

The Orkney Naturalist



**Bulletin of the
Orkney Field Club
2017**

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 (2017) 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.

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 and the Club's Facebook page - 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.

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.

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

Club Office Holders 2016-17

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

From the President

Peter Slater

I have been interested in natural history from a very early age and, in most people's terms, was lucky enough to build a career from it. Birds were my main enthusiasm, and I have studied them, particularly their songs, most of my life. But there's a snag here. You can't make a career out of bird watching and these days, as an academic, it's essential to raise research funds, and that requires specific questions to be tackled. Also, in the old adage, as you become an expert on something "you know more and more about less and less until you know everything about nothing", so involvement in more general natural history tends to go out the window.

A huge amount of our understanding of the natural world depends on painstaking and detailed long-term study which is quite essential but not something a professional academic could easily fund or justify. Particularly with career pressures, people need eye-catching results, and they need them now! All these reasons indicate why the wonderful work done by so many amateurs in their spare time is the absolute backbone of our understanding of the natural world. Orkney has had more than its fair share of superb amateur naturalists: to name but three, Magnus Spence, the school-teacher botanist, Robert Rendall, the Kirkwall draper with his life-long interest in molluscs, Ian Lorimer, the businessman from Finchley, who became the expert on our moths and eventually retired here. I knew the last two, and their knowledge was impressive, their enthusiasm infectious. And today, one need only look through the pages of this *Orkney Naturalist* to appreciate the amazing breadth of amateur expertise we still have in Orkney today. Since I retired I have much enjoyed escaping my academic bunker and broadening my horizons through the Field Club. This year I have been on expertly led outings to look for dragonflies on Hoy and lichens in Finstown. You are never too late to learn!

But still, there is to me a worrying issue, and this is where the next generation of amateur expertise is going to come from. While younger children may come with their parents on Field Club outings, as they get older their interests tend to move elsewhere. I had a wonderful teacher who took us out bird watching in the evenings and at weekends, at home there was no computer or television to distract me in the evening but my friends and I were often off to bird club meetings. Today the distractions are many and few people under 40 are to be seen at evening meetings. Out of hours activities are rare at schools and the curriculum so packed that little that is not essential can be fitted in. Even those motivated to lead field trips are likely to be daunted by the need for disclosure assessment and complying with health and safety legislation. All this seems to me very sad and a rather poor lookout for the absolutely essential work we as a field club need to do to keep on top of monitoring the rapidly changing natural world that relies on our efforts.

Nine years ago in her piece in the *Orkney Naturalist*, my predecessor but one as President, Elaine Bullard, made a similar point. It seems to me to remain critical that we work hard on devising ways to involve as many people as possible, and especially young people, in the Field Club. Keeping a close eye on Orkney's natural environment in a rapidly changing world is an immensely important task which deserves all the effort we can put into it, both now and in the future.

It is a cliché to suggest that years speed up as one ages, however last year does seem to have passed in a blink. Likewise, the calendar of events organised by Orkney Field Club. It seemed that no sooner one talk was arranged than a hall was being booked for another, and after a field trip here or there we were off again to somewhere else. Here's an accelerated whizz back through 2016 ...

Hmmm ... January, a most frustrating month. We made several attempts to schedule a New Year Ramble but were thwarted by a succession of gate-crashing visitors: storms Frank, Gertrude and Henry. Some of us did manage a shore-side view of the Humpback Whale show in Echnaloch, whilst the wild seas brought plenty for beachcombers to investigate and a good haul of egg cases for Orkney Skate Trust.

Beachcombing made for a very apposite – as well as informative – evening talk from Martin Gray. Through his easy presentation style we saw some of the treasures which wash up on our shores, and some of the darker aspects of marine pollution and litter which end up in Orkney. Those of us who assist with monthly RSPB Beached Bird Surveys or annual Bag the Bruck are only too aware of the threat posed to our wildlife by plastic flotsam.

The start of February found us hidden away in the warmth of the Ayre Hotel, stuffing ourselves with food at the “Non-Christmas Dinner”. It proved to be a most enjoyable evening with plenty of good conversation and exchange of news. A week later and we were together again, hosting a “Nature Showcase” evening. Being aware that not everyone has enough material (or confidence) to deliver an evening-long presentation, this event provided an opportunity for folk to offer insights into what they are doing - and how. Somebody said the evening was a bit like speed-dating, but without the pressure of choosing whether to go home with a photographer or bird-ringer or seawater-sampler. We loved them all!

On a wider stage, Orkney Field Club was represented at meetings convened by SNH to try to find a way forward in the stoat problem. We were supportive of the appointment of a new full-time OIC Access Officer and pleased to hear that two new groups had formed in Orkney: one to share knowledge about seashells, the other as a platform to arrange events and share data for Orkney Odonata species. Several members attended events organised by both the RSPB and SOC (Scottish Ornithologists Club) and two feature articles appeared in *The Orcadian*, penned by club members, again reflecting our broad range of knowledge and interests.

March heralded a bustle of activity. In collaboration with Stromness Museum we hosted a workshop to identify seashells, review the resources available, share local contacts and – for many, a highlight – to view Robert Rendall's definitive Orkney shell collection. Roger Davies gave us “An Introduction to Lichens” evening talk then we had a chance to apply our knowledge the next morning by looking at lichen colonies at Finstown Community Garden. Making the most of the good weather also saw some Field Club members out assisting with the planting of 746 new trees as the HMS Hampshire Centenary Wood was established in Kirkwall.



Tending young trees by the Peedie Sea (Penny Martin)

As well as new trees, we were actively engaged in looking after some older ones, and held three (yes, three!) very rewarding sessions removing over-tight guards and ties from the trees planted around Kirkwall's Peedie Sea. It was good to see how well these have settled and grown, and what a well-used public asset this area has become in just a few years. We also, of course, had the opportunity for some birding around the water's edge ...

Next up was Bag the Bruck at our customary Marwick Bay location. Disappointingly, we soon amassed a fair pile of assorted plastics, ropes and netting in the face of a very cold wind. But it was satisfying to remove the waste, and a couple of hardy folk continued along the West coast to photograph some very early flowering, equally-hardy *Primula scotica*.

May means Orkney Nature Festival; not the ideal time slot, but the only gap available in a very busy established Orkney festival calendar. Our club offering, cleverly called "Re-Peat" visited Birsay Moors to explore what peat is made of and what lives in/on it. It was a particularly dreich afternoon but attracted local folk and visitors, and the moors were surprisingly colourful with Sphagnum mosses and Butterworts. This complemented an event organised by Corrigan Museum where the emphasis was on the social and cultural aspects of "A day out on the paet hill" (*sic*).



Ecology in a wet habitat – Birsay Moors (Anne Gascoigne)

"Dreichness" continued for the first Flora Group meeting of the season. This was at Rerwick Head, where we went looking for Early Purple orchids and plants of maritime heath. The evening

was best summed up by a comment that because we found absolutely nothing of interest it made the event “interesting” in itself.

After nearly a month of bitter NE wind things improved rapidly in time for us to spend a most enjoyable day on Graemsay. There were flowers in abundance, moth larvae, oystercatchers by the hundred, a chance to explore Oxan head and the wonderful coral beach at Sandside. We enjoyed sunshine and blue skies – and at least four picnic stops en route!

Wildflowers were very much to the fore during June, as informal events took members to sites in Firth, Evie and South Ronaldsay to admire the profusion of blooms. It seemed to be a good year for Oysterplant and Orchids in particular, and many farm fields were a shimmering sheet of golden Buttercups. The Flora Group had a more rewarding visit to the Lyde area in Firth, where we (or rather Brian!) re-located a colony of Chickweed Wintergreen.



Finding Chickweed Wintergreen (Anne Gascoigne)

Marine activity continued with volunteers taking samples from and recovering cetacean carcasses at several beach locations. Often this involved call-outs at particularly unsocial hours. One of our initial BDMLR team members, Marc, took his skills to the next stage by undertaking training to join the Large Whale Disentanglement Team, a specialist Scotland-wide response group.

We also fitted in a wonderful talk from St Andrew’s University “Harbour Seal Decline Project”. Worryingly, our Common Seals look as if they will soon be far from common and so this project hopes to find out the reasons (and what can be done to reverse the decline) by tagging and monitoring seals in Scapa Flow. The methods of surveying and counting known haul-out areas were explained, and data tracks received from satellite tags placed on individual seals proved to be absolutely fascinating. We will be following this project in subsequent years.

July saw adventurous flora-hunters head off for a full day in Shapinsay, whilst the Dragonfly Group went to check out known breeding pools on Hoy. Both islands provided much of interest, and the weather remained ideal for Odonata so another trip was hastily arranged; this time to Russadale in Stenness. The Flora Group countered this by making a visit to the tidal marshes around The Bush, Stenness. Not that these special interest groups are at all competitive

Some of us filled places on one or more of the workshops organised through Orkney Wildlife Records and Information Centre (OWRAIC). Subjects covered were Land Mollusca, Ground Beetles and Cladonia lichen. Courses like these bring national experts to Orkney, enable in-depth study of specific taxa and aim to increase recording activity locally.

And already Show Week was upon us, usually a good time for our annual moth trapping demonstration. Unfortunately we had to modify our plans owing to torrential rain, but the re-scheduled event did yield a great find, with a new species added to the Orkney list. We were



Cladonia lichens on Ward Hill, South Ronaldsay (John Crossley)

pleased to be invited to participate in Orkney Science Festival's Family Day and our "hands-on" display of Skate and Ray cases and a fish skeleton proved very popular; especially with younger participants.

We were kept busy throughout September with a whole day devoted to Mosses guided by John. Thanks to our friends at Stromness ICIT, we had use of their laboratory to study and identify specimens collected during an outdoor session, and workshops like this are something we are

keen to host again. We also enjoyed an evening talk on marine habitat around Orkney, with Penny's slides giving us a peek into a world few of us will ever explore first-hand. Mild, calm weather lured us to Hoy for a hastily-arranged 'away-day'. The trip was midge-free and we managed to conquer the high ground of Cuilags in unbroken sunshine. The landscape was glorious. Some of us came down to earth the following week for a Fungi-foray at Berstane woods. This turned out to be a "ladies' only" event, with gentlemen obviously having other urgent concerns on a Saturday morning, but they missed a real gem of an event.

The pace was maintained through October with yet another short-notice event: a presentation and film about work which is going on just across the Pentland Firth to reinstate and conserve the peatland Flow Country. The following week saw us meeting again for our AGM, where business was kept to a minimum with election of a new Committee (welcome Megan) and the appointment of anew Vice-President, Dick. We then benefitted from a series of project updates and open discussion, which then merged into a general get-together and blether over tea and biscuits.

Our next Club Night was a talk by Julian Branscombe about Orkney Voles. Drawing upon his recent article in *British Wildlife* magazine he impressed on us the ecological value of this unique Orkney species and the evening was particularly well-timed, with news just breaking about archaeological findings suggesting voles made up part of the Neolithic human diet.

The final event for this hectic month was a trip to Burwick to observe the Grey seal nursery beaches. We saw pups ranging from only a few hours old to those aged a few weeks, and numbers were consistent with previous years. Subsequent visits made to other sites by individual members returned similar data.

The whole issue of recording is currently under review by the Scottish Biodiversity Information Forum, with development of new mapping and recording techniques and compilation of a new NBN Atlas. To this end, Field Club members (whether active Recorders or not) were invited to an event organised by OWRIC, and had a chance to discuss initiatives with national representatives.

In the same week, we enjoyed Dr Sandy Kerr's talk about Arctic Char in Orkney, with particular reference to their disappearance from Heldale Water, Hoy. However, a few days after this and our brave quiz team were well out of their depths as "The Donkey Rifle Club" failed to retain the winners' trophy at the annual Environmental Christmas Quiz. Still, there's always next year ...

And that's about it; 2016 at a gallop! We saw fine weather and foul, travelled to distant islands and stayed home in the great indoors for an astonishing range of talks and sociable evenings. As always, thanks to our Walks & Talks group for organising events and to all speakers and leaders who have given their time and knowledge so generously. Of course, suggestions for future locations, topics and speakers are always welcome from everyone. We have found that e-mail and our Facebook page are very effective means of reaching people at short-notice, and we look forward to welcoming members and guests to meetings throughout 2017.

Eric Meek – an appreciation

Dick Matson and John Crossley

On 16th February his many friends and the cause of wildlife conservation suffered a huge loss with the sudden passing of Eric Meek, a man of encyclopaedic knowledge of ornithology, botany, of wildlife in general and of the geography and culture of Orkney; he was a loyal Orkney Field Club member. Eric was a gifted speaker and teacher and delighted in passing on his knowledge, particularly to enthuse the young.

Eric was born in Newcastle upon Tyne in 1947 and had a brilliant academic career. Following grammar school he won a scholarship to Cambridge to study geography. Bird watching became a passion early in life; he became a ringer and developed an enduring interest in birds of prey, in particular merlins, peregrines, harriers and owls. During his early career teaching geography he took a year off to work as a warden at the Fair Isle Bird Observatory. This spell undoubtedly further fired his enthusiasm to get closely involved with birds in his working life and in 1981 he moved with his family to Orkney to become RSPB Area Officer for the County. As well as ensuring the appropriate management of the Orkney reserves Eric was instrumental in acquiring more land in the cause of conservation. In the RSPB's early days in Orkney the Society's efforts were much misunderstood and mistrusted by some of the farming community and Eric and his predecessors were subject to much abuse. It was to Eric's credit that he managed to placate and end up on friendly terms with all but the most intransigent objectors.

Along with his routine RSPB work latterly Eric spent much of his time sifting through planning proposals in order to discourage those which would have been detrimental to wildlife or to suggest modifications which would minimise any adverse effect. With the proliferation of wind turbines on the Orkney scene this became a mammoth task. He also belonged to a host of committees whose remit impinged on environmental matters. Outside RSPB work Eric undertook a number of voluntary tasks. He wrote a monthly round-up of bird sightings for the Orcadian newspaper, he was a leading contributor to the annual Orkney Bird Report and was a willing speaker at Scottish Women's Institute and other club events all over the islands. It was as a speaker and a field teacher that OFC members will most probably cherish Eric's memory. In the past we often struggled to find speakers for OFC Club Nights and an approach to Eric would seldom be turned down. He was not only totally reliable but we could be assured of an erudite, well-constructed, easily understood and fascinating talk and the size of his audiences reflected this.

Not many will remember that Eric was in the past a member of the Field Club committee and also led a number of our outdoor events and it was on these outings that we benefited not only from his teaching and identification skills but from his amazing knowledge of the geography and culture of Orkney. A scene which calls to mind many of his qualities is of Eric at the County Show surrounded by eager and excited young faces while he dissected owl pellets and explained the contents!

He was a very good botanist, on familiar terms with almost every species of plant in the county, and a determined list-maker who contributed more than the 20,000 records to the Orkney plants database. To Eric, 'critical' groups, such as the eyebrights and ferns, and certain hybrids, which defy all but the most experienced experts, were an enjoyable challenge, and in this respect he had several 'new for Orkney' finds to his name. Hunting down rarities was another pleasure and he supplied the driving force for an Orkney Rare Plant Register, eventually completed by him and the Vice-county Recorder, John Crossley, in 2015. He loved to share this enthusiasm; many people from Orkney and other parts of the country will remember happy outings with Eric in the hills and byways of Orkney, on OFC and Botanical Society of the British Isles meetings.

OWIARC Species Identification Workshops 2016

Lee Johnson and Sydney Gauld

In July 2016 Orkney Wildlife Information and Records Centre hosted three interesting species identification workshops beginning on the 9th July with a course on Lichens with special reference to *Cladonia* led by Brian Eversham. The day began with an initial talk in the library which



(Photo Sydney Gauld)

included a quick guide to what specimens we were likely to come across and a run through a key with a few common species to make sure we didn't all come back with lots of samples of the same thing. We then donned our waterproofs and headed off to Hobbister armed with plenty of enthusiasm and some bags for our finds.

Although we had a few distractions (lovely views of a peregrine, the odd ant nest and a Lesser Twayblade *Neottia cordata*) we managed to locate quite a few specimens which were collected for identification later on in the lab. After a spot of lunch we keyed out our samples to species under the guidance of Brian with around 8 different *Cladonia* species identified including *Cladonia squamosa*, *C. fimbriata* and *C. portentosa*. Everyone seemed to enjoy the course and the weather held out for us which is always a bonus.

The second workshop took place on 16th July and was also led by Brian Eversham (a very knowledgeable chap) this time covering beetles with special reference to ground beetles (Carabidae) of which there are over 360 species on the British list. We began with a talk at the library and, with the weather looking a tad unpredictable; we headed off to Sydney's farm at Quoyberstane to collect specimens. The focus of the course was to see what we could identify



(Photo Sydney Gauld)

without killing the beetles so we had a good root around under rocks and in grass tussocks to see what specimens we could collect. After getting rather windblown, we returned to the library to examine our finds. Brian demonstrated how to hold and restrain the beetles using a mount and cling film in order to examine them under the microscope. We all had a go at this with varying degrees of success and using the key we managed to identify the specimens (not an easy task in the case of some particularly lively individuals!). Species we managed to successfully wrangle included *Calathus melancephalus*, *Leistus fulvibarbis* and *Nebria brevicollis* before they were released back into the wild at the end of what was a very interesting session.

A small group attended the final workshop on 30th July which was led by Richard Marriott and was a lab based course covering Land Mollusca. Richard brought along many snails with him for us to practice identifying to species, none of which were still living (much easier and far less slimy than using live specimens!). A couple of slugs were caught locally for us to have a go at too. It became apparent that a microscope is a must for identifying the smaller snail specimens with some very subtle differences separating the species. Deciding whether a shell whorls were orientated to the left or to the right, whether they were dented, striated, hairy or pleated was an eye-opening and challenging task.

Three absorbing and informative workshops which will hopefully inspire the participants to discover, identify and record the species they see and hopefully send those records on to the OWIARC.



Cepaea hortensis. (Lee Johnson)

Sowadee Hawkweed re-discovered

John Crossley

Sowadee Hawkweed *Hieracium sowadeense* has been recorded in the past from a single site in the British Isles, by the Burn of Sowadee in the parish of Sandwick in the West Mainland of Orkney. McCosh & Rich (2011) regarded it as IUCN (2001) Threat Status ‘Data Deficient’ as it had not been recorded recently.

Hawkweeds were collected from the site between 1912 and 1954 and were at that time identified as **Scottish Hawkweed** *H. scoticum*, a fairly widespread species. Specimens reside in herbaria at Cambridge University, Royal Botanic Garden Edinburgh and the British Museum. However, Hawkweed taxonomy has always been a vexing subject and several revisions have taken place in the last century or more. The latest treatment is that of Sell & Murrell (2006). There, the *H. scoticum* from Sowadee is described as the new species *H. sowadeense*.

