Flaws, South Ronaldsay on 7 Aug.

**Buff-tailed Bumblebee** *B. terrestris* (Widespread and locally common)

There were 20 records, comprising 19 from Mainland and one from Rousay, between 15 Feb and 16 Sept. The early date for a first spring record is typical for the species, in a sheltered place (Finstown in this case).

**White-tailed Bumblebee** *B. lucorum* agg. (Widespread and common)

30 records came from Mainland and linked isles, Hoy, Rousay, Sanday, Westray and North Ronaldsay, between 3 March and 20 Oct. 15 queens were counted at Queenamidda, Rendall on 6 May.

**Garden Bumblebee** *B. hortorum* (Widespread and common)

There were nine records from Mainland and linked isles, Rousay, Sanday and Westray, between 3 May and 9 Oct.

**Heath Bumblebee** *B. jonellus* (Widespread and locally common)

Just five reports came from Mainland, South Ronaldsay and Rousay, between 8 June and 7 Aug. A bee photographed in Westray by Sandra Atherton in 2014 was identified as *B. jonellus*, new for the island. This species can be abundant for a short time in late summer, usually on heather flowers; 68 workers in a transect count at North Flaws, South Ronaldsay on 7 Aug would not be unusual, except they were feeding on white clover.

**Gypsy Cuckoo Bee** *B. bohemicus* (Widespread but generally uncommon)

Singles were recorded on five occasions, from Mainland, South Ronaldsay, Graemsay and Sanday, between 3 May and 17 Aug. The Graemsay record, identified from a photo taken by Sian Thomas, was a first record for the island.

**Unidentified Cuckoo Bee**

A bee photographed by Sandra Atherton in Westray on 24 Aug appeared to be a Cuckoo Bee and possibly the rare **Barbut's Cuckoo Bee** *B. barbutellus*. They are very difficult to identify without close examination. *B. barbutellus* has not so far been recorded from the North Isles of Orkney.

## Social wasps

**Common Wasp** *Vespula vulgaris* (Local, can be common)

There were six reports, all from Kirkwall, between 6 May and 6 Oct.

**Red Wasp** *V. rufa* (Widespread)

There were just two records, both from a single site in Rendall on 1 and 22 Sept.

**Norwegian Wasp** *Dolichovespula norvegica* (Local)

Three records came from the same site in Rendall between 7 July and 23 Aug.

**Tree Wasp** *D. sylvestris* (Widespread, locally common)

The same place in Rendall again produced three records, between 3 June and 30 July.

## Solitary bees and wasps

**Tormentil Mining Bee** *Andrena tarsata* (Scarce and local. UK Biodiversity Action Plan Priority Species, Scottish Biodiversity List)

A new nesting aggregation was found at Hill of Dale, Orphir, HY323061, by Fiona Sanderson on 10 July. I went to look a week later and counted 70 nesting holes along the side of the path. I also found a smaller and more scattered aggregation close to the Scorradale road at HY321054.

**Mason Wasp** *Ancistrocerus oviventris* (Widespread but uncommon)

There were three records from Rendall and Rousay, between 5 July and 13 Aug. The Rousay record, at the pier, was new for the island. There was another probable record from Flotta, although it could possibly have been *A. scoticus*; neither species has previously been recorded from Flotta.

## Ants

A red ant *Myrmica ruginodis* (Widespread and common)

Three records, two from Orphir, one from Graemsay, between 17 May and 10 July. The one from Graemsay was a first for the island.

Many thanks to all contributors:

Helen Aiton, Sandra Atherton, Trish Avis, Monica Baikie, David Bailey, John Banks, Chris Booth, Nancy Charlton, Alan Fleming, Alastair Forsyth, Anne Gascoigne, Martin Gray, Kerry Harris, Mary Harris, Martin Howe, Lee Johnson, Alan Leitch, Derek Mayes, Alan Nelson, Tom O'Brien, Brian Ribbands, Eoin Ross, RSPB, Fiona Sanderson, Steve & Sarah Sankey, Lee Shields, Bob Simpson, Jan Smithies, Sian Thomas and Graeme & Gudula Walker.

Four new species were added to the county list this year bringing the total number of sawfly species recorded in Orkney to fifty-seven. We also have the first records from Papa Westray. I am very grateful to everyone who has submitted records. The most striking of the four new additions is *Abia sericea*, the **Club Horned or Scabious Sawfly**. This is a large sawfly, up to 30 mm in length, with clubbed antennae and metallic gold-green colouring. The record came from Rackwick, Hoy (ND29), on 12 July. It is a widespread species but not particularly abundant. As one of the common names suggests, the larvae feed on **Devil's-bit Scabious** *Succisa pratensis* and **Field Scabious** *Knautia arvensis*. Occasionally they will also feed on **Wild Teasel** *Dipsacus fullonum*.

The **Willow Berry Sawfly** *Pontania collactanea* has a northern and mainly coastal distribution in the UK. This species was the first to be recorded from Papa Westray (North Hill, HY496542) on 16 June. It feeds exclusively on **Creeping Willow** *Salix repens* causing spherical galls which hang below the leaves. An abundance of these galls were present and distributed across two 10 km<sup>2</sup> squares. The two other new county species were *Nematus viridis* and *Pachynematus lichtwardti*. Both are widespread and fairly common species. *Nematus viridis* is a **Birch** *Betula* sp. specialist. An adult female was found in Sandwick (HY266190) on 1 August. On 6 August one male *P. lichtwardti* was recorded from Burray (ND468955). This is quite late for this species to be flying but not an uncommon feature of sawflies in Orkney. The larvae feed on grasses.

A further thirteen sawfly species were recorded this year including three species of *Nematus*.



Gooseberry Sawfly larva (Barrie Hamill)

Larvae of *N. ferrugineus* were spotted in Sandwick (HY266190) on 16 June and those of the **Lesser Willow Sawfly** *N. pavidus* were seen in Stromness (HY259099) on 15 August. Both feed on **Willow** *Salix* sp.. Shredded leaves gave away the presence of numerous **Gooseberry Sawfly** *N. ribesii* larvae in Burray (ND468955) on 9 July.

*Dolerus aeneus* was the second sawfly species to be recorded from Papa Westray. Adults were found at Holland (HY489515) on 16 June. This species had previously been recorded from Stromness (HY259099) on 5 May. *Dolerus varispinus* was found on Burray (ND468955) on 18 July. Both are common and widespread grassland species. The striking black and white sawfly *Pachyprotasis rapae* was spotted in Sandwick on 1 August.

Two abundant species were *Craesus septentrionalis* and *Hemichroa crocea*. Larvae of **Flat-Legged Tenthred or Birch Sawfly** *C. septentrionalis* were first seen on South Ronaldsay (ND462863) on 21 July, then in Sandwick (HY266190) on 1 August and St. Ola (HY469101) on 6 August. Apart from Sandwick, these are new sites for this species. The hostplants were **Red Alder** *Alnus rubra* and **Hazel** *Corylus avellana*, though it has been found on a wide variety of tree species. A female **Striped Alder Sawfly** *Hemichroa crocea* was seen in Sandwick

(HY266190) on 1 August. However, the species was also seen for the first time in other locations. Larvae were present at Olav's Wood, South Ronaldsay (ND452865) on 13 September and in particularly high numbers on **Alder** (*Alnus glutinosa*) at East Denwick Plantation, Deerness (HY588080) on 10 September.



*Tenthredo obsoleta* (Barrie Hamill)

Five *Tenthredo* species were recorded in 2017 including *T. atra* from Burray (ND468955) on 15 June. The same site also yielded *T. olivacea* on 15 June, *T. arcuata* on 9 July and 7 August, and most notably *T. obsoleta* on 9 July. This species has not been recorded in Orkney since 1978. It is northern species and the hostplant is **Ribwort Plantain** *Plantago lanceolata*. A further species, *T. brevicornis* was taken from Bay of Tafts, Westray (HY503413) on 25 June. This is only the second sawfly species recorded from Westray.

Many thanks to all who contributed records: Barrie Hamill, Lee Johnson, Bob Simpson, Alistair Forsyth, Steve Duffield, Julian Branscombe and Nancy Charlton.

Four new species were added to the Orkney list in 2017 – **Beautiful Plume** *Amblyptilia acanthadactyla*, **Dark Crimson Underwing** *Catocala sponsa*, **Dark Spectacle** *Abrostola triplasia* and **Light Knot Grass** *Acronicta menyanthidis*. Two species were recorded for the second time: **Brown Silver-line** *Petrophora chlorosata* and **Frosted Orange** *Gortyna flavago*. At the time of writing, 4713 records had been submitted for 2017.

Listed below in more detail are the four new species plus some of the more interesting ones recorded.

