A close-up photograph of a moth with a pink and brown patterned body and wings, perched on a pink flower. The moth's head is turned towards the left, and its long, thin antennae are visible. The background is a soft, out-of-focus grey.

Outer Hebrides Biological Recording

Discovering our Natural Heritage
Biological Recording in 2018

Outer Hebrides Biological Recording

Discovering our Natural Heritage Biological Recording in 2018

Robin D Sutton

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Introduction

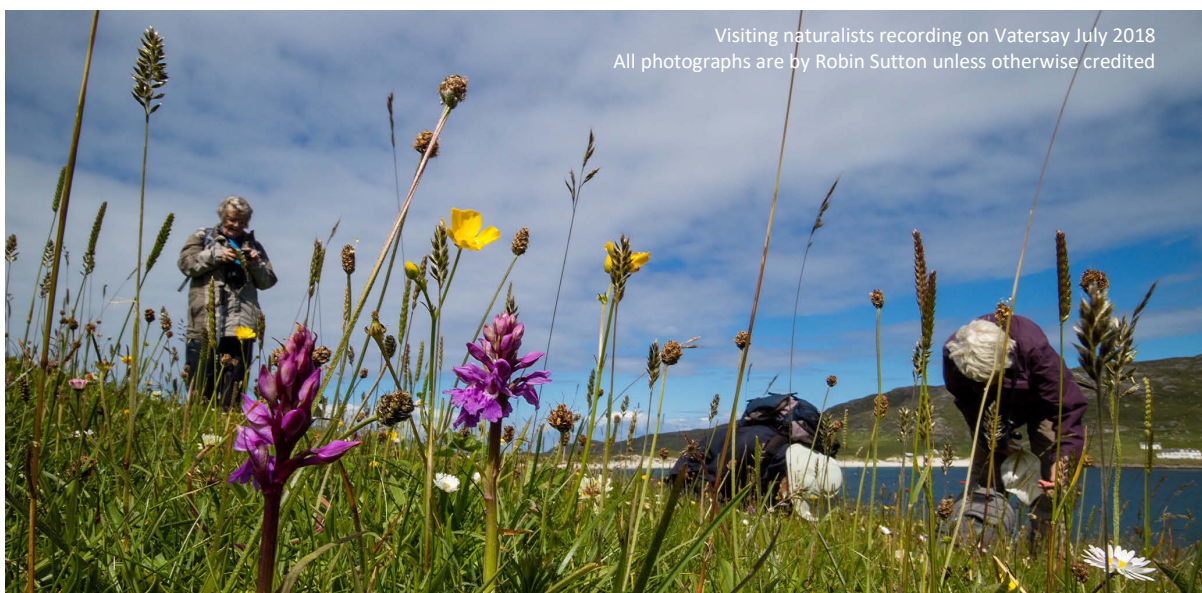
Each year an average of 8,200 records are added to the OHBR database, these are mainly collected within the calendar year supplemented by a small number from earlier years. The majority of records are submitted by a small group of resident amateur naturalists, with contributions from visiting naturalists and professional scientists, and members of the local community.

The species diversity recorded varies from year to year, reflecting the taxonomic interests and recording activities of the resident recorders and the contribution made by visiting specialists. Other factors, such as the weather, surveys of specific habitats and visits to under-recorded locations, such as small off-shore islands, also affect the range and number of species added to the database.

Our knowledge of some aspects of the islands' wildlife is still very limited, particularly the more obscure groups of insects and invertebrates, fungi and aquatic plants. Therefore, the visit of a specialist or a concerted effort by one or more of the resident recorders to investigate a new taxonomic group can be significant in extending the number of species recorded in the islands. It is always exciting to record a new species, but the continued monitoring of some key groups such as pollinating insects, surveys of some of the more inaccessible locations, and recording species of conservation importance such as otters and great yellow bumblebees, are an integral part of our work.

All the records we receive are important, whether they are of common or more unusual species and make a vital contribution to our efforts to map the distribution of species throughout the islands.

The continued growth in our knowledge of the plants, animals and fungi of the islands is the result of the hard work and enthusiasm of the resident naturalists, the generosity of the visitors in sharing their observations and the interest of the local community in their natural environment. We would like to acknowledge the work of the small group of volunteers who organise OHBR and to thank Robin Sutton for compiling this annual review of our records.



Biological Recording in the Outer Hebrides

Outer Hebrides Biological Recording (OHBR) was established in 2011 by a group of local amateur naturalists, to collect and collate information about the animals, plants and fungi which are found in the islands and to make these data available to everyone. Our aim is to build a comprehensive understanding of the islands' biodiversity and help ensure that decisions that may affect the quality of our natural environment are made with the best available knowledge. We maintain a database of biological records which are available on the National Biodiversity Network Atlas Scotland¹ and supplemented by a hub of wildlife websites².

We encourage individuals and communities to recognise the importance of maintaining biodiversity to conserve their natural heritage and to become involved in biological recording. We offer support and guidance for local biological recorders, providing training opportunities for new and more experienced recorders to improve their skills. We are committed to working together with a range of academic and conservation bodies, professional biologists and other amateur naturalists, providing local knowledge and expertise to discover more about the natural life of our islands. OHBR may be small, but by working together with national institutions and voluntary organisations, the information we collect can make a difference. You can discover more about biological recording in the Outer Hebrides on our website³ and share your wildlife observations on our social media group page⁴.

Biological recording is not restricted to specialists, we are as interested in the observations of common, easily recognisable species as those which may be rare or difficult to identify. They are important in helping us to form a picture of the islands' biodiversity and mapping the distribution of species. After all, what is common on Harris may be rare on Barra. Detailed information about biological recording and how to submit records is available on our website⁵.

Our friends at Outer Hebrides Birds⁶ aim to enhance their recording in the islands, and to bring together people with an interest in birds and birding in the Outer Hebrides. The County Bird Recorder is responsible for collating records of birds and information on where to submit records is available on their website⁷.

Links

¹ National Biodiversity Network Atlas Scotland – <https://scotland.nbnatlas.org>

² OHBR hub of wildlife websites - <http://www.hebridensis.org/hub.php>

³ OHBR Website - <https://www.ohbr.org.uk>

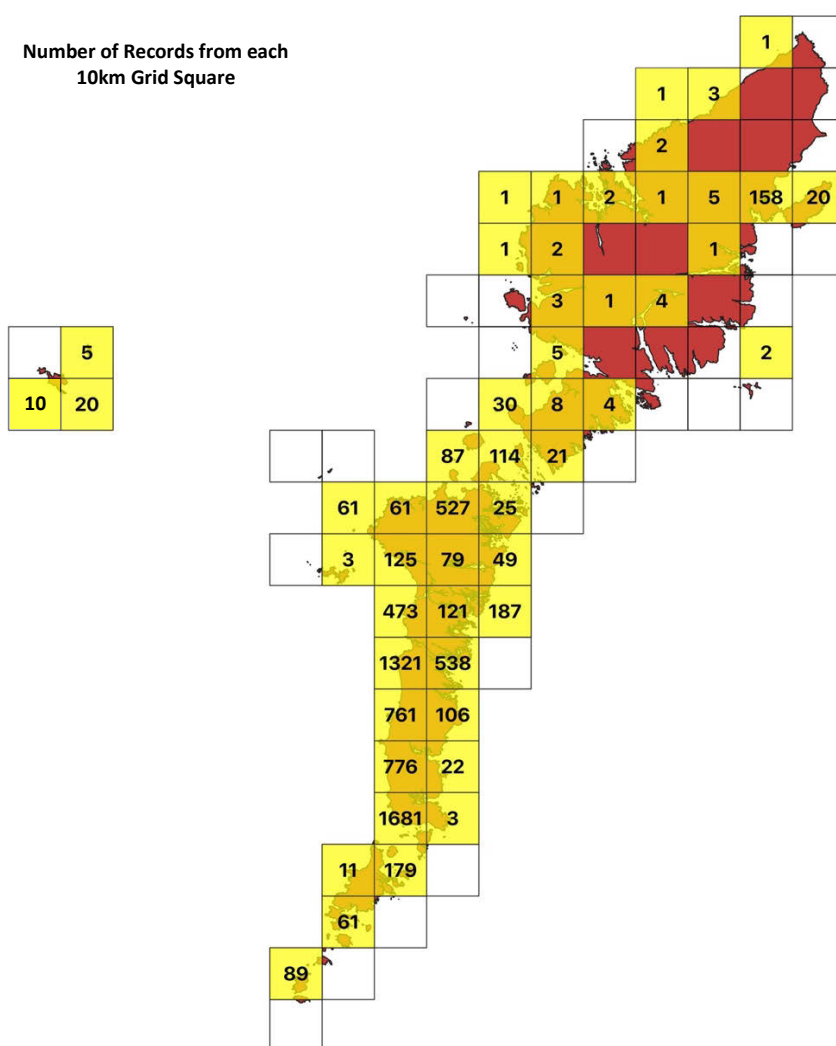
⁴ OHBR Facebook page - <https://www.facebook.com/groups/286293481746505>

⁵ OHBR How to submit records - <https://www.ohbr.org.uk/recording-wildlife.php>

⁶ Outer Hebrides Birds website - <http://www.outerhebridesbirds.org.uk/index.php>

⁷ Outer Hebrides Birds recording - <http://www.outerhebridesbirds.org.uk/index.php?pages/recorder/>

Summary of Records



Outer Hebrides Biological Recording (OHBR) received, in 2018, 7,791 records of 1612 species of plants, fungi, and a whole variety of different types of animals.

These records were submitted by 76 different recorders from 51 different 10km grid squares spread across virtually all of the Outer Hebrides. Nine people submitted over 200 records each; 43% submitted just one record. Every record is equally valued and many thanks are due to all who contributed.

Whilst there were records from most parts of the Outer Hebrides, including some of the smaller, uninhabited offshore islands, there was a bias towards the southern part of the island chain. Sixty percent of the records come from South Uist alone. As we shall look at in detail later, records from moth traps provide a very large proportion of the total records submitted to OHBR.

The vast majority of these records come from South Uist, with a few from Eriskay, Barra and Vastersay. Removing the moth trap records from the totals still leaves the southern islands with a much larger share of the total records.

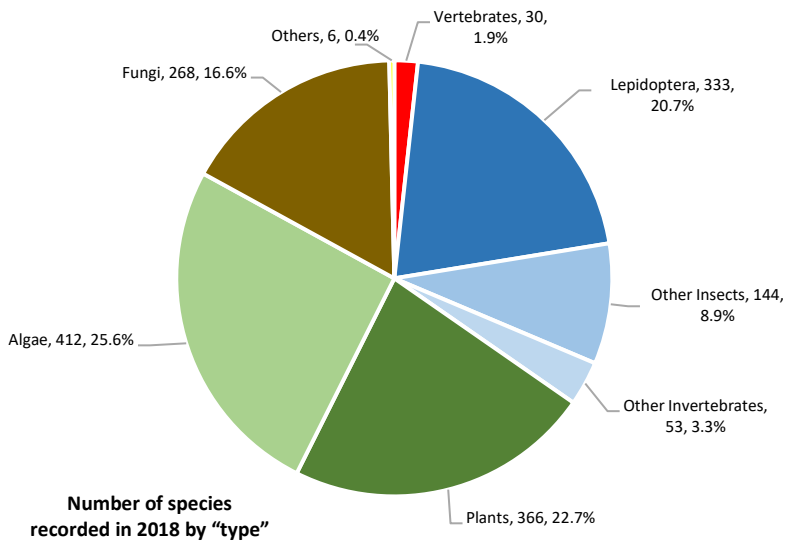
	2017	2018	% Change
10km squares	50	51	2.0
Recorders	77	76	-1.3
Total Records	9331	7772	-16.7
N. of Sound of Harris	919	277	-69.9
S. of Sound of Harris	8412	7460	-11.3
Total species	1220	1610	32.0
Species of:			
Vertebrates (Mammals, Reptiles, Amphibians & Fish)	34	30	-11.8
Lepidoptera (Moths & Butterflies)	312	333	6.7
Other Insects (Bees, Hoverflies, Dragonflies etc.)	141	144	2.1
Other Invertebrates (Crabs, Spiders, Molluscs etc.)	92	53	-42.4
Plants (inc. Ferns, Horestails etc.)	339	366	8.0
Algae (inc. Seaweeds)	141	412	192.2
Fungi (inc. Lichens)	146	268	83.6
Others	15	6	-60.0

Compared to 2017 there was a roughly similar coverage of 10km squares by a similar number of recorders but they submitted 16.7% fewer records in total in 2018. The decline in number of records was most noticeable on Harris and Lewis where there was a 69.9% drop in the total number of records received in 2018 when compared to 2017. In comparison, for those islands south of the Sound of Harris the drop was just 11.3%.