On becoming County Recorder for vascular plants I soon noticed in the BSBI database this intriguingly named hawkweed and went to look for it. The Burn of Sowadee winds between moorland-covered hills for about two kilometres before descending into lowland farmland. My initial quest was unsuccessful; I found no hawkweeds at all, but I tried again in 2015 and this time found a small, steep, grassy and heathery crag, about two metres high, a solitary intrusion of the basal granite, tucked into a twist in the upper part of the burn’s course. On it, among a moderately rich flora including **Lady’s-bedstraw** *Galium verum*, **Primrose** *Primula vulgaris*, **Wild Thyme** *Thymus polytrichus* and **Cat’s-ear** *Hypochaeris radicata*, were eight hawkweed rosettes, some of them about to produce flowers. I returned later to examine them in flower (finding only seven plants this time), hoping also to collect seeds. To my untrained eye they appeared to fit the description of *H. sowadeense*. I collected seeds and searched up and down the burn for more plants but found none.

I sowed some seeds in pots and sent others to Hawkweed specialists Walter Scott in Shetland and Tim Rich in Wales. By the summer of 2016 we all had plants in flower; Tim was convinced they were *H. sowadeense* and went as far as to compare them with the holotype.

It appears therefore that a handful of plants on one crag comprise the entire population of this species, so it should now be regarded as IUCN Threat Status: ‘Critically Endangered’. However, it seems likely that the population was always small, and it survived the somewhat ruthless (judging by the number by the number of specimens in various herbaria) attention of Henry Halcro Johnston. The site is well protected within the Stromness Heaths and Coasts SSSI and SAC; if there is any grazing by livestock it is only by the odd stray sheep.

I harvested seed-heads from my plants in 2016 and sent them to Kew for preservation in the Millennium Seed Bank; I was later informed that 1044 healthy seeds had been processed.

References

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- MCCOSH, D. J. & RICH, T. C. G. 2011. Atlas of British and Irish Hawkweeds (*Pilosella* [L.] Hill and *Hieracium* L.). Botanical Society of the British Isles, London.
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Some Orkney Rust Fungi

Derek Mayes

I have been photographing and studying the rust fungi of Orkney for the past 12 months. The **Nettle Puccinia** *Puccinia urticata* (Bulletin 2015) was, for me, the first of many similar-looking rusts. I had not noticed the **Coltsfoot** *Tussilago farfara* version, called *Puccinia poarum*, yet it is far more common than the nettle one. Like many other Puccinia rusts it has two hosts. Its telial or asexual first-phase host is **Meadow Grass** (probably *Poa annua*), from which the name *poarum* is derived. The second, sexual, stage is on the leaves of Coltsfoot – common throughout the County.

Appearing from mid June in nearly all places where Coltsfoot occurs, it infects the leaves and occasionally the stems in a very striking way. Beginning in mid June, the top surfaces of some leaves begin to look in poor shape, often yellowing, with large purple patches centred on a yellow circle and brown focus-spot. The undersides of the leaves of infected plants usually have a spectacular display of raised crown-like fruiting bodies from mid-July onwards (picture 1). Another infection of **Coltsfoot**, *Coleosporium tussilaginis*, lacks the purple shading and is usually spread across the whole upper leaf surface. However, I have not seen it in the County, though I have a feeling it might occur. *Puccinia poarum* was widespread in every likely Orkney location I visited in 2016.



Just as striking and equally common in 2016 was the **Common Sorrel** *Rumex acetosa* version *Puccinia acetosae* (picture 2). This does not appear to have a species-sharing asexual stage. Difficulties arose during my early research because this species is said to be inseparable from *Uromyces acetosae* without microscopy. Even submitting spores to experts in Europe did not conclusively provide the ID, so I was required to study this one in much greater detail. In the end it was agreed that the most likely genus was the *Puccinia*.

Similar difficulties occurred with the lovely and very rare **Campion** *Silene* rust that I found on Marwick Head. We sat out of the wind, close to the cliff-edge in swathes of white campion, thrift and bird's foot trefoil. And there, over a chocolate biscuit, I spotted Puccinia-like blemishes on **Sea Campion** *Silene uniflora*. I collected samples and took them home to my books, to find that it was very poorly described and recorded.

Two weeks later, after much research and exchange of international emails, it was down to *Uromyces inaequaltus* or *U. behenis*. Once again it came down to microscopy and one close-up



photo that I took of a minute capsule, showing a peel-like coating on the tiny rust eruption and a support photo-micrograph of the spores. Thus it was accepted as *Uromyces inaequaltus*, which now appears as the only confirmed and photographed record in the UK. There are, however, Scottish records of *U. behenis*. Picture 3 shows the flower and infected leaf of Sea Campion.

Less obvious and also far less rare, is another rust that I found in my garden on **Gooseberry** *Ribes uva-crispa* bushes where, like most (but not all) Puccinia, it grows on leaves (picture

4). This one turned out to be *Puccinia caricina* var. *pringsheimiana*; at the time of writing there are no other records north of Skye.



This brings me to the most commonly found *Puccinia* rust in Orkney, **Sweet William Rust** *Puccinia arenariae*, which is found on **Red Campion** *Silene dioica* (picture 5). Wherever I found Red Campion in 2016, some leaves were usually infected. It takes its English name from a common host, though its scientific name is taken from a less frequent host *Arenaria* (Sandwort sp.)

Other puccinia rusts I recorded and photographed in 2016 were –

The very rare *Ascochyta caulina* on Orache *Atriplex prostrata* agg. (picture 6), a first record for Scotland. Orkney now has five of the eight UK records; the other three are south of Yorkshire



Synchytrium succisae on Devils' bit Scabius *Succisa pratensis* - a first record for Orkney (picture 7)

Probably *Puccinia epilobii* on Marsh Willowherb *Epilobium palustre* (picture 8) and, if confirmed, a new record for Orkney.

Synchytrium taraxaci seen on Dandelion *Taraxicum* leaves and stems

Some references and thanks

Particular thanks to-

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All photos by the author

Dung Beetle Records

Linda Losito

In recent years, dung beetles have had an increasingly hard time. Their numbers have started to fall, largely due to changes in farming practices. The availability of fresh animal dung, of the right consistency, uncontaminated with toxic chemicals, has declined.

To establish an accurate map showing where they still are and from where they have been lost, a group calling themselves DUMP (Dung Beetles U.K. Mapping Project) was set up by Darren Mann of the Oxford University Museum of Natural History. A call went out for coleopterists to submit records, old and new, to the iRecord website. The scheme has proved very successful with attempts being made to fill in as many blank areas on the map as possible.

Many parts of Scotland and its islands are under-collected, so last year, I arranged trips to a few of them. And on my regular trips to Orkney, I searched a bit more intensively. These are my Orcadian records, most of which were found by poking around in sheep and cow dung last summer. (And what did you do on your holidays?)

I was particularly pleased to find *Aphodius contaminatus* this year as (according to the Orkney Wildlife information and Records Centre) this species has not been recorded since 1913.

Aphodius rufipes Wideford Cairn, Orkney HY409120, 02/08/2005
Aphodius rufipes North Ronaldsay, Orkney HY7654, 22/08/2006
Aphodius depressus St Mary's, Orkney HY471012, 28/05/2016
Aphodius ater St Mary's, Orkney HY471012, 28/05/2016
Aphodius rufipes Pierowall, Westray, Orkney HY434486, 06/07/2016
Aphodius ater Pierowall, Westray, Orkney HY434486, 06/07/2016
Aphodius rufus Pierowall, Westray, Orkney HY434486, 06/07/2016
Aphodius rufipes Upper Garson Farm, Quoyloo, Orkney HY237214, 09/07/2016
Aphodius rufus Upper Garson Farm, Quoyloo, Orkney HY237214, 09/07/2016
Aphodius rufipes Stromness, Orkney HY250089, 22/08/2016
Aphodius contaminatus Stromness, Orkney HY250089, 22/08/2016
Aphodius depressus Stromness, Orkney HY250089, 22/08/2016
Aphodius contaminatus (in bird pellet) Graham Place, Stromness HY253089, 15/09/2016

I am sure that there are lots more records out there, both Orcadian and non-Orcadian. This is a plea for all of you who are not yet aware of the mapping scheme to submit any dung beetle data that you have as soon as you can, so that it can be taken into consideration.

You can put them up directly on iRecord at www.brc.ac.uk/irecord (where you will find DUMP listed under "Activities").

As Darren Mann is currently trying to concentrate on writing up his thesis, please feel free to contact me (by email or by post at my Oxford address) with any queries you may have, and I will try my best to help you.

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The Great Yellow Bumblebee – recent RSPB research results in Orkney

James Silvey



Figure 1. Great Yellow Bumblebee (Christine Hall)

From the Scottish primroses peppering the maritime heaths to the hen harriers quartering over its moors and its varied lowland habitats, Orkney is home to many special species rarely encountered on the mainland of Scotland. One such species (and a personal favourite) is the **Great Yellow Bumblebee** *Bombus distinguendus*, Scotland's rarest bumblebee.

The species has never been described as common but was once much more widely distributed, with historic records from almost every county in the UK. Major declines began to occur after WWII with the intensification of agriculture and the loss of vital wildflower meadows. The result of this habitat loss was a huge range contraction for the Great Yellow and a retreat to areas where low intensity farming persisted and where large areas of the flowers they require survived. They persist only in the Inner and Outer Hebrides, along the north coast of the Scottish mainland and, of course, Orkney.

In Orkney, Great Yellows have been recorded across the majority of the islands that make up the archipelago and are still encountered in suitable habitat across the Orkney Mainland, including the odd record from gardens in the town of Kirkwall! As ever, the species is not common anywhere, but we now know that this is at least partly due to its ecology, with a small nest size resulting in few workers per nest, wide ranging foraging behaviour and low nesting density (Charman 2010). These factors make the bee tricky to encounter and therefore difficult to survey, often limiting our knowledge of the species population to simple presence or absence.

RSPB Scotland have a long history of work with Great Yellow Bumblebees across their range, managing land in a sympathetic way for the species and engaging with farmers, crofters and

landowners. This promotes beneficial management both for the bees and for other farmland species such as corncrakes.

In Orkney there are usually annual records of Great Yellows from a number of RSPB Scotland reserves with past stand-outs including Brodgar, Marwick Head and Onziebust in Egilsay. However, as in other areas, our annual records could only tell us about the bee's presence and we had little idea as to how the population as a whole was faring or if our reserves were actually providing for Great Yellows throughout their annual life cycle.

To begin to answer these questions, in 2015 intensive surveys began across selected sites within the Orkney reserve network. In total, six of our reserves in Orkney were surveyed with reserve staff walking transects in set fields, three times a year, recording all bumblebee species encountered and, crucially, the abundance of flowering plants in these fields. All of the fields that were chosen had Great Yellow Bumblebee conservation identified as a site objective and were therefore considered a survey priority.

Surveys were carried out to roughly coincide with the great yellow's three key life stages:

June – when the queens are first emerging and setting up their nests;

July – nests are established and workers can be seen foraging in the landscape;

August – the year's males and new queens are emerging to mate and the population is at its highest.



Figure 2. Pair of Great Yellows, Copinsay 2015 (Colin Campbell)

Early results

Over the first two years of the survey (2015-16) 2,588 bumblebees were recorded, representing seven species across six reserves and 37 separate, species-rich grassland areas. In total, 235 Great Yellow Bumblebees were recorded, with the majority of these seen in the August surveys, which is to be expected as this is when the population should be at its highest.

With just two years of data so far, it is impossible to draw firm conclusions or, crucially, begin to answer the questions we began the project with. However, some early analysis can be undertaken and some trends are already beginning to appear.

Surprisingly, the stand-out reserve for Great Yellows has been the tiny island of Copinsay with over 80% of records. The reason for this high abundance is likely due to the island's small size. This concentrates foraging bumblebees onto the island's old cropping areas where an abundance of **Red Clover** *Trifolium pratense* and **Tufted Vetch** *Vicia cracca* provide season-round foraging opportunities. The abundance of these forage plants is likely linked to the removal of grazing from the island in 2014 and the loss of the rabbit population before this from myxomatosis. Maintenance of this area is now carried out by machine, with the hay cut and removed at the end of the summer.



Figure 3. Surveying on Copinsay 2016 (Alan Leitch)

Across other reserves the species has been more rarely encountered and, as expected, its presence can be correlated with the abundance of preferred flowers such as clovers, thistles and vetches. Some reserves where, anecdotally, the species was once more common (e.g. Onziebust) have recorded relatively few great yellows. Work is planned at these sites to improve conditions by increasing the diversity and abundance of important forage species, although it will take some time to deliver this.

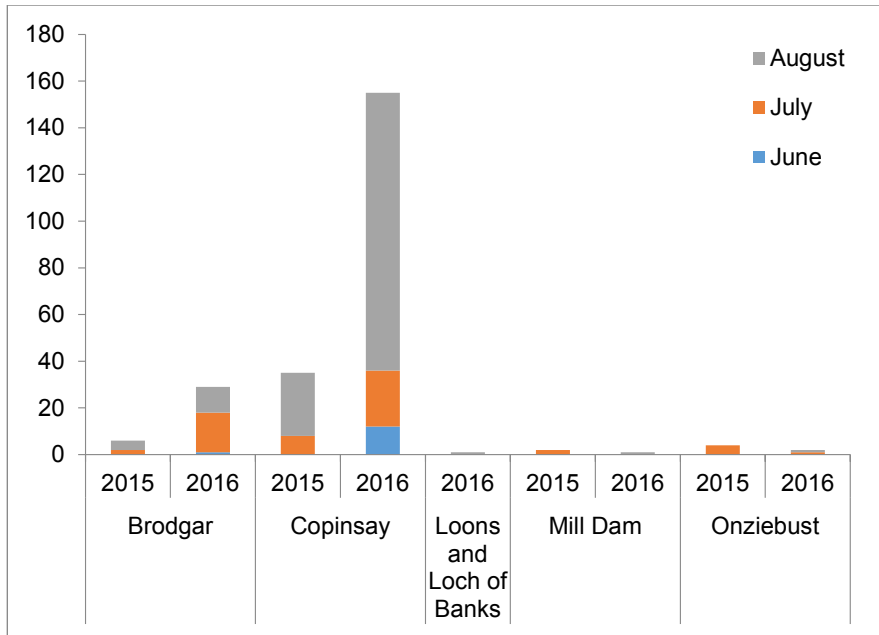


Figure 4. Great Yellow records on RSPB Orkney reserves 2015-2016

With additional years' data, it is hoped we will be able to start to pull out trends on how populations are faring on reserves across Orkney, particularly on some of the more isolated islands like Copinsay. Finally, we will be able determine not only where management is working for the species but also to identify where current gaps in favourable habitat limit the recovery of a truly special species.

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Small is beautiful - some (diminutive) new invertebrate records for Orkney

Lee Johnson

Sometimes really intriguing things turn up in Orkney. In July 2016, Julian Branscombe gave me a dead weevil to look at which he had found on Papa Westray under a stone. The weevil keyed out to *Barynotus squamosus* which was a new record for Papa Westray. I left the specimen in a tube on my desk for a week or two before I noticed there was something else in with the deceased weevil that certainly was not there before. On closer inspection under the microscope, I discovered 20 tiny (2mm long) parasitic chalcid wasps had hatched out of the weevil through a very neat hole which is visible in the photograph below.



Barynotus squamosus with emergence hole



Male *Dirhicnus ramealis*

They were a rather lovely metallic green colour and very delicate with reduced wing venation. I managed to key them out to *Pteromalidae* but could get no further. All appeared to be males. I sent them off to Natalie Dale-Skey Papilloud who is curator of chalcid wasps at the Department of Life Sciences – Hymenoptera section, at the Natural History Museum. Ideally females are needed for positive identification but even though only males emerged, Natalie feels that they are a good match for, and therefore most likely to be *Dirhicnus ramealis*. This species has been recorded as a parasite of adult weevils and is the only member of that genus recorded in the UK.

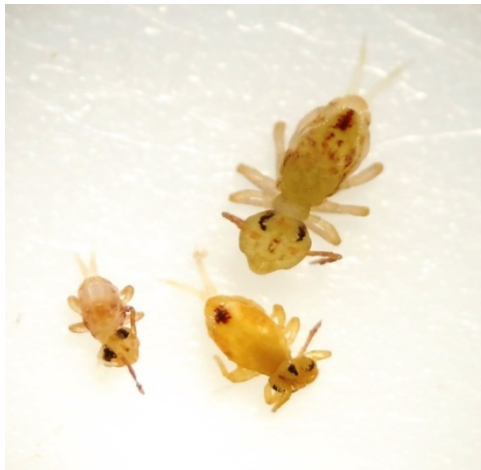
Chalcidoids are mostly beneficial insects, but they are extremely small, and difficult both to find and to study. Unsurprisingly, they have been overlooked in the past and, as a consequence, very little is known about their ecology. Around 22,000 species have been described worldwide but this is probably only a small proportion of the actual number that exists. Many are parasitoids infect a variety of insects and this has stimulated interest in them as a means of biological control for pest species. Therefore any records of parasitic wasps with their host species is of interest. There are very few records of *D. ramealis* and certainly none from Orkney, making this an interesting record for the county and also a noteworthy host record. The specimens have been donated to the Natural History Museum at their request.



Cinara piceae oviparous female

year. Colonies are often attended by ants but not necessarily so and they are considered beneficial by beekeepers because of their honeydew production.

In September I came across a group of aphids on a rotting conifer stump in Binscarth Woods. Quite large for aphids (5mm), they stood out because of their dark colour, reddish legs and white rear ends. After a bit of research I discovered they were **Greater Black Spruce Bark Aphids** *Cinara piceae*. They are said to resemble droplets of tar and are shinier on the anterior becoming more matt towards the posterior. The oviparae (egg-laying females) have a white waxy substance on the rear of the abdomen. In autumn, the oviparae lay wax-covered eggs on the needles of spruce. It is thought that their abundance may vary year to



Dicyrtomina saundersi

In November I was sifting through leaf litter in Olav's Wood, South Ronaldsay when I noticed some pretty yellow Collembola (springtails) which I collected to view under the microscope. Getting them into a pot was not an easy task as their ability to 'spring' is astonishing and they only measure around 2 mm long, so once lost they are a nightmare to relocate. Luckily they were quite plentiful.

Despite being very pale individuals they keyed out to *Dicyrtomina saundersi* which have a distinct multi-barred cross pattern on the abdomen and irregular patches of brown. *D. saundersi* is quite a common species but very poorly recorded. A quick look at the NBN map for this species (and most collembolans) demonstrates that.

Dr Peter Shaw of the University of Roehampton confirmed the identification and also adds that this first Orkney record is the northernmost in the UK.