The following abbreviations are used:

C? – Possible Colonist; I – Immigrant; R – Resident; R? - Probably a Resident but not proven; RI Resident + Immigrant; U - Status Uncertain; V - Vagrant; V? – Vagrant/Possible Resident,

### New to Orkney in 2017

**Beautiful Plume** *Amblyptilia acanthadactyla* (V). One taken by trap 16 June, Berstane House, St Ola (NC). The Beautiful Plume is found across the British Isles up to Sutherland. The larvae feed on a wide range of plants including Hedge Woundwort, mints, goosefoots, crane's-bills and heathers. The species is double-brooded, adults being on the wing in July and again in September; the September adults hibernate over winter and are on the wing again until May.



Beautiful Plume (Nancy Charlton)



**Dark Crimson Underwing** *Catocala sponsa* (V). One found in a hen shed 29 July, Sea Cottage, Longhope, Hoy (MH). Dark Crimson Underwing has only been recorded previously in the south of Britain where it breeds in the New Forest. Away from the New Forest it is only recorded as an occasional migrant in the south of England. The larvae feed on oak and adults are on the wing during August and September.

Dark  
Crimson  
(Mary Harris)

**Dark Spectacle** *Abrostola triplasia* (V). One taken by trap 12 June, Telegraph Cottage, Sanday (CW & AW). Dark Spectacle is found across England into southern Scotland and has been recorded in Shetland. The larvae feed mainly on nettle, with the adults on the wing in June and July.



Dark Spectacle (Carol and Adrian Weston)

**Light Knot Grass** *Acronicta menyanthidis* (R). A larva was found 17 August, Mill Burn, North Walls, Hoy (JW). Light Knot Grass is found across the Britain from northern England up to Caithness. The larvae feed on a variety of food plants including heather, bilberry, birch and sallow. On the wing between May and July.



Caterpillar of Light Knotgrass (Jamie Wild)



## Other sightings of interest 2017

*Esperia sulphurella* (V). One seen in the field 31 May, Berstane House, St Ola (NC). This is the third record for *E. sulphurella* in Orkney.

*Mompha locupletella* (R?). One seen in the field 7 July, Queenamidda, Rendall (BR). This is the third record for *M. locupletella* on Orkney.

**Twenty-plume Moth** *Alucita hexadactyla* (U). Two recorded: one taken by trap 2 April, and another one seen in the field 1 October, High Street, Kirkwall (CJB & JB).

*Eucosma campoliliana* (V). One taken by trap 23 July, Berstane House, St Ola (NC).

**Red Admiral** *Vanessa atalanta* (I). Red Admiral was recorded between 15 May and 9 October, the highest number being 35 on 5 September, High Street, Kirkwall (CJB & JB).

**Painted Lady** *Vanessa cardui* (I). 12 recorded between 26 May and 8 September.

**Bee Moth** *Aphomia sociella* (R). Four taken by trap: three between 21 June and 14 July, Queenamidda, Rendall, (BR) and one 6 July, Berstane House, St Ola (NC).

**Brown China-mark** *Elophila nymphaeata* (V?). One seen in the field 5 July, Queenamidda, Rendall (BR).

**Rusty-dot Pearl** *Udea ferrugalis* (I). Five recorded: one taken by trap 28 July and one in the field 21 October, Sea Cottage, Longhope, Hoy (MH). Three taken by trap between 3 and 24 October, Berstane House, St Ola (NC).

*Udea olivalis* (V?). 160 recorded from traps across the Mainland and South Isles between 16 June and 28 July.

**Mother of Pearl** *Pleuroptya ruralis* (V). One taken by trap 1 August, Cairston Road, Stromness (BS).

**Rush Veneer** *Nomophila noctuella* (I). Three taken by trap: one 25 August, Gillbreck, Widewall, South Ronaldsay (LC & NF), one 1 October Gerraquoy Farm, South Ronaldsay (SS & SS) and another 5 October, Berstane House, St Ola (NC).

**Fox Moth** *Macrothylacia rubi* (R). Five larvae seen between 24 July and 9 October, Rackwick, Hoy.

**Humming-bird Hawk-moth** *Macroglossum stellatarum* (I). One seen in the field 24 August, Cupper, Evie (HA & DA).

**Small Fan-footed Wave** *Idaea biselata* (V). Two taken by trap: 5 and 9 August, Berstane House, St Ola (NC).

**Pine Carpet** *Thera fermata* (R). One taken by trap 21 August, Queenamidda, Rendall (BR).

**Spruce Carpet** *Thera Britannica* (U). Eight taken by trap: one 15 May, Queenamidda, Rendall, (BR) and seven between 28 September and 8 November, Berstane House, St Ola (NC).

**Barred Straw** *Eulithis pyraliata* (R?). One taken by trap 8 July, Sea Cottage, Longhope, Hoy (MH).

**Brown Silver-line** *Petrophora chlorosata* (V). One taken by trap 28 May, Sea Cottage, Longhope, Hoy (MH). This is the second record for Brown Silver-line in Orkney. The first was 21 May 2010, Smyril, Stenness, E & A Meek.

**Pale Brindled Beauty** *Phigalia pilosaria* (U). 36 taken by trap between 17 January and 26 February, Berstane House, St Ola (NC).

**Light Emerald** *Campaea margaritata* (R). 11 taken by trap: 10 between 1 and 22 July, Ley House, Hoy (LS) and one 17 July, Gerraquoy Farm, South Ronaldsay (SS & SS).

**Barred Red** *Hylaea fasciaria* (R). 13 taken by trap: one 1 July, Ley House, Hoy (LS), one 8 July, Sea Cottage, Longhope, Hoy (MH), one 12 July, High Street, Kirkwall (CJB & JB), five between 18 July and 7 August, Berstane House, St Ola (NC), one 28 July, Evie Village, Evie (SE), three 4 August, Queenamidda, Rendall (BR) and one 18 August, Gillbreck, Widewall, South Ronaldsay (LC & NF).

**The Herald** *Scoliopteryx libatrix* (R). Three records: one found as a pupa in Stromness; two taken by trap, one 7 October, Westshore, Burray (BH) and another 31 October, Berstane House, St Ola (NC).

**Pinion-streaked Snout** *Schrankia costaestrigalis* (R?). 13 taken by trap: four between 24 July and 4 August, Queenamidda, Rendall (BR), two between 27 and 31 July, Gerraquoy Farm, South Ronaldsay (SS & SS), five between 27 July and 18 August, Berstane House, St Ola (NC), two between 28 and 31 July, Sea Cottage, Longhope, Hoy (MH) and two between 28 and 29 July, Quoyberstane, St Ola (SVG).

**Gold Spangle** *Autographa bractea* (R). Four taken by trap: two between 30 July and 1 August, Gerraquoy Farm, South Ronaldsay (SS & SS), one 31 July, Gillbreck, Widewall, South Ronaldsay (LC & NF) and one 7 August, Cairston Road, Stromness (BS).

**Lempke's Gold Spot** *Plusia putnami* (U). One taken by trap 4 August, Queenamidda, Rendall (BR).

**Dark/Grey Dagger egg** *Acrionicta tridens/psi*. Eight records: six between 31 May and 23 July, Berstane House, St Ola (NC) and one in the field 3 June and one taken by trap High Street, Kirkwall (CJB & JB).

**Knot Grass** *Acrionicta rumicis* (V). Five taken by trap: four between 25 May and 13 June, Sea Cottage, Longhope, Hoy (MH) and one 2 July, Berstane House, St Ola (NC).

**Frosted Orange** *Gortyna flavago* (V). One taken by trap 7 September, Berstane House, St Ola (NC). This is the second record for Frosted Orange; the first was 23 August 2003, Quoyberstane, St Ola (SVG).

**Light Arches** *Apamea lithoxyla* (U). 15 taken by trap: two 23 July, Westshore, Burray (BH), two between 10 July and 9 August, Berstane House, St Ola (NC), six between 19 July and 1 August, Cairston Road, Stromness (BS), nine between 22 and 29 July, Quoyberstane, St Ola (SVG) and five between 28 July and 18 August, High Street, Kirkwall (CJB & JB).

**Red-line Quaker** *Agrochola lota* (V). Seven taken by trap: one 16 September, Ley House, Hoy (LS), four between 18 and 20 September, Sea Cottage, Longhope, Hoy (MH), one 25 September, Cairston Road, Stromness (BS) and one 27 September, Berstane House, St Ola (NC).

**Yellow-line Quaker** *Agrochola macilenta* (V). Two taken by trap between 19 September and 4 October, Berstane House, St Ola (NC).

