

Curragag Newsletter : September 2014

Contents

Obituary to Peter Cunningham - John Love	1	OHBR Grant - Spiders	10
Obituary to Peter Cunningham - Bob Weymss	3	National Nest Reference Collection	15
Tips for Otter Spotters	5	Rockall Expedition	16
Great Yellow Bumblebee Project	8	OHBR Grant - Mosses & Liverworts	17

John Love



Peter Cunningham

On 8th July 2014 just a week after his 96th birthday - the Outer Hebrides lost one of its finest naturalists, and certainly the most venerable WAJ Cunningham, or 'Peter' as we all knew him. He was brought up in Glasgow, where his mother was a teacher. His grandfather, a Banffshire GP, disliked his grandson's given names, so insisted on calling him Peter, after JM Barrie's famous character. And thus the name stuck, our 'Peter' also developing a similar youthful passion and enthusiasm, but for wildlife

It was on a Jordanhill College School cruise that Peter first visited the Outer Hebrides. On annual holidays with his grandfather however, in the whisky county of Banffshire that Peter chose his future career in HM Customs and Excise. But his first posting in Clydebank, was interrupted by the Second World War, Peter joining the Royal Navy as an ordinary seaman; he would end it a Lieutenant Commander. A highly distinguished service, for which he was awarded six medals, included no fewer than six voyages as surface escort to the Arctic convoys from Poolewe to Murmansk. It would not be until 2013 that the government saw fit to award a medal for this especially hazardous duty, during which over 3,000 lives were lost. Mercifully Peter survived, and long enough to receive his Arctic Star in person last year.

After the hostilities Peter returned to his previous career and in 1949 finally won a post as Customs Officer and Receiver of Wrecks in Stornoway, where he remained for the rest of his days. He was of course able to follow his passion for natural history and soon became the local recorder for the Scottish Ornithologists' Club and a contributor to surveys for the British Trust for Ornithology.

For long a lone voice in the wilderness he found a local outlet to share his interest in weekly contributions to the Stornoway Gazette, a selection of which were published as 'A Hebridean Naturalist' (with illustrations by the late Andy Miller Mundy) in 1979. A year earlier he had published an account of the Stornoway Castle Grounds and, in 1983, a definitive though all too brief 'Birds of the Outer Hebrides'. This tapped into a lengthier but unfinished and still unpublished work by his friend and correspondent the late Dr JW Campbell. More recently Andrew Stevenson has pulled together a fuller, more up to date account for 'Birds of Scotland' tapping into, of course, the Outer Hebrides Bird Reports.

I first met Peter over fifty years ago, while I was at school in Inverness. He often visited Dr Maeve Rusk, secretary of our Bird Group (now a branch of the SOC) - and a very dear mentor of mine - who met up with him whenever she held ophthalmic clinics in the Outer Hebrides. Indeed Peter contributed a delightful appreciation of Maeve in Scottish Birds, when she herself died only a year or two back. In the 1960s Peter also enjoyed company in the field from BTO member Norman Elkins when a meteorologist at Stornoway. Indeed, especially after he retired in 1978, Peter was always ready to show off his 'patch' to anyone interested. I was honoured to take him around Speyside in 1986, where he especially delighted in the Twinflowers I showed him. His interests were by no means parochial and, after the death of his beloved wife Nan in 2000, he undertook a voyage to South Africa on the St Helena mailboat, birdwatching all the way of course. In February 2008 he was presented with a prestigious award by the RSPB.

When age began to take a toll on his mobility, his birding activities became restricted, but fortunately he continued to contribute to the Stornoway Gazette for several more years to come. With his passing in July the Outer Hebrides has lost its finest naturalist since William Macgillivray, who compiled the first list of local birds in 1830. Harvie-Brown and Buckley went on to publish 'A Vertebrate Fauna of the Outer Hebrides' in 1888. Peter was able to include some of Jimmy Campbell's unfinished work when his own list was published in 1983. In its foreword, their friend Prof VC Wynne Edwards, a distinguished successor over a century later to Macgillivray's Chair of Natural History at Aberdeen University, wrote how Peter's book 'seems assured of an enduring, useful life, being by far the best-researched stock-taking ever made of the islands' birds.' In his latter years Peter was delighted to encounter so many ornithologists now living and working in the Outer Hebrides. But he had prepared the ground so to keep Peter's legacy alive, the time is surely ripe for a new checklist to be published.

Peter Cunningham 1918 - 2014

Bob Weyms

W.A.J. Cunningham, or Peter as he preferred to be called, was born in Glasgow in 1918. Peter's interest in nature was stimulated as a young lad in his walks in the fields and farmland that still existed then in the environs of that expanding city. While a pupil of Jordanhill College School he was a member of a sponsored cruise around the Outer Hebrides and St. Kilda thus initiating his long relationship with these beautiful islands.

His adult career began as a civil servant with H. M. Customs and Excise subsequently serving in the Royal Navy from 1939 until the end of the war having joined as an ordinary seaman and leaving as a Lieutenant-Commander. Belatedly last year as one of the few remaining members of the Arctic Convoys, he was awarded the Arctic Star. After the war Peter re-joined H. M. Customs and Excise and was stationed in Stornoway. His relationship with the Outer Hebrides was completed with his marriage to Nan Maciver a teacher from Carloway on the west side of Lewis and the raising of a family of two sons and a daughter. Sadly his wife died in November 2000 and he moved to live with his youngest son John.