Curious pools of grey wriggliness in depressions in the sand on the Burray end of the Fourth Barrier beach in April turned out to be another springtail species which has not been recorded in Orkney previously.

One of the more common Collembolans found in the marine environment is *Anurida maritima* which I have found several times before. This grey Podurid species is usually intertidal and often located in rock pools. It lacks the furca, an appendage which many springtails have that allows them to ‘spring’, and therefore they can crawl but not jump.

The species in the depressions in the sand on the strandline did have a furca and were very enthusiastically leaping about, ruling out the very similar *A. maritima*. On checking them under the microscope, I noticed the furca and keyed them out to *Hypogastrura viatica*. I sent a sample off to Dr Peter Shaw, who confirmed my identification and noted that he hadn’t found them on the seashore before, making it an interesting new record for Orkney.



Hypogastrura viatica pictured under a microscope

All photos by Lee Johnson

I. *Pegomya betae*

This began with a desire to identify an abundant plant of the upper shorelines. Pinning it down to **Orache** *Atriplex* sp. was easy. Separating the species, even as the season wore on, was not.



Component species may best be identified from the fruiting parts; however, difficulties are caused by the fact that *Atriplex* commonly hybridizes and populations are often made up of plants intermediate between two or more species. It seemed best for me to regard all my sightings as one variable aggregate *Atriplex prostrata* agg. and I found later that I didn't need to be more precise, as I became engrossed in the two insects that used the leaves of all of them as a food source. This led me to eventually identify the leaf miner *Pegomya betae* and the leaf-deforming aphid *Hayhurstia atriplicis*.

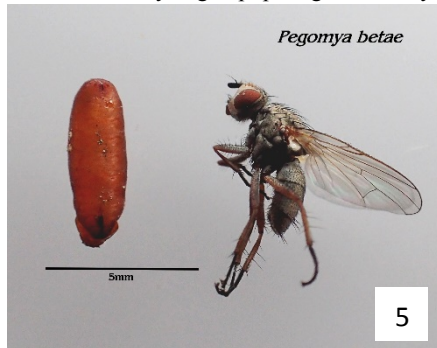
In response to my initial enquiries regarding the leaf-miner, a leading expert suggested that the mines were made by the larvae of the true fly (Diptera) *Amauromyza flavifrons*. This opinion was based on the plant being an *Atriplex* and the character of the mines as shown in Picture 1 - narrow and wandering, becoming large blotches. This was exciting because there are no previous records for Orkney and only three from Scotland, none of these from further north than Inverness. However, identity could not be proved without rearing larvae to adulthood.

The mine itself begins with a thin, spidery tunnel; as the animal fattens, the whole leaf is gradually tunnelled out into larger chambers, becoming a blotch-mine. I collected some



apparently late-stage larvae feeding from well-developed mines. It can be seen that these larvae (Picture 2), which I excavated for my photographs, are legless maggots, with no chewing mouthparts, tiny paired spiracles (respiratory openings) at each end and a truncated posterior. I selected larger maggots and transferred them with *Atriplex* leaves to small ventilated jars, noting the date as I did so. When the leaves became old and un-nutritious, the larvae could be persuaded to move to a fresh leaf if I made a small incision (Picture 3). Eventually they fattened and pupated

(Picture 4). I should explain that this all needs to be done with first-batch larvae as they will hatch the same season; last-batch ones will overwinter – no great issue if you are very patient! Very soon I had collected specimens from 21 widespread locations on Orkney Mainland and had a little store of pots containing up to 30 larvae. In some cases they began pupating within days



of collection; in others I had to renew the leaf. As time wore on, the pupae became more brown and with defined lines representing the internal structure (of a fly!). On the 19th day after pupation, I saw my first fly but was surprised to see that it was obviously not the predicted *Amauromyza flavifrons*! After more exchanges with experts, it was soon established that it was *Pegomya betae* (Picture 5).

At first I was disappointed but soon learned that *P. betae* had a similar record to *A. flavifrons* – none in Orkney, few in the UK and none north of Inverness. The rest, as they say, is history and the NBN Atlas for Scotland now shows the 21 confirmed records in Orkney.

Acknowledgements

I received encouragement from Murdo Macdonald, HBRG Records Manager, and the Facebook group Orkney Insects.

Expert support from Brian Pitkin of <http://www.ukflymines.co.uk/>

and from Willem Ellis of <http://www.bladmineerders.nl/>

I am very grateful also for the assistance of Lee Johnson who painstakingly excised the genitalia of a male or two to put the final lid on the identification. She wrote “I have spent all morning with the fly and it is a tricky thing to key out but it did appear to be *P. betae* so I will be adding it to my records”.

All photos by the author

II. *Hayhurstia atriplicis*



As for the shorter story of *Hayhurstia atriplicis*, well, it is very hard to even see but its effect of *Atriplex* leaves is very interesting. *H. atriplicis* is a tiny aphid (Pictures 6 & 7) that feeds on *Chenopodia* (the plant family). It is the only representative of its genus in the UK. I found it congregating in small numbers on the leaves of *Atriplex* in mid-June. It is really tiny and easy to miss. Picture 8, taken in Waulkmill Bay, shows a typical location, with a mass of *Atriplex* growing from just below the high water mark to about three metres above.



At first glance, affected leaves appear wilted and discoloured with a few in-rolled edges (Picture 9). This discolouration is often the first clue to this somewhat ‘mealy’ insect’s presence. It is not common, I found, for both the aphid and the miner to be on the same plant but it did occur in two of the 11 locations I studied.

As the aphids feed on the leaf tissue or sap, the plant responds with a change of colour and tissue-tension producing the edge roll – a *pseudogall*. The aphids to grow quickly but may not fare well in very wet weather (my own observation), so when revisiting locations I found numbers had changed dramatically, with leaves recovering. These aphids can fly of course, so it may be that they had completed a part of their life-cycle and changed location. I also observed a few empty bodies with holes in them, likely evidence of attacks by parasitoid wasps.

Acknowledgements

Once again I am indebted to Murdo Macdonald for encouragement.

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Observations on plumage phases in Arctic Skuas

Helen and David Aiton

A good bird guide will show illustrations of three different plumage phases of the Arctic Skua *Stercorarius parasiticus*: pale phase, dark phase and intermediate phase. It will also show that male and female Arctic Skua cannot be distinguished by plumage i.e. they are not sexually dimorphic.



Figure 1: View of Quandale, Rousay

In 2016 whilst monitoring a dispersed Arctic Skua colony on Rousay we found two newly fledged very different looking chicks. Instead of the usual dark plumage these chicks had a golden nape and pale ginger plumage; our first sighting of Intermediate phase type chicks from a pale/dark pairing. Sadly we were not close enough to take a photo.

Furness in his book on Skuas published in 1987 gives an excellent description of Arctic Skua plumage phases and summarises what is known of the geographical distribution and genetics of the plumage phases. He writes that the darker phases are not distinctive, the dividing line is arbitrary between intermediate and dark. Furness also observes that it is not possible to accurately predict adult plumage phase from chick plumage. He reports that the prevalence of pale phase birds decreases with latitude. He also describes that the genetics behind the plumages phases is known not to be a simple dominant/recessive gene. Furness also observed mating pairs on Shetland and noted more pale phase females and dark phase male birds than expected; evidence that the plumage phase appears to be influenced in some way by the sex of the bird.

The Rousay colony we monitor has 14 territorial pairs of which eight are pale phase birds. This observation uses a small sample but is roughly in agreement with Meek et al. (1985) who reported that 24% of birds in Orkney were pale phase.



Figure 2: A partial albino newly hatched Arctic Skua chick

In 2016 we also found a partially albino chick (Figure 2) which was not present two weeks later. A partial albino chick (their first) was also reported by the Handa Skua Study in 2005; the chick perished within five days. The Handa report states that the incidence of partial albinism in Arctic Skuas in Scotland is unknown.

We would like to thank the Scottish Ornithology Club who provide funding for our Skua study.

All photos by the authors.

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Harbour seal decline project

Mònica Arso Civil

Two species of seals live and breed in UK waters: grey seals (*Halichoerus grypus*) and harbour seals (*Phoca vitulina*), also known as common seals. Adult harbour seals typically weigh 80 to 100 kg, with males being slightly larger than females and reaching about 145 cm in length. Like grey seals, harbour seals are long-lived animals living up to 20-30 years.



Figure 1. Harbour seal mum-pup pair

Harbour seals give birth on shore to a single pup (twin births are very rare in seals), sometime in June or early July in Scotland. The timing of the pupping season may vary between locations across the UK. Harbour seal pups change their lanugo coat (the white fluffy one) before birth, and are born with their first adult coat, generally dark (Figure 1). Because harbour seal pups are able to swim from birth they can follow their mothers into the water. Feeding from the fat-rich milk, pups are weaned after three to five weeks. Mating starts during the breeding season in June, during which time males will be defending underwater territories and attracting females with underwater calls. Males can often be seen 'porpoising' and swimming very fast near the surface and splashing the water with their fore flippers, generating loud sounds and getting the attention of other seals. Displays also include energetic head swinging back and forth while holding bits of kelp in the mouth, all of this accompanied by growling and snorting.



Figure 2. We can identify each seal based on the spot pattern. This technique is called photo-identification.

During the moult, the skin of the seals gets very hot, as blood is circulated close to the skin surface to allow hair to grow quickly. To avoid losing too much heat, seals increase the amount of time ashore and spend less time in the water. Using thermal imaging we can see the difference in the amount of heat loss at different stages of the moult (Figure 4).

As in other species of seals, harbour seals have a mottled coat, and each individual can be recognized by its unique pattern of spots in the pelage (Figure 2). The pelage pattern is maintained through time despite moulting every year.

In Scotland, harbour seals begin their annual moult in August (Figure 3). During the



Figure 3. Harbour seal moulting. The new coat is hiding behind the old brown-coloured fur!

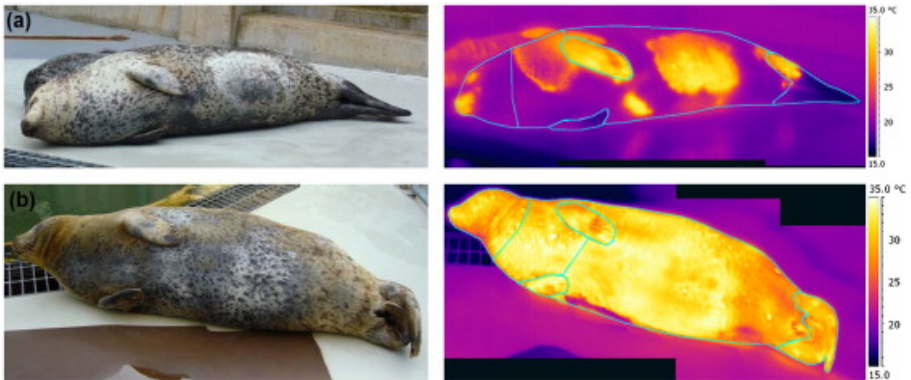


Figure 4. Digital and thermal images of an adult harbour seal before (top) and during the moult (bottom). Image from Patterson et al (2012) *Journal of Thermal Biology*, 37:454-461.

The Sea Mammal Research Unit (SMRU) has been conducting surveys since the late 1980s to monitor the populations of harbour seals in Scotland. These are helicopter surveys which occur in August coinciding with the annual moult, when the greatest and most consistent number of seals are found ashore and every single inch of coast is photographed. Because harbour seals are well camouflaged among the rocky shores, thermal imaging is used to spot the seals (Figure 5). These counts provide with a minimum number of harbour seals in each area, which is an index of

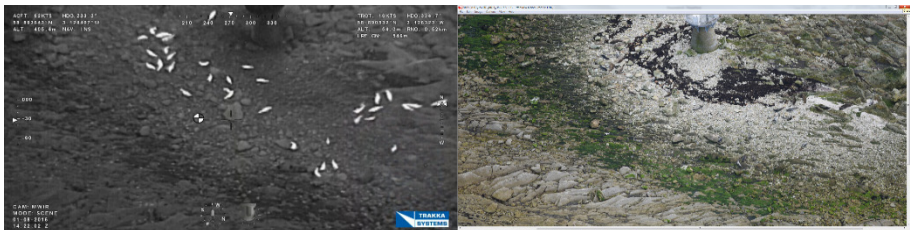


Figure 5. Thermal (left) and digital (right) aerial images taken at the Barrel of Butter (Scapa Flow). Thermal imaging helps us spot the seals, otherwise very well camouflaged among the rocky shores of Scotland (can you spot any seals on the photograph on the right?).

population size. SMRU aerial survey counts have shown major declines in several harbour seal populations around the east and north coast of Scotland and in the Northern Islands since around the year 2000 (Figures 6 and 7). Harbour seal numbers have declined by around 95% in the Tay estuary (East Coast), by 30% in Shetland, and by approximately 75% in Orkney. In Orkney, the last aerial survey from August 2013 counted 1,865 harbour seals, compared to 7,752 harbour seals counted in 2001. A more recent aerial survey was conducted in Orkney in 2016, for which the results will be made available later in the year once all the aerial photographs have been processed. In contrast, populations on the West Coast and in the Western Isles are either stable or increasing.

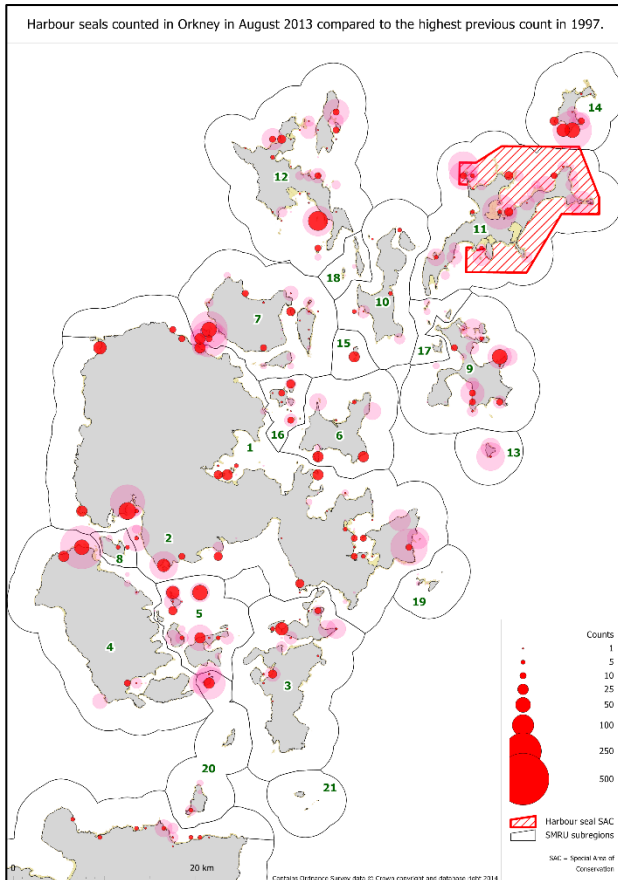


Figure 6. Harbour seals counted in Orkney in August 2013 compared to the highest previous count in 1997.

SMRU has been funded by the Scottish Government to investigate the causes of these declines in harbour seal numbers. The current project aims to better understand the population dynamics of harbour seal populations in different areas of Scotland. We are particularly interested in finding out what are the survival and birth rates in harbour seals at sites where the numbers have been declining or have been stable, and see whether there are any differences between different regions. Is it the adults that are not surviving as long as we would expect? Or do some populations have a pup or juvenile survival lower than expected? And finally, are females producing pups as often as we expect them to based on our knowledge from other populations?

Understanding which age class of the population is mostly affected by the decline will help understand what may be behind it. The results on survival and birth rates will be combined with information on potential drivers of population change. These include factors such as the quality and availability of prey, the size of grey seal populations in the different areas, the direct mortality

caused by grey seals, and the occurrence and exposure of seals to toxins that are naturally produced during harmful algae blooms (also known as HABs).

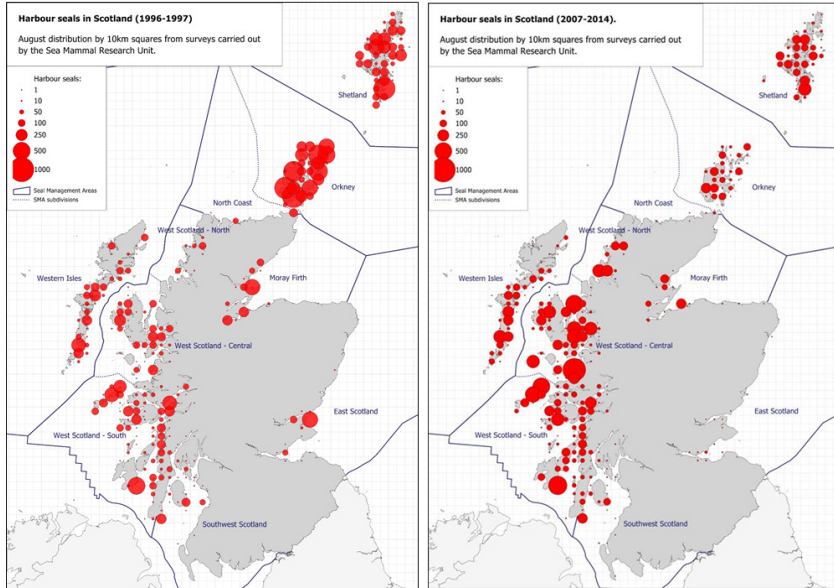


Figure 7. Harbour seals counts 1996-1997 compared to 2007-2014.

The Harbour Seal Decline Project started in April 2015 and will run until April 2020. During the first year, in summer 2015, we explored Scotland’s coastline in search for the best haul-out sites where we could conduct long-term studies of observations of harbour seals. Then, in 2016, the first full season of data collection started. Between mid-May and the end of July, ensuring a good coverage of the pupping season, we collected photo-identification data of harbour seals at haulout sites in Orkney, Kintyre and Isle of Skye. The haul-out sites in Orkney, all located within Scapa Flow, were chosen to be representative of a region where the numbers of harbour seals have been dramatically declining. Kintyre and Isle of Skye, on the other hand, represent areas where the numbers of harbour seals have been stable over time.

A typical day out to get photo-identification data starts by checking the tide table (Figure 8). Seals are more likely to be onshore around low tide when haulout sites are exposed, so I normally plan to be out for the two hours before and after low water. All my equipment fits into one big backpack, and that includes a tripod, a scope, a camera, a couple of lenses, a pair of binoculars, a clipboard with data forms, a waterproof notebook, a GPS tracker, warm and waterproof layers, and most importantly, a tea flask and a sandwich! Once on site, I approach the haulout quietly, sometimes crawling, keeping a low profile and making sure not to disturb the seals. They normally check me out but otherwise resume their normal activity, which mostly involves resting. I sit at a distance of around 150



Figure 8. Taking photo-identification data near the Brough of Birsay.

meters and set up the scope and camera. Before taking any pictures I do a count of the adults and the pups that I can see, and I will do that again half way and at the end of my time at that haulout. Then I start taking photographs of all the seals.