**Red Sword-grass** *Xylene vetusta* (R?). One seen at a lit window 9 October, Cupper, Evie (HA & DA).

**The Satellite** *Eupsilia transversa* (RI). One taken by trap 19 October, Berstane House, St Ola (NC).

**Black Rustic** *Aporophyla nigra* (C?). One taken by trap 5 September, Sea Cottage, Longhope, Hoy (MH).

**Brown-line Bright-eye** *Mythimna conigera* (R?). One taken by trap 5 June, Berstane House, St Ola (NC).

**Broad-bordered Yellow Underwing** *Noctua fimbriata* (V). One taken by trap 5 August, Ley House, Hoy (LS).

**Green Arches** *Anaplectoides prasina* (V). 36 taken by trap between 21 June and 1 August, Berstane House, St Ola (NC).

**Setaceous Hebrew Character** *Xestia c-nigrum* (R). 16 taken by trap: three between 9 June and 1 September, Gerraquoy Farm, South Ronaldsay, (SS & SS) five between 23 and 26 August, Quoyberstane, St Ola (SVG), one 25 August, High Street, Kirkwall (CJB & JB), one 10 September, Cairston Road, Stromness (BS), one 26 September, Sea Cottage, Longhope, Hoy (MH) and five between 26 and 27 September, Berstane House, St Ola (NC).

**The Gothic** *Naenia typica* (U). One taken by trap 8 July, Cairston Road, Stromness (BS).

**Least Black Arches** *Nola confusalis* (U). Nine taken by trap between 15 May and 2 June, Berstane House, St Ola (NC).

My thanks to all who supplied records:

Helen Aiton & David Aiton (HA & DA), Valerie Archibald, Rebecca Bird, C.J Booth & J.Booth (CJB & JB), L.Campbell & N.Fairbairn (LC & NF), Nancy Charlton (NC), Heather Collinson, John Crossley, Jo Davis, Shirley Ellis (SE), Karen Evans, Martin Gray, Sally Hallam, Barrie Hamill (BH), Jamie Henderson, John Ingham, Lee Johnson, Hilary Quick, Brian Ribbands (BR), Linda Robinson, Sarah Sankey & Sami Sankey (SS & SS), Lee Shields (LS), James Silvey, Bob Simpson (BS), University of York, Carol & Adrian Weston (CW & AW), Keith White, Jamie Wild, Graham Williams, Jack Woodford (JW), Christopher Zawadzki.

During 2017 in excess of 250 records covering 65 different species were recorded in Orkney. Some of the highlights are listed below.

Commonly recorded by beekeepers throughout Orkney (HA, SG, AM, SR, SS) the **Bee Louse** *Braula coeca* has been largely wiped out from much of the rest of the UK except for some of the Scottish Islands such as Shetland and the Inner Hebrides. Contrary to their common name they are not in fact lice but a flat wingless fly that lives on the **European Honeybee** *Apis mellifera*. This species is tiny (1.5mm long) with comb-like feet enabling it to hang on to the hairs of the honey bee host. They are found on and around the heads of worker bees and drones but tend to have a preference for young hive bees and the queen. *Braula* survives by stealing food during social feeding within the hive (trophallaxis). It is thought that the demise of this species is due to chemical treatments for the **Varroa Mite** *Varroa destructor* which are widespread over much of the UK. *Braula* is not really considered a parasite as it doesn't interfere with the life of the colony although the larvae do burrow into the combs in the hive. In addition to this a queen may have difficulty feeding if she has a heavy load of *Braula* so it is often considered to be a minor nuisance. It is thought that the species uses chemical camouflage to conceal its presence from the worker bees in the hive.

In March 2017 Derek Mayes found a dead male **Mediterranean Fruit Fly** *Ceratitis capitata* on his windowsill at his home in Orphir. This species although very attractive is a serious pest of fruit crops and is native to sub-Saharan Africa although it has spread around the world. Often introduced in produce such as citrus fruit, Derek thinks that the fly possibly came from a potted Hyacinth purchased from Lidl in Kirkwall. If this is the case then the fly may have pupated in the soil of the pot. The specimen measures around 6mm in length and the male of this species has distinctive spatulate orbital setae. This is only the second record for Scotland (previous record from Skye in 2016) and there have only been a handful of other records across the UK.



*Ceratitis capitata* (Derek Mayes)

Signs were noted of **Aphid Midges** *Aphidoletes* sp. at Olav's Wood in September (LJ). These tiny midges predate more than 60 different aphid species and are used in the biological control of aphids in greenhouses. The larvae are only a couple of millimetres in length when moulted so they can be quite hard to see especially if they are disguised by a rust fungus as in the so they can be



*Aphidoletes* larva (Lee Johnson)

quite hard to see especially if they are disguised by a rust fungus as in the photograph. The adult midge feeds on honeydew produced by the aphids and lays her eggs near aphid colonies ensuring a good food supply for the larvae which are voracious eaters leaving just the husk of the aphid attached to the leaf. This particular larva specimen was found on the underside of a **Willow** *Salix* leaf. The larvae pupate in the soil overwinter.

Two species of **Trembling-wing Flies** that were previously not recorded in Orkney were noted in 2017. The first species was *Palloptera saltuum* which was found by Alastair Forsyth at Old Nisthouse, Harray HY310196 in June. The same species was subsequently recorded by Barrie Hamill at Westshore, Burray ND468955 in August.

The fly is around 3-5mm in length, yellowy-orange in colour with dark outer edges to the wings and is often found on hogweed. Secondly *Palloptera ustulata* was recorded by Nancy Charlton at Berstane HY469101 in September. This species is around 4.5mm in length with an orange abdomen and dark shades to the tips of the wings. Both species are fairly widespread and are likely to have been overlooked previously due to their small size.



*Palloptera saltuum* (Alastair Forsyth)



*Palloptera ustulata* (Nancy Charlton)

A mass emergence and mating of the Limonid cranefly *Molophilus ater* was noted at Hestily, South Ronaldsay ND451866 in the first week in May. This is the same location and almost the same date as in the previous year. A few individuals were recorded mating on heather later in the month at Hesta Head, South Ronaldsay, ND465884 (LJ).



*Geocrypta galii* gall (Julian Branscombe)

On the 18<sup>th</sup> June at the Links of Bothican, Papa Westray (HY492498) Julian Branscombe and Barrie Hamill found a Cecidomyiid gall on **Lady's Bedstraw** (*Galium verum*), which they keyed out using the FSC Redfern & Shirley plant galls book to *Geocrypta galii*. The record was subsequently confirmed by the British Plant Gall Society. The gall in the stem of *Galium* is caused by the small orange larvae of *G. galii* which may have several generations per year. The gall which can often

surround the stem can be green, pink or orange often turning browner with age. Each gall contains a single larva but many galls may fuse together. The galls open at the side when mature allowing the larva to drop out and pupate in the soil.



*Agromyza nana* leaf mine (Lee Johnson)

Continuing the theme of finding the signs of the larvae rather than the adult fly, *Agromyza nana* leaf mines were noted in **Clover** *Trifolium* near the Sands of Wright, South Ronaldsay, ND425937 in August and subsequently at Stromness HY251079 in September (LJ, BS). The mines are commonly found in clovers and are characterised by a short linear mine ending in a blotch in the centre of the leaf in which the larva feeds until it pupates externally.



*Chromatomyia loniceræ* mine (Lee Johnson)

Another leaf mine was recorded in **Snowberry** *Symphoricarpos* in August at Binscarth Woods HY349140 and in November at Firth Park, Finstown HY359138 (BS, LJ). *Chromatomyia loniceræ* is a widespread leaf miner species (*Agromyzid*) which has a single generation per year and are on the wing from July to August. Pupation occurs within the leaf with this species rather than externally and the pupa can often be felt inside the leaf like a tiny grain of rice. When trying to identify leaf miners it is a good idea to hold the leaf up to the light to take a photograph. This will show up the frass deposits inside the mine which are often characteristic of particular species along with the identity of the host plant.



A further species in which the signs of the larvae are more obvious than the actual fly is the **Ragwort Seed Fly** *Botanophila seneciella/jacobaei* (*Anthomyiidae*) which was recorded by Sydney Gauld at Quoyberstane, St Ola in August. The adult fly oviposits in the **Ragwort** head and leaves a characteristic dark spot in the centre of the flower as shown in the photo. Only one larva per seed head develops regardless of how many eggs were laid. As the larva feeds in the seed head it produces an exudate froth which dries out and hardens and is visible to the naked eye. The larva eventually pupates in the soil over winter.

Thanks to everybody that provided records: Barrie Hamill, Julian Branscombe, Bob Simpson, Alastair Forsyth, Nancy Charlton, Sydney Gauld, Derek Mayes, Andy Mitchell, Stan Groundwater, Helen Aiton, Sinclair Robertson and Sue Spence.