His contribution to the Islands' communities was considerable. He was an elder in the church for fifty years and session-clerk for twenty and became heavily involved in the local music organisations in addition to being a commander of the Sea Cadets. However, Peter will best be remembered both locally and nationally, for his contribution to the understanding of the natural heritage of the Outer Hebrides. He began recording birds in the Outer Hebrides on his travels through the Islands in the 1950s. In addition to his significant contributions to the Scottish Bird Reports and to the BTO's Atlas project and the BOU's 'The Status of Birds in Britain and Northern Ireland' Peter also became the Bird Recorder for Lewis and Harris and co-author, with Tim Dix, of the Outer Hebrides Bird Reports. He was also a pioneer in the identification and dissemination of information about the island species identified, in other words a Birdline before the digital age! Often he would receive a phone call from an island resident describing 'a strange' bird in their garden. It was one such phone call that he alerted me to and upon visiting the location instead of finding what was often a mis-identified commoner species, I found a White's Thrush!

Up until the early 1990s there were very few local birders resident on the Islands but Peter was aware of the increasing interest being taken by the casual visitor and those seeking new species for their 'life lists'. He did his best to assist them in their endeavours and was also very helpful to the recently arrived residents to the islands, of which I was a very appreciative one, in helping them getting to know the Outer Hebrides' habitats and species. However, he was also very protective of the islands' rarer breeding birds and had no time for what he called selfish life-list tickers and callous egg collectors and the impact they had on rare and endangered species such as the Red-necked Phalarope.

Peter's 'Nature Notes' appeared in the local newspaper the 'Stornoway Gazette' every week and were eagerly awaited. They conveyed his keen observations and insights in an informative, elegant and sometimes witty style. He was in effect a master in communicator. In addition to his popular 'Nature Notes' he gave many lectures and talks and was the author of 'A Hebridean Naturalist' published in 1979 and 'The Birds of the Outer Hebrides a Guide to their Status and Distribution' published in 1983 a book which became the standard work on the subject. These books conveyed to local and national audiences the importance of the natural heritage of the Islands.

One of his great passions was the social and natural history of the Stornoway Castle Grounds an area of historic importance and the largest area of deciduous woodland in the Outer Hebrides. He was very involved in the interpretation of and the publicity given to this important part of island heritage composing what is generally regarded as a definitive account of the Grounds. In his tenth decade he was still writing books authoring the 'The Castles of the Lews' and 'Pictures of Bygone Island Life'.

Peter died peacefully in Stornoway on July 8th days after his 96th birthday and was buried in Dalmore Cemetery. He will be regarded as a well respected gentleman in every sense of the word and as someone who gave generously of his time to the local community. His passing leaves a major gap but also a lasting legacy in the study and understanding of the natural heritage of the Outer Hebrides.

Curracag - Mystery Objects Quiz

Gwen Evans Congratulations to Jane and Eric Twelves of South Uist, who correctly identified the most items in the recent Quiz. Their prize is a years subscription to Curracag.

The quiz ran alongside the Curracag Photographic Competition in Sgoil Lionacleit Museum, and received a lot of positive feedback with many visitors saying it provided an interesting addition to the photographic display. We were pleased too with the number of entries.

Several of the items had been shown in the spring summer 2013 newsletter, so you can look back to get a flavour of the quiz. Despite this, some items still managed to catch folk out! It just goes to show that looking at a photograph can be quite different to seeing the actual items in real life.

Very many thanks to all who took part.

Curracag Photography Competition 2014

Matt Topsfield We were really impressed with the high standard of entries to the Photographic Competition last year. So this year we are giving you free reign and a chance to really impress us with your keen eye and our special wildlife and places. We are inviting entries on any theme of your choosing, so get there out and take some snaps of your favourite species, habitats or landscapes and share them with us.

Please read the Photography Competition 2014 information and rules, which are available at: www.curracag.org.uk/competition A paper copy can be obtained from Museum nan Eilean, Isle of Benbecula or by contacting Matthew Topsfield at 12 Griminish, Isle of Benbecula, HS7 5QA, 07775 812036, maxwell_topside@hotmail.co.uk.

You can submit as many photographs as you want. The closing date for entries is **midnight on Tuesday 30th September 2014**. Entries should preferably be sent as digital image files to: maxwell_topside@hotmail.co.uk Print entries will also be accepted, sent to: Curracag Photography Competition, 12 Griminish, Isle of Benbecula, HS7 5QA.

Photography Competition winners will be announced at the opening ceremony of the photograph exhibition to be held at Museum nan Eilean, Isle of Benbecula in autumn 2014 (date TBC) and on the Curracag website and Facebook page. The exhibition will also travel throughout the Western Isles.

Top tips for Otter Spotters

Lee Thicket

What follows is based on over 260 encounters with Otters, most of which took place in the Hebrides. The comments on behaviour therefore refer to this area and in other places and under pressure of circumstances they can behave differently. Be warned! Otters are rule breakers. Nevertheless the observations below have proved reliable over many years.

Unlike England's Otters which are generally nocturnal freshwater specialists, with relatively few, but increasing, salt-water records especially in SW Wales and the West Country, the Otters on the west coast of Scotland and on the Inner and Outer Hebrides spend most of their time in the sea, and what's more they are out during the daytime. By the way these are European Otters *Lutra lutra* not the Sea Otters *Enhydra lutris* that are found off the west coast of the USA.

Otters need regular access to freshwater to wash the salt out of their fur so that it maintains its insulating properties. As a result, for their territories they favour coasts with accessible burns and lochans. Most frequently these are peatland coasts where there is often not only surface water but also underground tunnels and hollows that contain freshwater and can be enlarged to act as en-suite holts. They are not confined to these coasts though and can be found foraging off neighbouring rocky coastlines.