The number of species recorded, in contrast, rose by 32% compared to 2017. This reflects the activity of a number of

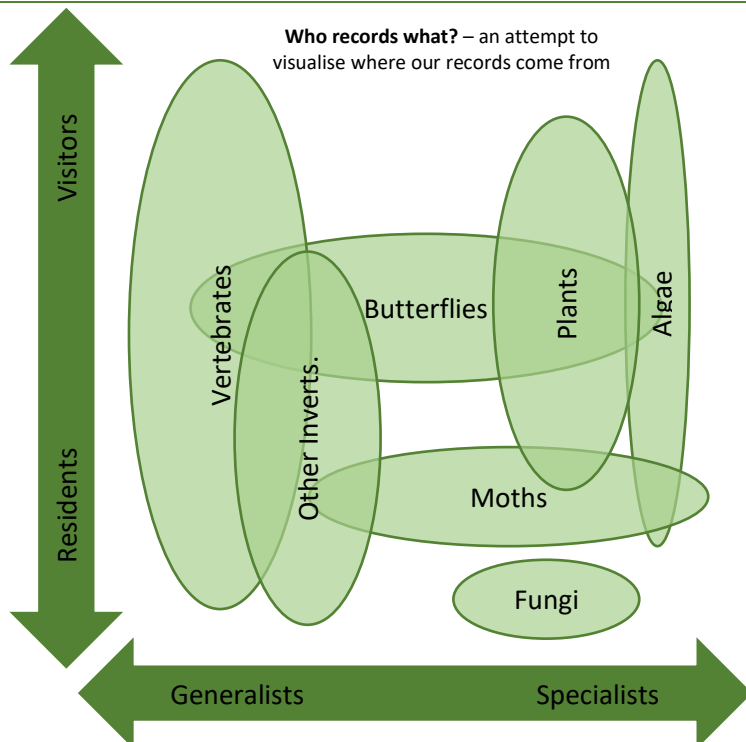
specialist recorders on the islands. There was a group of visiting botanists from the Floodplain Meadows Partnership and a leading European expert on desmids present on the islands in June/July. Their expertise and efficiency at recording no doubt led to the 8% increase in plants and 192% increase in Algae recorded in 2018.

Summary of Records



of organism by the number of contributing recorders you get a rough measure of whether each group is largely recorded by "specialists" or "generalists". The higher the average number of records per recorder the more specialised that group is. For example 992 Algae records were submitted by just four recorders. Obviously this group requires specialised skills and knowledge to identify the various species. At the other end of the spectrum are the Vertebrates and, perhaps more surprisingly, the Other Invertebrates.

Group	Records	Recorders	Records per recorder
Algae (inc. Seaweeds)	992	4	248.0
Lepidoptera (Moths & Butterflies)	3473	31	112.0
Moths	3287	30	109.6
Butterflies	186	15	12.4
Plants (inc. Ferns, Horsetails etc.)	1887	24	78.6
Fungi (inc. Lichens)	659	11	59.9
Other Insects (Bees, Hoverflies, Dragonflies etc.)	533	23	23.2
Vertebrates (Mammals, Reptiles, Amphibians & Fish)	159	34	4.7
Other Invertebrates (Crabs, Spiders, Molluscs etc.)	77	21	3.7
Other	11	4	2.8



Island based experts in Fungi put a concerted effort into recording this group, particularly in the Stornoway area, resulting in a 83.6% increase in fungal records in 2018. In contrast the two groups that seem to attract the highest number of casual records (Vertebrates and Other Invertebrates) showed significant decreases, down 11.8% and 42.4% respectively.

Different people record different things and some of our recorders are specialists in certain groups of animals or plants. If you divide the number of records for each type

Many people can recognise the larger, more charismatic mammals, Otter, Red Deer, Grey and Common Seal for example, and are familiar with Common Frog, and Common Toad. Included amongst the Other Invertebrates are things like By-the-wind Sailor, several jellyfish and common rocky shore organisms. These are interesting things likely to be spotted by people walking the beaches of the Outer Hebrides and form the basis of many casual records submitted to OHB OHBR.

Encouraging more people to submit records to OHBR requires continuing efforts to support recorders at every level of expertise. There is an ongoing need to build higher level identification skills and enable more of our resident recorders to tackle some of the more difficult groups; to encourage more submissions of casual records by resident and visiting naturalists and to encourage better submission rates to OHBR by visiting experts.

Summary of records

Overall summary of records

			VC110	2018
Vertebrates	Class	Common Names	No. of Species	No. of Species (records)
	Aves*	Birds*	417*	*
	Actinopterygii	Bony Fish	59	2 (4)
	Mammalia	Mammals	35	22 (130)
	Ascidiacea & Thaliacea	Sea Squirts, Salps etc	33	1 (1)
	Elasmobranchii	Sharks, Rays & Skates	7	2 (9)
	Reptilia	Reptiles	5	1 (4)
	Amphibia	Frogs, Toads & Newts	3	2 (11)
	Cephalaspidomorphi	Jawless Fish (Lampreys)	1	-
Total			560	30 (159)

* Records of bird sightings – these are not collated by OHBR but through the Outer Hebrides Birds website and the BTO local recorder.

Invertebrates	Class	Common Names	No. of Species	No. of Species (records)
	Arthropoda	Insects (except Lepidoptera)	974	144 (533)
		Lepidoptera	501	333 (3473)
		Other Arthropods e.g. Crustaceans, Spiders, Millipedes etc.	219	17 (25)
	Mollusca	Snails, Slugs, Bivalves, Octopuses etc.	334	28 (31)
	Annelida	True Worms	161	1 (1)
	Cnidaria	Corals, Jellyfish, Hydra etc.	93	5 (18)
	Porifera	Sponges	49	-
	Bryozoa	Sea Mats (Moss Animalcules)	48	1 (1)
	Echinodermata	Sea Urchins, Starfish, Brittlestars, Sea Potatoes etc.	41	1 (1)
	Nemertea	Ribbon Worms	5	-
	Platyhelminthes	Flatworms	3	-
	Sipuncula	Peanut (or Star) Worms	3	-
	Brachiopoda	Lamp Shells	2	-
	Ctenophora	Comb Jellies e.g. Sea Gooseberry	2	-
	Others	Small marine or freshwater animals eg Cephalorhyncha, Echiura, Phoronida, Gastrotricha, Myzozoa	5	-
Total			2440	530 (4083)

Plants	Division	Common Names	No. of Species	No. of Species (records)
	Magnoliopsida	Flowering Plants	802	342 (1789)
	Bryophyta*	Mosses*	324	-
	Marchantiophyta*	Liverworts*	161	-
	Rhodophyta	Red Algae	182	12 (13)
	Chlorophyta	Green Algae	88	15 (21)
	Charophyta	Stoneworts and Desmids	Awaiting revision	370 (928)
	Pteridophyta	Ferns & Horsetails	41	19 (81)
	Pinopsida	Conifers	19	1 (7)
	Lycopodiopsida	Clubmosses & Quillworts	7	2 (7)
	Anthocerotophyta	Hornworts	2	-
Total			1597	763 (2846)

* Records of Mosses and Liverworts are collated by the VC110 recorder rather than through OHBR

Fungi	Phylum	Common Names	No. of Species	No. of Species (records)
	Ascomycota	Non-lichen forming Sac fungi e.g. Orange Peel Fungus	282	23 (36)
		Lichen forming Ascomycota	616	115(411)
	Basidiomycota	Larger mushroom type species, and Rusts	539	128 (206)
		Lichen forming Basidiomycota e.g. <i>Lichenomphalia</i> spp.	6	1 (5)
	Chytridiomycota	Chytrids (fungi with flagellate spores)	2	1 (1)
	Zygomycota	Moulds	7	-
	Oomycota*	Filamentous protists (Downy Mildews)*	4	-
Total			1456	268 (659)

*Oomycota – these are in the Kingdom Chromista but traditionally have been studied by mycologists, hence our inclusion in the Fungi section

Others	Kingdom or Sub Kingdom	Common Names	No. of Species	No. of Species (records)
	Bacteria	Includes Blue-green Bacteria	10	5 (10)
	Chromista	Brown Seaweeds	91	15 (33)
	Protozoa		5	1 (1)
Total			49	21 (44)

Insects and other invertebrates

It is estimated that there is something in the region of 24,000 species of insect in Britain. Approximately 7% of the UK insect species have been recorded, so far, from the Outer Hebrides. Of the 1,475 species featuring in the VC110 records, 477 (c.28%) of them were recorded in 2018. This is broadly similar to the coverage achieved in 2017.

Order	Common Name	Britain	VC 110		2017		2018	
		Est. No. of Species ¹	No. of Species ²	% ³	Species	% ⁴	Species	% ⁴
Diptera	Flies	7,000	466	6.7	74	15.9	69	14.8
Hymenoptera	Bees, Wasps etc.	7,000	95	1.4	26	27.4	22	23.2
Coleoptera	Beetles	4,000	462	11.6	18	3.9	19	4.1
Lepidoptera	Butterflies & Moths	2,570	510	19.8	312	61.2	333	65.3
Hemiptera	Bugs	1,830	59	3.2	11	18.6	6	10.2
Phthiraptera	Biting lice & Sucking lice	540						
Collembola ⁵	Springtails	250	7	2.8				
Trichoptera	Caddisflies	198	73	36.9			14	19.2
Thysanoptera	Thrips	179						
Psocoptera	Booklice	100						
Neuroptera	Lacewings & Ant Lions	69	2	2.9				
Siphonaptera	Fleas	62	2	3.2				
Ephemeroptera	Mayflies	51	9	17.6			1	11.1
Odonata	Dragonflies	49	12	24.5	9	75.0	9	75.0
Plecoptera	Stoneflies	34	8	23.5				
Orthoptera	Grasshoppers & Crickets	33	3	9.1	1	33.3	2	66.7
Protura ⁵	Simpletails	15						
Diplura ⁵	2-pronged bristle-tails	11						
Dictyoptera	Cockroaches, Termites & Mantids	11						
Strepsiptera	Stylops	10						
Archaeognatha	Bristle-tails	7	2	28.6	1	50.0	1	50.0
Dermaptera	Earwigs	7	1	14.3	1	100.0	1	100.0
Mecoptera	Scorpionflies	4						
Rhaphidioptera	Snakeflies	4						
Megaloptera	Alderflies	3	1	33.3				
Zygentoma (Thysanura)	Silverfish & Firebrats	2						
Total		24,039	1,712	7.1	453	26.5	477	27.9

¹ The Royal Entomological Society Book of British Insects, Peter C Barnard, 2011, Willey-Blackwell

² From NBN Atlas Scotland as of 5th June 2019

³ As percentage of total British species

⁴ As percentage of VC110 species

⁵ Now not generally considered to be true insects

The insect records submitted each year are dominated by the Lepidoptera and in particular by the number of moth species recorded. Most moth records come from light traps run at a limited number of locations on repeated dates during the year. As such they generate huge numbers of records and these numbers tend to swamp the records of other groups. These data probably tell us less about the distribution of moths in the Outer Hebrides but could tell us much more about seasonal changes, long term population trends and will be considered first.

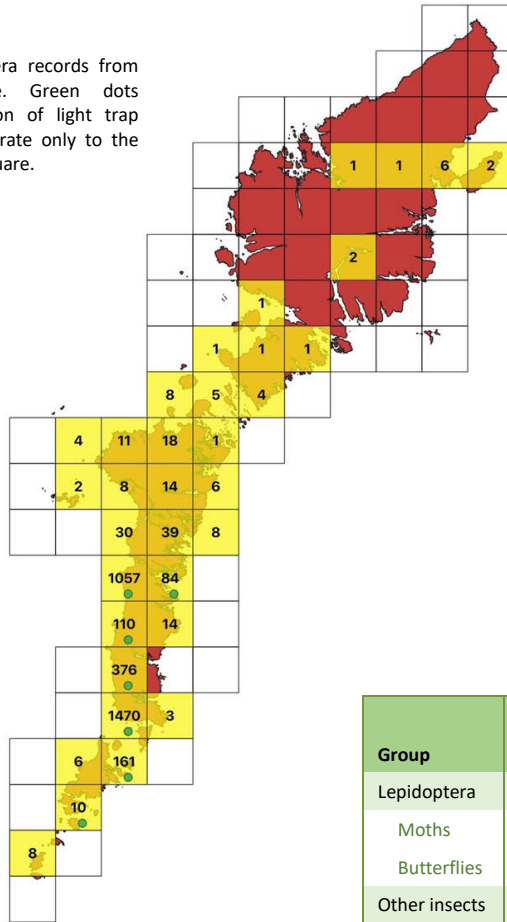


Ophion obscuratus – an Ichneumon

Insects and other invertebrates

Insects – Lepidoptera

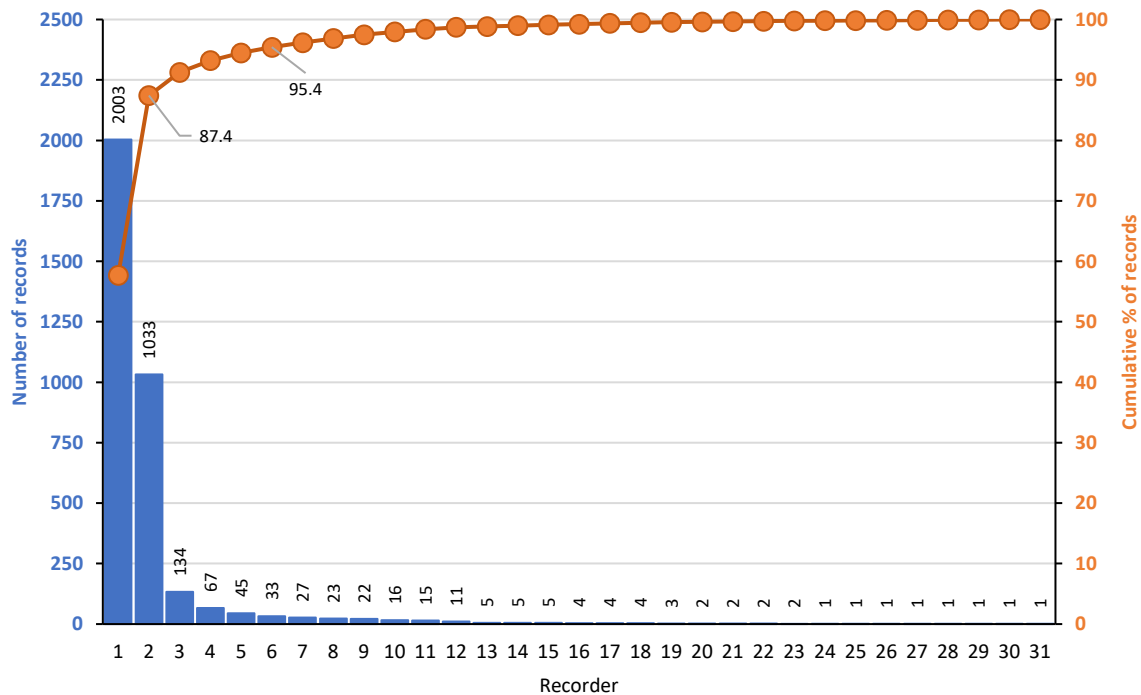
Number of Lepidoptera records from each 10km square. Green dots represent the location of light trap records and are accurate only to the relevant 10km grid square.