## Hoverfly Report 2017

*Alastair Forsyth*

2017 was not the best year for hoverflies in Orkney, recorders reported low numbers throughout the county. However, three new species were recorded for the county and another potentially new species was also found, but specific identification was not possible from photographs. The county list now stands at 63 species.

There were considerably fewer records of hoverflies received this year, perhaps reflecting the lower abundance observed generally. About 400 records were collected, compared to over 700 in 2016. 36 species were recorded plus one animal identified to a species pair.

The first hoverfly of the year was a *Melangyna lasiophthalma* at its usual haunt of Olaf's Wood, South Ronaldsay on 25<sup>th</sup> March; there were two other records of this species in subsequent days on South Ronaldsay. The last record of the year was of a *Syrphus sp* at St Margaret's Hope, South Ronaldsay on 24<sup>th</sup> October.

The new species for the county were as follows. *Dasysyrphus pinastri* found on 2<sup>nd</sup> June at Berstane Woods by Nancy Charlton, with another found at Tankerness House Gardens, Kirkwall a few days later on 8<sup>th</sup> June by Lee Johnson. On 28<sup>th</sup> July a *Melangyna compositarum/labiatarum* was located in the School Place car park in Kirkwall by Barrie Hamill. The Fourth Barrier was the location of a *Xanthandrus comptus* on 24<sup>th</sup> August found by Lee Johnson. Back to Berstane Woods on 17<sup>th</sup> September for *Dasysyrphus albostratus* found by Nancy Charlton and Lee Johnson.



*Epistrophe grossulariae* (Barrie Hamill)

So a year with fewer hoverflies recorded than might have been expected, with few large accumulations of animals; however, new species were again added to the county list and demonstrate the potential for further additions in 2018.

Records were received from Barrie Hamill, Lee Johnson and Brian Ribbands. Other records were collected from various Facebook pages.

There were a number of other interesting records during the year, including a series of records of *Chrysotoxum arcuatum* from Queenamidda, Rendall during July and early August. *Epistrophe grossulariae* was found at Hestily, South Ronaldsay in early August and at Westshore, Burray in July. *Lejogaster metallina* was a good find at Wideford Burn, Inganess in late June. *Cheilosia bergannstammi* was at Westshore, Burray on 31<sup>st</sup> July.



## Fish Report 2017

Chris Booth

Details of some of the more interesting fish reported in 2017 are given below:

### **Porbeagle shark** *Lamna nasus*

There was a sighting of one off Papa Westray on 19<sup>th</sup> January (SD)

### **Basking shark** *Cetorhinus maximus*

Considered to be common only a few years ago, in 2017 there were just two records: one was seen one mile east of Fowl Craig, Papa Westray on the very early date of 25<sup>th</sup> March (SD) and one was reported to have been seen on 2<sup>nd</sup> October in Scapa Flow but there are no further details (FB).

### **Lesser Spotted dogfish** *Scyliorhinus canicula*

Three were seen off Copinsay on 10<sup>th</sup> September (PM).

### **Flapper skate** *Raja intermedius*

A dead skate was found stranded at the Howe of Hoxa on 8<sup>th</sup> December (FB).

### **Eel** *Anguilla anguilla*

On 27<sup>th</sup> May one was seen in the Crantit Burn, St Ola (GW).

### **Angler** *Lophius piscatorius*

There were records of single fish off the cliffs of Copinsay on 26<sup>th</sup> June; 10<sup>th</sup> July and 1<sup>st</sup> September (PM).

### **John Dory** *Zeus faber*

A single at Bay of Skaill, Sandwick on 10<sup>th</sup> September (PM).

### **Worm Pipefish** *Nerophius lumbriciformis*

There was a minimum of 50 Houton Bay on 11<sup>th</sup> February (DM).

### **Red Blenny** *Parablennius ruber*

One was photographed at the North Shoal on 27<sup>th</sup> August (PM). This was the 2<sup>nd</sup> record for Orkney. The first was recorded by Jo Porter at the Nipple rock, Hoy on 23<sup>rd</sup> July 2013.

### **Reticulated Dragonet** *Callionymus reticulatus*

At least 30 were found in the caves of Copinsay on 1<sup>st</sup> September (PM).

### **Leopard-spotted Goby** *Thorogobius ephippiatus*

There were at least 20 in the caves of Copinsay on 1<sup>st</sup> September (PM).

### **Norwegian Topknot** *Phrynorhombus norvegicus*

One was seen off Copinsay on 1<sup>st</sup> September (PM).

### **Triggerfish** *Balistes capriscus*

On 17<sup>th</sup> September one was found dead on Skaill beach, Sandwick (PM).

### **Sunfish** *Mola mola*

There was a sighting of one off North Ronaldsay on 16<sup>th</sup> October (NRBO).

## Acknowledgements

My thanks to the following for their records:

S Dodman (SD); Facebook (FB); P Martin (PM) ; D Mayes (DM) ; North Ronaldsay Bird Observatory (NRBO); G Walker (GW); A Woodbridge.



Common Toad (Chris Booth)

**Common Toad** *Bufo bufo* Rare

The only reports were from the West Mainland. Single toads were found at Hundasaeter Birsay (AK&JHJ) on 11th June; 3<sup>rd</sup> July and 9<sup>th</sup> August. The largest weighed 40 gms and was 65.7 mms in length.

**Common Frog** *Rana temporaria* Fairly common

In February several overwintering tadpoles were found at Dyke End Orphir (DM) on 11<sup>th</sup> and on the 16<sup>th</sup> an adult frog was seen on the pavement at Clay Loan Kirkwall (EJC). Other reports of adult frogs during this month were from Deerness on 19<sup>th</sup> and Stromness (FB) on 20<sup>th</sup>. The first spawn recorded was from Hundasaeter Birsay (AK&JHJ) on 2<sup>nd</sup> March then Dale Costa on 7<sup>th</sup> where there were eventually about 90 clumps in four ponds (REM). On the evening of 6<sup>th</sup> March, following heavy showers, a number of frogs were seen on the road at Refuge Corner, Harray (FB). Spawn was found at Sunnybank Deerness on 9<sup>th</sup> and the Pickaquoy Centre (PW) on 10<sup>th</sup>. At least 10 clumps of spawn were reported from a site at Queenamidra Rendall (JBR) on 19<sup>th</sup> March and there was a batch at another site, about 200 metres away, on 21<sup>st</sup>. There was also a report of spawn from Lochside, Loch of Harray (LJ) on 23<sup>rd</sup> March. The first report of tadpoles was from Hundasaeter, Birsay on 28<sup>th</sup> March.

On South Ronaldsay Lister Hogarth recorded a good year for spawn at Rinibar beginning with 4 batches at Rinibar Quarry on 5<sup>th</sup> March and over 100 batches at Rinibar pond on 20<sup>th</sup> March.

Elsewhere he found 18 batches at Linegar West on 14<sup>th</sup> March and about 50 batches there on 3<sup>rd</sup> April. On 8<sup>th</sup> April there were 44 batches in puddles on the track to McIvors quarry, these were moved into the quarry.

In June an adult frog was found away from breeding pools at Queenamidda on 15<sup>th</sup> and a froglet, just metamorphosed, was seen there on 20<sup>th</sup>, while two adult frogs were discovered in Berstane Woods (LJ) on 28<sup>th</sup>. July records were of a single adult frog at Hestilly, South Ronaldsay (LJ) on 2<sup>nd</sup> and froglets at Rinibar on 24<sup>th</sup>. Many froglets were present in a garden at Greenigoe, Orphir (SP) on 15<sup>th</sup> August, also during this month there were single frogs at Hestilly on 26<sup>th</sup> and Sands of Wright loch, South Ronaldsay (LJ) on 27<sup>th</sup>. In September records were of single adult frogs Berstane Woods on 6<sup>th</sup>, at Queenamidda on 7<sup>th</sup> and 10<sup>th</sup>, Stromness (LJ) on 12<sup>th</sup> and Stromness Golf Course (LJ) on 21<sup>st</sup>. A stoat was seen, carrying a frog in its mouth, crossing the road near Cattie Maggie's quarry, St Ola on 10<sup>th</sup> December (FB) and a small frog was reported from Kirkwall on 11<sup>th</sup> December (FB)

### Acknowledgements

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N Charlton; E J Crew (EJC); Facebook (FB) ; J R L Hogarth ; AK&JH Johnson (AK&JHJ); L Johnson (LJ); R E Matson (REM); D Mayes (DM); S Pirie (SP); J B Ribbands (JBR) ; R J Simpson; P Wilson (PW).

## Reptile Report 2017

*Chris Booth*

On 10<sup>th</sup> December 2017 a Leatherback Turtle *Dermochelys corriacea* was found by the crew of a fishing boat off the coast of Shapinsay. It had become entangled in creel ropes, but the crew were able to cut the ropes and release the turtle, which swam away strongly, apparently not too distressed by the incident. The body of the turtle was estimated to be about 1.5 metres in length.