The perfect shot will show the seal's head, with a clear view of the pelage pattern on the side of the head, parallel to the camera and in focus. I always try to get both sides of each seal, as the



Figure 9. Photographs of the left and right sides of the same harbour seal.

pattern will be different on each side (Figure 9). I note down any interesting observations, such as the sex of the seal, and if it's a female, whether she is pregnant or associated to a pup. All these pictures (over 11,500 just in Orkney in 2016!) will then be processed to identify each seal, and the information will be later used to estimate the survival and birth rates.

As part of the project, a limited number of seals were captured and released in the spring of 2016 in Orkney, well before the pupping season started, to gather information on their health, body condition, toxin exposure and the pregnancy status of females. This information can then be linked to the estimated survival and birth rates, in order to identify potential differences between seals of different regions in Scotland.



Figure 10. Seal with a telemetry tag having a snooze.

Additionally, ten seals were equipped with telemetry tags, developed by the SMRU Instrumentation group. Each tag is glued to the fur of the seal, behind the head, and will stay on until the moult, when the tags will simply fall as the seals get their new coats (Figure 10). As soon as each of the tagged seals gets into the water for the first time, the telemetry tags start recording the location of each animal as well as details of their dives while at sea. This information is sent back to SMRU when the seal is close to the coast within mobile phone coverage, using Vodafone's machine-to-machine (M2M) technology. After that it's just a matter of keeping an eye on the daily progress of the seals as information on their location is being delivered to our computers!

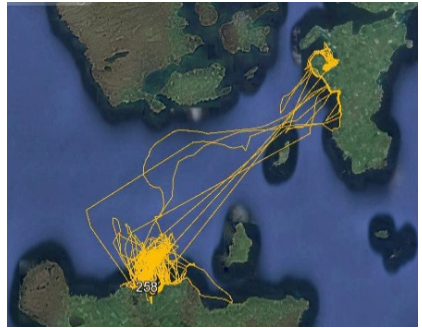
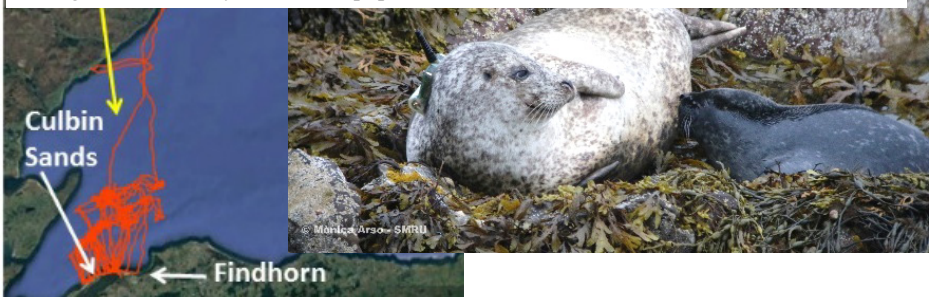


Figure 11. Movements of two male harbour seals in 2016.



The tagged seals in 2016 showed a variety of movements, with noticeable differences between individuals, as well as some obvious individual preferences (Figures 11 and 12). While some individuals stayed quite locally, around Widewall Bay in South Ronaldsay, or within Scapa Flow, others decided to take longer trips to mainland, up north to Papa Westray and into Deer Sound. A nice surprise was that of a female we tagged near Burray in mid-April (Figure 12). After a few days she headed south to the Moray Firth, where she spent a month foraging. At the start of June she was back in Orkney and on the 14th of June I photographed her with her brand new born pup!

Figure 12. This tagged female went to the Moray Firth to forage for over a month before heading back to Orkney to have her pup.



Reaching the end of July my time in Orkney was coming to an end, and so did my colleagues working in Isle of Skye and Kintyre. By then most of the pups had grown so much it was sometimes difficult to differentiate from one year old seals (Figure 13). After the summer is over it is time to process all those photographs, analyse samples and gather all the bits of information collected during the pupping season as well as from the telemetry tags, so no time to get bored during the winter!



Figure 13. Check the size of this pup by the end of July!

Another very important source of data that feeds into the project is information on any dead seals found along the coast. The Scottish Marine Animal Stranding Scheme (SMASS), with whom we collaborate in this and other projects, collate such information. Reporting dead seals is a vital piece of information not always easy to obtain however. If the seal is fresh enough, it can be sent to Inverness, where SMASS is based, for a post-mortem necropsy. Otherwise biopsy samples may still be taken, always by trained individuals, and sent for analysis. So, if you find a dead seal while walking along the coast, even if it's in a very bad state, take a few pictures, note the location of the seal and contact SMASS to report it. Their contact information can be found in the following page.

The work we conduct in Orkney, Isle of Skye and Kintyre for this project would not be possible without the collaboration of many local people. Our thanks go to the many land-owners that allow us to go through their properties, fields and gardens to reach haulout sites, and share their local knowledge about the seals with us. Staff from the Orkney Islands Council Marine Services helped retrieving discarded fishing nets close to a haul-out in Widewall Bay, for which we are very grateful. Similarly, the team at Dunvegan Castle in Isle of Skye facilitated the collection of photo-identification data in Loch Dunvegan as we joined their busy seal boat tours. At SMRU we are getting ready for our third year of data collection in the upcoming summer, when we will be back to all three study areas. Meanwhile you can stay updated with the project through our blog: <http://synergy.st-andrews.ac.uk/harbourseals/>

Scottish Marine Animal Stranding Hotline



If you find a **dead, stranded marine animal**

please e-mail

strandings@sruc.ac.uk

or call

07979 245893

or **01463 243030**

Rescue for **LIVE** strandings can be called 24 hours a day through

Scottish SPCA Animal Helpline (03000 999 999)

or **British Divers Marine Life Rescue (01825 765546)**

On Orkney contact Orkney Seal Rescue; Tel 01856831463 or 07721073868

Find us on

facebook

www.strandings.org

twitter @Strandings

- 1** What is it? What type/species of animal? If you are not sure, you can send us pictures from your phone or camera
- 2** Where is it? As precise a location as you can give, how far to the nearest road access and is it above the high tide mark?
- 3** What size is it? Approximate length, can it be moved or secured against removal by the tide?
- 4** How fresh is it? Is it in a good state or a smelly heap of bones?

WARNING: Marine animals are wild animals. They may carry diseases which are transferable to humans. Do not put yourself at risk of injury. Do not attempt to move heavy animals without adequate assistance. Always wash hands thoroughly after any contact.



SCOTTISH SPCA
Scotland's Animal Welfare Charity



National Museums Scotland



The Scottish Marine Animal Stranding Scheme collates, investigates and reports information on stranded marine animals for Scotland. It is managed by the SRUC/SAC Consulting Disease Surveillance Centre, Inverness in collaboration with the above organisations.

2016 was another busy year for plant recording, with continuing efforts for the BSBI *Atlas 2020* project, outings by the OFC Flora Group and the very active U3A (University of the Third Age) group. Geographical coverage for Atlas 2020 is proceeding very well; this year the focus was very much on the inner and outer North Isles.

The first outing of the year on 2 June, by the Flora Group, was to Rerwick Head, Tankerness, already accurately described in the general review of OFC events earlier in this volume as almost memorably uninteresting: not quite though, as we admired a patch of **Bog Violet** *Viola palustris* in flower, these distinctively much paler than those of the **Common Dog-violet** *V. riviniana*. Tiny bits of clifftop heath and grassland fenced off from grazing were also nice, with the silvery-leaved **Creeping Willow** *Salix repens* subsp. *argentea*, **Kidney Vetch** *Anthyllis vulneraria* and **Lady's Bedstraw** *Galium verum* on the top and **Scots Lovage** *Ligusticum scoticum* on the rocks below. Elsewhere the general dreariness of the vegetation was testament to the effect years of heavy sheep grazing can have.

In complete contrast, the group's next venue, on 4 July on the Firth/Harray parish boundary at the top of the Lyde road, has a rich flora mostly within a few paces of the tarmac. 128 species were recorded within an hour-and-a-half, including **Hairy Lady's-mantle** *Alchemilla filicaulis* subsp. *filicaulis*, **Smooth Lady's-mantle** *Alchemilla glabra*, **Northern Buckler-fern** *Dryopteris*



Chickweed Wintergreen (John Crossley)

expansa and abundant **Common Twayblade** *Neottia ovata*. Top plant, however, was **Chickweed Wintergreen** *Trientalis europaea*, to which we were led by Brian Ribbands, who had seen it there a few years ago. There are only three recent records for this species in the county, and a tantalising three others from many years ago, which are probably still there and awaiting re-discovery. It flowers from mid-June to early July and would be difficult to find when not in flower.

Shapinsay was the destination on 17 July, in particular the northwest tip of the island around Vasa Loch and the wonderfully named Banks of Runabout, with a detour to the RSPB Mill Dam Reserve. The flora of Shapinsay has generally not been much recorded and the area chosen has a promising mix of heath, wetland, unimproved grassland and soft cliff, on the whole favourably managed. A species list of 123 reflected this. Many of these were new for tetrad and fully 18 new for the island of Shapinsay. Some of the more unusual of these were **Downy Oat-grass** *Avenula pubescens*, **American Willowherb** *Epilobium ciliatum* (the fourth record for the county), **Scottish Eyebright** *Euphrasia scotica*, **Smooth Stonewort** *Nitella flexilis* agg., **Common Milkwort** *Polygala vulgaris*, **Biting Stonecrop** *Sedum acre* and **Lesser Stitchwort** *Stellaria graminea*. A fine sight was abundant **Lesser Sea-spurrey** *Spergularia media* flowering in the dried-up bed of the saline Little Vasa Loch.



Sea Aster (John Crossley)

Dead Sand at Cumminess in Stenness (downstream of the Brig of Waithie) belies its forbidding name by putting on a colourful display of **Sea Aster** *Aster tripolium* in August. This was the destination of the Flora Group's final outing of the year. Other saltmarsh plants included both **Sea Arrow-grass** *Triglochin maritima* and **Marsh Arrow-grass** *T. palustris* and the less common **Annual Sea-blight** *Suaeda maritima*, its succulent leaves turning rose-pink at this time of year. The saltmarsh gives onto acid grassland, almost heath, on the spit of Cummi Ness; on the interface between the two was a lot of an odd-looking **Eyebright** *Euphrasia*, somewhat hairy, well-branched and small-flowered. Specimens were taken for expert determination; the answer came back: *E. marshallii* x *E. scotica*, a first Orkney record of a taxon previously recorded only in Sutherland and the Western Isles, where it is rare.

The U3A Botany Group had several outings during the year, one of which I joined; this was to Wyre on 23 August. The 1 km square HY4426 takes in the pier, a scrap of saltmarsh, waste ground, road verges and Cubbie Roo's castle. Waste ground by the pier was surprisingly productive, as sharp eyes picked out **Bugloss** *Anchusa arvensis* (new for the island), **Wild Pansy** *Viola tricolor* subsp. *tricolor* and **Lesser Trefoil** *Trifolium dubium*. Also there were the three species of **Sowthistle** *Sonchus* found in Orkney, **Perennial** *S. arvensis*, **Prickly** *S. asper* and **Smooth** *S. oleraceus*, growing close together and enabling comparisons to be made. *S. oleraceus* was also new for the island. The path to the castle crosses a small burn, where **Blue Water-speedwell** *Veronica anagallis-aquatica* was in flower. The castle itself is a well-known site for **Wall-rue** *Asplenium ruta-muraria* (Locally Scarce), which grows from cracks in the stone walls. It was also growing on the wall around the nearby chapel, where it had not been noted before. In all, 120 species were recorded, many of them not in recent years; these made a very useful contribution to Atlas 2020 recording.

Selected records of note

Over 4000 records were collected in 2015. Entries in this 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).

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.)

Stag’s-horn Clubmoss *Lycopodium clavatum* (Locally Scarce), Ivrigar, Hillside Road, Evie, HY382244, 18 May 2016, (Orkney Field Club): new for 10 km sq. Young plants discovered during Orkney Nature Festival event.

Wilson’s Filmy-fern *Hymenophyllum wilsonii* (IUCN¹ Near Threatened, Locally Scarce), west gully of Nowt Bield, Hoy, HY22970112, 11 Apr 2016 (JEC): new site within existing 10 km sq.

Narrow Male-fern *Dryopteris cambrensis* (not often recorded, local status unknown), Bomo, Eday, HY57353662, 24 July 2016 (JEC & JBR, conf. A.R. Church): new for 10 km sq. and island. The specimen taken was determined as subsp. *cambrensis*, the first time a subspecies has been recorded in Orkney, though it is probably the only one present.

Dwarf Juniper *Juniperus communis* subsp. *nana* (UKBAP², SBL³), Scarra, Stromness, HY22761426, 20 Nov 2016 (JT): not new for 10 km sq. but last recorded in Scarra area in 1961.

Yellow Saxifrage *Saxifraga aizoides* (Locally Scarce), several plants on road verge near Green Noses, Hoy, HY26720179, also a single plant at Burn of the Sale road bridge, HY26970147, 27 July 2016 (JEC). Sites within existing 10 km sq, but apparently the first records south of the Rackwick road valley. Still no records in ND29, the next 10 km sq. south – there’s a challenge!



Yellow Saxifrage (Barry Jones)

Parsley-piert *Aphanes arvensis* (Locally Scarce), by Loch of Wasdale, Firth, HY34441489, 13 Sept 2016 (JEC & IS, conf. Mike Wilcox): new for 10 km sq. According to referee, “probably the best intermediate [between *A. arvensis* and **Slender Parsley-piert** *A. australis*] I have seen”, though apparently closer to *A. arvensis* than *A. australis*.

Northern Yellow-cress *Rorippa islandica* (Nationally Scarce), Loch of The Graand, Egilsay, HY473272, 13 July 2016 (JEC): new for island.

¹ International Union for Conservation of Nature

² UK Biodiversity Action Plan Priority Species

³ Scottish Biodiversity List

Mountain Sorrel, *Oxyria digyna* (Locally Scarce), Nowt Bield, Hoy, HY23270177, 11 Apr 2016 (JEC): not new for 10 km sq., but last recorded in Nowt Bield in 1969.

Chickweed-wintergreen *Trientalis europaea* (Locally Scarce), west of Chair of Lyde, Harray, HY35161875, 4 July 2016 (OFC): update for site and 10 km sq.

Field Gentian *Gentianella campestris* (IUCN Vulnerable, UKBAP, SBL), south of Knucker Hill, Westray, HY42834677, 4 Aug 2016; Flag Ber, Westray, HY41984638 & HY42044641 (JEC, JBR & AU): update for 10 km sq. and new sites.

Bugloss *Anchusa arvensis* (Uncommon, but not quite Locally Scarce, probably declining), Wyre, HY4426, 23 Aug 2016, (U3A group): new for 10 km sq. and island.



Mountain Sorrel (John Crossley)

Oysterplant *Mertensia maritima* (IUCN Near Threatened, Nationally Scarce), Ruff of Cantick, South Walls, ND347896, 19 July 2016 (MH): new site and update for 10 km sq.

Upland Eyebright *Euphrasia frigida* (IUCN Data Deficient, Locally Rare), Blotchnie Field, Rousay, HY41842903, 5 Aug 2016 (JEC & JBR, det. Chris Metherell): second County Record (last in 1963, also Rousay).

Foula Eyebright *Euphrasia foulaensis* (Data deficient, Nationally Scarce)

1. Brough of Birsay, HY2328, 21 July 2016 (JEC), common on west and north coasts of Brough: new for 10 km sq.
2. Near Andrew Seatter's Breast, Westray, HY42144620 and West Kirbest, Westray, HY422437, 4 Aug 2016 (JEC, JBR & AU): new for 10 km sq.
3. Dennis Head, North Ronaldsay, HY7855, 14 Aug 2016 (JEC): new for island and 10 km sq.
4. Coast north of Sea Skerry, Eday, HY5232, 6 July 2016 (JEC), frequent along shore: new for island and update for 10 km sq. (last in 1964).

Marshall's Eyebright *Euphrasia marshallii* (IUCN Endangered, UKBAP, SBL, Nationally Rare, Locally Scarce), Brough of Birsay, HY2328, 21 July 2016 (JEC conf. Chris Metherell), frequent on west and north coasts of Brough: new for 10 km sq.

Euphrasia foulaensis x *E. marshallii* (national and local status unknown), Brough of Birsay, HY2328, 21 July 2016 (JEC conf. Chris Metherell): frequent on west and north coasts of Brough: new for 10 km sq. 5th confirmed Orkney record.

Euphrasia confusa x *E. scottica* (national and local status unknown).

1. Northwest of Cott, Egilsay, HY46492934, 12 July 2016 (JEC, det Chris Metherell): new for island and 10 km sq.
 2. Kierfea, Rousay, HY425321 and HY425322, 14 July 2016: new for island and 10 km sq.
- All three records in base-rich flushes. 3rd, 4th and 5th confirmed records for Orkney (last in 1966).

Euphrasia arctica x *E. confusa* (national and local status unknown), near Hill of Bomo, Eday, Y57013676, 24 July 2016 (JEC & JBR, det Chris Metherell). Abundant here and roadsides nearby: new for island and 10 km sq. 3rd Orkney record.

Euphrasia micrantha x *E. scottica* = *E. x electa* (national and local status unknown), RSPB Milldam Reserve, Shapinsay, HY48451756, 29 July 2016 (JEC, det Chris Metherell): new for island and 10 km sq. 3rd Orkney record.

Euphrasia confusa x *E. foulaensis* = *E x atrovioleacea* (national and local status unknown), Holms of Ire, Sanday, HY65044596, 16 Aug 2016 (JEC, det Chris Metherell): new for island and 10 km sq. 3rd Orkney record. 1st confirmed Orkney record.

Alpine Saw-wort *Saussurea alpina* (Locally Rare), above Digro, Kierfea Hill, Rousay, HY42593217, 14 July 2016 (JEC). Following the find of a new site for *S. alpina* on Kierfea Hill last year several more were found in 2016, including this one, unique for being protected from grazing sheep and flowering profusely. Quite easily accessible from public road.

Hemlock Water-dropwort *Oenanthe crocata* (Locally Rare), near Dale, Harray, HY334152 (JEC), locally abundant in marsh: new for 10 km sq. 2nd Orkney record. Previously known only from a marshy coastal site in Orphir, in typical habitat for the plant, and presumed to be native there. It may not be native at this new site.

Masterwort *Imperatoria ostruthium* (Locally Rare), Mill of Cairston, Stromness, HY25871062, 2 Aug 2016 (JEC): update for 10 km sq. (last in 1926).