As in 2017, records of Lepidoptera received in 2018 exceed those of all the other invertebrates. Over four thousand invertebrate records were submitted and 85% (3473 records) of these were of Lepidoptera; 3287 records of 320 species of moths and 186 records of 13 species of butterflies.

The number of people submitting records of Lepidoptera dropped from 44 in 2017 to 31 in 2018. Most records (87%) come from just two recorders who regularly run light traps at locations mainly on South Uist. Six recorders contributed 95% of all Lepidoptera records. There is a distinct dearth of any Lepidoptera records from Lewis and Harris.

Group	2017		2018	
	Records	Species	Records	Species
Lepidoptera	3768	77%	3473	85%
Moths	(3546)	(299)	(3287)	(320)
Butterflies	(222)	(13)	(186)	(13)
Other insects	864	18%	533	13%
All Insects	4632	453	4006	477
Other inverts.	290	6%	77	2%
All Inverts.	4922	545	4083	530



Insects and other invertebrates

Butterflies

The overall number of records for 2018 (186) was down 16% from the 222 records for 2017. As in 2017 there were records of thirteen species.

Whilst it is difficult to draw conclusions from small data sets, it seems as if 2018 was a poor year for Green-veined White and Small Tortoiseshell with only half the records of 2017 and a lower percentage of records than is the case for the long term NBN data set. The NBN “strike rate” for Green-veined White is 20.7% but in 2018 that dropped to 14.5%. For Small Tortoiseshell it dropped from 7% to 2.7%. In contrast Common Blue, Painted Lady and Meadow Brown seemed to fare better in 2018.

Species	Number of records					
	NBN ¹		2017		2018	
Green-veined White	1366	20.7%	54	24.3%	27	14.5%
Meadow Brown	1294	19.6%	41	18.5%	47	25.3%
Common Blue	885	13.4%	30	13.5%	36	19.4%
Red Admiral	607	9.2%	31	14.0%	24	12.9%
Small Tortoiseshell	464	7.0%	11	5.0%	5	2.7%
Painted Lady	456	6.9%	20	9.0%	20	10.8%
Large Heath	391	5.9%	6	2.7%	4	2.2%
Dark Green Fritillary	332	5.0%	9	4.1%	6	3.2%
Small Heath	312	4.7%	13	5.9%	11	5.9%
Large White	199	3.0%	1	0.5%	3	1.6%
Grayling	144	2.2%	3	1.4%	1	0.5%
Peacock	71	1.1%	2	0.9%	1	0.5%
Speckled Wood	36	0.5%	1	0.5%		
Small White	18	0.3%				
Ringlet	16	0.2%				
Clouded Yellow	12	0.2%				
Orange-tip	6	0.1%			1	0.5%
Total	6609		222		186	

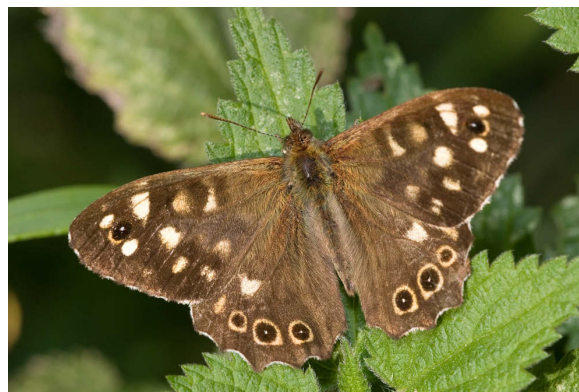
¹ as of 5/6/2019



Aphantopus hyperantus – Ringlet

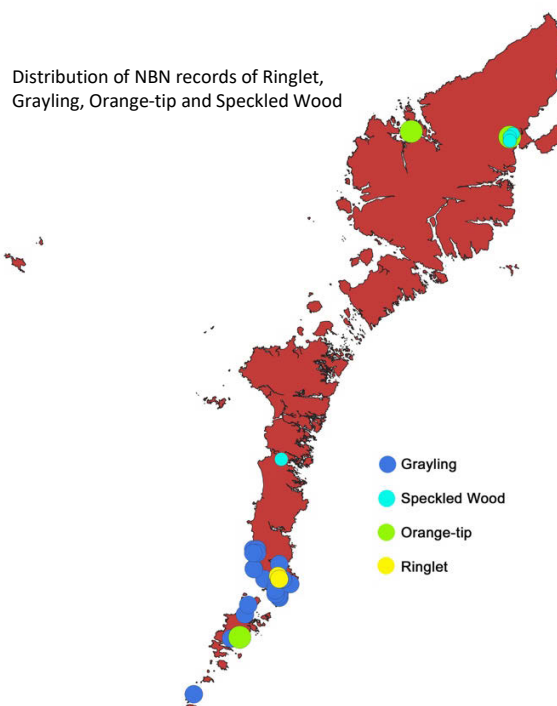
There were no records of Speckled Wood or Ringlet in 2018. These are species (along with Orange-tip that had a single record in 2018) that are thought to be likely colonists. Ringlet were first recorded on South Uist in 2008 and it seems as if a small population might become established. There have been no records of this species since 2012. Speckled Wood has been seen

in the grounds of Lews Castle regularly since 2003 and there was a single sighting on South Uist in 2006. Orange-tip was seen on Barra in 2018. The five previous records were all on Lewis. All three of these species are known to have increased and spread in Scotland over recent years and they are certainly species to watch out for in the future.



Pararge aegeria - Speckled Wood

A species that has long been known as having a small population at the southern end of the island chain is the Grayling. There is an early 1960s record and then it has been seen regularly since the mid-1990s. The number of records does seem to have dropped off in recent years and it is worth looking out for this species. Most records are from the period mid-July to mid-August from sheltered, sunny and dry sites where vegetation is sparse, providing the bare ground that this butterfly requires. In western Scotland it is primarily found on sand dunes, coastal grasslands and heaths.



Insects and other invertebrates

Moths

Most moth records (c.85%) come from moth traps. The remainder are from direct observation in the field and from examination of collected specimens.

Method	No. of records	%
All moth trap types	2802	85.24%
Robinson MV 125w	(2357)	(71.7%)
Actinic Trap	(424)	(12.9%)
Moth trap (general)	(21)	(0.6%)
Field Observation	372	11.32%
Netted/collected	113	3.44%
Total moth records	3287	

Deciding which was the most frequently recorded moth depended on how the records had been collected. Moth traps only catch those moths which are both active at night and are attracted to light.

Twenty most frequently recorded moths - Light Traps			
Species	2018	Species	2017
Flame Carpet	67	Small Wainscot	57
Dark Arches	47	Flame Carpet	55
Flame Shoulder	47	Dark Arches	55
Bright-line Brown-eye	44	Flame Shoulder	53
Dark-barred Twin-spot Carpet	43	Large Yellow Underwing	49
Small Wainscot	39	Drinker	48
White Ermine	39	Smoky Wainscot	44
Large Yellow Underwing	38	True Lover's Knot	44
Smoky Wainscot	38	Bright-line Brown-eye	43
Hoary Belle (48 th in 2017)	36	White Ermine	42
Antler Moth	35	Garden Tiger	39
Buff Ermine (25 th)	35	Ingrailed Clay (40 th in 2018)	38
Gold Spot	35	Dark-barred Twin-spot Carpet	35
Drinker	34	Dotted Clay (28 th)	35
Marbled Bell (41 st)	33	Small Square-spot (59 th)	34
Silver-ground Carpet	33	Magpie (55 th)	34
Common Rustic (35 th)	32	Antler Moth	34
Garden Tiger	32	Gold Spot	33
True Lover's Knot	32	Straw Dot (27 th)	33
London Dowd (31 st)	31	Silver-ground Carpet	32

Fifteen of the top twenty most frequently recorded moths in light traps in 2018 also feature on the list for 2017. These appear to be species that are consistently abundant year on year – at least at those locations where traps are run regularly. What happens on Harris and Lewis is still unknown and will remain so until traps are run regularly there.

Populations of every species change from year to year (as shown by the Garden Tiger in the graph opposite). These changes can appear random but are probably driven by subtle changes in food supply, predation and parasitism, and weather. Good or poor “trapping” weather during the flight period of a species will affect

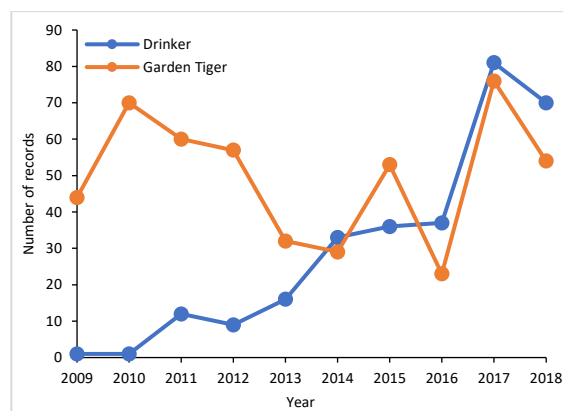
the numbers recorded, especially for those species with a short flight period.



Rivula sericealis – Straw Dot



Eucosma campoliliana – Marbled Bell



Trapping over a number of years at the same location will pick-up long-term trends that may be linked to habitat and climate change or simply reflect the chance colonization from the mainland by a new species (shown by the Drinker in the graph above). A detailed description of the colonization of the Outer Hebrides by the Drinker can be found in the 2018 edition of *Hebridean Naturalist*¹.

¹ Chris Johnson, (2018) Drinker (*Euthrix potatoria*) in the Outer Hebrides. *Hebridean Naturalist*, **18**, 67–71

Insects and other invertebrates

The light trap records came from just five recorders. In contrast 30 people submitted more general, direct observational records of Lepidoptera. Species such as the Drinker and Garden Tiger are recorded both at moth traps and through direct observation either of adults or of their large and distinctive larvae.



Euthrix potatoria - Drinker caterpillar (early instar)

Twenty most frequently recorded moths - Direct Observation			
Species	2018	Species	2017
Drinker	34	Drinker	60
Fox Moth	34	Garden Tiger	46
Garden Tiger	21	Magpie	37
Six-spot Burnet	19	Six-spot Burnet	29
Silver Y	18	Fox Moth	27
Magpie	16	Straw Grass-veneer	22
Belted Beauty	13	Common Nettle-tap	21
Common Heath	13	Emperor Moth	20
Common Rush Case-bearer	10	White-shouldered House-moth	17
Emperor Moth	10	Yellow Shell	14
Rush Marble	10	Common Heath	14
Knot Grass	7	Belted Beauty	11
Beautiful Yellow Underwing	6	Northern Eggar	11
Argent & Sable	5	Brown House-moth	10
Brimstone Moth	5	Large Yellow Underwing	9
Ruby Tiger	5	Rush Marble	8
Antler Moth	4	Knot Grass	8
Brown China-mark	4	Arran Carpet	7
Ear Moth	4	Common Marble	7
Northern Eggar	4	Brown China-mark	7

Large moths such as Fox Moth, Emperor Moth and Drinker, for example, are often spotted as the males (identifiable by their long, feathered antennae) will fly during the day looking for newly emerged females to mate with. Pheromones released by female Emperor Moths are said to be effective at ranges up to 2 miles. A male waiting till nightfall in the long Hebridean days would probably get beaten to the females by a more adventurous individual prepared to risk flying during the day time.

The Silver Y and Antler moths are two others that are both attracted to light but will also fly during the day.

For these species it's more about topping up with nectar than finding a mate.



Macrothylacia rubi - Fox Moth (male)



Saturnia pavonia - Emperor Moth (female)



Ceraapteryx graminis - Antler Moth nectaring



Acronicta rumicis - Knot Grass caterpillar

Insects and other invertebrates

Another day-flying moth to look out for is the beautiful red and black Cinnabar. This has only been recorded in the Outer Hebrides since 2010 with a few records from Barra, Eriskay, South Uist and North Uist in subsequent years. Its caterpillars feed on Common Ragwort (*Senecio jacobaea*), a widespread species on machair and in other grassland habitats so this species could well spread.