Leatherback Turtle (Glen Tait)

The Leatherback is the largest of the world's marine turtles and one or two are reported most years from around the coast of Scotland. This is the 15<sup>th</sup> record of this species of turtle in Orkney waters since 1987. The majority of records have been of live turtles but four have been found dead. Anyone wishing to find out more about turtles in Scotland is recommended to read the recently published *Amphibians and Reptiles of Scotland* by *Chris McInerney and Pete Minting*.

The SNH and RSPB bid to Heritage Lottery Fund was successful in securing funding for the preliminary phase of a stoat eradication project. Trial trapping has been taking place but stoat numbers continue to increase. As part of the public engagement side of the project, it is hoped that Orkney voles will be monitored throughout the islands, as there is hardly any information on this species from the areas where stoats first appeared.

Two mammals that definitely did not get to Orkney alive were washed up on beaches west of Stromness in 2017 – a badger and a Soay sheep (the latter presumably from St Kilda).

**Orkney Vole** *Microtus arvalis orcadensis*

17 records, slightly down on 2016, so still very under-recorded. Most records came from West Mainland, Burray and South Ronaldsay, as usual mostly cat kills or voles found dead, but there were a few live sightings. Voles still seem to be abundant in Rendall and Harray but the lack of records from the East Mainland is worrying. One was found dead on Lamb Holm; this may be a first record for that island and suggests that voles will occasionally cross the Churchill Barriers, though it could have been carried there and dropped by a predator.

**Wood Mouse** *Apodemus sylvaticus*

As usual very under-recorded, only from Kirkwall, Harray, Rendall, Hoy, South Ronaldsay (at a site where they are rarely seen) and Papa Westray. Apart from two daylight sightings (under a bird feeder in April and September), most were trapped in buildings from October to December. They seem to have replaced House Mice in some Papa Westray houses since about 2010. Unusually, none came into my house this year.

**House Mouse** *Mus domesticus*

9 reports, from Kirkwall, Harray, Rendall, South Ronaldsay and Papa Westray. All in houses or gardens, mostly trapped. Obviously very under-recorded. One under my floor in Rendall was the first I have ever found here and it is likely to have come nearly a mile across open country to get here. In Papa Westray, they were caught in the same buildings where Wood Mice had been caught two weeks before. Friða Jóhannesdóttir from Iceland was in Orkney in autumn 2017 researching house mice on north Atlantic islands.

**Common Rat** *Rattus norvegicus*

Reports only from West Mainland, Burray and South Ronaldsay, so very under-recorded. No conclusive evidence of rats was found on Swona in 2017.

**Rabbit** *Oryctolagus cuniculus*

Reported from Mainland, Rousay, Swona, Hoy, South Ronaldsay and Papa Westray. Myxomatosis was evident mainly in the first half of the year. In Harray, it seems to have greatly reduced numbers, but in Rendall and also on Papa Westray it had much less impact. In Rendall some rabbits seemed to recover, these are likely to be resistant now. Black rabbits were widespread, sandy or ginger ones were reported from Birsay and South Ronaldsay and partly white ones in Birsay.

### **Brown Hare** *Lepus europaeus*

In March I was sent a photo of a cat with a fresh dead hare taken in Burray. This is the first record for that island. The hare could possibly have run across the barriers but they seem never to have done this before. All of the other records were in the West Mainland or near Kirkwall. As usual most were recorded in the first four months of the year. Largest groups were 14 in Birsay and eight in Harray, in April.

### **Mountain Hare** *Lepus timidus*



Young Mountain Hare (B.Ribbands)

On 23<sup>rd</sup> March, when they were still mostly white and very conspicuous, 50 were counted on Cuilags and above Enegars. The same day another observer counted 25 in the Stourdale area. Others will have been unseen between these areas, there is clearly a high density north west of the Rackwick footpath valley. 10 were counted on Ward Hill in August. On the other side of the Rackwick road, there were eight near the Dwarfie Hammars and three at Rinnigill in May. The only record further south east was four on Sky Fea and Geniefea in August.

### **Hedgehog** *Erinaceus europaeus*

41 records is very similar to the previous year. Recorded in every month except March, with two in January, one in February and one in December, reflecting the mild winters. Records from Mainland and South Ronaldsay only. 20 records were of road casualties.

### **Pygmy Shrew** *Sorex minutus*

Only five records, two in West Mainland, one near Kirkwall, and two in South Ronaldsay, one of which was seen alive.

### **Otter** *Lutra lutra*

39 records so down on 2016 but similar to 2015. 5 found dead, all road casualties (five in 2016 and 9 in 2015), 1 in January, the others from August to December. 2 of these were on the Churchill Barriers. There were 13 records of spraints or tracks, the remainder were live sightings. Fresh spraints were noted between January and May. Records came from Mainland, Papay, Sanday, Rousay, Shapinsay, Hoy and South Ronaldsay, also Swona, where spraints were found near a spring, possibly the first otter record for this island. As in earlier years there were a number of reports of up to two adults and three young at the Brig o' Waithe in December.

### **Stoat** *Mustela erminea*

The number of sightings has continued to increase exponentially, with 1481 animals reported (compared to 721 in 2016, 494 in 2015, 241 in 2014 and 103 in 2013). The latest distribution maps show infilling in the north of West Mainland and the east of Deerness, also the north half of South Ronaldsay. There is now one record from Hoy, demonstrating stoats' ability to swim

between islands. The maps also show that the majority of records are on roads (hardly surprising) but recent trapping effort has caught most in moorland areas where they are much less likely to be seen.

SNH and RSPB were successful in a bid for National Lottery funds for the preliminary phase of an eradication project. See <https://www.nature.scot/professional-advice/land-and-sea-management/managing-wildlife/orkney-native-wildlife-project>

### **Common/Harbour Seal** *Phoca vitulina*

Largest haulouts recorded were 59 at Birsay (on two dates in April), 60 around Papay and 30 on Stromness holms. Smaller haulouts (up to 15) Rousay, Egilsay, Gairsay, Eynhallow and Loch of Stenness. I received a belated report of a newborn pup at Voy in the Loch of Stenness in 2015.

Only 3 were reported dead, 2 pups in June and July and a juvenile in August. Some of seven unidentified dead seals may also have been this species but only one was outwith the usual months for finding grey seals dead. That one was at Billia Croo in July and reported as possible grey seal predation.

### **Grey Seal** *Halichoerus grypus*

Pup counts from Burwick to Green Head on the west side of South Ronaldsay, were 31 on 16<sup>th</sup> October and 35 there on 22<sup>nd</sup> October. Some more are likely to have been born after this date. There were about 300 pups on Gairsay in early December. Elsewhere the largest haulouts reported were 200 on Holms of Spurness, 60 on Holm of Huip and 70 in Nousty Geo, Stronsay, all on 18<sup>th</sup> June, 40 on Vasa Skerry on 13<sup>th</sup> July and 25 on Wyre skerry on 28<sup>th</sup> April.

29 were reported dead, much fewer than the 66 of the previous year, 16 in January and February, two in March, then two in September, one in October and eight in November and December. 16 were pups or juveniles, three were adults, the others of unknown age. 11 (none definitely adult) had possible 'corkscrew' injuries or were reported as possible grey seal predation. Most of the seven unidentified dead seals are likely to have been this species, three of these were possible grey seal predation.

### **Cattle** *Bos taurus*

On Swona, 23 were counted on 6<sup>th</sup> May and 26 on 12<sup>th</sup> August, including three bulls and six calves. This is a slight increase; there were 23 in August 2016 and in 2015.

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Mountain Hare (B. Ribbands)

## Bat Report 2017

*Tim Dean*

The Bat Group undertook 41 watches during the period from 30<sup>th</sup> March to 27<sup>th</sup> October; we drew 'blanks', i.e. no bats, on seven of those occasions. The group usually check out known bat localities and do this in the hope of locating the exact sites for bat roosts. It's a 'needle in a haystack' sort of exercise and relies on 'the knowledge' (London taxi driver speak) and a huge amount of luck. Our 'blank' nights usually occur when we are away from the known regular sites and are checking out areas that potentially hold bats. However, in 2017, it was concerning that two of our 'blank' nights occurred at known sites in Evie. We'll endeavour to get a clearer picture of what's happening in that parish during 2018, although regular readers may recall 2016's bat report which featured the bat hunting abilities of an Evie cat who caught three Common Pipistrelles (these are the ones we know about) in the space of five summer nights.