Flat-stalked Pondweed *Potamogeton friesii* (IUCN Near Threatened)

1. Hoy, mill dam pool, above Lyness, North Walls, ND299946, 23 July 2016 (OFC): new for sq.
2. Manse Loch, Egilsay, HY477297, 13 July 2016 (JEC): update for 10 km sq.
3. Loch of The Graand, Egilsay, HY473272. 13 July 2016 (JEC): update for 10 km sq.
4. Loch Saintear, Westray, HY439478, 10 Aug 2016 (JEC & JBR): update for 10 km sq.

Beaked Tasselweed *Ruppia maritima* (No particular national or local status for this species, but seldom recorded)

1. Ladybank lochan, Sanday, HY674400, 17 Aug 2016 (JEC): update for 10 km sq.
2. Roos Loch, Sanday, HY6544, 17 Aug 2016 (JEC): update for 10 km sq.
3. Westayre Loch, Sanday, HY7244, 17 Aug 2016 (JEC): update for 10 km sq.



Unbranched Bur-reed (John Crossley)

Unbranched Bur-reed *Sparganium emersum* (Locally Rare)

1. Whistlebare, Egilsay, HY46352960, 12 July 2016 (JEC): new site in existing 10 km sq.
2. Pool near Cott, Egilsay, HY46992916, 13 July 2016 (JEC): new site in existing 10 km sq.

Least Bur-reed *Sparganium natans* (Locally Rare), mill dam pool above Lyness, North Walls, Hoy, ND299946, 23 July 2016 (OFC): new for 10 km sq.

Frog Rush *Juncus ranarius* (Locally Scarce), Craig Loch, Westray, HY44675163, 4 Aug 2016 (JEC & JBR, conf. Tom Cope): new for island and 10 km sq.

False Fox-sedge *Carex otrubae* (Locally Rare), Echnaloch Bay, Burray, ND47549695, 15 July 2016 (JEC): 3rd County Record and new for 10 km sq.

White Sedge *Carex canescens* Burgar Hill, Evie, HY34452600, 14 July 2016 (AU): new site in existing 10 km sq.

Bog Sedge *Carex limosa* (Locally Scarce), Bog of Surtan, Harray, HY34822213, 11 Aug 2016 (JEC): update for site in existing 10 km sq. A single plant found; last recorded here in 1965, when said to be frequent.

Crested Hair-grass *Koeleria macrantha* (Locally Rare), Black Craig, Stromness, HY219109, HY219110, HY219111, 2 July 2016 (JEC), locally frequent: update for site and 10 km sq. (last recorded here in 1927).

Plicate Sweet-grass *Glyceria notata* (Locally Scarce), near Westayre Loch Sanday, HY72364399, 15 Aug 2016 (JEC): new for island and 10 km sq.

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.)

Rigid Hornwort *Ceratophyllum demersum* (Neophyte), Loch Saintear, Westray, HY439478 10 Aug 2016 (JEC & JBR, conf. Nick Stewart): new County Record. *C. demersum* is an aquarium plant and this is the most likely source of the Westray plant, though it could possibly have been introduced by wildfowl. It thrives in nutrient-enriched water. It can grow in deep water, forming dense beds that crowd out other plants and thus is potentially invasive. A British Isles native, hitherto absent from north Scotland.

American Willowherb *Epilobium ciliatum* (Neophyte), Mill Dam, Shapinsay, HY4817, 29 July 2016 (OFC): 3rd County Record. N. America.

Garden Cress *Lepidium sativum* (Casual), near Quoyorally, South Ronaldsay, ND459863, 28 Sept 2016 (JEC): 2nd County Record. Several plants growing in a turnip field, doubtless introduced with the seed. W. Asia.

Perennial Wall-rocket *Diplotaxis tenuifolia* (Neophyte), Pierowall, Westray, HY43754825, 10 Aug 2016 (JEC & JBR): 2nd County Record. Several plants established on stone wall. A British Isles archaeophyte, until recently absent from north Scotland.

White Mustard *Sinapis alba* subsp. *alba* (Casual), near Quoyorally, South Ronaldsay, ND459863, 22 Oct 2016 (JEC): 3rd County Record. In bird crop. S. Europe.

Alexanders *Smyrniolum olusatrum* (Casual or Neophyte), Hewin, Evie, HY335274, 4 July 2016 (AG): new County Record. A British archaeophyte, hitherto absent from north Scotland.

Curly Waterweed *Lagarosiphon major* (Neophyte), pool southwest of Blossom, near Kierfea Hill, Rousay, HY42593224, 14 July 2016 (JEC, conf. Nick Stewart): new County Record. *L. major* is a very common aquarium plant; only female plants occur in the British Isles and it spreads from stem fragments. It must have been introduced. It is a known alien invasive, hitherto absent from north Scotland. S. Africa.

Yellow Day-lily *Hemerocallis lilioasphodelus* (Neophyte), north end of Loch of Banks, Birsay, HY273240, 27 June 2016 (AJL): new County Record. E. Asia.



Yellow Day-lily (Alan Leitch)

Star-of-Bethlehem *Ornithogalum umbellatum* (Casual or Neophyte), northeast side of 4th Barrier, Water Sound, Burray, ND481954, 20 June 2016 (LJ): 2nd County Record. Europe.



Star-of-Bethlehem (Linda Vasey)

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Julian Branscombe, Graeme Coles, Tim Dean, Anne Gascoigne (AG), Mary Harris (MH), Lee Johnson (LJ), Barry Jones (BJ), Alan Leitch (AJL), Marion Miller, Eric Meek, Orkney Field Club (OFC), Brian Ribbands (JBR), Ian Strachan (IS), Jenny Taylor (JT), University of the 3rd Age, Andrew Upton (AU).

Slime Mould (Myxomycetes) Report 2016

Lee Johnson

14 records of 6 species were recorded in Orkney in 2016.

The most frequently seen species was *Mucilago crustacea* which was reported from South Ronaldsay, Stromness and Hoy on grass from August onwards.

Julian Branscombe recorded *Physarum cinereum* on moss at Berstane Woods. This common species has been recorded previously at Binscarth. Two other myxomycetes samples were collected by Nancy Charlton at the Berstane but I was unable to identify the specimens as they often collapse if they are collected before they reach the sporing stage.

In March Derek Mayes found *Metatrichia floriformis* at Orphir. This species has been previously recorded from Binscarth, Shapinsay, Egilsay and Wyre. Once thought to be a rare species, *M. floriformis* is now considered common and probably cosmopolitan.

Two records of *Physarum album* came from Olav's Wood, one on fallen twigs under ash and another on a rotting branch near alder.

Lycogala terrestris (commonly known as Wolf's Milk) was found on a dead standing stump at St Margaret's Hope near the ferry terminal and on fallen **Wych Elm** *Ulmus glabra* at Binscarth Woods.

And finally *Reticularia lycoperdon* (also known as False Puffball) was recorded on a log near the beach at St Peter's Kirk, presumably washed up by the sea.



Mucilago crustacea on a lawn and *Reticularia lycoperdon* from a log, both from South Ronaldsay (Lee Johnson)

Thank you to Nancy Charlton, Julian Branscombe, Anne Gascoigne, Bob Simpson, Derek Mayes, Mary Harris, Edwina Lloyd and Peter Oswald for submitting records.

Mosses and Liverworts Report 2016

John Crossley

This was my first season as recorder and I am yet to get to grips with identifying uncommon cryptic species except by taking them to a microscope. This limits the extent of recording, though 154 records were made in four 10 km squares.

A bryophyte (mosses, liverworts and hornworts) workshop was held at the ICIT lab in Stromness in September. There were six participants, who first identified specimens with microscopes and then went up Brinkie's Brae to compare mosses and liverworts in the field. There was a fair range of moorland species to look at and the bonus of finding the liverwort *Ptilidium ciliare* at HY250094, only the second record for Orkney, which had been found somewhere in the same 10 km square in 1974. More workshops are planned; ICIT's new microscope, which can project images onto a screen, will add greatly to the experience.



Ptilidium ciliare (David Long)



Detail of shoot (Des Callaghan)

The 2016 season saw plenty of warm, dry weather, at least in comparison to the previous two years, and produced 162 records from 30 keen-eyed folk. The majority of the records received came from Mainland, 46%, but the island of Hoy was a close second with 41%, despite being only a quarter of the area of its larger cousin. Six of the archipelago's eight breeding species were seen, with no records for Golden-ringed Dragonfly and Four-spotted Chaser. However, these species are only present in low numbers on Hoy, so it is hoped that recorder effort was the limiting factor, rather than extirpation. On social media, a new Facebook page, OrkOdo, proved a useful resource for sharing local news and photographs.

National Dragonfly Week was 'celebrated' with two short walks to known hotspots, although the weather on both weekends was decidedly not hot. On 17th July, the trip to Wee Fea on Hoy was mainly cool and cloudy, save for a few minutes of direct sunshine, but this was enough for a dozen male Common Blue Damselflies to briefly take to the wing in search of a mate. Six species were recorded in total, although the only Common Hawker seen was a very brief fly-by. On the following weekend, 23rd July was even colder and wetter, but a hardy band of keen souls squelched up to Russadale quarry in Stenness and were rewarded with excellent views of an emerging Black Darter and a few sheltering Blue-tailed Damselflies.

There were records of several species expanding their Orcadian ranges and even colonising new islands within the archipelago. In the autumn, Orkney was visited by several individuals of a migratory species, Vagrant Emperor, which certainly put us on the national map.

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

Emerald Damselfly *Lestes sponsa*

Emerald Damselflies are currently limited to Hoy, although since 2010 they have expanded their range from Rackwick in the northwest to Lyness in the southeast. The first record for 2016 was from Wee Fea on 13th July by GW. During a Dragonfly Walk on 23rd July, a pair of Emeralds were seen ovipositing at the pool above Lyness, ND299946, and another pair were seen in tandem by the pond at the Scapa Flow Visitor Centre and Museum. On 29th August, JT saw a respectable total of 19 individuals at the Whaness pool. The flight season lasted for about 10 weeks until 20th September, with TA submitting the final record from Wee Fea.

Large Red Damselfly *Pyrrosoma nymphula*

Large Red Damselflies are normally the first species to emerge in the spring, and 2016 was no exception to this 'rule', with several records from 23rd May. On this day, records were received from Harray (DS), Queenamidda (BR) and Shapinsay (KE). The latter record was also the first for the species on the island. The largest concentration was fourteen at Dale, Costa on 13th June, (DM). The flight season lasted for about 12 weeks until 16th August with a record from the Howe Road pools, Harray by DM.

Common Blue Damselfly *Enallagma cyathigerum*

An immature male was seen in Russadale, Stenness on 4th July by a visiting AN. Several individuals were seen on Rousay on 13th July by BR, but all other sightings came from Hoy. On 23rd July, 22 individuals were seen by GW during a Dragonfly Walk. The recorded flight season was only about 5 weeks, with the last record at Rackwick on 6th August by MH.

Blue-tailed Damselfly *Ischnura elegans*

The first record for 2016 came from Lyness, Hoy on 6th June (GW), with a dozen individuals by the Scapa Flow Visitor Centre and Museum pool. Within the county, Blue-tailed Damselfly is our most widespread species. This year there were sightings on North Ronaldsay on 8th June (GW), South Ronaldsay on 5th July (LJ), Shapinsay on 19th July, another island first (PH), Eday on 27th July (KT) and Graemsay on 5th August (GW). The most prolific sighting was of 40 individuals at Stromness Reservoir on 19th July by JT. During a 13 week flight season, the last sighting was at Queenamidda, Rendall on 9th September (BR).

Common Hawker *Aeshna juncea*

Despite being a predominantly Hoy dragonfly, the Common Hawker has several small footholds in West Mainland. Indeed, the first sighting of the year was at Redland, Firth on 26th June by SW. Another Mainland sighting, this time of a female Common Hawker ovipositing in Russadale, Stenness was recorded on 16th August by DM. After an epic 15 week flight season, the last record for 2016 was at Rackwick pools on 9th October by DM.

Golden-ringed Dragonfly *Cordulegaster boltonii*

No records of this species were received for the 2016 flight season.

Four-spotted Chaser *Libellula quadrimaculata*

No records of this species were received for the 2016 flight season.

Black Darter *Sympetrum danae*

The first sighting of the year was at Wee Fea in Hoy, with a teneral individual seen by GW on 13th July. On 29th July, the first ever Black Darter record for Eday was submitted by KT, who photographed an immature female on the Hill of Bomo. Some excellent site totals were recorded during the late Summer and early Autumn, with 21 seen at the Howe Road pools by DM on 16th August and a further 16 seen on Wee Fea by HDA on 16th September. The end of the 12 week flight season was marked by a record of an individual seen in Harray by AF on 9th October.

Vagrant Emperor *Anax ephippiger*

The year's most exciting news was the autumnal 'influx' of two well-travelled Vagrant Emperor dragonflies. The only other Orkney record of this vagrant species was a single individual seen in Burray during 2011. The winds during Autumn 2016 were predominantly either south or south east, making it difficult to estimate the dragonflies' origin, but it is still quite a journey from either West Africa or the Middle East. On 18th September, a male in flight was photographed by KM near Sandwick, South Ronaldsay. This was an amazing achievement for such a brief view. Then, several weeks later, on 13th October, another male was found in a cobweb on a shed door in Birsay, Mainland, by SGW. This individual was presumed to be dead, rescued from its cobweb prison and placed in an outbuilding whilst an identification was confirmed. Fortunately, once the news hit the BDS web and Facebook pages, GW was able to contact SGW to arrange a viewing of the recently-departed insect, only to discover that it was still alive! The weather was particularly cold, wet and wild, so there was a wait of 24 hours for a brief sunny, dry spell to allow the release the Vagrant Emperor back into the air. It was wonderful to watch a dragonfly 'awakening' from a torpor with the warmth of some weak autumnal sunshine. The colour of its blue saddle intensified, head and eyes were 'groomed' and then, after a few brief seconds of wing

whirring, it was airborne and away. Sadly, the continuing south easterly winds meant that, if the dragonfly survived long enough, next landfall would be Iceland!

Many thanks to all the contributors who submitted records for 2016:

H & D Aiton (HDA); Trish Avis (TA); Martin Bayley; Nancy Charlton;
Karen Evans (KE); Alastair Forsyth (AF); Sydney Gauld; Christine Hall;
Barrie Hamill; Kerry Harris; Mary Harris (MH); Paul Hollinrake (PH);
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Daf Smith (DS); Jenny Taylor (JT); Lindsey Taylor; Kate Townsend (KT);
Susan Tyzack; S & G Wharton (SGW); Stuart Williams (SW).



Vagrant Emperor *Anax ephippiger* (Graeme Walker)

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

Figure 5

177 records of 72 species were reported. However, 15 of these records were for earlier years, leaving 162 records of 69 species in Orkney in 2016. This is still a considerable increase thanks to a few more active recorders. Also, there was a ground beetle course held in July, which added to the record tally. A number of specimens have still to be identified.

Three new species have been added to the Orkney list, but only one of these was found in 2016, *Cryptophagus saginatus*. The others had been found in earlier years - *Quedius cruentus* in Graemsay in 2006 and *Sitona lineatus* at Kirkwall Airport in 2005. Two of the species that were new in 2015, *Aphidecta oblitterata* and *Cantharis nigricans*, were found again in 2016 so they seem to have successfully colonised Orkney.

Elaphrus riparius was found in South Ronaldsay, the only previous records were from Rendall in 2009 and 2010, at a site where it has been searched for since without success.

Aclypea opaca was on the Orkney list but there were no definite records. One was found in Hoy in 2015 and two in 2016, in Stromness and by No.4 Barrier. It is distinctive and thus unlikely to have been overlooked for long so may have returned after a period of absence.

Omalius riparium was also on the list with no records but it is a smallish rove beetle so more easily overlooked. It was found in quantity on the tideline of the beach by No.4 Barrier.

Oxytelus laqueatus another rove beetle, was found in sheep dung in Stromness. It seems to be the first Orkney record since 2004.



Elaphrus riparius (Lee Johnson)

Dor Beetle *Geotrupes stercorarius* was also found in Stromness, following two in Sanday in 2015 and one in Burray in 2013. There is no evidence yet that it has bred in Orkney.

Aphodius contaminatus was recorded for the first time in Orkney since one on Aukerry in 1913! See separate article for more about this and other related dung beetles.

Brown Chafer *Serica brunnea* appeared at a new site in Rendall, when one was rescued from a rainwater tank, next day there were two more in the same tank.

Cytilus sericeus was recorded for the first time since 1983, when one was found in a bird pellet in Stromness.

Cantharis nigricans was new for Orkney in 2015 and it was found at a new site in 2016. It is a fairly large and distinctive soldier beetle, most likely a recent colonist.



Aclypea opaca (Lee Johnson)

Rhagonycha lignosa, another soldier beetle, was found again at the same South Ronaldsay site as in 2015. There is only one earlier record, from Stenness in 2011.

Niptus hololeucus was found dead in a house in Stromness, the first record since 2005.

Cryptophagus saginatus, new for Orkney, was found dead in the same house in Stromness.

It is only 1.5-2.5 mm long so may have been overlooked elsewhere.

Larch Ladybird *Aphidecta obliterata* new for Orkney in 2015, was found again in the same 2 widely separated sites in conifer plantations. Though usually associated with larches it does

occur on other conifers. There were no other ladybird records received in 2016.

Lithostygnus serripennis was recorded for the first time since 2006, in the same Stromness house where it was found before.

Corticarina fuscula was also in Stromness, there is only one previous record, from South Ronaldsay in 1977.

The nationally rare *Chrysolina latecincta* (*C. intermedia*) was recorded only once, in April, in the usual area near Yesnaby.

Green Dock Beetle *Gastrophysa viridula* was again found on a new island for the species, Westray. It was reported as breeding on Curled Dock *Rumex crispus*, which it usually seems to avoid. As usual it was abundant in Mainland and South Ronaldsay.

Protapion ryei was found in South Ronaldsay, this weevil is another species on the Orkney list but with no previous definite records.

Black Marram Weevil *Otiorhynchus atroapterus* was found at one new site, in Westray. It was also found abundantly by No. 4 Barrier where it has been recorded before.

Phyllobius viridicollis was found again, this time in South Ronaldsay. In 2015 it was found in Burray and there are old records from Hoy and South Walls.

Barynotus moerens was recorded at 2 woodland sites, the first Orkney records since 1979.

Small Nettle Weevil *Nedyus quadrimaculatus* was found at 4 sites, these are the first Orkney records since 2007, but it is likely to have been overlooked.

Many thanks to all contributors:

L Johnson, C J Booth, J Branscombe, D Mayes, L Campbell, M Harris, N Charlton, B Hamill, B Simpson, B Eversham, K Brown, L Losito, M Macdonald, P Newell and P Martin. Apologies to anyone missed out.