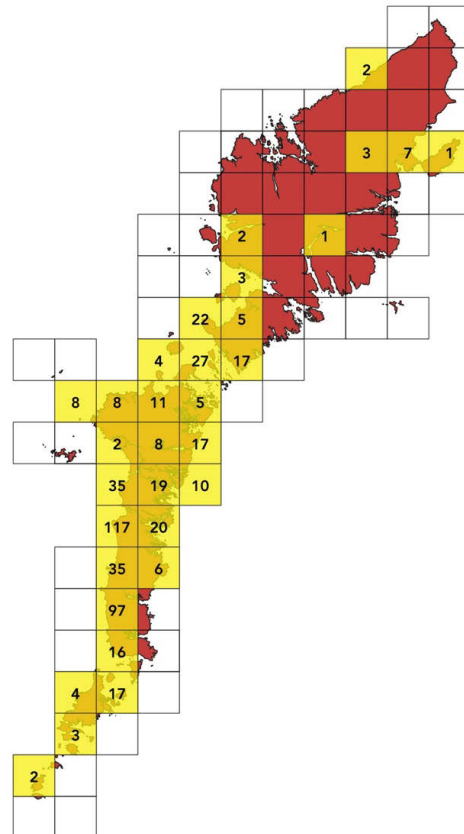
Tyria jacobaea – Cinnabar

Cinnabar moth records							
Year	2010	2011	2013	2014	2015	2016	2018
Records	1	2	1	2	4	1	5

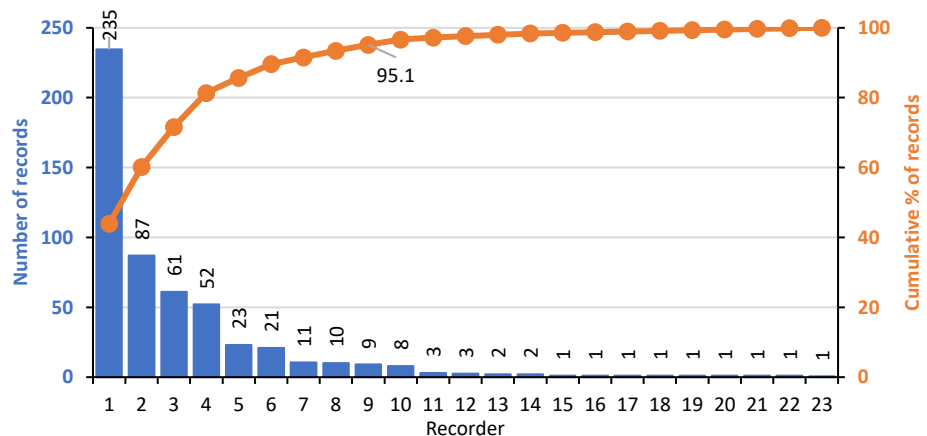
Insects other than Lepidoptera

Twenty-three recorders submitted 533 records of insects other than Lepidoptera. This is a decrease of 38% from the 864 records received in 2017. The coverage of 10km squares on Harris and Lewis has dropped from about 45% in 2017 to c.25% in 2018.

Insects (other than Lepidoptera) records by island		
Island	2017	2018
Lewis	141	14
Harris	23	70
Berneray	1	6
North Uist	58	63
Grimsay	0	17
Benbecula	75	55
South Uist	480	270
Eriskay	21	7
Barra	63	18
Vatersay	1	2
Mingulay	0	2
Total	864	533



There is also a drop in the number of received records. This is most pronounced on Lewis, South Uist and Barra whilst targeted 10km square bashing has probably raised the coverage on Harris, Grimsay and North Uist. The number of people submitting records of insects other than Lepidoptera actually rose very slightly to 23 in 2018 from 21 in 2017. Nine recorders contributed c.95% of the records.



Insects and other invertebrates

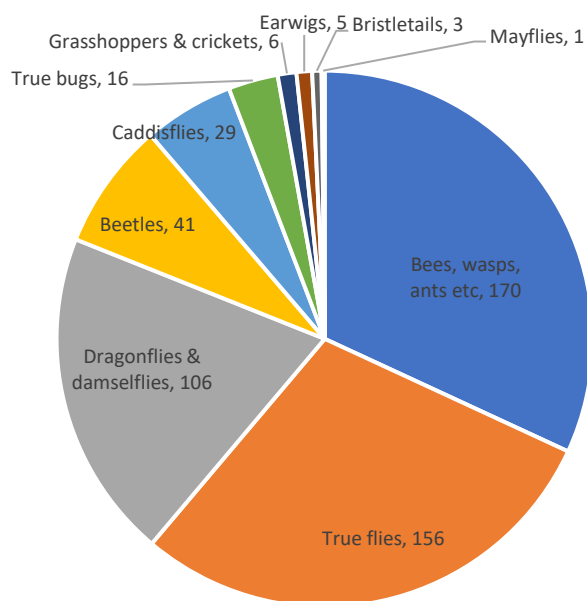
For those orders with more than 10 British species, VC110 has a fairly good representation amongst the aquatic insects (**Caddisflies, Mayflies, Dragonflies** and **Stoneflies**) with about 20% of British species being recorded in the Outer Hebrides. A similar percentage of **Lepidoptera** have been recorded here but the traditionally “more difficult orders” (Diptera, Hymenoptera, Coleoptera, Hemiptera and Collembola) are much more poorly represented. Fewer people had the interest, skills or access to appropriate identification materials for these groups.

Three other orders (Neuroptera, Orthoptera and Dictyoptera) are perhaps poorly represented in VC110 because they contain a higher proportion of warm loving species. There are also a few orders that people rarely

seem to be interested in (Thysanoptera, Psocoptera and Phthiraptera) perhaps as these also suffer from a lack of accessible identification keys.

Two orders are represented by records in 2018 that were not recorded in 2017 – Trichoptera (29 records of 14 species of Caddisfly) and Ephemeroptera (a single record of one Mayfly). This is pleasing as these are two groups that were identified in the 2017 report as warranting attention. The majority of the records (well over 75%) were of Hymenoptera, Diptera and Odonata. As noted earlier there was a 38% drop in total records from 2017 but the number of species recorded stayed more or less the same (144 in 2018 compared to 141 in 2017).

Order	Common Name	Britain	VC 110	
		Est. No. of Species	No. of Species	%
Diptera	Flies	7,000	466	6.7
Hymenoptera	Bees, Wasps etc.	7,000	95	1.4
Coleoptera	Beetles	4,000	462	11.6
Lepidoptera	Butterflies & Moths	2,570	510	19.8
Hemiptera	Bugs	1,830	59	3.2
Phthiraptera	Biting & Sucking lice	540		
Collembola	Springtails	250	7	2.8
Trichoptera	Caddisflies	198	73	36.9
Thysanoptera	Thrips	179		
Psocoptera	Booklice	100		
Neuroptera	Lacewings etc.	69	2	2.9
Siphonaptera	Fleas	62	2	3.2
Ephemeroptera	Mayflies	51	9	17.6
Odonata	Dragonflies	49	12	24.5
Plecoptera	Stoneflies	34	8	23.5
Orthoptera	Grasshoppers etc.	33	3	9.1
Protura	Simpletails	15		
Diplura	2-p. bristle-tails	11		
Dictyoptera	Cockroaches etc.	11		
Strepsiptera	Stylops	10		
Archaeognatha	Bristle-tails	7	2	28.6
Dermaptera	Earwigs	7	1	14.3
Mecoptera	Scorpionflies	4		
Rhaphidioptera	Snakeflies	4		
Megaloptera	Alderflies	3	1	33.3
Zygentoma	Silverfish & Firebrats	2		
Total		24,039	1,712	7.1



Only twenty-four species were recorded more than five times. Fifteen of these were from the more charismatic wing of entomology; bumblebees, dragonflies, damselflies and hoverflies. The other species were all distinctive in their own way and therefore easy to identify and record and these will be looked at as we take each order in turn.

Order	Common Name	No. of records by Order		No. of Species	
		2018	2017	2018	2017
Hymenoptera	Bees, wasps, ants etc	170	272	22	26
Diptera	True flies	156	356	69	74
Odonata	Dragonflies & damselflies	106	137	9	9
Coleoptera	Beetles	41	41	19	18
Trichoptera	Caddisflies	29		14	
Hemiptera	True bugs	16	28	6	11
Orthoptera	Grasshoppers & crickets	6	2	2	1
Dermaptera	Earwigs	5	4	1	1
Archaeognatha	Bristletails	3	4	1	1
Ephemeroptera	Mayflies	1		1	
Grand Total		533	844	144	141

Commonest recorded species included:	
6	Bumblebees
6	Dragonflies/Damselflies
3	Hoverflies
4	Other True Flies
2	Gall Midges
1	True Bug
1	Beetle
1	Solitary Bee

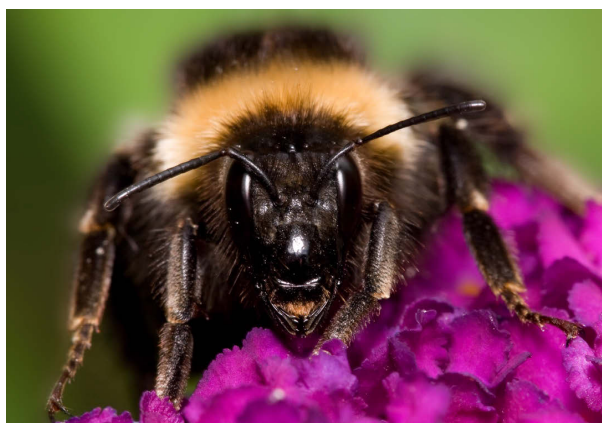
Insects and other invertebrates

Order Hymenoptera – Bees, Wasps, Ants etc

7000 British species, 95 VC110 species, 1.4% of British list 2018, 272 records of 22 species, 23.2% of VC List

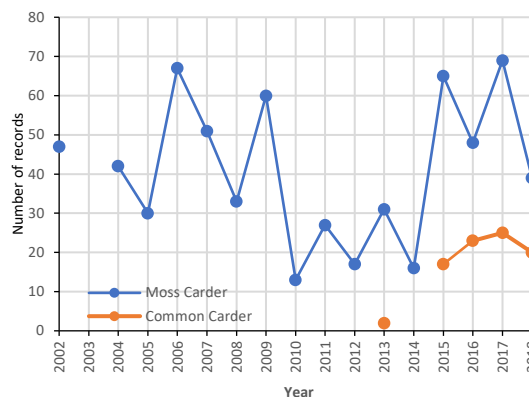
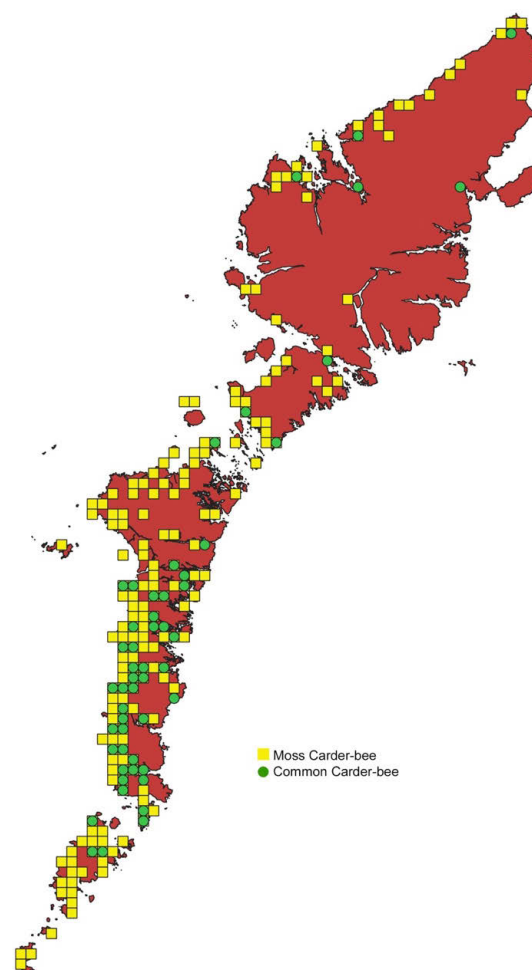
In Britain Hymenoptera number about 7,000 species belonging to 57 families. In VC110 in 2018, twenty-two species belonging to just eight families were recorded. Those eight families were not equally represented either. The eight species of Bumblebee recorded contributed 80% of all the records of Hymenoptera received in 2018.