Cats are well-known predators of bats and their agility at downing a fast-flying feeding Common Pipistrelle was observed during a bat watch in Finstown on 13th May. The victim was grounded and had little chance of escaping the attentions of the cat so a human being stepped in. That human being then devoted the next seven days to its care. The care included a visit to Northvet in order to ensure that the bat had suffered no obvious injuries from the unwelcome feline attention; Northvet gave it a clean bill of health. Advice on caring for bats was sought from Carol Blain of SSPCA in Orkney and from the Bat Conservation Trust. Subsequently, mealworms were procured from a pet shop and the bat's temporary residence was a shoebox. On average, this Common Pipistrelle consumed 15 mealworms in 40 minutes before retiring for the night. It required help to feed and the human intervention consisted of removing the heads of the mealworms, before letting the bat gorge on the liquid innards – it was a 'not for the faint hearted' exercise. In all probability, this particular bat had never come by this quantity of food so quickly and easily – virtually no energy was expended (on its part) and after forty minutes, with a very full belly, it could put its feet up for another 24 hours.



Common Pipistrelle released on 18th May 2017



After a week of being ministered to, it was decided to release the bat during an evening of clement weather. With a full belly consisting of another 15 mealworms, it was placed in an appropriate tree in Binscarth and promptly fell asleep.

The human being’s emotional ties with this warm-blooded creature, no bigger than the first joint of a standard thumb, were tested. Returning to the same tree in Binscarth on the following evening, it was a relief to find that there was no bat clinging to the bark. There was even more relief after a thorough search of the ground around the base of the tree revealed nothing to tug the heart strings. So, it’s nice to think that the casualty may be back flying with its Finstown pals.

Bat records were received between 30<sup>th</sup> March and 9<sup>th</sup> October 2017 involving a minimum of 104 bat sightings. For comparison’s sake, the figures for 2016 in which the Bat Group undertook 36 watches between 5<sup>th</sup> April and 17<sup>th</sup> October, realised 32 bat records involving a minimum of 114 bat sightings. Counting flying bats in the half-light is problematical. As they zip among and around trees and buildings, it’s difficult to prove categorically how many bats are involved. The bat group tends to be cautious with estimates and invariably plumps for a minimum number.

Records were received from Evie, Firth, Holm, Hoy, South Ronaldsay, St Ola and Stromness. All but one of the records, as to be expected, involved **Common Pipistrelles** *Pipistrellus pipistrellus*. This is the Pipistrelle species that calls at 45 kHz and is also known as either the ‘45 Pip’ or the ‘Bandit Pipistrelle’.

The only unspecific sightings involved two records of single bats at the end of the year. On 4<sup>th</sup> November, while watching Kirkwall’s firework display from the heights of Grainbank, Laura Bruce was also entertained by a bat circling around the light of a street lamp-post. Later in the month, on 30<sup>th</sup> November, Lindsay Campbell saw a bat flying near the seawall beneath Graemeshall farm in Holm.

### Bats by month

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
records	1	6	5	4	2	1	11	11	4	45
bat ‘sightings’	2	15	15	16	3	2	28	19	4	104

### Bats by parish and island

	Evie	Firth	Holm	Hoy	South Ronaldsay	St Ola	Stromness	Total
records	1	22	1	13	1	2	5	45
bat ‘sightings’	3	53	1	37	1	2	7	104

The bat group continued to monitor the two main centres of Orkney’s bat population – Firth and Hoy. Despite a good understanding of these key areas, there is still much to learn. In 2017 another dimension to what we know about the Firth bats was added – on three occasions in

September, individual bats were seen foraging over the low tide foreshore. Our six visits to Stromness were also fruitful and the group now know of two regular bat localities in the town.

The Heddle Hill and Binscarth complex in Firth may hold up to a dozen individuals. Our peak counts in 2017 included six at Binscarth on 18th May and four along the Heddle road on 8<sup>th</sup> September. On Hoy, both ends of the island have populations of Common Pipistrelles. A maximum of three individuals were recorded at the south end on 13<sup>th</sup> June and 11 at the north end on 18<sup>th</sup> June.

Every so often a different species of bat appears in Orkney. In 2015 a Parti-coloured Bat *Vespertilio murinus*, a first for the county, was discovered in February at a house in Grimness, South Ronaldsay. These medium-sized bats (Common Pipistrelles are small) occur across Central and Western Europe and Asia. They are found in mountains, steppes and forested areas, although in Western Europe they are frequently seen in cities. Their rarity means that little is known about them; however, we do know that they migrate, perhaps as much as 500 miles. Few had been seen in Britain up until 2000; since then, possibly with more bat awareness, there have been one or two records per year and it is now considered to be the UK's most regular vagrant.

On 21<sup>st</sup> October 2017, coincidentally at Grimness in South Ronaldsay, Andy Whyte, who farms at Honeysgeo, found a fresh corpse of Orkney's second Parti-coloured Bat. Honeysgeo is less than two kilometres from the location of Orkney's first Parti-coloured Bat. This specimen, like Orkney's first, was a male. **Memo to the Orkney Bat Group:** Given the species migratory proclivities, it may be worthwhile to take bat detectors to Grimness in autumn 2018 especially after an easterly wind.



Parti-coloured Bat – upper side



Parti-coloured Bat – under side

Ten RSPB youngsters joined the Bat Group in September for a watch in Finstown. The bats behaved and, for half an hour, a couple of Common Pipistrelles fed and flitted over the heads of the youngsters. It has been pleasing to record an infusion of new blood into the Bat Group – the number of batters has almost doubled. There is always room for more and insomniacs are welcome to join the bat group on its watches; please contact either Tim Dean or Effy Everiss ([timdean4@hotmail.com](mailto:timdean4@hotmail.com); [effyeveriss@hotmail.com](mailto:effyeveriss@hotmail.com))

My grateful thanks to everyone who has contributed records and advice including Bea Ayling, Pauline Barber, Carol Blain, Chris Booth, Laura Bruce, Lindsay Campbell, Nancy Charlton, Effy Everiss, David Fisher, Elspeth Groat, Eilidh Harcus, Malcolm Macrae, Susan Kenyon, Brian Ribbands, Malcolm Russell, Lindsay Taylor, Roger Whitworth, Sue Whitworth, Andy Whyte and the staff at Northvet.

All photos by Tim Dean.

A surprise in 2017 was the arrival in Scapa Flow of three Fin Whales. This is the first time that this species has been seen in the Flow for over 100 years. The stranding of a Cuvier's whale was also unusual, while there were plenty of opportunities during the summer to see both Killer whales and Risso's dolphins.

### **Fin whale** *Balaenoptera physalus* Very rare

Three, one of which was noticeably smaller than the other two, were present in Scapa Flow from 28<sup>th</sup> to 30<sup>th</sup> April. They spent most of the time in the area between Glimps Holm and Hobbister. It is over 100 years since Fin Whales have been recorded in the Flow. Buckley and Harvie-Brown, (1891) in their book *The Vertebrate Fauna of Orkney*, gave several 19<sup>th</sup> century records including that of three which spent one summer in the Flow.

### **Minke whale** *Balaenoptera acutorostrata* Common

Singles were seen off North Ronaldsay on 27<sup>th</sup> May; West Langpool, Scapa Flow on 29<sup>th</sup> May; off Hunda on 16<sup>th</sup> June and in Hoy Sound on 9<sup>th</sup> July. Then on 11<sup>th</sup> July two were observed off Scapa pier with singles off the Castle of Burrien Westray on 20<sup>th</sup> July; Noup Head Westray on 26<sup>th</sup> July and off Hundland Papa Westray on 31<sup>st</sup> July. In August one was near Houton on 31<sup>st</sup> while September sightings were of singles north of the Holm of Aikerness, Westray on 5<sup>th</sup> and two miles east of Sheepheight Papa Westray on 21<sup>st</sup>. A single was seen from the Hamnavoe off the south of Hoy on 16<sup>th</sup> October and in November there was one east of Papa Westray on 4<sup>th</sup> and one off North Ronaldsay on 30<sup>th</sup>.

### **Cuvier's beaked whale** *Ziphius cavirostris* Very rare

Stranding: One that had been dead for some time was found stranded at Saviskail Rousay on 13<sup>th</sup> November.

This was the 7<sup>th</sup> record for Orkney. All previous records have been of stranded dead whales.

### **Harbour porpoise** *Phocoena phocoena* Common

Widely distributed but under recorded. There were 21 off North Ronaldsay on 21<sup>st</sup> September and a large gathering was noted in Longhope Bay on 29<sup>th</sup> September, while about 30 were seen between Hackness and Flotta on 16<sup>th</sup> October, all other reports were of 1-5 porpoises.

Strandings: Singles Orphir Bay in February; North Wick Papa Westray 27<sup>th</sup> February; North Ronaldsay 2<sup>nd</sup> April; a juvenile Eastside South Ronaldsay on 21<sup>st</sup> May and singles Papa Westray on 23<sup>rd</sup> November and Graemsay on 18<sup>th</sup> December.