Otters share their salt waters with Common and Grey Seals so your first challenge is to decide whether you are watching a seal or an otter. This can be very easy in calm waters but tricky when the water is choppy and the wind is wobbling your binoculars. When seals are swimming on the surface and dive, they usually simply sink from view, unless engaged in juvenile play or adult mating or aggressive behaviour. When Otters dive they go down head first, so they need to arch their back somewhat to get their head pointing down, and as they dive most Otters (but by no means all) flick their tail up as they disappear. Seals don't have tails. By the way seals pursue prey at all depths of water, whereas the Otter's first choice is to rummage around on the sea bed and amongst rocks and seaweed to surprise their prey. You could say Seals are the Peregrine Falcon to the Otter's Sparrowhawk. You might come across an American Mink, another mustelid, but these are much smaller and more slender than Otters and don't have the Otter's powerful hind quarters. Our sightings of Mink have been amongst rocks, scrambling through and under them at high speed, or in very shallow water. If you are lucky and your Mink stops to look at you, it will normally betray its identity by having a white patch on its chin. We have never seen a Mink foraging in the way Otters do.

Seals can often be seen hanging motionless, vertically, with their head out of the water, apparently looking straight up at the sky. When doing this they are recharging their lungs with fresh air. Otters frequently



adopt a similar posture but this is when they have captured a small to medium prey item and they are chewing it. They are rarely motionless when doing this as they twist and turn in the water, with their head held nearly vertical to keep the prey in their mouth while they eat it. A seal in this position is pretty motionless apart from the movement of the water, while an Otter twists and fidgets. If you are down at water level and get a good sideways view remember a seal has no neck while an Otter does.

Left, Otter swimming in crystal clear North Uist sea.
Image (c) Steve Duffield (Western Isles Wildlife).

In very calm, flat water, Otters can often look like a series of 3 bumps in the water, one being the head, another is the middle of the back and the last one the middle of the tail. The body above the two pairs of legs (shoulders and pelvis) is just under the water. This is a very characteristic appearance but disappears as soon as there is any 'choppiness' or ripples in the water or if the Otter is swimming vigorously.

It is probable that Otters would prefer not to forage at high tide as it takes more effort and takes longer to get down to the sea bed, leaving them with reduced time to forage or confining them to the shallows. This means more of our sightings have taken place at lower tides but we have seen them at all states of tide. When they forage they move in a definite direction and do not swim about randomly, but on the way they deviate from side to side and investigate the nooks and crannies amongst rocks and seaweed that instinct and experience tell them may harbour unsuspecting fish or crabs. This means Otters rarely reverse their course, unless frightened, as they would be swimming over nooks and crannies that they have already investigated. So if you see an Otter over to your right, swimming from right to left, the chances are it will continue in that direction, with diversions here or there depending on the occurrence of fish hidey-holes. In the Hebrides an Otter dive lasts around 15 seconds, less if it is investigating the seaweed fringe around semi-submerged rocks, when it is not really a dive at all. So when you see an Otter, freeze (if you are on a skyline as seen from the Otters point of view, sink slowly to your knees to get the giveaway two-legged upright silhouette out of view) and when the Otter dives you have up to 15 seconds or so to dash closer to the sea and get settled down against or behind a rock, before the Otter surfaces. You may need to do this several times to reach a good but discrete vantage point.

By the way, when they catch something medium to large they will often swim to the nearest shore to eat it out of the water, and frustratingly this is often on the seaward side of rocks and therefore out of sight. As they swim to shore they frequently dip under the water at intervals during which they will swim by undulating their whole body in a vertical plane from nose to tail. This is more efficient than the doggy paddle they do on the surface. However if luck is with you on the day it is possible to get lovely long views of the beastie out of the water as it munches it's food.

When emerging from the sea we have often seen them roll about madly on the seaweed in an impromptu bout of grooming after which their fur changes from sleek and dark to fluffy and mid-toned. It is likely, especially if they rub the seaweed with the sides of their head that they are also depositing scent as a message to other Otters. Similarly if they stand motionless with their tails cocked up they are probably sprainting, during which they deposit a strong smelling substance that informs other otters of their presence. If you are really lucky you might see mum and a couple of youngsters. Otter youngsters are at least as playful as other young things but more manic and will have you grinning from ear to ear.

Otters' sight is not brilliant but they can recognise a human silhouette from a long way off. Staying off the horizon (as viewed by the Otter) is wise and when watching Otters, sitting down with your back against a rock or peat bank so as to disguise your shape is a good idea. More than once when we have done this, Otters that have seen us have been curious as to what we might be and have given us splendid views. Yes, when you sit down suddenly to watch, the chances are the peat will be wet, but trousers dry out and what is a wet behind in the context of good Otter viewing? Their hearing is good but is often compromised by them being in the water, with all of the splashing and gurgling sounds in their ears that this causes. However, in calm conditions sound can carry an unbelievable distance over water, so when out on the coast talk little, and then only in subdued volume. For this reason alone it is best not to take a dog as shouting commands or even just whistling will soon alert an Otter. Otters' sense of smell is acute so if the wind is blowing from you (or your dog) to the Otter, you won't see the Otter for long, or even at all. However, with a lot of luck, you can occasionally encounter an Otter that has become accustomed to seeing humans where you are, and having not been threatened, will view you with curiosity or suspicion, but not alarm. This does not happen often so it's best to assume any Otters you see are going to disappear if they realise you are present, however when it does happen it is a tremendous thrill to be close to such beautiful creatures.