Family	Species	Common name	No.
Apidae	<i>Bombus muscorum</i>	Moss Carder-bee	39
Apidae	<i>Bombus lucorum</i>	White-tailed Bumblebee	34
Apidae	<i>Bombus pascuorum</i>	Common Carder-bee	20
Apidae	<i>Bombus distinguendus</i>	Great Yellow Bumblebee	16
Apidae	<i>Bombus jonellus</i>	Heath Bumblebee	14
Apidae	<i>Bombus hortorum</i>	Small Garden Bumblebee	12
Tenthredinidae	<i>Pontania pedunculi</i>	Willow Gall Sawfly	7
Colletidae	<i>Colletes floralis</i>	The Northern Colletes	6
Vespidae	<i>Ancistrocerus oviventris</i>	A Potter Wasp	4
Formicidae	<i>Myrmica ruginodis</i>	A red Ant	3
Cynipidae	<i>Andricus kollari</i>	Marble Gall	2
Cynipidae	<i>Neuroterus quercusbaccarum</i>	Common Spangle Gall	2
Vespidae	<i>Ancistrocerus scoticus</i>	A Potter Wasp	2
Andrenidae	<i>Andrena ruficrus</i>	Northern Mining Bee	1
Apidae	<i>Bombus bohemicus</i>	Gypsy Cuckoo Bee	1
Halictidae	<i>Lasioglossum albipes</i>	Bloomed Furrow Bee	1
Tenthredinidae	<i>Euura auritae</i>	Sawfly (gall former)	1
Tenthredinidae	<i>Euura weiffenbachii</i>	Sawfly (gall former)	1
Tenthredinidae	<i>Hemichroa crocea</i>	Sawfly	1
Tenthredinidae	<i>Nematus ribesii</i>	Sawfly	1
Vespidae	<i>Ancistrocerus sp.</i>	Potter Wasp	1
Vespidae	<i>Dolichovespula sylvestris</i>	Tree Wasp	1



Bombus hortorum - Small Garden Bumblebee, one of the “long-faced” bees with a long tongue, at 1.5-2cm the longest of all UK Bumblebees. This allows access to nectar in flowers with long corolla tubes that other Bumblebees can't reach.

There has been a major change in the bumblebee fauna of the Outer Hebrides in recent years. Prior to 2013 there was only one species of Carder-bee here, *Bombus muscorum* the Moss Carder-bee. Indeed, that species together with *Bombus distinguendus*, the Great Yellow Bumblebee were considered as iconic machair species.



In 2013 the first Common Carder-bee was recorded from Lewis and in subsequent years there have been records from many parts of the Outer Hebrides. The two species are not always easy to separate. Worn Moss Carders can look very much like Common Carders. They occur in the same locations and habitats so great care is now needed when submitting records of these two species.

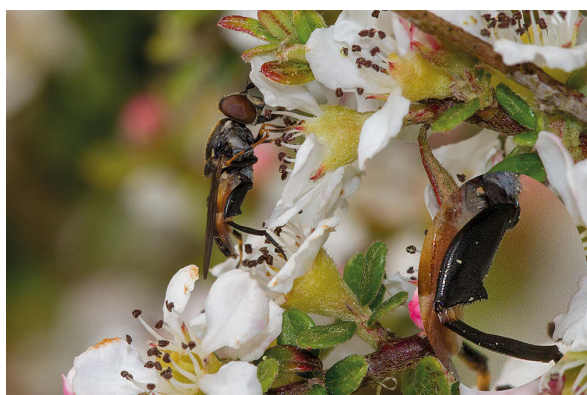
Insects and other invertebrates

Order Diptera – True Flies

7000 British species, 466 VC110 species, 6.7% of British list 2018, 156 records of 69 species, 14.8% of VC List

A similarly diverse group of insects to the Hymenoptera. Once again there are about 7,000 British species in a large number of families (107 in this order). In 2018 there were 156 records from 69 species in 17 families. About a third of all records were from just one family – the hoverflies.

Family	Type of Fly	No. of Records	No. of species
Syrphidae	Hoverfly	54	22
Cecidomyiidae	Gall Midge	18	7
Bibionidae	Fever Fly	16	1
Tipulidae	Cranefly	12	6
Tabanidae	Horsefly	11	3
Calliphoridae	Blowfly	10	6
Agromyzidae	Leaf Miner	7	6
Rhagionidae	Snipe Fly	7	1
Muscidae	House Flies etc.	6	6
Scatophagidae	Dung Fly	5	2
Limoniidae	Limonid Craneflies	3	2
Anisopodidae	Wood Gnats	2	2
Anthomyiidae	Leaf Miner	1	1
Dryomyzidae		1	1
Empididae	Dance Fly	1	1
Pediciidae	Hairy-eyed Craneflies	1	1
Tachinidae	A parasitic Fly	1	1
Grand Total		156	69



Tropida scita – one of the smaller, less colourful Hoverflies but easily identified by the pronounced triangular hook on the hind femur (inset).



Chromatomyia aprilina – family Agromyzidae, the larva form mines in Honeysuckle leaves. Good photographs of the mines will often enable an identification to be made. Photograph Bill Neill

Most Diptera records came from a small number of recorders. Fifteen people submitted records of Diptera but just three recorders contributed about 75% of the records.



Tipula oleracea – one of the earliest Craneflies to emerge.

Ease of identification is crucial in generating records from casually interested persons. A recent key* to hoverflies, for example, has been important in generating an interest in that group. Interestingly the second most frequently recorded family were the Gall Midges (Cecidomyiidae) where identification was of the host plant and gall rather than of the larval or adult insect.

*Stuart Bell & Roger Morris (2013), *Britain's Hoverflies*, Wild Guides (Princeton University Press)

Order Odonata – Dragonflies & Damselflies

49 British species, 12 VC110 species, 24.5% of British list 2018, 106 records of 8 species, 75% of VC List

Twelve species are known from the Outer Hebrides. One, *Anax ephippiger* (Vagrant Emperor), is represented by a single record from 2012. As its common name suggests this is a rare vagrant that very occasionally occurs in Scotland. Another of the 12, *Sympetrum nigrescens* (Highland Darter) is now considered a dark form of *Sympetrum striolatum* (Common Darter). A third species *Cordulegaster boltonii* (Golden-ringed Dragonfly) has only two post 1950 records and a number of earlier records of doubtful provenance. A fourth, *Aeshna cyanea* (Southern Hawker) has been recorded just once, in 2011, from Lewis. This leaves 8 likely species for VC110 and all were recorded in 2018.

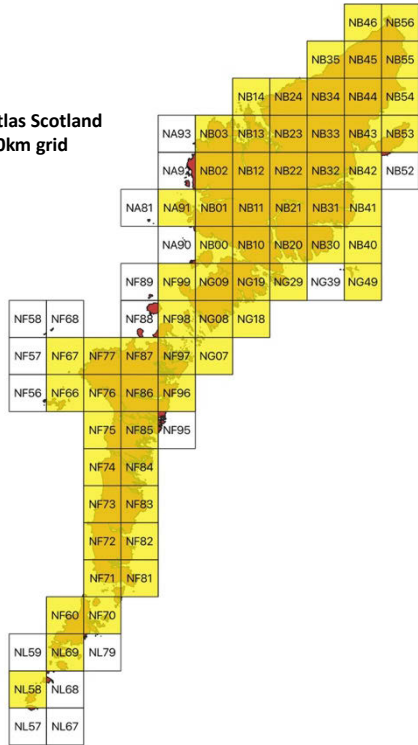
Species	Common name	No.
Large Red Damselfly	<i>Pyrrhosoma nymphula</i>	28
Four-spotted Chaser	<i>Libellula quadrimaculata</i>	21
Blue-tailed Damselfly	<i>Ischnura elegans</i>	14
Common Blue Damselfly	<i>Enallagma cyathigerum</i>	13
Common Darter	<i>Sympetrum striolatum</i>	9
Common Hawker	<i>Aeshna juncea</i>	9
Black Darter	<i>Sympetrum danae</i>	5
Emerald Damselfly	<i>Lestes sponsa</i>	5
Highland Darter ¹	<i>Sympetrum nigrescens</i>	2

¹ Entomologists now think Highland Darter is a form of the Common Darter rather than being a distinct species.

Insects and other invertebrates

Sixty-one percent of all the records came from just one recorder and nine others contributed to a good taxonomic coverage of the group. Our knowledge of where they are is also good. There are Odonata records now from just about all of the 10km grid squares covering the Outer Hebrides.

Distribution of NBN Atlas Scotland Odonata records by 10km grid squares.



There is probably enough information to produce a good provisional atlas of the distribution of Odonata in the Outer Hebrides.

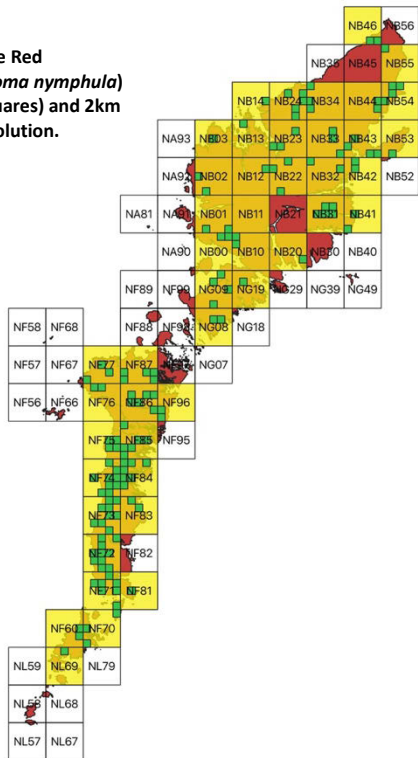


Pyrrhosoma nymphula – Large Red Damselfly



Sympetrum danae – Black Darter

Distribution of Large Red Damselfly (*Pyrrhosoma nymphula*) at 10km (yellow squares) and 2km (green squares) resolution.



Order Coleoptera – Beetles

4000 British species, 462 VC110 species, 11.6% of British list 2018, 41 records of 19 species, 4.1% of VC List

The Coleoptera are the third most diverse order of insects in Britain with about 4,000 known species. A higher proportion (11.6%, 462 species) of these are recorded from VC110 than compared to the Diptera (6.7%) and Hymenoptera (1.4%). Within the order there are 112 families. In 2018 there were few Coleoptera records, 41 records from just 9 families and 19 species – just 4.1% of the beetle species known to occur in the Outer Hebrides. Thirteen recorders contributed sightings in 2018.

Insects and other invertebrates

Family	Species	Common Name	No.
Aphodiidae	<i>Aphodius contaminatus</i>	A dung beetle	1
Cantharidae	<i>Rhagonycha fulva</i>	Common Red Soldier Beetle	11
Carabidae	<i>Broscus cephalotes</i>	A ground beetle	1
	<i>Carabus glabratus</i>	A ground beetle	2
	<i>Carabus granulatus</i>	A ground beetle	1
	<i>Carabus problematicus</i>	A ground beetle	1
	<i>Cicindela campestris</i>	Green Tiger Beetle	1
	<i>Pterostichus niger</i>	A ground beetle	1
Dytiscidae	<i>Dytiscus semisulcatus</i>	A diving beetle	1
Geotrupidae	<i>Geotrupes spiniger</i>	A dor beetle	1
	<i>Geotrupes stercorarius</i>	Lousy Watchman	1
Histeridae	<i>Saprinus semistriatus</i>	A predatory clown beetle	1
Melolonthidae	<i>Serica brunnea</i>	Brown Chafer	1
Silphidae	<i>Nicrophorus humator</i>	Black Sexton Beetle	2
	<i>Nicrophorus investigator</i>	A sexton beetle	2
	<i>Nicrophorus vespilloides</i>	A sexton beetle	3
	<i>Thanatophilus rugosus</i>	Carrion Beetle	4
Staphylinidae	<i>Creophilus maxillosus</i>	Carrion Beetle	2
	<i>Staphylinus erythropterus</i>	A rove beetle	4
Grand Total			41

The most frequently recorded beetle from 2018 was, for the second year running, *Rhagonycha fulva* the Common Red Soldier Beetle or more colloquially the “bonking beetle”. Anybody who has watched them on the heads of one of the large Umbellifers (Hogweed, Angelica or Cow Parsley) will appreciate why.

Most of the other records were single sightings of some of:

- large predatory ground beetles (Carabidae)
- dung feeding dor beetles (Geotrupidae)
- other beetles associated with dung *Aphodius contaminates* and *Saprinus semistriatus*
- carrion or sexton beetles (Silphidae)
- plus, one Staphylinid carrion feeder (*Creophilus maxillosus*)
- a diving beetle *Dytiscus semisulcatus*, chafer *Serica brunnea* and a very distinctive rove beetle *Staphylinus erythropterus*.

Identification Keys

These are beetles are relatively easy to identify as they have distinctive characteristics or there are good, well-constructed keys to the groups. Some are listed below. Full details of the website links can be found on the OHBR website.

Sexton Beetles - Silphidae

A new key is available from Silphidae Recording Scheme on the UK Coleoptera website

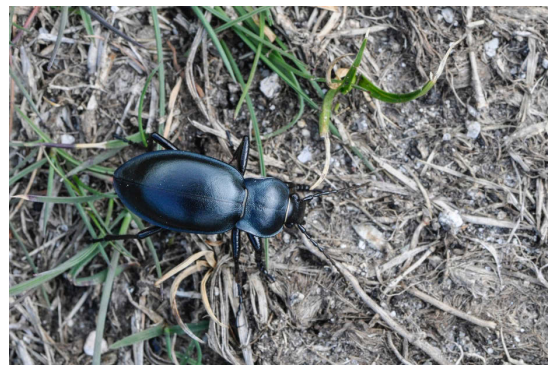
Key to the British Species of *Nicrophorus* by Mark Haston. Available on FSC Biodiversity website.