### **Short-beaked Common dolphin** *Delphinus delphis* Uncommon

There were sightings of single dolphins off Mull Head Papa Westray on 23<sup>rd</sup> May and northwest of Mull Head on 26<sup>th</sup> May. On 30<sup>th</sup> June one was observed breaching at Pierowall Westray while on 2<sup>nd</sup> August eight were seen heading into Scapa Flow through Hoy Sound and a pod was seen off Evie on 3<sup>rd</sup> August. On 17<sup>th</sup> September two were watched from the Golden Mariana between Westray and Papa Westray and a pod was present in Veantrow Bay Shapinsay on 29<sup>th</sup> September.

At least two were seen northeast of Cava on 27<sup>th</sup> October and on 2nd November one was watched breaching near Lyness.

**Atlantic White-sided dolphin** *Lagenorhynchus acutus* Uncommon

The only records were of a pod in Scapa Flow on 29<sup>th</sup> September and four seen off North Ronaldsay on 9<sup>th</sup> October.

**White-beaked dolphin** *Lagenorhynchus albirostris* Formerly common, now uncommon

There was a sighting of six off Birsay on 20<sup>th</sup> July and three were seen at Noup Head Westray on 26<sup>th</sup> July. On 11<sup>th</sup> August two stranded at St Marys Holm, one was successfully returned to the sea but the other, a male, unfortunately died.

**Killer whale** *Orcinus orca* Common April to July, uncommon at other times

Reports early in the year were of four in Deersound on 28<sup>th</sup> March; two, including an adult male, off Grimness South Ronaldsay on 9<sup>th</sup> April and a pod off Windwick South Ronaldsay on 19<sup>th</sup> April. At least four were seen off the West Mainland on 14<sup>th</sup> May while on 21<sup>st</sup> May four were seen off Mull Head Papa Westray and six, which included three males, two females and a calf off North Ronaldsay. There were three off North Ronaldsay on 26<sup>th</sup> May. A pod of five, including one male, three females and a calf were watched from North Ronaldsay on 14<sup>th</sup> June; otherwise there were numerous sightings in June and July from all round the islands, mostly of 1-4 whales but five were reported on six occasions and the maximum was seven off the Brough of Birsay on 20<sup>th</sup> June. August reports were of two North Ronaldsay on 2<sup>nd</sup>; two off Burwick South Ronaldsay and an adult male off Cantick Head, on 5<sup>th</sup>; four between Westray and Papa Westray on 6<sup>th</sup>; two North Ronaldsay on 8<sup>th</sup> and a large male there on 9<sup>th</sup>. There were no more sightings until two were seen off Cantick Head on 13<sup>th</sup> November, which was the last report for the year.

**Long-finned Pilot whale** *Globicephala melas* Formerly common, now uncommon

A pod of five, including a large male, was observed northwest of Mull Head Papa Westray on 21<sup>st</sup> August.

Strandings: One Hunda in Jan/Feb. A dead adult female Sanday on 8<sup>th</sup> October and a dead adult male Backaskaill Sanday on 2<sup>nd</sup> November.

**Risso's dolphin** *Grampus griseus* Common



Risso's Dolphin (T. Wright)

On 17<sup>th</sup> February six were reported off Grimness Head, South Ronaldsay. There were no more sightings until five were seen off Stromness on 2<sup>nd</sup> May then two north of Mull Head Papa Westray on 18<sup>th</sup> and 25<sup>th</sup> while on 21<sup>st</sup> May a pod was off Marwick Head and at least six were watched off Noup Head Westray. The only June report was of two in Birsay Bay on 19<sup>th</sup>. July sightings were of five North Ronaldsay and two off Fowl Craig Papa Westray on 4<sup>th</sup> then 20 were spotted between Papa Westray and Sanday on 12<sup>th</sup> while on 13<sup>th</sup> there were ten off Noup Head Westray and these were present in the area until 29<sup>th</sup> July. A pod was watched at the entrance to Scapa Flow from the Pentalina on 31<sup>st</sup> July. August; sightings were of between 12-15, including a calf, North Ronaldsay on 2<sup>nd</sup>; two south of Hoy from the Hamnavoe on 3<sup>rd</sup>, fourteen North Ronaldsay on 8<sup>th</sup>, a single off the West Hill of White Hamars Hoy on 20<sup>th</sup>; eight North Ronaldsay on 22<sup>nd</sup>; a pod in the Bring Deeps, Hoy on 27 and on the same day six were seen from the John O Groats ferry off Burwick and four east of the Holm of Papa Westray. In September there were sightings off North Ronaldsay on nine days between the 8<sup>th</sup> and 21<sup>st</sup>. The maximum recorded was 24 on 8<sup>th</sup> otherwise all other sightings involved 1-6 dolphins. Elsewhere in September there was one off Black Craig Stromness on 3<sup>rd</sup>; three off Fara on 10<sup>th</sup>; three off Hundland Papa Westray on 13<sup>th</sup>; three off North Hill Papa Westray on 17<sup>th</sup> and at least three were seen off Burwick on 29<sup>th</sup>. In October two were seen off North Ronaldsay on 8<sup>th</sup> and on 16<sup>th</sup> three were watched off the Gloop Deerness and six were seen off North Ronaldsay. The last sighting was of ten from North Ronaldsay on 31<sup>st</sup>.

Strandings: A female on Sanday 8<sup>th</sup> March. Length 3.1 metres.

A male, which had been dead for some time, Dingieshowe Deerness on 3<sup>rd</sup> September.

## Unidentified cetaceans

A number of sightings were reported where identification could not be made with absolute certainty.

21 <sup>st</sup> January	1 cetacean sp Papa Westray, probably a female Killer whale
28 <sup>th</sup> January	3 Dolphin sp 150 metres southeast of Holm of Papa Westray
12 <sup>th</sup> October	2 Dolphin sp No.1 Barrier
14 <sup>th</sup> October	1 Dolphin sp North Ronaldsay
30 <sup>th</sup> October	2 Dolphin sp North Ronaldsay

## Acknowledgements

I am very grateful to the following for their records and help:

J Branscombe; M Brennan; M Brown; S Dodman; T Dodman; A Duncan; N Gywnn-Jones; J Ford; H Hadley; F Holmes; D Hourston; J Inkster; L Johnson; D Kennedy; S Little; North Ronaldsay Bird Observatory; J B Ribbands; Sami Sankey; Steve Sankey; S Thompson; H Weaver; T Wright. Records were also taken from Facebook

All sightings are welcome and can be reported either to the cetacean recorder or the records centre.



White-beaked Dolphins (T. Wright)

## What happens to your Lepidoptera Records?

### *Sydney Gauld (Orkney County Recorder for Lepidoptera)*

In my role as County Recorder, most records are sent to me annually by people running moth traps or just recording moths and butterflies (Lepidoptera) that they see when out and about. Most records are submitted in a spreadsheet purpose-built for recording Lepidoptera in Orkney. In addition, Butterfly Conservation run various recording schemes each year, such as the Garden Butterfly Survey, Big Butterfly Count; there is also the iRecord Butterflies App run by Natural Aptitude. The records for Orkney submitted to Butterfly Conservation are passed back to me as County Recorder for checking.

Records enter the main Butterfly Conservation database only when they have been vetted and passed by the Local County Recorder for the County in which the record was made. This data flow was asked for by County Recorders to ensure that the records held in this central database are correct.

### What is involved in checking the records?

- Has the species been recorded in Orkney before? If not, a check is required to confirm the identification. The evidence could be as simple as a good photo, but with some species a photo or even viewing the specimen in your hand is not enough confirm the identification; in this instance, critical features, most often of the genitalia, may need to be closely examined. (Note that regular moth recorders will usually consult the Orkney Moths species list to see what identification is required if they find an unusual species.)
- Does the species occur in Orkney as a resident, regular migrant/immigrant or vagrant?
- Do the location name and the grid reference for the record match?
- Is it the record a duplicate? If so it is deleted; only a single version of a unique record is kept.

Once all the checks have been carried out and the data is clean and I send the Orkney records to Butterfly Conservation. Once there they can be used to analyse population trends and produce distribution maps.

An example of the end result of this process – a distribution map for the moth **Purple Bar** *Cosmorhoe ocellata* - is shown on the following page. The map was produced using open source GIS software.