Species list for 2016**Records****Records**

<i>Ilybius fuliginosus</i>	1	<i>Serica brunnea</i>	2
<i>Carabus arvensis</i>	1	<i>Odeles marginata</i>	1
<i>Cychrus caraboides</i>	1	<i>Byrrhus pilula</i>	1
<i>Leistus fulvibarbis</i>	1	<i>Cytilus sericeus</i>	1
<i>Nebria brevicollis</i>	3	<i>Hypnoidus riparius</i>	1
<i>Notiophilus biguttatus</i>	1	<i>Ctenicera cuprea</i>	2
<i>Cicindela campestris</i>	1	<i>Aplotarsus incanus</i>	1
<i>Elaphrus riparius</i>	1	<i>Hemicrepidius hirtus</i>	1
<i>Pterostichus niger</i>	3	<i>Cantharis nigricans</i>	1
<i>Pterostichus nigrita</i>	1	<i>Rhagonycha limbata</i>	2
<i>Pterostichus strenuus</i>	2	<i>Rhagonycha lignosa</i>	1
<i>Calathus melanocephalus</i>	1	<i>Niptus hololeucus</i>	1
<i>Paranchus albipes</i>	1	<i>Brachypterus urticae</i>	3
<i>Curtonotus aulicus</i>	5	<i>Cryptophagus saginatus</i>	1
<i>Cercyon littoralis</i>	1	<i>Mycetaea subterranea</i>	1
<i>Cercyon impressus</i>	1	<i>Aphidecta oblitterata</i>	7
<i>Cercyon lateralis</i>	1	<i>Lithostygnus serripennis</i>	1
<i>Cercyon melanocephalus</i>	3	<i>Corticaria impressa</i>	1
<i>Aclypea opaca</i>	2	<i>Corticarina fuscula</i>	1
<i>Silpha atrata</i>	10	<i>Plateumaris discolor</i>	1
<i>Nicrophorus investigator</i>	6	<i>Chrysolina latecincta</i>	1
<i>Nicrophorus vespilloides</i>	2	<i>Chrysolina staphylaea</i>	1
<i>Omalium riparium</i>	2	<i>Gastrophysa viridula</i>	17
<i>Megarthritis depressus</i>	1	<i>Lochmaea suturalis</i>	3
<i>Oxytelus laqueatus</i>	1	<i>Protapion ryei</i>	1
<i>Cafius xantholoma</i>	2	<i>Otiorhynchus singularis</i>	2
<i>Staphylinus erythropterus</i>	8	<i>Otiorhynchus sulcatus</i>	1
<i>Ocyopus olens</i>	7	<i>Otiorhynchus atroapterus</i>	7
<i>Creophilus maxillosus</i>	2	<i>Phyllobius viridicollis</i>	1
<i>Geotrupes stercorarius</i>	1	<i>Strophosoma melanogrammum</i>	3
<i>Aphodius depressus</i>	3	<i>Barynotus moerens</i>	2
<i>Aphodius rufipes</i>	6	<i>Barynotus squamosus</i>	1
<i>Aphodius ater</i>	2	<i>Euophryum confine</i>	1
<i>Aphodius rufus</i>	2	<i>Nedyus quadrimaculatus</i>	4
<i>Aphodius contaminatus</i>	2		

I have been trying to resign from being the county recorder of bees, wasps and ants, but having so far failed to find a successor I have collated records for the past year. This report however is much briefer than usual, covering just scarce species and significant new records.

New County Record – *Andrena clarkella*



Andrena clarkella (Mary Harris)

A nesting aggregation of this mining bee was discovered by Mary Harris on a sandy bank fringing a pool by the Whaness Burn, Hoy, HY244026, on 14 May 2016. This species feeds almost exclusively on willow catkins and is often the first species of solitary bee to appear in spring. The nearest record to this new one is in Inverness-shire. The species is generally quite common, though local, in northern Europe.

There must be more sites, though the combination of plenty of willows and suitable nesting sites nearby is restrictive. A report of mining bees at Rackwick, Hoy (RSPB) on 1 May 2016, assumed at the time to be the **Tormentil Mining Bee** *Andrena tarsata* may refer to *A. clarkella*: the date seems too early in the year for *A. tarsata*.

Bumblebees

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

There were 17 records involving at least 83 individual bees. RSPB Reserves at Brodgar and Copinsay produced the greatest numbers. There were records also from The Loons, Birsay (AL); Marwick Head, Birsay (CJB), (AL); Warsett, Egilsay (RSPB); Bay of Skail, Sandwick (MG); Gerraquoy, South Ronaldsay (SS); North Flaws, South Ronaldsay (JEC); Papa Westray (AL); and Trenabie and Golf Course, Westray (JEC & JBR).

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 records from Marwick Head, Birsay and Kirkwall (CJB); Elsness, Sanday (JEC); Rackwick and Trenabie, Westray (JEC & JBR); and Dennis Head, North Ronaldsay (JEC). This species appears to be becoming scarcer.

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

With a first record from Pierowall, Westray (MM) the spread of this species to all the larger islands of Orkney, except probably North Ronaldsay, is confirmed.

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

The presence of this species in Orkney was only confirmed last year, though it had probably been here for a year or two previously. With records in 2016 from Longhope (TA) and St Margarets Hope (LJ) to Dale, Evie (JBR) and even North Ronaldsay (MM), this species has clearly spread very rapidly throughout the isles. This is one of the earliest species to emerge in spring, possibly earlier still than the **White-tailed Bumblebee** *B. lucorum* agg.

Solitary bees and wasps

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

A new nesting aggregation was found by the Rackwick road, Hoy, HY22580016 to HY22590015, 13 July 2016 (LS), about 2 km east of the nearest previously known site at Ford of Hoy.

Many thanks to all contributors:

Trish Avis (TA), Chris Booth (CJB), Tim Dean, Martin Gray (MG), Mary Harris, Lee Johnson (LJ), Alan Leitch (AL), Murdo Macdonald (MM), Brian Ribbands (JBR), RSPB, Steve Sankey (SS), Lee Shields (LS) and Bob Simpson.

Butterflies and Moths Report 2016

Sydney Gauld

Four new species were added to the Orkney list in 2016 - *Tinea semifulvella*, *Aethes smeathmanniana*, **Slender Brindle** *Apamea scolopacina* and **Bulrush Wainscot** *Nonagria typhae*. There were also three second records - *Acrobasis advenella*, **Streamer** *Anticlea derivata* and **Brown Rustic** *Rusina ferruginea*.

In the this report 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 2016

Tinea semifulvella (U). One taken by trap 14 August, Berstane House, St Ola, (NC). *T semifulvella* is found through out the British Isles as far north as Caithness. The larva is a scavenger in birds' nests and sometimes on animal carcasses and woollen material; the adult is on the wing from May until October.

Aethes smeathmanniana (U). One taken by trap 28 July, Sea Cottage, Longhope, Hoy (MH), identification confirmed by Mark Young. *A. smeathmanniana* is found through out the British Isles and has been recorded from Shetland. The larvae feed on the seeds of Yarrow and Knapweed; adults are on the wing from May to August.



Tinea semifulvella (Sydney Gauld)



Aethes smeathmanniana (Mary Harris)

Slender Brindle *Apamea scolopacina* (V). One taken by trap 25 July, Berstane House, St Ola, (NC). *A. scolopacina* is found across England with a few scattered records in southern Scotland. The larvae feed on a range of woodland grasses; adults are on the wing in July and August.

Bulrush Wainscot *Nonagria typhae* (V). One taken by trap 14 September, Lamorna, Cairston Road, Stromness (BS). *N. typhae* is found in the southern British Isles and sparsely in southern Scotland. The larvae feed on Reedmace and Bulrush; adults are on the wing from July to September.



Slender Brindle (Nancy Charlton)



Bulrush Wainscot (Bob Simpson)

Other Sightings of Interest 2016

Micropterix calthella (U). Seven recorded in the field: five between 8 and 25 June, Quoyberstane, St Ola (SVG); one 29 June, Brenanaire Cottage, Harray (MH) and one 21 July, Quoys, North Hoy (SVG).

Honeysuckle Moth *Ypsolopha dentella* (R). One taken by trap 16 September, Berstane House, St Ola, (NC).

Diamond-back Moth *Plutella xylostella* (RI). Seen across Orkney from 20 May to 29 October. A mass-influx occurred on the 3 June, when uncountable numbers arrived in the county. Large numbers, from 100 to 1000, were counted in traps until 26 June, after which trap counts were from one to six. This mass arrival was seen across Great Britain.

Elachista atricomella (U). Two taken by trap 20 August, Old Nisthouse, Harray (AF).

Piblema sticticana (U). One seen in the field 26 June, Scapa Bay East, St Ola (SVG).

Eucosma campoliliana (V). One taken by trap 10 July, Old Nisthouse, Harray (AF).

Twenty-plume Moth *Alucita hexadactyla* (U). 10 recorded: four between 27 Jan and 24 May, 34 High St, Kirkwall (CJB & JB) and six seen in the field between 11 June and 23 October, Kirklands Road, Kirkwall (NC).

Chrysoteuchia culmella (V). Numerous sightings at Scows, St Margaret's Hope, Sands of Wright Loch, South Ronaldsay and Westshore, Burray between 19 and 25 July (LJ).

Brown China-mark *Elophila nymphaeata* (V?). Two field records: one 25 July, Rackwick Ponds, Hoy (MH) and one 17 August, Queenamidda, Rendall (BR).

Udea olivalis (V?). 366 records from traps across Orkney, mostly counts of 1 to 6, the highest count of 26 being on 12 July, 34 High St, Kirkwall (CJB & JB).

Rush Veneer *Nomophila noctuella* (I). Seven records, six from traps and one field record: singles 18 July and 23 August, Sea Cottage, Longhope, Hoy (MH), 30 August, Gerraquoy Farm, South Ronaldsay (SS & SS) and 18 September, Northside, Birsay (AF); three between 12 September and 19 October, Berstane House, St Ola, (NC).

Mother of Pearl *Pleuroptya ruralis* (V). Three taken by trap: two 25 July, Gerraquoy Farm, South Ronaldsay (SS & SS) and one 17 August, Lamorna, Cairston Road, Stromness (BS).

Bee Moth *Aphomia sociella* (R). 12 taken by trap: three between 10 July and 3 August, Old Nisthouse, Harray (AF), one 12 July, 34 High St, Kirkwall (CJB & JB), two 22 July, Quoyberstane, St Ola (SVG), one 25 July, Gerraquoy Farm, South Ronaldsay (SS & SS), one 3 August, Lamorna, Cairston Road, Stromness (BS) and four between 4 and 26 August, Berstane House, St Ola, (NC).

Acrobasis advenella (U). One taken by trap 30 July Berstane House, St Ola, (NC). This is the second record for this micro; the first was also recorded from Berstane House, on 8 August 2015 by Nancy Charlton.

Red Admiral *Vanessa atalanta* (I). Seen across Orkney from 30 April until 16 October.

Painted Lady *Cynthia cardui* (I). Seen across Orkney from 3 June until 8 October.

The Peacock *Inachis io* (V). 10 seen in the field: three 11 September, one 17 September and 1 October, Herston, South Ronaldsay (RMc & JMc), one 17 September, Dundas Crescent, Kirkwall (JF), two 22 September and one 26 September, Sea Cottage, Longhope, Hoy (MH) and one 4 October, Hope Community Garden, South Ronaldsay (LJ).

Small Fan-footed Wave *Idaea biselata* (V). Four taken by trap between 27 July and 1 September, Berstane House, St Ola, (NC).

Oblique Carpet *Orthonama vittata* (U). Three taken by trap between 22 and 23 July, Wee Wood (The Shunan), Harray (AF).

Streamer *Anticlea derivata* (R). One taken by trap 20 May, Ley House, Hoy (LS). This is the second record for Streamer in Orkney. The first record was in June 1969, Berriedale, Hoy by Dr G Howard.

Barred Straw *Eulithis pyraliata* (R?). One taken by trap 15 August, Gillbreck, South Ronaldsay (LC & NF).

Small Phoenix *Ecliptopera silaceata* (C?). Eight taken by trap: one 13 June, Vagaland, Stromness (PS), singles 22 June and 15 August Cairston Road, Stromness (BS) and five between 4 and 20 September, Queenamidda, Rendall (BR).

Pine Carpet *Thera fermata* (R). One taken by trap 22 July, Queenamidda, Rendall (BR).

Spruce Carpet *Thera britannica* (U). Eight taken by trap: one 17 August, Cairston Road, Stromness (BS) and seven between 8 and 30 October, Berstane House, St Ola, (NC).

Early Thorn *Selenia dentaria* (R). One larva seen 27 August, Olav's Wood, South Ronaldsay (LJ).

Pale Brindled Beauty *Phigalia pilosaria* (U). 11 recorded: one taken by trap 2 February, six 28 February; two seen 2 March on the house wall; and singles in the field 3 and 6 March, all at Berstane House, St Ola, (NC).

Peppered Moth *Biston betularia* (V). One taken by trap 22 July, Old Nisthouse, Harray (AF).

Bordered White *Bupalus piniaria* (R). Two taken by trap: one 7 July, Queenamidda, Rendall (BR) and one 13 July, Bayview, Herston, South Ronaldsay (RMc & JMc).

Convolvulus Hawk-moth *Agrius convolvuli* (I). One taken by trap 18 September, Cairston Road, Stromness (BS).

Poplar Hawk-moth *Laothoe populi* (R). 240 were recorded from traps across the Orkney mainland and south isles.

Humming-bird Hawk-moth *Macroglossum stellatarum* (I). One seen on 12 April, Ley House, Hoy (LS).

Least Black Arches *Nola confusalis* (U). Five taken by trap between 29 May and 8 June Berstane House, St Ola, (NC). This is the second year that Least Black Arches has been recorded in Orkney. Five were recorded for the first time last year between 15 May and 2 July, Berstane House, St Ola (NC).

Double Square-spot *Xestia triangulum* (U). 11 taken by trap: eight between 23 June and 3 July, Cairston Road, Stromness (BS), one 13 July, Bayview, Herston, South Ronaldsay (RMc & JMc) and singles 26 and 27 July, Berstane House, St Ola, (NC).

The Gothic *Naennia typica* (U). Six taken by trap: four between 13 July and 5 August, Old Nisthouse, Harray (AF) and singles 26 July and 15 August, Wee Wood (The Shunan), Harray (AF).

Green Arches *Anaplectoides prasina* (V). 18 taken by trap between 18 July and 4 August, Berstane House, St Ola, (NC).

Dog's Tooth *Lacanobia suasa* (V). One taken by trap 4 June, Quoyberstane, St Ola (SVG).

Brown-line Bright-eye *Mythimna conigera* (R?). Five taken by trap: one 26 June, Quoyberstane, St Ola (SVG), three between 4 and 25 July, Berstane House, St Ola, (NC) and one 22 July, Queenamidda, Rendall (BR).

Black Rustic *Aporophyla nigra* (C?). Two taken by trap: one 3 September, Old Nisthouse, Harray (AF) and one 10 September, Vagaland, Stromness (PS).

Red Sword-grass *Xylena vetusta* (R?). Three taken by trap: one 6 October, Berstane House, St Ola (NC), one 7 October, Ley House, Hoy (LS) and one 10 October, Gillbreck, South Ronaldsay (LC & NF).

Sword-grass *Xyiena exsoleta* (I). One taken by trap 7 October, Bayview, Herston, South Ronaldsay (RMc & JMc).

The Satellite *Eupsilia transversa* (RI). Eight taken by trap: one 18 September, Sea Cottage, Longhope, Hoy (MH) and seven between 10 and 29 October, Berstane House, St Ola, (NC).

Red-line Quaker *Agrochola lota* (V). Eight taken by trap: three between 16 September and 7 October, Bayview, Herston, South Ronaldsay (RMc & JMc), two each 16 and 20 September, Sea Cottage, Longhope, Hoy (MH) and one 16 September, Ley House, Hoy (LS).

Yellow-line Quaker *Agrochola macilenta* (V). Two taken by trap: one 7 October and one 10 October, Bayview, Herston, South Ronaldsay (RMc & JMc).

Mouse Moth *Amphipyra tragopoginis* (U). Two taken by trap 9 September, Gerraquoy Farm, South Ronaldsay (SS & SS).

Brown Rustic *Rusina ferruginea* (U). One taken by trap 21 June, Cairston Road, Stromness (BS). This is the second record for Brown Rustic in Orkney, the first being recorded on 1 July 1987, Scorradale, Orphir (R I Lorimer), taken by trap.

Large Wainscot *Rhizedra lutosa* (RI). Four taken by trap: one 21 September, Gerraquoy Farm, South Ronaldsay (SS & SS), one 20 September, Cairston Road, Stromness (BS), one 7 October, Berstane House, St Ola, (NC) and one 10 October, Bayview, Herston, South Ronaldsay (RMc & JMc).

Lempke's Gold Spot *Plusia putnami* subsp. *putnami* (U). Three taken by trap between 22 and 27 July, Sea Cottage, Longhope, Hoy (MH).

Straw Dot *Rivula sericealis* (V). One taken by trap, 20 July Berstane House, St Ola, (NC).

Pinion-streaked Snout *Schrankia costaestrigalis* (R?). 24 taken by trap: three between 22 July and 5 August, Sea Cottage, Longhope, Hoy (MH), one 23 July, Gillbreck, South Ronaldsay (LC & NF), one 23 July, Quoyberstane, St Ola (SVG), three between 4 and 22 August, Queenamidda, Rendall (BR), 14 between 4 and 30 August, Berstane House, St Ola, (NC), one 20 August, Cairston Road, Stromness (BS) and one 20 August, Old Nisthouse, Harray (AF).

My thanks to all who supplied records.

Helen & David Aiton, Chris J & J Booth (CJB & JB), Lindsay Campbell & Norman Fairbairn (LC & NF), Nancy Charlton (NC), Madeline Coleman, Jo Davis, John Findley (JF), Alastair Forsyth (AF), Barrie Hamill, Mary Harris (MH), Barbara Hay, Lee Johnson (LJ), Derek Mayes, Robina & John McCutcheon (RMc & JMc), Brian Ribbands (BR), Sarah & Sami Sankey (SS & SS), Lee Shields (LS), Bob Simpson (BS), Peter Slater (PS), Audrey Turner, Emma West, Carol & Adrian Weston, North Ronaldsay Bird Observatory

True flies (not including Hoverflies Syrphidae) Report 2016 *Lee Johnson*

True Flies (Diptera) are severely under-recorded in Orkney with the exception of hoverflies (*Syrphidae*) which are a charismatic group with good identification literature. There are around 7000 species of fly in the UK with only around 424 recorded on Orkney thus far so there is potentially much still to find. In excess of 500 records were collected in 2016 covering more than 120 different species. Some of the highlights are listed below.