Carabus granulatus - a ground beetle, photograph Chris Johnson



Cicindela campestris - Green Tiger Beetle, photograph Christine Johnson



Carabus glabratus - a ground beetle, photograph Christine Johnson

Soldier Beetles

A field key to Soldier Beetles revised by Martin Harvey available on Mark Telfer’s website.

Ground Beetles - Carabids

Keys for the identification of British Carabidae are available on Mike Hackston’s website (Mike’s Insect Keys).

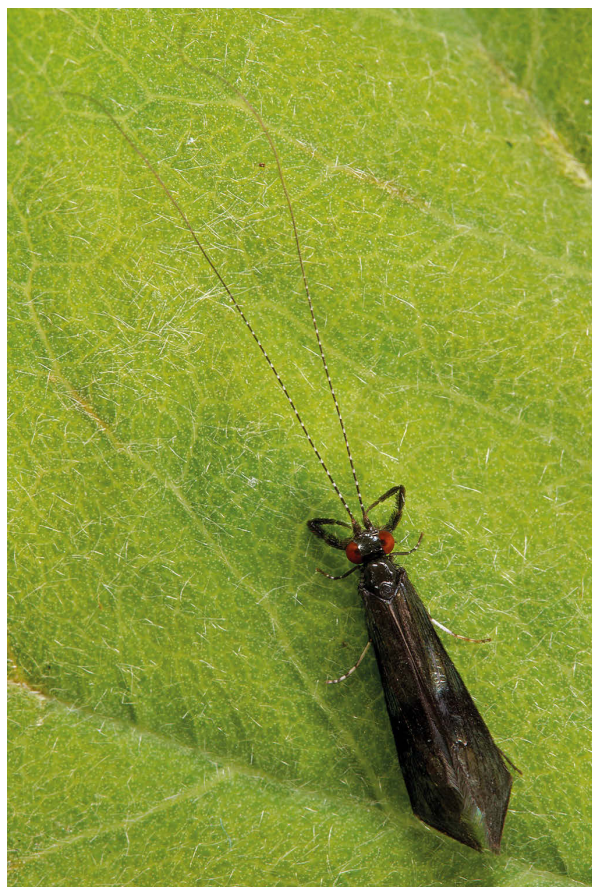
Insects and other invertebrates

Order Trichoptera – Caddisflies (Sedges to anglers)

198 British species, 73 VC110 species, 36.9% of British list
2018, 29 records of 14 species, 19.2% of VC List

The caddisflies are the order with the best percentage representation of the British fauna. Of the 198 British species 36.9% have been recorded from VC110. For such a well-represented group there has been little systematic recording of caddisflies by recorders for OHBR. Of the 29 recorded here in 2018 all but one was found as “by-catch” in one of the moth traps run on South Uist.

Family	Species	Angler's Name	No.
Lepidostomatidae	<i>Lepidostoma hirtum</i>	Small Silver Sedge	1
Leptoceridae	<i>Ceraclea fulva</i>		1
	<i>Mystacides azurea</i>	Black Silverhorn	1
	<i>Oecetis ochracea</i>	Longhorn Sedge	2
Limnephilidae	<i>Halesus radiatus</i>	Caperer	1
	<i>Limnephilus affinis</i>		5
	<i>Limnephilus hirsutus</i>		2
	<i>Limnephilus lunatus</i>	Cinnamon Sedge	3
	<i>Limnephilus marmoratus</i>	Cinnamon Sedge	5
	<i>Limnephilus sparsus</i>		1
	<i>Stenophylax permistus</i>	Large Cinnamon Sedge	1
Phryganeidae	<i>Phryganea grandis</i>	Murragh	1
Polycentropodidae	<i>Plectrocnemia conspersa</i>	Dark Spotted Sedge	2
Psychomyiidae	<i>Tinodes waeneri</i>	Small Red Sedge	3
Grand Total			29



Mystacides azurea - Black Silverhorn

There is great scope for using moth traps as sources of caddis by-catch and extending our knowledge of the distribution, abundance and seasonality of these insects. Not all species are attracted to light and netting of immature stages in streams and rivers would yield other species.



Limnephilus sparsus

Order Hemiptera – True Bugs

1830 British species, 59 VC110 species, 3.2% of British list
2018, 16 records of 6 species, 10.2% of VC List

This order is another that is poorly represented in the known VC110 fauna. Of the estimated 1,830 British species only 59 (3.2%) are recorded from the Outer Hebrides and of these just 6 species were recorded in 2018 (16 records in total).

Family	Species	Common Name	No.
Anthocoridae	<i>Anthocoris nemorum</i>	Common Flower Bug	1
Aphididae	<i>Hayhurstia atriplicis</i>	Gall former on <i>Atriplex</i>	1
	<i>Microlophium carnosum</i>	Nettle Aphid	3
Aphrophoridae	<i>Philaenus spumarius</i>	Cuckoo-Spit Insect	6
Gerridae	<i>Gerris lacustris</i>	Common Pondskater	3
Psyllidae	<i>Livia juncorum</i>	A jumping plantlouse	2
Grand Total			16

Terrestrial species; the most frequently recorded was the common Cuckoo-spit insect *Philaenus spumarius*. There were two species of aphid, one species of psyllid and an anthocorid bug. Identification can be aided by the fact that many are generally host specific, limited to a particular genus of plants. There is a good website to help identify aphids, searchable by host plant: www.influentialpoints.com.

The psyllids are well illustrated on the British Bugs website. This site also shows many of the other terrestrial Hemiptera.

The **aquatic Hemiptera** were represented in 2018 by just one well known and readily identifiable species: *Gerris lacustris* - Common Pondskater.

Insects and other invertebrates

Other Orders – to complete the summary of the Insects there were five other species recorded in 2018 belonging to four different Orders:

Order	Species	Common Name	No.
Archaeognatha	<i>Petrobius maritimus</i>	Sea Bristletail	3
Dermaptera	<i>Forficula auricularia</i>	Common Earwig	5
Ephemeroptera	<i>Cloeon simile</i>	Lake Olive	1
Orthoptera	<i>Myrmeleotettix maculatus</i>	Mottled Grasshopper	5
	<i>Omocestus viridulus</i>	Common Green Grasshopper	1
Grand Total			15

Order Orthoptera – Grasshoppers & Crickets

33 British species, 3 VC110 species, 9.1% of British list 2018, 6 records of 2 species, 66.7% of VC List

Just two species were recorded in 2018, *Myrmeleotettix maculatus* (Mottled Grasshopper) and *Omocestus viridulus* (Common Green-Grasshopper). The only other species recorded from VC110 is *Tetrix undulata* (Common Ground Hopper, 8 records on South Uist and Barra).



Omocestus viridulus - Common Green-grasshopper

Order Dermaptera – Earwigs & Cockroaches

7 British species, 1 VC110 species, 14.3% of British list 2018, 5 records of 1 species, 100% of VC List

In 2018 five records of the Common Earwig *Forficula auricularia*, the only species of earwig recorded from VC110.



Forficula auricularia – Common Earwig

Order Archaeognatha – Bristle-tails

7 British species, 2 VC110 species, 28.6% of British list 2018, 3 records of 1 species, 50% of VC List

In 2018 three records of the Sea Bristletail *Petrobius maritimus* were submitted. A second, very similar, species of bristletail (*Petrobius brevistylis*) has twice been recorded from the Outer Hebrides, both records are from St Kilda in 2010.

Order Ephemeroptera – Bristle-tails

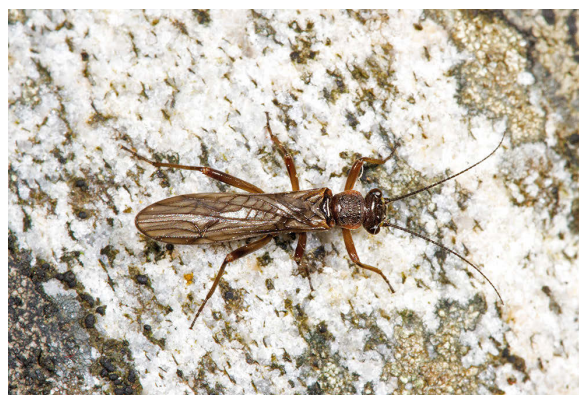
51 British species, 9 VC110 species, 17.6% of British list 2018, 1 record of 1 species, 11.1% of VC List

A single mayfly, *Cloeon simile* (the Lake Olive) was recorded from South Uist.



Cloeon simile - Lake Olive (male). This species is attracted to light and can be found on walls around exterior lights and occasionally in moth traps. Very few Mayfly records are received by OHBR.

There are no records of the other insect orders for 2018. The lack of records of stoneflies (**Order Plecoptera**) is surprising in that it is a well-known and frequently studied group with adequate identification resources for both adult and nymphal stages.



Nemoura cinerea – a Stonefly, these are very poorly recorded in VC110 at the moment

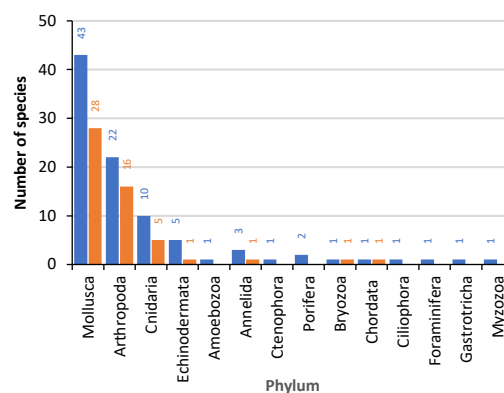
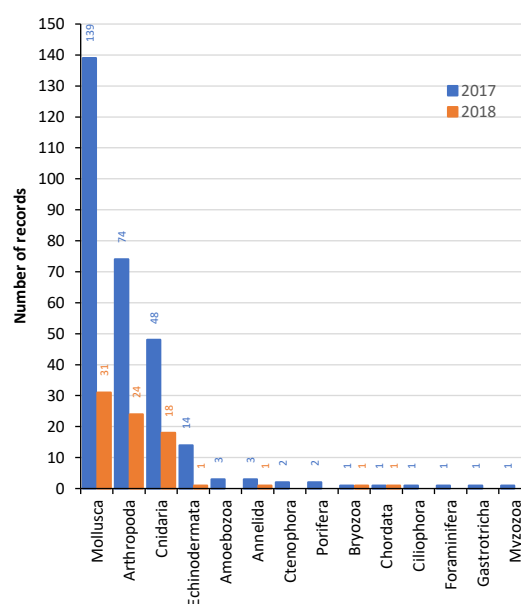
Insects and other invertebrates

Invertebrates other than Insects

In 2018 twenty-one people submitted 77 records of 53 species, over half submitting just one sighting. The number of sightings show a big drop when compared to 2017 when 30 recorders sent in 291 records of 93 species. Most species recorded in 2018 were of marine organisms (shown in **bold** below).

Species (marine sp. in bold)	Common name or type of organism	Records
<i>Velella velella</i>	By-the-wind Sailor	7
<i>Cyanea capillata</i>	Lion's Mane Jellyfish	4
<i>Aurelia aurita</i>	Moon jellyfish	3
<i>Araneus diadematus</i>	Garden Orb-web Spider	2
<i>Tetragnatha sp.</i>	a stretch spider	2
<i>Aceria nalepai</i>	a gall mite	2
<i>Aceria pseudoplatani</i>	a gall mite	2
<i>Carcinus maenas</i>	Green Shore Crab	2
<i>Oniscus asellus</i>	Common Shiny Woodlouse	2
<i>Dosima fascicularis</i>	Buoy Barnacle	2
<i>Lepas anatifera</i>	Common Goose Barnacle	2
<i>Cyanea lamarckii</i>	Blue Jellyfish	2
<i>Chrysaora hysoscella</i>	Compass jellyfish	2
<i>Cochlicella acuta</i>	Pointed Snail	2
<i>Cornu aspersum</i>	Common Garden Snail	2
<i>Helicella itala</i>	Heath Snail	2
<i>Sabella pavonina</i>	Peacock Worm	1
<i>Larinioides cornutus</i>	an orb weaver spider	1
<i>Dicranopalpus ramosus</i>	a harvestman	1
<i>Ameronothrus sp.</i>	a mite	1
<i>Crisia eburnea</i>	a Bryozoan	1
<i>Corystes cassivelaunus</i>	Masked crab	1
<i>Maja brachydactyla</i>	Common Spider Crab	1
<i>Ligia oceanica</i>	Sea Slater	1
<i>Porcellio scaber</i>	Common Rough Woodlouse	1
<i>Semibalanus balanoides</i>	Acorn Barnacle	1
<i>Salpidae</i>	a planktonic tunicate	1
<i>Asterias rubens</i>	Common Starfish	1
<i>Ensis magnus</i>	a razor shell	1
<i>Thracia villosiuscula</i>	a marine bivalve	1
<i>Lucinoma borealis</i>	a marine bivalve	1
<i>Pecten maximus</i>	Great Scallop	1
<i>Talochlamys pusio</i>	Humpback Scallop	1
<i>Arctica islandica</i>	Icelandic Cyprine	1
<i>Cerastoderma edule</i>	Common Cockle	1
<i>Cerastoderma glaucum</i>	Lagoon Cockle	1
<i>Laevicardium crassum</i>	Norway Cockle	1
<i>Lutraria angustior</i>	a marine bivalve	1
<i>Lutraria lutraria</i>	Common Otter Shell	1
<i>Spisula elliptica</i>	a marine bivalve	1
<i>Spisula solida</i>	Thick Trough Shell	1
<i>Chamelea striatula</i>	Striped Venus	1
<i>Dosinia exoleta</i>	Rayed Artemis	1
<i>Dosinia lupinus</i>	Smooth Artemis	1
<i>Polititapes rhomboides</i>	Banded Carpet Shell	1
<i>Venerupis corrugata</i>	Pullet Carpet Shell	1
<i>Acteon tornatilis</i>	a barrel bubble snail	1
<i>Patella pellucida</i>	Blue-rayed Limpet	1
<i>Patella vulgata</i>	Common Limpet	1
<i>Littorina obtusata</i>	Flat Periwinkle	1
<i>Melarhaphe neritoides</i>	Small Periwinkle	1
<i>Buccinum undatum</i>	Common whelk	1
<i>Lepidochitona cinerea</i>	a chiton	1

Molluscs remain the most frequently recorded phylum in 2018 and then in descending frequency, Arthropods (Spiders, Mites, Woodlice, Millipedes, Crabs, Lobsters etc.), Cnidaria (Jellyfish etc.). There were very few records of the minor phyla with just records of one echinoderm (the Common Starfish *Asterias rubens*), one annelid (the marine Peacock Worm *Sabella pavonina*) and a Salp (Chordata). Technically Salps are not invertebrates but are discussed here as they look to most people like an invertebrate and are often found on beaches washed up with various invertebrate forms.