It is important to emphasise that all of the above is based on observations from the West of Scotland and mainly from the Inner Hebrides and the Western Isles. Otter behaviour may differ markedly in other areas and in response to differing circumstances. For example nursing mothers may forage at sub-optimal states of tide as indeed any Otter may after a period of stormy weather which limited their foraging opportunities. They are adaptable rule- breakers, so expect the unexpected!

Finally, a word of caution. Research has suggested that some populations of Hebridean Otters have a tough time balancing the quality and availability of food with the energy demands of everyday life, especially in winter and mothers rearing cubs. It is incumbent on us all therefore to minimise the risk of disturbing these wonderful creatures, so think twice or thrice before trying to get that little bit closer for a slightly better view or photograph. Just to glimpse these national treasures is a privilege.



All images (c) Steve Duffield (Western Isles Wildlife).



Great Yellow Bumblebee project at Northton

David Jones

About ten years ago, my wife and I moved to Northton (South Harris) from Portsmouth. It wasn't a difficult choice we had spent several previous summer holidays on the Outer Hebrides and retirement gave us the opportunity to live somewhere we really liked, rather than having to live near Work. Actually Portsmouth was not too bad a city to live in, not exactly pretty but a great place to sail and the weather made for very easy gardening.....unlike the Outer Hebrides.

As a crofter and a keen gardener I have battled with only limited success with our harsh environment. It's all relative though we could be in the Arctic or somewhere like sub-Saharan Africa, so we shouldn't grumble, just learn to live with it. Forget the runner beans and try potatoes, carrots, rocket, even coriander especially if you have the use of a bit of machair.

The machair of Northton is used by cattle, sheep, rabbits, birds, other animals, plants and, of course, people. It would be a mistake to think of it as 'timeless' or even 'traditional' in its use; it is dynamic, interactive and, arguably, transitional. Geologically it is a very recent and rather temporary affair. It simply wasn't here when the first hunter-gatherers lived here 8000 years ago. The present land use, crofting, only started 110 years ago and has altered frequently and enormously due to changing social conditions, two World Wars, agricultural and other crofting grants, (relatively) improved prosperity, climate change, migration (in and out), tourism and recreation... The machair probably won't survive the next few centuries of climate change but, in the meantime, it is there for us to manage as well as we can, not just for ourselves but for all the other users except those dear rabbits.

Luckily most of the Northton machair is within a SSSI (Site of Special Scientific Interest), awarded for its population of breeding waders, wild flowers, the Great Yellow Bumblebee and an interesting geological feature. Recent changes in agricultural grants towards agri-environmental schemes provide substantial support for crofters to use the machair in ways which maintain or benefit wildlife, in particular those named in the Local and National Biodiversity Action Plans (LBAP and UKBAP). Northton (common grazings) has been in one of these Scottish Rural Development Program (SRDP) schemes for about five years. As well as this Government money (half from Europe), the RSPB have offered us advice with aspects of these schemes.

Last year a small pilot scheme on my croft was part-funded by the RSPB. Many thanks to the RSPB and Robin Read, the officer involved. This scheme entailed ploughing an area 12 x 50 metres and planting with a two-year wild-bird seed mix:- Borage, Phacelia, Red clover, Mustard, Oil Seed Rape, Quinoa and Kale. The aim was to gauge the success of the crop its growth and uptake by seed-eating birds such as Twite and Skylark. Most of the seeds germinated, with Borage and Phacelia dominating the first summer growth. It certainly made a spectacular blue patch on the machair (photo 1).

I watched it for feeding birds but it soon became obvious that the flowers were attracting every bumblebee for a good distance around, including Britain's rarest bumblebee, the Great Yellow Bumblebee (GYB, photo2). Northton machair is the only known location in South Harris for the GYB and it is usually possible to find one by patient and careful observation of red clover on a sunny mid-summer day. With the patch of borage, it was easy to see five to ten at any time on a reasonable day during the summer months when the bee is active. With the help of a press-release by the RSPB, the site received good publicity for our locality, the assets of the machair and the work of all involved. I found the project very rewarding and it helped motivate me to help plan a further scheme. This year there will be a similar patch and an additional eight areas with a slightly different bird-seed mix, again with sponsorship from the RPSB. Hopefully, some Northton crofters will build on this experience to apply for funding under the SRDP for their individual crofts on the machair and the village.

The real reward, though, is the satisfaction of doing something which helps wildlife. If you haven't got a machair croft, you will probably have a garden, and a small patch of borage would be easy to grow. These days it is so easy to find out about local birds, plants, SRDP, SSSI etc on the Internet. Part of the fun is learning and having a go.



Above, Great Yellow Bumblebee feeding on Borage.
Below, Borage plot, South Harris.



Spiders: an introduction to their identification

Matt Topsfield

In late June, with the benefit of an OHBR Natural Hebrides Grant, I journeyed to the Field Studies Council's centre at Kindrogan for a weekend crash course on spider identification. But why did I want to get up close and personal with spiders?

This is a generally neglected group, with a few dedicated people studying them, but not attracting the mass appeal enjoyed by other taxa. However, with approximately 700 British species in 34 diverse families the group offers considerable scope for personal study, whilst not being dauntingly large. Some species can be easily identified in the field with just a hand lens, but most have to be observed under a microscope to identify them to species level. This is especially true of the small Linyphiids (a wonderful group including those popularly known as 'money spiders'), which comprise about half of the British species and, in all likelihood, the majority of our Hebridean species.

Furthermore, whilst spiders can be found in virtually any habitat and all year round they can only be collected in the field during clement weather - what's that about fair-weather naturalists? However, one day of work in the field will usually provide 3 days work in the laboratory (which sometimes also serves as a dining room table!)