Commonly known as the **Furry-legged Kelp Fly**, *Coelopa pilipes* is

distinguished from the more common **Bristly-legged Kelp Fly** *Coelopa frigida* by its hairy rather than bristly legs.

First recorded in 2015 at Widewall Bay, South Ronaldsay and seen again in 2016 emerging from wrack on the beach at Sands of Wright, South Ronaldsay (LJ).

Coelopa pilipes is thought to be more thermophilic than *Coelopa frigida* which has been recorded widely on Orkney including on Westray and North Ronaldsay (DM, LJ, MM). Both species are an important food source for birds.



Coelopa pilipes

Tipula lunata was recorded at Quooyberstane, St Ola in June (SG). This is a distinctive, large, orange-coloured crane fly with a dark dorsal stripe. There are three very similar species of orange *Tipula* therefore a close look at the genitalia with a microscope or a good hand lens is necessary for determination. The male of the species has a distinct tab of golden hairs pointing downwards on sternite 8. This is a common species in the UK but unrecorded on Orkney.



Tipula lunata male genitalia

Several blowflies were recorded in 2016 including the wonderfully named **Bisetose Emerald-bottle** *Bellardia pandia* from North Ronaldsay and Westray in May (MM), new for Orkney. This fly is viviparous (the larvae hatching and maturing inside the female) and the larva is thought to be a predator of earthworms.

The **Dance Fly** *Tachydromia aemula* was caught running around on a dock leaf over a compost heap at Grimness in September (LJ). This widespread species has not been recorded here before although the similar *T. arrogans* has been found on Shetland. Both species are small with banded wings and careful examination is needed to separate them.

Paloptera quinquemaculata, a fairly common **Tremble-winged fly**, was recorded for the first time in Orkney from Quoyberstane, St Ola (SG) and also at Lamorna, Stromness (BS), Harray (AF), Papa Westray (JB) and South Ronaldsay (LJ).

A spring stroll with my net in rough ground on the edge of woodland at Hestily, South Ronaldsay in May 2016 turned up hundreds of small, black Limoniidae mating on grass and heather. They appeared to have reduced but hairy wings, 5mm long, black with pale halteres. This turned out to be a mass emergence of *Molophilus ater*. When I returned to the site two days later they had all disappeared. This species is common in the north of Scotland but previously unrecorded in Orkney. It is thought that this species plays an important role in moorland ecosystems.



A mating pair of *Molophilus ater*

A female Tachinid was swept from coastal vegetation in June 2016 at Widewall Bay, South Ronaldsay (LJ). Although it keyed out to *Siphona*, this genus can be very difficult to ID so help was sought from Chris Raper of the Tachinid Recording Scheme who identified it from the specimen as *Siphona confusa*. In the UK the distribution seems to be confined to Scotland in modern records. In Europe it seems to live mainly in Scandinavia and further south it is very rare so this was an interesting record. The specimen has been retained by Chris Raper for his collection.



Siphona confusa female

Two new **March Fly** species were recorded in 2015/2016. *Bibio johannis* was recorded in April 2016 sunbathing on warm wall at Scows, South Ronaldsay and *Bibio marci* in June 2015, a mating pair and a single individual in 2016 at St Margaret's Hope (LJ).

2016 seemed to be a good year for the **Red-thighed Heather fly** *Bibio pomonae* which was present in large numbers between June and August at Berstane (NC), St Ola, (LJ, SG), Stromness (BS), Inganess, South Ronaldsay, Finstown and Kirkwall (LJ) and Waulkmill, Hobbister, Smoogro, Brig O' Waith and Tankerness (DM).



Thereva nobilitata

The Common Stiletto *Thereva nobilitata* is a widespread species of stiletto-fly which has not previously been recorded on Orkney. Several individuals (including a mating pair) were swept from nettles on the Fourth Barrier beach in June 2016 (LJ). They are quite an attractive and variable large fly with golden hairs and dark semi-circular bands on the abdominal tergites. This species is often found sunning itself on scrubby foliage. The larvae are predators of insects in the soil.

A **Marsh Fly** *Tetanocera robusta* was netted from foliage at Quoyberstane, St Ola and at the Sands of Wright Loch in June 2016 (LJ). This fly is a wetland species of snail-killing flies, so called because the larvae are predators of aquatic molluscs. They seem to be fairly widespread although not previously recorded here.

Three new Tephritid **Fruit Flies** were recorded in 2016. Most Tephritids are small and fairly colourful phytophagous flies and the female lays eggs in the chosen plant with her telescopic ovipositor. *Rhagoletis alternata* and *Trypeta zoe* were caught in a moth trap in Stromness in August 2016 (BS). *Acidia cognata* which is a leaf miner in *Asteraceae* was recorded at Berstane in August 2016 (NC). All of these species have well marked wings and, in the case of *R.alternata*, the larvae feed inside rose hips.

Two more interesting moth trap finds were also collected at Lamorna, Stromness during August (BS). The Scathophagid *Delina nigrata*, a root borer/leaf miner of orchids, which has not been recorded here previously, and the **Scavenger Fly** *Liopiophila varipes* which feeds on carrion and other decaying matter.



Rhagoletis alternata

A male **Dagger Fly** *Empis opaca* was netted in May 2016 at Grimness and another in June at Widewall Bay (LJ), surprisingly this species doesn't appear to have been recorded here before.

Male Empids present a gift of a dead insect as a nuptial gift to the female; she will not mate with a male unless he gives her a present. Several other Empids were recorded from around Orkney between May and August including *E. livida* from Westshore, Burray (BH) and Lamorna, Stromness (BS), *E. opaca*, *E. tessellata* and *E. trigramma* South Ronaldsay (LJ), *E. punctata* from Westray (MM) and *E. stercorea* from Quoyberstane, St Ola (SG).

A leaf mining Anthomyiidae (sometimes known as **Root Maggot Fly**) *Pegomya betae* was recorded and raised from mines in *Atriplex* in various locations on mainland and the south isles (DM).

On a final note, two **Horsefly** species seem to be present on Orkney; it would be interesting to see if any other species can be found here. *Haematopota pluvialis*, **Notch-horned Cleg** was recorded in Burray (BH), Stromness (BS), Harray (AF), Gyre and Smoogro (DM), South Ronaldsay and Finstown (LJ). The less common species *Haematopota crassicornis* **Black-horned Cleg** was recorded from South Ronaldsay (LJ). Both of these species have beautiful eye patterns.



Haematopota crassicornis



Haematopota pluvialis

Many thanks to those who provided records- Julian Branscombe, Nancy Charlton, Alastair Forsyth, Sydney Gauld, Barrie Hamill, Murdo MacDonald, Derek Mayes and Bob Simpson

All photos by the author

Building on the enthusiasm generated by last year's training course, even more records of hoverflies were submitted to the recorder for 2016, with a total of just over 700. Additionally, further information was extracted from local Facebook pages, particularly the Orkney Insects Open Forum and Orkney Wildlife pages. The recorder is grateful to everyone who contributed records for 2016.



Melangyna lasiophthalma (Lee Johnson)

trivitattus was found by Lee Johnson at the 4th Barrier, on thistle on 26th July. This is a migratory species and its occurrence in the county is not unexpected. The species is easily identified in the field as it is the only *Helophilus* without a dark central stripe down the face. The species averages larger than *H. pendulus* and *H. hybridus* and tends to be of a more lemon-yellow colour.

The hoverfly season in the county began on 19th April with the finding of the above mentioned *M. lasiophthalma* and a *Syrphus torvus* at Olav's Wood, South Ronaldsay. The season ended with the observation of an *Eristalis tenax*, in itself a relatively uncommon species here, on 6th December at Berstane Woods, St Ola by Nancy Charlton.



Helophilus trivitattus (Lee Johnson)



Sericomyia lappona (Brian Ribbands)

The *Sericomyia lappona* found by Brian Ribbands at Peerie Water, Rousay on 13th July was an outstanding find. This hoverfly has an interesting northern distribution and although rarely recorded in the county is not unexpected given the number and variety of our rich wetland habitats. This species should be looked for on wetland flowers in early summer. Back on Mainland, the woodland of Berstane, St Ola again produced interesting records, this year of *Dasysyrphus pinastri*

complex, with an adult male found on 7th June and then several larvae found on 30th September and subsequently. The larvae could only be assigned to *Dasysyrphus* sp. A second county record of *Myathropa florea* was at this site on 7th June. Berstane Woods also produced a record of *Anasimyia lineata* on 13th June, a species that is rare across Scotland with very few records. Remarkably, Lee Johnson recorded this species on three further occasions on South Ronaldsay, on 30th May, 21st June and 18th August. This species is superficially similar to *Helophilus* but has a strongly extended face rather like *Rhingia* species. A new island was recorded for the locally uncommon *Chrysotoxum arcuatum*, with one found at Lythes Wood, South Ronaldsay on 18th August. At Westshore, Burray, *Cheilosia bergenstammi* was found by Barrie Hammill on 2nd August, a good record of this tricky to identify species. Finally, there were two records of *Syrphus torvus* with one at Olav's Wood, South Ronaldsay on the previously mentioned early date of 19th April and another at Old Nisthouse, Harray on 4th June.

Olav's Wood and Hestily, South Ronaldsay have become new hoverfly hotspots in the county, joining Berstane Woods as the place to locate new species for the county. On the West Mainland, it would be worth looking carefully at Happy Valley, Stenness and Binscarth Woods, Finstown. The recorder would encourage more observations on the other islands, especially Hoy and Rousay. Equally, the woodland at Balfour on Shapinsay would no doubt yield some interesting records.



Cheilosia bergenstammi (Barrie Hammill)

Thirteen species of sawfly (Hymenoptera, Symphyta) were recorded during 2016 including four species new to Orkney and the first records from Westray.

The bright orange **Striped Alder Sawfly** *Hemichroa crocea* remains locally distributed in Sandwick and Orphir. It was found as larvae in gardens in Sandwick (HY266190) on 22 August (JS) and in Orphir (HY374055) on 9 August and 3 October (DM). In Orkney the hostplants appear to be **Alder** *Alnus glutinosa* and **Whitebeam** *Sorbus aria*, although elsewhere it is also found on **Birch** *Betula* spp. and **Hazel** *Corylus avellana*. The species is largely parthenogenetic with males being rare.

A female *Tenthredo atra* was spotted in Burray (ND468955) on 20 July (BH); a new site for this species. There have only been a handful of records of this species in Orkney from across the Mainland and Hoy. The larvae feed on a wide range of low growing herbaceous plants. Several adult *Tenthredo* species of the *arcuata* group were also seen in Burray (ND468955) on 2 August (BH) but could not be identified from photographs.

Larvae of the **Lesser Willow Sawfly** *Nematus pavidus* were found on **Willow** *Salix* sp. on 20 July in Burray (ND468955) (BH) and 1 September in South Ronaldsay (ND450867) (LJ). Both of these are new site records as previously the species had only been seen in the west Mainland. *Nematus pavidus* feeds gregariously, sometimes completely defoliating trees.

The **Willow Gall Sawfly** *Pontania penduculi* was present in at least three locations in Orphir including Waulkmill Bay (HY3806) on 27 July (DM). It can be found on several species of willow but in this case was on **Eared Willow** *Salix aurita*. It is possible this is the *Pontania* recorded by Cameron in 1876 over which there has always been doubt as to the species identity.

Eggs and larvae of the leaf miner *Phyllocolpa carinifrons* were present once again in Orphir (HY363069) on 9 June (DM). The females secrete chemicals when laying their eggs on **Bay Willow** *Salix pentandra* which causes the leaves to roll inwards. The **Birch Leaf Miner** *Scolioneura betuleti* was again recorded in Orphir (HY3705) on **Birch** *Betula* sp. (DM). A new species for Orkney was another leaf miner *Fenusa pumila* which was found on **Alder** *Alnus glutinosa* in Orphir (HY3705) (DM). The larvae are fairly distinctive with four black spots on the underside, the anterior larger spots being a distinguishing feature for this species.

Platycampus luridiventris was recorded at a new site in Gyre woodland, Orphir (HY3404) on 24 September (DM). It has been referred to as the ‘peculiar alder sawfly’ as the green larvae are sluggish, flattened and woodlouse-shaped. They are usually found on the underside of **Alder** *Alnus glutinosa* where they feed for only 3-4 hours per day (Heitland & Pschorn-Walcher 2005). This restricted feeding time means the larvae take 3-4 months to complete their development unlike most sawfly larvae which take just a few weeks.

Just one mature larva of the **Flat-Legged Tenthred** *Craesus septentrionalis* was seen on **Alder** *Alnus glutinosa* on 20 August in Sandwick (HY266190) (JS). This is another species which feeds gregariously and oozes haemolymph when disturbed to repel predators. As the common name suggests, the adults have characteristically flat and expanded hind tarsi. The larvae feed on a wide range of tree species unlike the related but slightly less common *Craesus latipes* which is only found on **Birch** *Betula* sp.. The first Orkney record of this species came from South Ronaldsay (ND450867) on 21 September (LJ).

A further two new county species were *Rhogogaster chlorosoma* and *Tenthredo notha*. *Rhogogaster chlorosoma* was confirmed from an adult female recorded in Kirkwall (HY464120) (LJ). It is widespread in the south of the UK but there are few records from Scotland. Larvae of this species feed on many different plants. The black and yellow sawfly *Tenthredo notha* is very similar in appearance to *T. arcuata* and *T. brevicornis*, both of which are found in Orkney. A single larva was recorded from Harray (HY310197) on 4 September (AF). It was found, but not necessarily feeding, on ragwort *Senecio jacobea*. The species is normally associated with vetches and clovers.



Tenthredo notha larva (Alastair Forsyth)

Several male *Dolerus aeneus* were taken from various locations around Westray on 25 and 26 May (HY447429, HY5042, HY411480 and HY442502) (MM). Not only are these the first sawfly records from Westray but also the earliest dates from Orkney as a whole. *Dolerus* sawflies are generally amongst the first to appear in the spring, generally being found from March onwards on mainland Scotland. The males also tend to emerge before the females. The larvae feed on grasses.

Many thanks to all who contributed records:

Alastair Forsythe (AF), Barry Hammill (BH), Lee Johnson (LJ), Murdo Macdonald (MM), Derek Mayes (DM) and Jenni Stockan (JS).

References

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Fish Report 2016

Chris Booth

Basking Shark *Cetorhinus maximus*

A very poor year for this species, with only one reported sighting off Honeysgeo South Ronaldsay on 4th August (RP).

Blue Shark *Prionace glauca*

One, which had been dead sometime, was found on the shore at The Gault, Sanday on 11th January. It had a length of 165cms (RT).

Flapper Skate *Dipturus intermedia*

One found dead on the shore at Lopness, Sanday on 11th January. It had a wing span of 169cms and a length of 209cms (RT).

One washed up on the beach at St Peter's Kirk, South Ronaldsay on 22nd August (LJ).

Thornback Ray *Raja clavata*

One was found washed up on the beach at the 4th Barrier on 5th September (LJ).

Sprat *Sprattus sprattus*

On 18th August hundreds of juveniles were washed up on the beach at Scapa St Ola (CJC).

Five bearded rockling *Ciliata mustela*

One was caught in a fish trap in Swanbister Bay, Orphir on 23rd July (DM).

Saithe *Pollachius virens*

One in a fish trap on 23rd July in Swanbister Bay, Orphir (DM).

Deal Fish *Trachipterus arcticus*

One was found dead at Scapa beach, St Ola on 17th May (CJC). This is the 9th record of this species since 2006.

Three-spined Stickleback *Gasterosteus aculeatus*

23rd June: Four were seen in a burn behind the dunes at Rackwick, Hoy (CJB).

30th June: Two Peerie sea, Kirkwall (SG).

Short-spined Sea Scorpion *Myoxocephalus scorpius*

One in a fish trap on 23rd July, Swanbister Bay, Orphir (DM).

Lumpsucker *Cyclopterus lumpus*

There were two reports of males found stranded; on 3rd March at Scows South Ronaldsay (LJ) and 20th May St Peter's Kirk, South Ronaldsay (CG).

Goldsinny Wrasse *Ctenolabrus rupestris*

Two were caught in a fish trap, Swanbister Bay, Orphir on 24th July (DM).

Vivaporous Blenny *Zoarces viviparus*

One, on 23rd July, caught in a fish trap, Swanbister Bay, Orphir (DM).

Flounder *Pleuronectes flesus*

One dead on beach at Echnaloch on 29th February (LJ).

Egg cases of the following species were found washed up on beaches at various locations by Lee Johnson:

Lesser spotted dogfish:	4 th Barrier (2); Honeysgeo (1) and St Peter's Kirk South Ronaldsay (21)
Nurse hound:	St Peter's Kirk South Ronaldsay (3)
Flapper skate:	4 th Barrier (45); Glimps Holm (1); St Peter's Kirk (70)
Blonde ray:	St Peter's Kirk (1)
Thornback ray:	4 th Barrier(1)
Cuckoo Ray:	4 th Barrier(1)

Acknowledgements

I am very grateful to the following for their records:

C J Corse (CJC); S Gauld (SG); C Golding (CG); L Johnson (LJ); D Mayes (DM); R Philby (RP); R Thorne (RT).

In addition to the above records, the following list of Skate and Ray egg-cases collected in 2016 has lately been received from Penny Martin. The large number, added to that collected in previous years, seems to indicate a healthy breeding population of Skate and Rays in Orkney waters.

1757 **Flapper Skate** *Dipturus intermedia*

70 **Thornback Ray** *Raja clavata*

218 **Spotted Ray** *Raja montagui*

1 **Blonde Ray** *Raja brachyura*

1 **Cuckoo Ray** *Leucoraja naevus*

133 **Lesser Spotted Dogfish** *Scyliorhinus canicula*

The majority of these egg cases were found on Skail, Birsay and Evie beaches, with fewer reported from Skipi Geo; 4th Barrier; Warbeth; Grobust, Westray; Saviskail Bay, Rousay; Windwick Bay; Yesnaby; Bay of Creekland, Hoy; Sanday and South Ronaldsay.

Orkney Skate Trust keep a database that is shared with Records Centre and are hoping to get funding for further research in Orkney waters.

Common Toad *Bufo bufo* Rare

The only reports were from Hoy and the West Mainland.

At least 100 tadpoles were seen in the pond near the bridge at Rackwick Hoy, on 12th May. Eight toads were found at Hundasaeter, Birsay between 19th July and 30th August (AK&JHJ), the largest weighed 66 gms and was 77.4 mms in length. On 9th September a dead toad was found on the road near the bridge at Rackwick.

Common Frog *Rana temporaria* Fairly common

In the early part of the year there were reports of overwintering tadpoles from Sunnybank, Deerness (PW) and Outer Dyke End, Orphir (DM). The first spawn in 2016 was noted at Outer Dyke End on 27th February with a total of 70 batches eventually recorded.