### A New Atlas of Britain and Ireland's Larger Moths

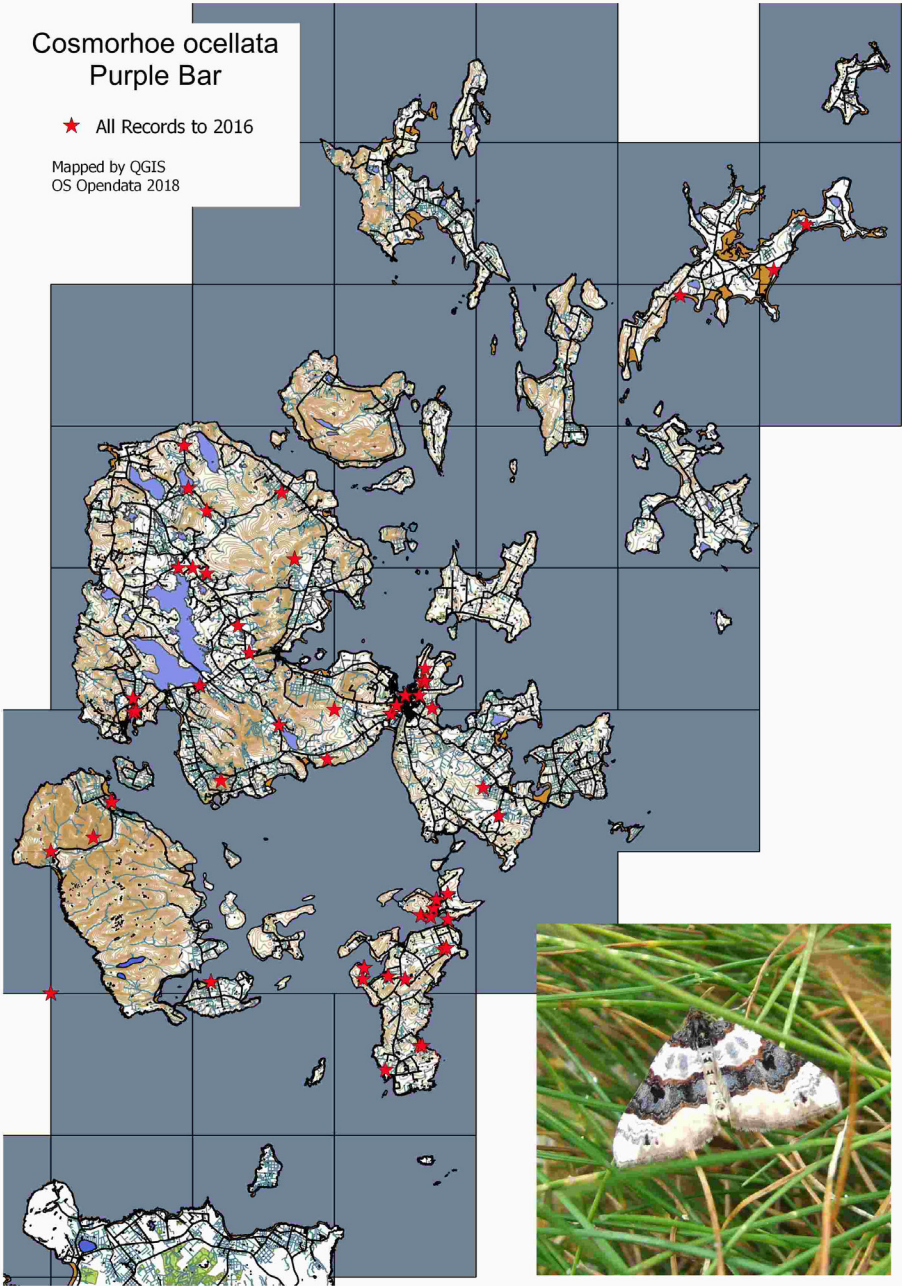
The 'Atlas of Britain and Ireland's Larger Moths' is due to be published during 2018, timed to celebrate Butterfly Conservation's 50<sup>th</sup> anniversary. This new atlas will be the first ever complete atlas of Britain and Ireland's larger moths, with up-to-date distribution maps and species accounts for almost 900 species; it is a great result for the terrific effort that people have put into submitting their records to me, all the other County Recorders and to Butterfly Conservation.



# Cosmorhoe ocellata Purple Bar

★ All Records to 2016

Mapped by QGIS  
OS Opendata 2018



(Sydney Gauld)

## Orkney Recorders 2018

(Please see second half of table for contact information)

County Recorders can arrange species identification, either through their own knowledge or by access to the expertise of others; they feed information into local and national recording schemes; and they maintain Definitive Lists. A number of the latter are now available on the Field Club website, <http://www.orkneycommunities.co.uk/FIELDCLUB/index.asp>. As the Reports in the Bulletin demonstrate, appropriate records of sightings are always welcome.

Algae – marine (seaweeds)	Prof. Martin Wilkinson
Algae – freshwater	VACANT
Amphibians & reptiles	Chris Booth
Bats	Tim Dean
Beetles	Brian Ribbands
Birds	Russell Neave
Bumblebees, solitary bees, wasps & ants	John Crossley
Butterflies & moths	Sydney Gauld
Caddis flies (Trichoptera), mayflies (Ephemeroptera) & stoneflies (Plecoptera)	Ross Andrew*
Centipedes & millipedes	VACANT
Cetaceans (whales, porpoise & dolphins)	Chris Booth
Cnidaria (sea anemones, jellyfish, hydroids, comb jellies and siphonophores)	Penny Martin
Crustacea (marine)	VACANT
Dragonflies & damselflies	Graeme Walker
Earthworms, leeches etc	VACANT
Echinodermata (sea urchins, starfish, etc)	VACANT
Fish	Chris Booth
Fungi	Julian Branscombe
Grasshoppers	Dick Matson
Hoverflies	Alastair Forsyth
Isopods (Woodlice & relatives)	VACANT
Lichens	Roger Davies
Mammals (excepting bats & cetaceans)	Brian Ribbands
Molluscs (marine – sea slugs and cephalopods)	Anne Bignall
Mollusca (marine – shells)	Dr Yvonne Simpson
Molluscs (terrestrial and freshwater – slugs and snails)	VACANT
Mosses, liverworts & hornworts	John Crossley
Sawflies	Jenni Stockan
Slime moulds	Lee Johnson
Spiders, pseudoscorpions & harvestmen	Edward Milner
Stoneworts	VACANT
True bugs (Hemiptera)	Peter Kirby
True flies (Diptera) except hoverflies	Lee Johnson
Vascular plants	John Crossley

\* Ross Andrew has moved away but will continue temporarily. A replacement is sought.

<b>Recorder</b>	<b>Address</b>	<b>Phone</b>	<b>E-mail</b>
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## General advice on recording

All records are worthwhile. The essential four pieces of information that must accompany **all** records are:

<b>What</b>	<b>Where</b>	<b>When</b>	<b>Who by</b>
SPECIES NAME (& HOW MANY)	PLACE NAME (GRID REF IF POSSIBLE)	DATE	YOUR NAME

If no County Recorder is listed, please send your records to the OWIARC:

**Orkney Wildlife Information and Records Centre, Orkney Library and Archive,  
44 Junction Road, Kirkwall, Orkney, KW15 1AG**

Email: [biodiversity@orknevlibrary.org.uk](mailto:biodiversity@orknevlibrary.org.uk)

If you want a reply it would be appreciated if you include a stamped addressed envelope. This is essential when specimens have to be sent away for identification. When collecting specimens please collect only the minimum number needed for purposes of identification. If you need help with identification or if you would like more information about records of a particular species of plants, birds, mammals, invertebrates, etc, please ask the appropriate County Recorder. To assist with species identification the OWIARC holds a library of reference books and equipment including microscopes.

## Guidelines for Contributors

Contributors to the Bulletin are warmly welcomed. If you are interested in contributing, please contact John Crossley at North Flaws, South Ronaldsay, Orkney KW17 2RW or by emailing [flawsjohn@gmail.com](mailto:flawsjohn@gmail.com). Articles for the Bulletin follow certain conventions, such as the use of capitals for the English names of species, with this name being emboldened at first use, and the Scientific name being provided with it at that point. More detailed guidelines for contributors are available from John, and it will be a great help to John and his editorial sub-group of the Orkney Field Club if they are followed.

*The Orkney Naturalist* is put together by a sub-committee of Orkney Field Club. Minor amendments to submitted articles are made by the sub-committee, and sometimes more significant changes are suggested; ultimately the content of an article remains the responsibility of the author, and does not necessarily reflect the views or conclusions of the sub-committee. Members of the Editorial Sub-committee thank all contributors to this issue of *The Orkney Naturalist* and all who have assisted in its publication.

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**Cover photos (clockwise from top right):**

**Dahlia Anemone (Penny Martin);**  
**White Clover (Anne Gascoigne);**  
**Light Knotgrass caterpillar (JamieWild);**  
**Parrot Waxcap (Lee Johnson).**