A diverse range of habitats in Highland Perthshire, all of which will support spiders and provide the arachnologist with many happy hours in the field (and lab).

Field methods

There are many ways to collect spiders, including: hunting for spiders in any habitat (starting with our homes, gardens and sheds); vacuum sampling (a garden vac/blower modified with a long tube and collecting bag/net); sweep netting; beating bushes and low branches; sieving moss and leaf litter; brushing tree bark, walls etc.; and trapping methods that can include setting out pitfall traps for 1-2 weeks, creating piles of litter that will attract spiders over 2-3 weeks or using a variety of materials to create artificial retreats. When you start looking, you will find spiders everywhere!



Sorting a collection made in a grassland habitat using vacuum sampling (tutor Alastair Lavery demonstrating).

Some spiders can be collected and identified as live specimens in the field, where it should be possible to get some to species level and most to genus, returning the animal to where it was found to live out its days. Individuals are best handled by sucking them up with a simple 'pooter' - these take various forms but basically comprise a flexible tube with gauze to prevent accidental inhalation of your sample. You will also require a hand lens (x10 will do, or a field microscope would be even better - The Natural History Museum Pocket Microscope costs around £10) and a copy of the excellent *Collins Field Guide: Spiders of Britain & Northern Europe* by Michael J. Roberts (1995) in which the author describes how to make a 'spi-pot', a handy device to harmlessly restrain spiders for field identification (see page 33).

Identifying most spiders down to species level will require the use of a higher magnification microscope, in which case field samples are collected into alcohol to preserve them for later study.

Identifying features

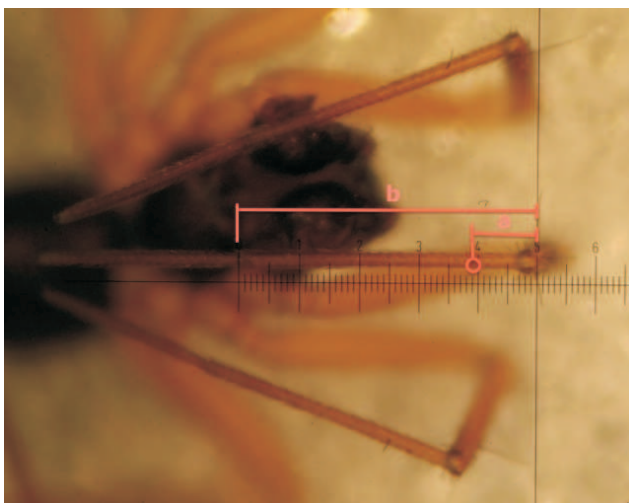
Many features are used to separate the families and genera, with too many variations to explain in detail here, but including:

- arrangement of the spinners and associated organs;
- size and shape of the head/body and abdomen;
- number (not always 8), size, colour and arrangement of the eyes;
- overall size, colouration, patterns and markings;
- position of the *tracheal spiracles* (openings to the 'breathing tubes');
- general characteristics of any spines and hairs on the legs (difficult in smaller species); and
- shape of the *maxillae* (part of the mouth).

It should be possible to identify most spiders in the field to at least genus level using these key features, which should generally be visible under low power magnification. For the Linyphiids, Roberts (1995) does not deal with the smallest black/grey 'money spiders' that require use of a microscope in the laboratory, only giving a simple key based on the shape, colour and pattern of the abdomen for a few of the easier species.

To reliably identify most to species level you have to make a more detailed examination of their smaller (tiny) features, including:

- number of spines on specific leg segments;
- presence/absence and position on the legs of any *trichombothria* (fine hairs that distinctively 'wiggle' and can be very hard to find but sitting within a clearer ring that is more easily seen); and
- other, various, very small structures.



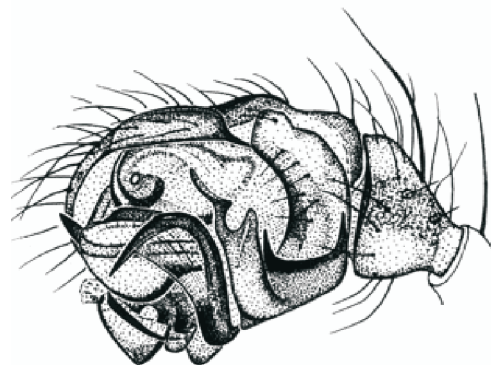
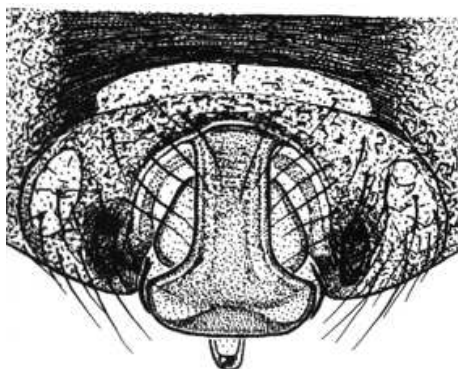
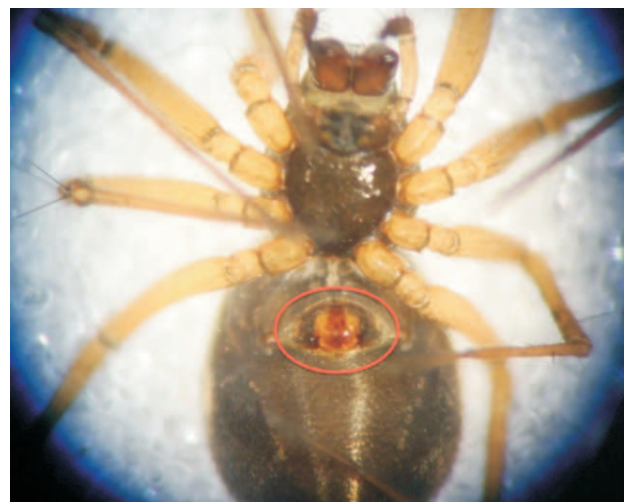
The trichombothrium on the *metatarsus* (the penultimate section of the leg) of the first leg (at the front) on this Linyphiid is circled (not visible at this scale). The ratio between the measurement of this structure from the 'knee' and the total length of the leg segment (i.e. $a \div b$) is one of the tiny features used to separate many species. This (poor quality) photograph was taken at x40 magnification, so measurement b is equal to 1.25mm or 1/20th of an inch).