It was a good spawning year on South Ronaldsay (JRLH). During a cold spell on 28th February there were about 20 frogs in Rinibar pond but no spawn. On 11th March many frogs were present there with 20 batches of spawn increasing to 60 batches on 12th March, while at Linegar, spawn was first seen at several sites on 14th March and on the same day there were at least 40 batches at McIvors quarry with approximately 100 batches in the quarry on 26th March. Two late spawnings were recorded at Rinibar on 7th April.

Elsewhere spawn was first seen at Hundasaeter, Birsay on 9th March (AK&JHJ), Sunnybank, Deerness (PW) and Dale, Costa on 13th March (REM). Spawning had finished at Dale by 21st March when there were about 85 batches, slightly less than in 2015. There was little evidence of predation by otters.

Eight batches of spawn were found at Queenamidda, Rendall on 31st March and 10 at the Burn of Blubbersdale, Rendall (JBR) on the same date.

There were newly hatched tadpoles at Hundasaeter on 27th March and froglets were seen in South Ronaldsay on 24th June, while at Queenamidda tadpoles had almost metamorphosed by 2nd July but still had short tails. Froglets were found away from the breeding pool at Queenamidda on 15th August.

An unusual record was of an adult frog found in a garden at Lyness, Hoy on 25th August (LS). This is the first record for the island of Hoy.

The largest frog seen at Hundasaeter, Birsay weighed 71gms and was 80 mms in length.

Acknowledgements

My grateful thanks to the following for their records:

J R L Hogarth (JRLH); A K & J H Johnson (AK&JHJ); R E Matson (REM); D Mayes (DM); J B Ribbands (JBR); L Sole (LS); P Wilson (PW).

Another increase in records but coverage remains patchy for most species. There is a lack of records from East Mainland and Orphir, which is particularly unfortunate as these were some of the first areas to be occupied by Stoats.

SNH and RSPB Scotland are currently (February 2017) finalising a funding bid to be submitted to Heritage Lottery Fund in March 2017 for a stoat eradication project. The overall emphasis will be on protecting Orkney's native wildlife through the removal of stoats. This will involve a network of traps across Mainland and the connected isles, and the employment of a number of trappers to set and check them. There will also be interim island biosecurity trapping, with emphasis on the coastlines of Mainland adjacent to other islands, to reduce the risk of stoats reaching these islands. The project will include opportunities for public and community engagement through citizen science, volunteering and raising awareness of Orkney's unique wildlife.

Orkney Vole *Microtus arvalis orcadensis*

20 records is an increase on 2015 but still very under-recorded. Runs were noted in Rousay and Eday. Other records came from West Mainland, Burray and South Ronaldsay, mostly cat kills or voles found dead. Voles still seem to be abundant in these areas but there is a lack of records from the East Mainland. There were no reports of black voles in 2016.

Wood Mouse *Apodemus sylvaticus*

A slight increase in records on the previous year, but only from 4 sites, 3 in West Mainland and one in Kirkwall. Most were trapped mice or cat kills. Far fewer than usual were trapped in one Evie house and none came into mine in Rendall in autumn as they usually do, probably due to the relatively mild weather.

House Mouse *Mus domesticus*

Reports from 3 sites, one each in West Mainland, Kirkwall and South Ronaldsay. All in houses or gardens, mostly trapped. Obviously very under-recorded.

Common Rat *Rattus norvegicus*

Reports from West Mainland, Burray and South Ronaldsay. Obviously very under-recorded.

In October 2016, with assistance of Orkan Adventures and local RSPB staff and with permission of the Annal family, SNH set up 78 monitoring tunnels on Swona. These were placed in a 50m grid pattern within a 250m radius of the reported rat sightings in 2006 and 2015. Each tunnel comprised an inked tracking plate and chocolate flavoured wax block inside a plastic drainpipe. This approach follows current best practice for responding to potential rodent invasion of islands in the UK. These monitoring stations were revisited after a month. No evidence of rat activity was found, but some stations had evidence of possible mouse or shrew activity; this has yet to be confirmed pending examination by a specialist. Some 40 wax blocks have been left in place over the winter for further checks.

(House Mice and Pygmy Shrews have been recorded on Swona.)

Rabbit *Oryctolagus cuniculus*

Reported from Mainland, Eday, Burray, Swona, Hoy and South Ronaldsay. Largest counts in

West Mainland, 40 on Birsay links and 36 at Marwick. Black Rabbits were reported from Eday, Burray, Swona and West Mainland. Ginger animals were reported from Birsay. Increases were noted in the West Mainland but decreases in South Ronaldsay, where Myxomatosis was evident in the autumn. There was also a report of this disease on Swona later, presumably infected fleas were carried there on scavenging gulls.

Brown Hare *Lepus europaeus*

Very widespread throughout Mainland, reported in almost every parish. Two reports of groups of 7 (in January and May) and 3 of 6 (in March and April) in West Mainland. Population seems to be stable.

Mountain Hare *Lepus timidus*

Apart from one on Mel Fea, all reports were from northwest of the Rackwick Road. Highest counts were in autumn, 10 Moorfea and Clicknafea in September and 11 near the summit of Cuilags in early October.

Hedgehog *Erinaceus europaeus*

A considerable increase in records. Recorded in every month except December though very few, all road casualties, before May. Records from Mainland, South Ronaldsay, Burray, Hoy, and Eday. Most records July to October when many young animals were found, some active in daylight. It seems to have been a good breeding season for this species and the mild winter allowed some to remain active later than usual.

Pygmy Shrew *Sorex minutus*

Fewer records than in 2015. Reported from Mainland, South Ronaldsay, Hoy and Rousay. Two live sightings. One observer in Evie noted far fewer than usual indoors.

Otter *Lutra lutra*

58 records compared to 37 in 2015 and 63 in 2014. 8 found dead, 5 road casualties (9 in 2015), 2 in March, the others in November and December. One was trapped in a creel, the other 2 died of unknown causes. 18 records were of spraints or tracks, the other 32 records were live sightings. Records came from Mainland, Papay, Stronsay, Rousay, Westray, Eday, Hoy, Deerness, Shapinsay and Egilsay. Females with up to 3 young were seen at 4 or more sites. Seems to be stable or increasing and can turn up absolutely anywhere.

Stoat *Mustela erminea*

The number of sightings has continued to increase, with 721 reported in 2016 (compared to 494 in 2015, 241 in 2014 and 103 in 2013). As usual the majority were reported during the summer months. The distribution maps show an increase in the West Mainland, particularly Birsay, Harray and Sandwick, also in Tankerness, Burray and South Ronaldsay. There are records from Lamb Holm and Glimps Holm which indicates that stoats are crossing the barriers, no doubt using gaps between the blocks. The whole of Mainland, Burray and South Ronaldsay are thought to be occupied now.

SNH have continued to collate all reported sightings and publish updated monthly maps on their website: <http://www.snh.gov.uk/land-and-sea/managing-wildlife/orkney-native-wildlife-project/stoats-news/>

Common/HarbourSeal *Phoca vitulina*

Largest haulouts 55 at Birsay (in May) and 29 Stromness holms. Smaller haulouts in Shapinsay, Westray, North Ronaldsay, South Ronaldsay and Loch of Stenness.

12 were reported dead, including 2 (both juveniles) entangled in fishing gear. One pup was recorded as possible Grey Seal predation and another as possible 'corkscrew' injury. One in February, 3 in December, the remaining 8 in June and July. Some of 13 unidentified dead seals may also have been this species.

Grey Seal *Halichoerus grypus*

The only pup counts reported were from Burwick to Green Head, on the west side of South Ronaldsay, where 76 pups were counted on 30 October and 63 there on 24 November. Elsewhere the largest haul-outs reported were 35 Rusk Holm, 30 Wyre Skerry, 28 Burra Sound and 21 Birsay Bay.

66 were reported dead, 25 in January and February, 5 between March and July, the remaining 36 October to December. 42 were pups or juveniles, 7 were adults, the others of unknown age. All the adults except one were in October or later. 18 (none adult) had possible 'corkscrew' injuries – 8 of these January to March, the remainder November and December, including 6 found on Swona. Most of the 13 unidentified dead seals are likely to have been this species.

Cattle *Bos taurus*

On Swona, 21 were counted in a photograph taken on 26 May and 23 were counted on 18 June, including 2 bulls and 5 calves. This is the same number counted in August 2015 so numbers currently seem to be stable.

Many thanks to the following contributors of records:

C J & J Booth, A Gascoigne, A Forsyth, L Reid, J Findlay, L Campbell, K Wilson, E Everiss, C Melody, M Harding, L Johnson, M Macdonald, A K & J H Johnson, P Searle, A Leitch, A Upton, A Watson, A Golightly, A Johnson, B Hamill, C Rance, C Hall, D Hourston, D Newstead, D Matson, E J Crew, E West, G H Marcus, J Kakkonen, J Ellis, L Kahney, K Wilson, L Shields, L Hogarth, M Gray, M & C Dowell, M Williams, N Jennings, S Williams, W Golder, also Scottish Marine Mammal Strandings Scheme and all who have reported stoats to SNH. Particular thanks to SNH staff for supplying information about Stoats and the rat monitoring on Swona. Apologies to anyone missed out.

Bat Report 2016

Tim Dean

Compared to 2015, rather fewer serendipitous records were received for 2016. Those few casual records amounted to just three, and all of them involve dead, moribund or injured bats, a single in Deerness and two in Evie – more of Evie later. The Deerness record, an individual found dead on the lawn at Kamesgeo on 26th May, was a long way from any suitable bat ‘habitat’ and may well refer to a Common Pipistrelle on migration. Every other bat record has been submitted by the Orkney Bat Group and results from their ‘summer’ weekly surveys. The Bat Group undertook 36 watches during the period from 13th May to 17th October; we drew blanks on 11 of those occasions.

32 bat records were received between 5th April and 17th October 2016 involving a minimum of 114 bat sightings. For comparison’s sake, the figures for 2015 in which the Bat Group undertook just 18 watches between 2nd February and 18th October realised 26 bat records involving a minimum of 97 bat sightings.

Records were received from Deerness, Evie, Firth, Hoy and Stromness. All of the submitted records, as to be expected, were identified as **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 several bats at Lyness on the evening of 8th October – the likelihood is that these were also Common Pipistrelles.

Bats by month

	Apr	May	June	July	Aug	Sept	Oct	Total
records	1	4	4	6	3	8	7	32
bat ‘sightings’	2	16	6	37	4	28	21	114

Bats by parish and island

	Deerness	Evie	Firth	Hoy	Stromness	Total
records	1	4	12	11	4	32
bat ‘sightings’	1	4	68	33	8	114

As ever the majority of the sightings of Common Pipistrelles were centred upon Firth and Hoy. In Firth, the wooded corridor from Heddle Hill to Binscarth is arguably the key feeding, breeding and roosting site on Orkney Mainland. There is a good understanding of the bats’ feeding areas and individuals are regularly observed at a number of locations within this wooded corridor. However, despite frequent watches, there are still many gaps in our knowledge as to the whereabouts of roosting and breeding sites. The maximum count of individuals in the Heddle Hill and Binscarth complex was 13 on both 20th May and 5th June 2016. On Hoy, both ends of the island have populations of Common Pipistrelles. A maximum of four individuals were recorded at the south end on 11th May 2015 and a maximum of eight individuals at the north end on 9th October.

Elsewhere, there was a welcome return of Common Pipistrelle sightings in Stromness; on four evenings, the bat group watched up to two animals feeding at the northern end of the town. We continue to scratch our heads about Kirkwall. The town has ample 'bat-friendly' locations but evidence of any activity is notable by its absence. The whole of a suitable July evening saw four members of the Bat Group positioned at a number of likely bat locations – we didn't hear a squeak.

However, one particular cat in Evie didn't need a bat detector to hear a squeak. On 27th July, Margaret Hinckley rescued a Common Pipistrelle from a cat. Four days later, on 31st, another, or the same bat, was presented to Margaret by the same cat – unfortunately this pipistrelle was dead. A day later (1st Aug) Margaret found another live but injured Common Pipistrelle on her lawn. This, a male, had a couple of small tears to the wing membrane which could have been administered by the fangs of a feline. The bat was taken into care by the SSPCA but despite a diet of mealworms, succumbed on 2nd August. On the evening that the bat was taken into care, the Bat Group surveyed the Evie area; 1 – 2 live bats were recorded. It's likely that during this period there may have been at least five Common Pipistrelles in the Evie area. The Bat Group has monitored suitable sites in the parish of Evie during previous years, and while one to two bats have been recorded occasionally, the Evie numbers of 2016 are unprecedented.

Thank you to everyone who has contributed records. My grateful thanks to Pauline Barber, Carol Blain, Chris Booth, Nancy Charlton, Effy Everiss, Elspeth Groat, John Hinckley, Margaret Hinckley, Robert Hinckley, Brian Ribbands, Malcolm Russell, Tim Wootton, Roger Whitworth, Sue Whitworth.

Insomniacs are welcome to join the bat group on its watches; please contact either Tim Dean or Effy Everiss (timdean4@hotmail.com; effyeveriss@hotmail.com).

Whale, Dolphin and Porpoise Report 2016

Chris Booth

Unfortunately there were no monitored cetacean observation sites in 2016. This meant quite a reduction in the number of reports during the year. It is important, with all the activity around the islands such as wave and tidal power machines, that we continue to monitor the occurrence of the different cetacean species. All sightings are welcome and can be reported either to the cetacean recorder or the records centre.

Humpback whale *Megaptera novaeangliae* Formerly very rare, now rare

The whales that were present in the Echnaloch area of Scapa Flow at the end of December 2015 were last reported off Gaitnip, Scapa Flow on 4th January. On 10th October one was observed off North Ronaldsay and two spent some time off Bewan pier, North Ronaldsay on 21st November.

Fin whale *Balaenoptera physalus* Very rare

The body of an immature female, with a length of 13 metres, stranded on Stronsay on 2nd January.

Minke whale *Balaenoptera acutorostrata* Common

Singles were seen off Fowl Craig, Papa Westray on 27th July and North Ronaldsay on 14th September.

Stranding: A female, not freshly dead, 7.6 metres in length, stranded on Auskerry on 24th July.

Harbour porpoise *Phocoena phocoena* Common

Under recorded, the highest counts were 12 off North Ronaldsay on 25th June and eight off Hoxa Head, South Ronaldsay on 12th October.

Bottle-nosed dolphin *Tursiops truncatus* Rare

There was a sighting of two off North Ronaldsay on 28th August.

Atlantic White-sided dolphin *Lagenorhynchus acutus* Uncommon

Two were seen off North Ronaldsay on 23rd September.

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

There were three off Papa Westray on 9th May and six were seen in Burra Sound on 23rd August. A juvenile that was rescued from a rock pool on North Ronaldsay on 5th October was found dead on the island on 13th October.

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

The first report was of three in the Pentland Firth on 30th April. Then in May two were seen off Sanday on 18th, two were off Bridesness North Ronaldsay on 27th and four were watched off the Brough of Birsay on 30th. June records were of five to eight (including two males) close to Houton, Scapa Flow on 2nd and six off Fowl Craig Papa Westray on 8th. On 2nd July two were seen off Rose Ness, Holm, and on 10th July seven were sighted in the String and five, including a juvenile, were off the Head of Holland on 11th July. The last reports of the year were of three north west of Mull Head, Papa Westray and three heading North off North Ronaldsay on 27th August.

Long finned Pilot whale *Globicephala melas* Formerly common, now uncommon
Strandings: A dead whale, not fresh, near Grit Ness, Evie in December.

Risso's dolphin *Grampus griseus* Common

Two were seen east of the Holm of Papa Westray on 13th February and three were off North Gaulton Castle on 17th March. In May, 13 were off Papa Westray on 9th and three reported off the Brough of Birsay on 24th. The only June sighting was of 12 west of Mull Head, Papa Westray on 6th. In August, six were seen from Hoxa Head, South Ronaldsay on 10th; four in Scapa Flow, south of Fara, on 15th; one northwest of Papa Westray on 22nd; 11 off North Ronaldsay on 23rd and two off this island on 28th. There were seven off North Ronaldsay on 7th September. October records were of eight North Ronaldsay on 1st; a single off Start Point Sanday on 2nd, two off North Ronaldsay on 9th; nine were seen off Hoxa Head on 12th then five off North Ronaldsay on 29th and one there on 30th. On 1st December between 25 and 30 were seen North of the Holm of Papa Westray.

Strandings: A very emaciated female, freshly dead, Brough of Birsay on 25th March. Length 2.5 metres. One, long dead, at 4th Barrier 17th October, length 3.3 metres.

Unidentified cetaceans

The following sightings were reported where identification could not be made with absolute certainty:

29 th August:	One dolphin sp. North Ronaldsay
18 th September:	Five dolphin sp. North Ronaldsay
2 nd October:	One possible Humpback whale off Start Point Sanday
12 th October:	A pod of possible Bottle-nosed dolphins Hoxa Head, South Ronaldsay
1 st November:	Whale sp, one seen breaching off North Ronaldsay

Acknowledgements

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

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

C Bird; J Booth; P N Booth; S Brogan; E J Crew; S Dodman; T Dodman; D Hourston; J Kakkonen; R E Matson; North Ronaldsay Bird Observatory; R Philby; J B Ribbands; D Roche; L Shields; M Spence; A Woodbridge.

Orkney Recorders 2017

(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	Eileen Summers
Amphibians & reptiles	Chris Booth
Bats	Tim Dean
Beetles	Brian Ribbands
Birds	Jim Williams
Bumblebees, solitary bees, wasps & ants	VACANT
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)	Anne Bignall
Dragonflies & damselflies	Graeme Walker
Earthworms, leeches etc	VACANT
Echinodermata (sea urchins, starfish, etc)	VACANT
Fish	Chris Booth
Fungi (including slime moulds)	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, cephalopods, shells etc)	Anne Bignall
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	Effy Everiss
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.

General advice on recording

Recorder	Address	Phone	E-mail
Ross Andrew	6 Riverbank, Gatehouse of Fleet, Kirkcudbrightshire, DG7 2JZ		rosshandrew1@gmail.com
Anne Bignall	4 Earl Thorfinn Street, Kirkwall, Orkney KW15 1QF		annebignall@hotmail.co.uk
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Martin Wilkinson	School of Life Sciences, Heriot-Watt University, Edinburgh EH14 4AS	07720 192729	M.Wilkinson@hw.ac.uk

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

What	Where	When	Who by
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@orkneylibrary.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. 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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Bulletin of the Orkney Field Club 2017

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Cover photos (clockwise from top right):

- Harbour Seal (Mònica Arso Civil);**
- Green Dock Beetle (Derek Mayes);**
- Common Blue Butterfly (Nancy Charlton);**
- Common Blue Damselfly (Jenny Taylor).**