Given the low number of sightings received in 2018 it's not surprising that few (53) species of invertebrates (other than insects) were recorded.

Insects and other invertebrates

Marine Invertebrates - Molluscs

Who hasn't come home from a walk along the beach with a few shells in your pocket? It seems as if few OHBR recorders do so. All but two of the marine mollusc records came from the same beach on the same date and were submitted by one pair of recorders.

Class	Species	Common name or type of organism	Records	
Bivalvia	<i>Ensis magnus</i>	a razor shell	1	
	<i>Thracia villosiuscula</i>	a marine bivalve	1	
	<i>Lucinoma borealis</i>	a marine bivalve	1	
	<i>Pecten maximus</i>	Great Scallop	1	
	<i>Talochlamys pusio</i>	Humpback Scallop	1	
	<i>Arctica islandica</i>	Icelandic Cyprine	1	
	<i>Cerastoderma edule</i>	Common Cockle	1	
	<i>Cerastoderma glaucum</i>	Lagoon Cockle	1	
	<i>Laevicardium crassum</i>	Norway Cockle	1	
	<i>Lutraria angustior</i>	a marine bivalve	1	
	<i>Lutraria lutraria</i>	Common Otter Shell	1	
	<i>Spisula elliptica</i>	a marine bivalve	1	
	<i>Spisula solida</i>	Thick Trough Shell	1	
	<i>Chamelea striatula</i>	Striped Venus	1	
	<i>Dosinia exoleta</i>	Rayed Artemis	1	
	<i>Dosinia lupinus</i>	Smooth Artemis	1	
	<i>Polititapes rhomboides</i>	Banded Carpet Shell	1	
	<i>Venerupis corrugata</i>	Pullet Carpet Shell	1	
	Gastropoda	<i>Acteon tornatilis</i>	a barrel/bubble snail	1
		<i>Patella pellucida</i>	Blue rayed limpet	1
<i>Patella vulgata</i>		Common Limpet	1	
<i>Littorina obtusata</i>		Flat Periwinkle	1	
<i>Melarhaphe neritoides</i>		Small Periwinkle	1	
<i>Buccinum undatum</i>		Common whelk	1	
Polyplacophora	<i>Lepidochitona cinerea</i>	a chiton	1	



Arctica islandica - Icelandic Cyprine, length 95mm - this species is known to live a very long time. One collected from deep water off the coast of Iceland was aged (by counting annual growth rings) at 507 years old. The most long-lived animal known.



Dosinia exoleta - Rayed Artemis, diameter 36mm



Dosinia lupinus - Smooth Artemis, diameter 32mm



Acteon tornatilis - a barrel snail, length large one 15mm, small 9mm



Patella pellucida - Blue-rayed Limpet, length 11mm - a young specimen



Patella pellucida - Blue-rayed Limpet, length 11mm - a young specimen

Insects and other invertebrates

Other Marine Invertebrates

There were a further thirty-one records of fifteen species of other marine invertebrates from five different phyla.

Phylum	Species	Common Name	Records
Annelida	<i>Sabella pavonina</i>	Peacock Worm	1
Arthropoda	<i>Corystes cassivelaunus</i>	Masked crab	1
	<i>Maja brachydactyla</i>	Common Spider Crab	1
	<i>Carcinus maenas</i>	Green Shore Crab	2
	<i>Ligia oceanica</i>	Sea Slater	1
	<i>Dosima fascicularis</i>	Buoy Barnacle	2
	<i>Lepas anatifera</i>	Common Goose Barnacle	2
	<i>Semibalanus balanoides</i>	Acorn Barnacle	1
Chordata	<i>Salpidae</i>	Salpidae	1
Cnidaria	<i>Verella vellella</i>	By-the-wind Sailor	7
	<i>Cyanea capillata</i>	Lion's Mane Jellyfish	4
	<i>Cyanea lamarckii</i>	Blue Jellyfish	2
	<i>Chrysaora hysoscella</i>	Compass Jellyfish	2
Echinodermata	<i>Aurelia aurita</i>	Moon Jellyfish	3
	<i>Asterias rubens</i>	Common Starfish	1



Lepas anatifera - Common Goose Barnacle, photograph Chris Johnson



Lepas anatifera - Common Goose Barnacle, photograph Chris Johnson

The species recorded were a mixture of species commonly found on rocky coastlines together with an appreciable number of "drift" species. Various jellyfish, goose barnacles and By-the-wind Sailor, as in 2017, featured strongly making up three-quarters of the

records. These are all likely to be records of species that people find interesting and notice whilst casually visiting Outer Hebrides beaches.

There would appear to be no systematic surveying of these habitats and species taking place. There would also seem to be an untapped number of records available from all those people who are drawn to explore the magnificent beaches that fringe the islands.

Terrestrial Invertebrates

Whilst many insect groups are relatively well known there is scope for more recording of the other groups of terrestrial invertebrates. It's likely that there are more species of each of the major groups of terrestrial invertebrates to add to the VC110 list given the low proportion of the estimated UK species found here already.

Type of animal	Group	Number of species	
		VC110	2018
Phylum Arthropoda			
Centipedes	Chilopoda	3 (57 ¹)	-
Millipedes	Diplopoda	8 (62)	-
Springtails	Collembola	7 (c.300)	-
Woodlice	Isopoda	27 (35)	2 (3 ²)
Spiders	Araneae	17 (c.650)	3 (5)
Harvestmen	Opiliones	11 (26)	1 (1)
Ticks	Ixodida	3 (c.20)	-
Mites	Acari	12 (??)	3 (5)
Pseudoscorpions		1 (28)	-
Phylum Mollusca			
Slugs		20 (c.45)	-
Snails		42 (c.100)	3(6)
Freshwater Bivalves		10 (31)	-
Pond Snails		11 (c.40)	-
Phylum Annelida			
Leech	Clitellata (part)	4 (16)	-
Earthworm	Oligochaeta	11 (c.30)	-
Flatworms	Platyhelminthes	3 (c.13)	-
Grand Total		187	12 (20)

¹ (numbers) in brackets are estimated no. of UK species
² (numbers) in brackets are total records for 2018

Phylum Mollusca

In addition to the twenty-five marine molluscs found there were three non-marine species recorded.

Class	Species	Common name or type of organism	Records
Gastropoda	<i>Cochlicella acuta</i>	Pointed Snail	2
	<i>Cornu aspersum</i>	Common Garden Snail	2
	<i>Helicella itala</i>	Heath Snail	2

Terrestrial slugs, snails (and freshwater snails and bivalves) are generally under-recorded. As are the other terrestrial invertebrates, those recorded in 2018 were all in the phylum Arthropoda.

Insects and other invertebrates

Phylum Arthropoda

Class	Species	Common Name	Records
Arachnida	<i>Araneus diadematus</i>	Garden Orb-web Spider	2
	<i>Larinioides cornutus</i>	an orb weaver spider	1
	<i>Tetragnatha sp.</i>	a stretch spider	2
	<i>Dicranopalpus ramosus</i>	a harvestman	1
Acari	<i>Ameronothrus sp.</i>	a mite	1
	<i>Aceria nalepai</i>	a gall mite	2
	<i>Aceria pseudoplatani</i>	a gall mite	2
Maxillopoda	<i>Oniscus asellus</i>	Common Shiny Woodlouse	2
	<i>Porcellio scaber</i>	Common Rough Woodlouse	1

There were just three records of two species of woodlice in 2018. No centipedes or millipedes were recorded. The British Myriapod and Isopod Group website has suggestions of some suitable identification works

Some of their recommended guides are part of the Field Studies Council's AIDGAP series and the FSC also publish the rather more technical *Synopses of The British Fauna* on behalf of the Linnean Society:

Mites

Four records of two species of gall forming mite were the only records for 2018, both species from Sycamore.



Aceria pseudoplatani – forms Sycamore Felt Gall, photograph Christine Johnson

With many plant galls, if the host plant is known then that can be the basis of identification. There is an excellent guide in the Field Studies Council's AIDGAP series and useful photographs on the NatureSpot web site.

Centipedes, Millipedes and Woodlice



Porcellio scaber – Common Rough Woodlouse

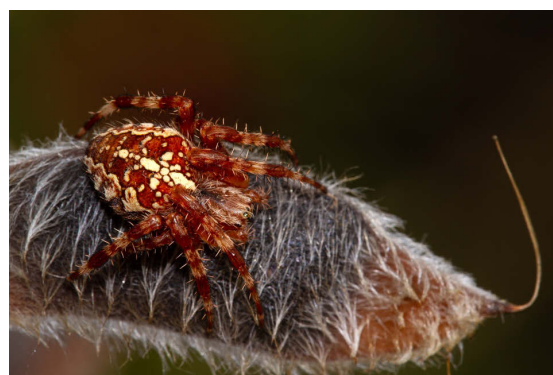
Spiders and Harvestmen

Just six records of three species of spider and one harvestman. An easy to use fold out chart from the FSC covers all Harvestman species found in the UK.



A typical harvestman –This one is *Platybunus triangularis*, it's one of the earliest species to be found in the year. It was not one of the species recorded in 2018.

Identifying the 650 or so species of spider is less straightforward. The British Arachnological Society website has a list of recommended key works.



Araneus diadematus - Garden Orb-web Spider

Phylum Annelida – worms and leeches

No records in 2018

Insects and other invertebrates

Focus on freshwater & terrestrial molluscs

The NBN Atlas Scotland has over 25,000 mollusc records from the Outer Hebrides. Many of these are marine species. This is a summary of the records for freshwater and terrestrial molluscs with suggestions of resources that are available to help with their identification. In the future it would be nice to see rather more records of at least some of the commoner molluscs being submitted to OHBR.

Freshwater Bivalves		Records
<i>Pisidium hibernicum</i>	Globular Pea Mussel	18
<i>Pisidium lilljeborgii</i>	a pea mussel	17
<i>Pisidium casertanum</i>	a pea mussel	16
<i>Margaritifera margaritifera</i>	Freshwater Pearl Mussel	13
<i>Pisidium nitidum</i>	Shining Pea Mussel	11
<i>Pisidium personatum</i>	Red-crusted Pea Mussel	10
<i>Pisidium milium</i>	Rosy Pea Shell	9
<i>Pisidium subtruncatum</i>	Short-ended Pea Mussel	8
<i>Pisidium obtusale</i>	Porous Pea Mussel	6
<i>Sphaerium corneum</i>	Horny Orb Mussel	5

Freshwater Snails		Records
<i>Potamopyrgus antipodarum</i>	Jenkins' Spire Snail	104
<i>Radix balthica</i>	Wandering Snail	48
<i>Lymnaeidae sp.</i>	Pond snails	36
<i>Ancylus fluviatilis</i>	River limpets	22
<i>Galba (Galba) truncatula</i>	Dwarf Pond Snail	21
<i>Anisus (Anisus) leucostoma</i>	White-lipped Ramshorn	8
<i>Gyraulus (Torquis) laevis</i>	Smooth Ramshorn	8
<i>Planorbidae sp.</i>	Ramshorn	8
<i>Aplexa hypnorum</i>	Moss Bladder Snail	7
<i>Gyraulus (Armiger) crista</i>	Nautilus Ramshorn	7
<i>Lymnaea (Stagnicola) fuscus</i>	Marsh Pond Snail	2

Slugs		Records
<i>Derocera reticulatum</i>	Netted Field Slug	152
<i>Arion (Mesarion) subfuscus</i>	Dusky Slug	123
<i>Arion (Kobeltia) intermedius</i>	Hedgehog Slug	73
<i>Deroceras invadens</i>	Tramp Slug	69
<i>Milax gagates</i>	Smooth Jet Slug	69
<i>Arion flagellus</i>	Green-soled Slug	49
<i>Lehmannia marginata</i>	Tree Slug	27
<i>Arion ater</i>	Large Black Slug	26
<i>Deroceras agreste</i>	Arctic Field Slug	24
<i>Deroceras laeve</i>	Marsh Slug	24
<i>Arion (Kobeltia) owenii</i>	Tawny Soil Slug	19
<i>Arion circumscriptus silvaticus</i>	Silver False-keeled Slug	17
<i>Arion (Kobeltia) distinctus</i>	Brown Soil Slug	16
<i>Limax maximus</i>	Leopard Slug	11
<i>Tandonia budapestensis</i>	Budapest Keeled Slug	9
<i>Limacus flavus</i>	Yellow Cellar Slug	4
<i>Arion rufus</i>	Large Red Slug	1
<i>Boettgerilla pallens</i>	Worm Slug	1
<i>Limacus maculatus</i>	Green Cellar Slug	1
<i>Tandonia sowerbyi</i>	Sowerby's Keeled Slug	1

Identification

Freshwater bivalves, land snails and slugs are covered by keys in the AIDGAP series, published by the Field Studies Council.