So, once you have followed your second or third key in the specialist reference materials you will have narrowed down your specimen as belonging to a 'short list' of possible species (often as many as 20 or 30). You then need to look at the most important features of all - **the complex and unique structure of the secondary reproductive organs of adult spiders.**

Birds do it, bees do it, even...specially adapted spiders do it!

The reproductive system in spiders is rather complex. Like most animals they reproduce sexually, but being carnivorous courtship can present some degree of risk for the smaller males. The ovaries and testes are internal, with both having external openings on the underside of the abdomen. The male prepares by spinning a small rectangular web onto which he deposits sperm, which is then drawn up into a complex and specially modified organ on the *tarsus* (end section) of his *palp* (leg-like appendages between the jaws and first leg). Like humans, the male will attempt to woo his mate with a variety of techniques, which in spiders include: web plucking and tapping; waving palps and legs; caressing and stroking; as well as a large measure of caution! Once accepted (assuming he has not already been devoured) he will transfer the sperm from his palp organ into the females *epigyne* (an equally complex and specially modified opening to her reproductive system) from where the sperm will be transferred and stored prior to egg fertilisation.

The complex and species-specific structure of the palpal tarsus in the mature male and epigyne in the mature female can be used to identify all spiders to the species level (except for a handful species). So, all that remains is to compare the structure of the palpal tarsus or epigyne of your specimen with the detailed drawings in the reference materials of each of the possible species on your previously keyed out short list to find a match and discover the identify of your specimen. Sometimes easier said than done if you don't have your specimen positioned at quite the right angle, the legs keep getting in the way (removing the palp can make things easier) or the structures are very similar in closely related species (in which case the descriptive text can be helpful to reach a determination).



Top: Photograph of a mature male Linyphiid *Tenuiphantes tenebricola* with the palpal tarsus circled. A common problem can be seen here with the legs obscuring the view. Palps are usually viewed and drawn from the left hand side.

Top: Photograph of a mature female Linyphiid *Tenuiphantes tenebricola* with the epigyne circled.

Bottom: Drawing of the epigyne, from Roberts (1995).

Bottom: Drawing of palpal tarsus, from Roberts (1995).

N.b. this level of identification is only possible with fully mature adult spiders as sub-adult males bear only simple, club-shaped palpal tarsi and sub-adult females do not have a complex epigyne.

Recording spiders

Having said in the introduction that just a small number of people seriously study spiders, the UK does have an excellent Spider Recording Scheme (SRS), set up by the British Arachnological Society (BAS). Up-to-date records can be viewed on the website, but to find the detail behind these records you will need to sign up (you don't need to join BAS, just register for free to use the SRS website - <http://srs.britishspiders.org.uk/>). The number and coverage of records can be patchy, often reflecting where arachnologists live or have holidayed. There are particularly few records for the Western Isles and most of these are not recent. Given that the majority of our species will be the trickier Linyphiids, arachnologists can be kept busy here for some time.

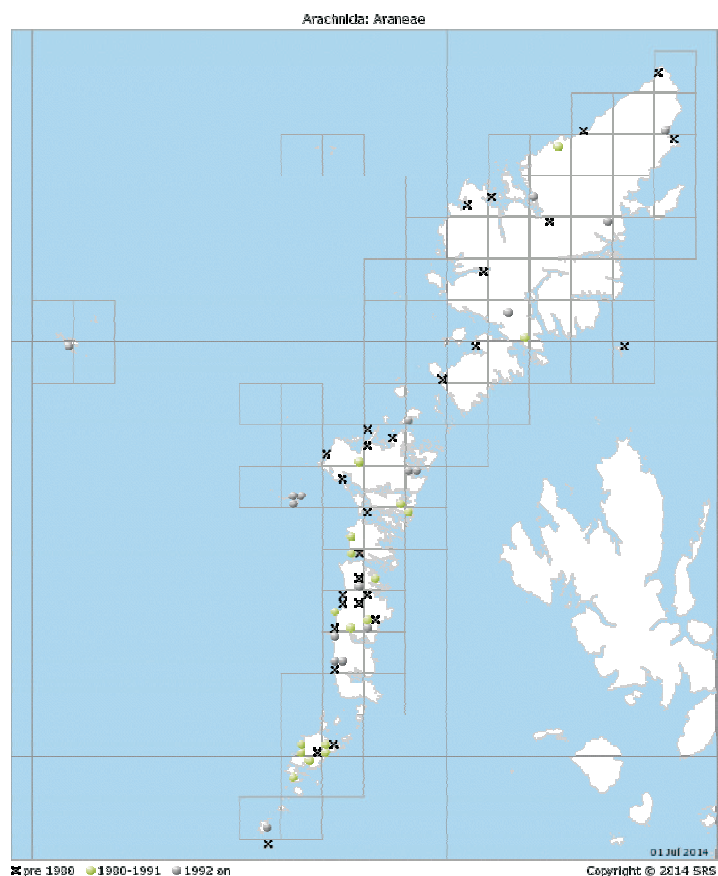
On that note, I will continue to develop my skills in spider identification and recording. If you happen to find an interesting spider, I would gratefully receive any specimens for identification. Live spiders can be kept for a couple of days in small plastic containers, such as medical specimen vials/tubes (include a small leaf for it to hold on to and provide moisture) or preserved for identification (anti-freeze would be an acceptable substitute for ethanol). Contact me on maxwell_topside@hotmail.co.uk, 07775 812036 or just send them to me at 12 Griminish, Isle of Benbecula, Hs7 5QA, including a note with details of when and where it was found (6-figure grid reference if possible) and any details on habitat type, as well as your name and contact details. There's a high chance that it will be a new record for the Western Isles!

I have tried not to fill this article with too much technical detail, which would not be of interest to all, merely highlighting some of the key features and techniques involved. I would, again, thoroughly recommend the book by Roberts (1995) as a starting point for anyone interested in our spider fauna.

For most of you, that will be as much as you will ever want or need. If you did want to take your interest further, the FSC course is a very enjoyable and informative introduction to the topic. If you want to know, please also feel free to get in touch with me on the contact details above.

Finally, I'd like to express my thanks to OHBR for supporting my study on this course.

Records for spiders in the Outer Hebrides
Held by the Spider Recording Scheme.



Spider facts

Some species found in the Antarctic remain active during the southern hemisphere winter, hunting under an insulating blanket of snow.

A species of spider was recently discovered that has a vegetarian diet, drinking sugary secretions from specialised glands on Acacia trees that evolved to attract/reward ants.

To see some spectacular videos of spider courtship displays, enter the search term 'peacock spider' into Youtube.

One non-British species is known to-date only from female specimens, as a male has not yet been found.

It is thought that the highly complex secondary reproductive organs might have evolved to prevent different species interbreeding, with the right kind of palp only fitting the right kind of epigyne, although this has not and possibly cannot be proven.

In two British genera, *Segestria* and *Oonops*, mature females do not develop a complex epigyne and the males bear only simple palpal organs. These genera have few species (3 and 2 respectively), which can fortunately be separated by other features.

Glasgow University's National Nest Reference Collection.

Professor Mike Hansell

Name me three extraordinary things about birds? Well: they can sing amazing songs, some undertake regular journeys of thousands of kilometres without getting lost and most build wonderful nests without using hands. Nests need to be seen to be properly understood. That requires properly curated museum collections. Birds' eggs and skins were extensively collected in the past so they are well represented in collections throughout the world. Collecting birds' nests has never been as fashionable and so there are very few scientifically important collections of them. Collecting bird eggs and skins is now rightly banned, but for most birds, the nest is designed to last one breeding season and is then abandoned and is available for us to collect, admire and study. The aim of the Hunterian Museum, National Nest Reference Collection is to produce such a collection of the nests of British breeding birds; nests, that is, that are not reused and not otherwise protected.

I began this collection in 1998 while writing a book on bird nests but it quickly grew and was incorporated into the University of Glasgow, Hunterian Museum zoological collection, giving it an important permanent home. We now have more than 1,500 nests including rarities such as nests of Red-backed Shrike and Golden Oriole. This now makes our collection one of international significance and, in the UK, second only in size to The Natural History Museum in London. The latter has the broad aim of collecting bird material from around the world; we have the more specialised aim of making a collection of just nests and only of British breeding species. Our collection aims at representing the differences between bird species in their nest architecture and, even more interestingly, differences in nest building between individuals of the same species. This means that we need to have at least a small collection of nests of each species. The collection is now at a size where we have a minimum number of nests of most species. However we are targeting this year twenty four species for which we have less than ten nests, some of them relatively common others particularly rare. Some of these have quite southerly distributions but I have listed below eleven species that might nest in the Outer Hebrides, although a couple of these are really long shots! If you can collect nests (whole or damaged) of any of these species, it would be a great help to us.

Alphabetically, they are:

Collared dove
Corn bunting
Goldcrest
Grasshopper warbler
Redpoll
Sedge warbler
Siskin
Tree pipit
Wheatear
Whinchat
Wood warbler.



Nest of a Red-backed Shrike. Ashley Jackson

Any nests you collect, could you make sure they are dry, put each in a separate plastic bag and send to me. Many thanks:

Professor Mike Hansell, Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow, G12 8QQ

Mike.Hansell@glasgow.ac.uk

Nick Hancock's Rockall Expedition

In June 2014 and after several years in the planning, Nick Hancock's expedition to inhabit the remote lump of rock in the Atlantic ocean named Rockall for 60 days began.

Rockall is approximately 230 miles west of North Uist and is a mere 25 x 22 metres in dimension and 18 meters above sea level. It is said that more men have walked on the surface of the moon than set foot onto Rockall therefore it is not surprising that there is not a huge amount of information available relating to its natural history, despite its small size. It is known from previous people that have landed on Rockall that both Gannet and Guillemot have laid eggs and attempted to breed on the rock, although the success of these breeding attempts has always been unknown, given the length of time it would take to monitor the breeding attempts to completion.

In June 2014 Nick set foot onto the guano splattered Rockall to start his inhabitation record attempt, the first attempt in May 2013 having to be cancelled due to poor weather conditions, Nick having reached the rock but an attempt to land being too dangerous.

Whilst on the rock in 2014 Nick reports that he observed approximately 30 trace Gannet nests with 3 containing eggs, and approximately 20 Guillemot eggs, The Guillemot eggs mostly located on the inside of the damaged light beacon stump on the summit.

During the night of Tuesday 1st July, Rockall was hit by a severe storm, resulting in Nick's "RockPod" shelter being hit by waves and moved 1ft from its original resting position, luckily the mounting brackets installed into the rock by the previous Greenpeace occupation in the 1980's prevented the RockPod from being washed into the sea, I would imagine Nick experienced a fear that night that not many of us could relate to.

On the morning after the storm, all evidence of the Gannet and Guillemot breeding attempts had been washed into the sea, in fact, the rock had been washed clean of much of the guano that it had been painted with, testament to the unrelenting power of the sea during the storm. Given that it takes a Guillemot 2+ months and a Gannet 4+ months to lay, incubate and raise a chick to the point of fledging, you would have to imagine that in most years all breeding attempts meet with an unsuccessful and watery end.

Nick spent 45 days in total on Rockall, his original aim of 60 days being made impossible because vital food supplies were washed off the rock during the storm, nevertheless he broke all previous occupation records and has raised over £9000 for the Help for Heroes charity.

Many thanks to Nick Hancock for sharing his observations and photographs.



Above, the "Rockpod" anchored down on Hall's Ledge
Right, Gannet nest & egg + 2 Guillemot eggs



OHBR Training Grant: Mosses & Liverworts

Natasha Stephens

Earlier this year I attended a mosses and liverworts (intermediate) identification course held at Kindrogan FSC in Perth. I had chosen this course because I have a special interest in lower plants, particularly mosses. I also wanted to contribute to the biological recording here on the Isle of Lewis and what better place to look at bryophytes.

The course took place in late April of this year and it was a weeklong opportunity to immerse myself in bryophyte identification. The group consisted of people with varying degrees of knowledge and from different back grounds; some took part for personal interest and others for professional development. I will admit that I was probably the least knowledgeable member of the group and there were times I felt quiet overwhelmed, however I stayed focused on what I wanted to get out of the course and I got a great deal more. Nick Hogetts was our tutor whose knowledge and enthusiasm was inspirational. He was a very good teacher, who was able to accommodate everyone's level of knowledge and interests. And the group was great in supporting each other discussing difficulties and sharing knowledge, we even did some bird spotting.

I went on the course with a specific objective of improving and gaining confidence in my ID skills and I believe I achieved this. We collected lots of specimens during the day and there was plenty of time in the evenings to use the microscopes and go through them. I found that the Watson key was a much more reliable way to identify unknown species, which Nick patiently allowed me to figure out for myself. My (BBS) field book is exactly that, I now use it to confirm species I am more familiar with whilst in the field. The microscope work enabled me to improve my identification skills and gain confidence in correctly keying out species, both of which are a fundamental aspect of correctly identifying bryophytes.

The field work was invaluable too; we visited a range of habitats and found a great diversity of species including woodlands, bog mires where we focussed on the major sphagnum groups, alpine and grassland habitats. For me species names don't quickly stick in my head, but the field work allowed us to observe many of the species regularly and many I can recall easily now. Fieldwork provided me with an opportunity to become familiar with species in the field, their growth form, common habitat and field characteristics. Nick also provided us with literature on the field characteristics of the major moss groups, which I found helpful and I particularly enjoyed observing and learning the main groups of sphagnum, I am grateful to the Outer Hebrides Biological Recording Group for the bursary that allowed me to do this course. If anyone has an interest or a curiosity in mosses and would like to go out in the field please contact me at natasha_lou@hotmail.com.

Note from the editor.

Ashley Jackson

Apologies for the delay in producing this newsletter, I'd hoped to of had something sent out long before now however things have been very hectic at home with the birth of our first child in April coinciding with a change of job after 14 years at my previous employer - big changes indeed. This is the first year for a long time that I've not managed to pay a visit to the Outer Hebrides, although a weeks family holiday to Islay at the beginning of September did go some way in satisfying my cravings until next year.

I'm sure many Curracag members that do not live on the islands have made a visit since the last newsletter, if so I would love to hear about your trip, an article for the next newsletter would be even better!

Upon hearing of the passing of Peter Cunningham I purchased a secondhand copy of his book "Birds of the Outer Hebrides" from the internet without too much searching required. Published in 1983 it is interesting to see the status of birds from 30+ years ago compared to now - without literature like Peter's book it is very easy to not notice the change in status in many species of birds, sadly all too often it is the case of decline. I suppose to each generation the population of a particular species of birds seems 'normal' - it's not until you compare to the past that it can be put into a more meaningful context. I wonder what 'normal' will look like in 40 years time when my daughter is my age?..



Start 'em young - my daughters first trip to our local museum, looking at an Egyptian Nightjar that was shot in a Nottinghamshire wood during the Victorian era.

Curracag

Outer Hebrides Natural History Society

Chair

Matthew Topsfield: maxwell_topside@hotmail.co.uk

Secretary

Yvonne Benting: secretary@curracag.org.uk

Treasurer

Ian Thompson: treasurer@curracag.org.uk

Newsletter Editor

Ashley Jackson: editor@curracag.org.uk

Lewis & Harris Group

Mick Blunt: mick@jmt.org

General Enquiries

enquire@curracag.org.uk

Many thanks to all the contributors of articles for this edition of the newsletter - the newsletter is dependant on our members articles so please don't hesitate to submit any information or articles that you feel will be of interest to other members.