Downloadable keys to aquatic and terrestrial snails, and slugs can be found on the NatureSpot website.

The Conchological Society of Great Britain and Ireland has produced a nice laminated Field Guide to Land Snails, which is available on their website.

Terrestrial Snails		Records
<i>Cochlicella (Cochlicella) acuta</i>	Pointed Snail	317
<i>Helicella itala</i>	Heath Snail	296
<i>Cornu aspersum</i>	Common Garden Snail	179
<i>Cochlicopa cf. lubrica</i>	Slippery Moss Snail	84
<i>Lauria (Lauria) cylindracea</i>	Common Chrysalis Snail	74
<i>Oxychilus (Oxychilus) alliarius</i>	Garlic Snail	68
<i>Vitriina pellucida</i>	Winter Semi-slug	62
<i>Oxychilus (Oxychilus) cellarius</i>	Cellar Snail	51
<i>Cepaea (Cepaea) hortensis</i>	White-lipped Snail	45
<i>Cochlicopa cf. lubricella</i>	Least Slippery Snail	42
<i>Nesovitrea (Perpolita) hammonis</i>	Rayed Glass Snail	29
<i>Discus (Gonyodiscus) rotundatus</i>	Rounded Snail	29
<i>Trochulus (Trochulus) hispidus</i>	Hairy Snail	28
<i>Vallonia cf. excentrica</i>	Eccentric Grass Snail	23
<i>Trochulus (Trochulus) striolatus</i>	Strawberry Snail	22
<i>Aegopinella nitidula</i>	Smooth Glass Snail	21
<i>Oxyloma (Oxyloma) elegans</i>	Pfeiffer's Amber Snail	16
<i>Carychium minimum</i>	Short-toothed Herald Snail	14
<i>Balea (Balea) perversa</i>	Tree Snail	14
<i>Vertigo (Vertigo) substriata</i>	Striated Whorl Snail	13
<i>Vitrea contracta</i>	Milky Crystal Snail	12
<i>Vallonia costata</i>	Ribbed Grass Snail	12
<i>Vertigo (Vertigo) pygmaea</i>	Common Whorl Snail	12
<i>Punctum (Punctum) pygmaeum</i>	Dwarf Snail	11
<i>Candidula interseca</i>	Wrinkled Snail	9
<i>Clausilia (Clausilia) bidentata</i>	Two-toothed Door Snail	7
<i>Zonitoides (Zonitoides) excavatus</i>	Hollowed Glass Snail	7
<i>Leiostryla (Leiostryla) anglica</i>	English Chrysalis Snail	7
<i>Vitrea crystallina</i>	Crystal Snail	7
<i>Vertigo (Vertigo) antivertigo</i>	Marsh Whorl Snail	6
<i>Ashfordia granulata</i>	Silky Snail	5
<i>Aegopinella pura</i>	Clear Glass Snail	5
<i>Pupilla (Pupilla) muscorum</i>	Moss Chrysalis Snail	5
<i>Carychium tridentatum</i>	Long-toothed Herald Snail	4
<i>Vertigo (Vertigo) lilljeborgi</i>	Lilljeborg's Whorl Snail	4
<i>Arianta arbustorum</i>	Copse Snail	3
<i>Zonitoides (Zonitoides) nitidus</i>	Shiny Glass Snail	2
<i>Vertigo (Vertigo) pusilla</i>	Wall Whorl Snail	2
<i>Vertigo (Vertilla) angustior</i>	Narrow-mouthed Whorl Snail	2
<i>Clausilia (Andraea) dubia</i>	Craven Door Snail	1
<i>Euconulus (Euconulus) cf. fulvus</i>	Tawny Glass Snail	1
<i>Cerneuella (Cerneuella) virgata</i>	Striped Snail	1
<i>Zenobiella subrufescens</i>	Brown Snail	1
<i>Oxychilus (Oxychilus) draparnaudi</i>	Draparnaud's Glass Snail	1
<i>Oxyloma (Oxyloma) sarsii</i>	Slender Amber Snail	1

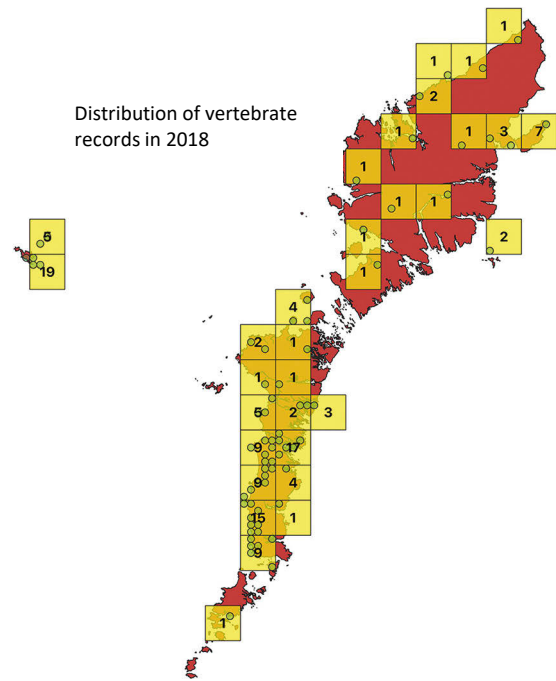


Clausilia sp. – identification of these species requires careful examination of the “mouth” of the shell. This is more easily done on empty shells than on living snails

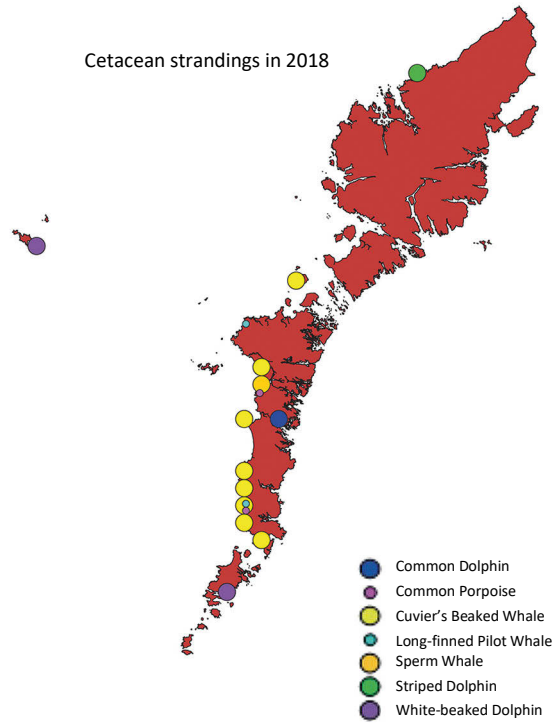
Vertebrates

Vertebrates

Type	Species	Basis of record				Total
		Seen from boat	Stranded or otherwise dead	Droppings, footprints, runs or other signs	General observation	
Amphibian	Common Frog				10	10
	Palmate Newt				1	1
Reptile	Slow-worm		1		3	4
Fish						
Bony Fish	Butterfish				1	1
	European Eel		1		2	3
Shark, ray etc.	Basking Shark		1		7	8
	Rough Hound				1	1
Mammal						
Carnivora	Common Seal		1		1	2
	European Otter		2	12	14	28
	Feral Ferret		2		8	10
	Grey Seal		1		1	2
Cetacean	Bottle-Nosed Dolphin				1	1
	Common Dolphin		1		10	11
	Common Porpoise	2	2		1	5
	Cuvier's Beaked Whale		10			10
	Long-finned Pilot Whale		2			2
	Minke Whale	2			8	10
	Northern Bottlenose Whale				1	1
	Risso's Dolphin	2			2	4
	Sperm Whale		1			1
	Striped Dolphin		1			1
	White-beaked Dolphin	1	2		2	5
Deer	Red Deer			2	9	11
Insectivora	Hedgehog		3		6	9
Lagomorph	European Rabbit				5	5
	Mountain Hare				1	1
Rodent	Brown Rat			5	2	7
	Field Vole			2	1	3
Other	Feral Horse				1	1
Grand Total		7	31	21	99	158



Distribution of vertebrate records in 2018



Cetacean strandings in 2018

In total 158 records of twenty-nine species of vertebrate were submitted by thirty-four recorders. More people submit records of vertebrates than do so for other groups of animals.

Seventeen of the twenty-nine species recorded were either marine animals, or in the case of Otter, most frequently seen around the coast. There were 51 records of eleven species of Cetacean. Sadly, nineteen of these records were of dead animals found on various beaches around the islands. This was part of a much larger series of strandings. By the end of October 2018 nearly 100, mostly Cuvier's Beaked Whales, had been reported from the west coasts of Ireland and Scotland. The suspicion is that the cause was the use of mid-water naval sonar.

More information on Cetacean strandings in 2018 can be found on the National Museums Scotland website blog section.

The distribution of vertebrate records is shown at two different resolutions. The large yellow squares are, as elsewhere in this report, 10km grid squares with the total number of records per grid square shown. Plotting at the 2km scale gave an impression that many of the vertebrate records in 2018 were from coastal locations

Vertebrates

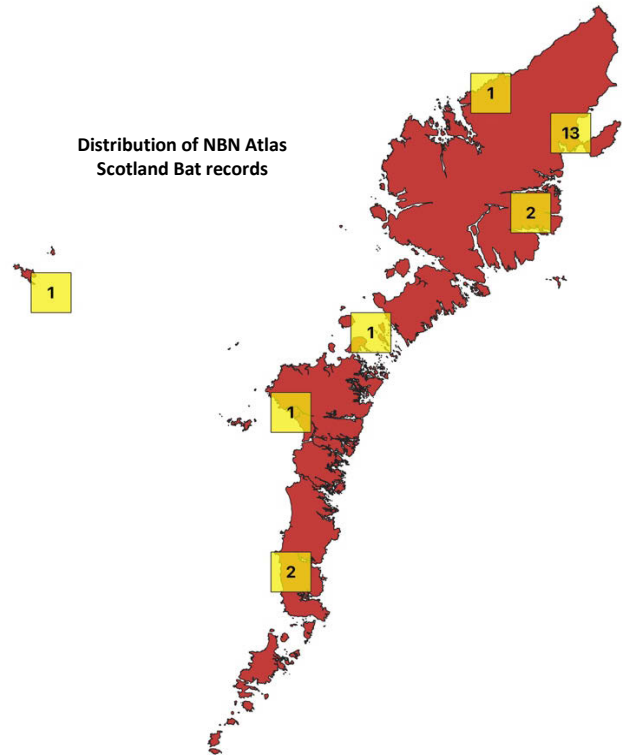
Mammals other than Cetaceans

The NBN Atlas Scotland has records for twenty-five non-cetacean mammals from the Outer Hebrides. Some scientists suggest that only species such as Otter, seals and bats will have arrived here unaided. The rest required accidental or deliberate human help. Included amongst these are a number of species, Feral Cat, Feral Ferret, American Mink and Hedgehog that are likely to be important predators of nesting birds. In 2018 there were ten records of Feral Ferrets, all from Lewis, and nine Hedgehogs were recorded, all from South Uist.



Erinaceus europaeus – Hedgehog at full speed.

There are twenty-one records of (probably) four species of bat for the Outer Hebrides. Most of these records are from the Stornoway area but there are scattered records from elsewhere. Given the presence of an increasing amount of woodland in the Outer Hebrides then a more systematic survey is probably warranted. No bats were recorded in 2018.



Records that were received in 2018 were mostly of familiar and readily spotted species; Otter, Red Deer, Common and Grey Seals and Rabbit. There was a single Mountain Hare record. In the Outer Hebrides this species is only found on North Harris and Lewis and the 2018 sighting was in the known range of this species.

Species	Records	
	NBN Atlas	2018
European Otter	995	28
Grey Seal	821	2
European Rabbit	669	5
Feral Cat	435	
Red Deer	297	11
Harbour/Common Seal	213	2
Hedgehog	172	9
Brown Rat	153	7
Wood Mouse	129	
Field Vole	62	3
Mountain Hare	52	1
American Mink	39	
Eurasian Pygmy Shrew	32	
Feral Ferret	27	10
Common Pipistrelle	9	
Pipistrelle Bat species	6	
Black Rat	3	
Nyctalus Bat species	2	
Brown Hare	2	
House Mouse	2	
Feral Sheep	1	
Walrus	1	
Long-eared Bat species	1	
Nathusius's Pipistrelle	1	
Horse	1	1



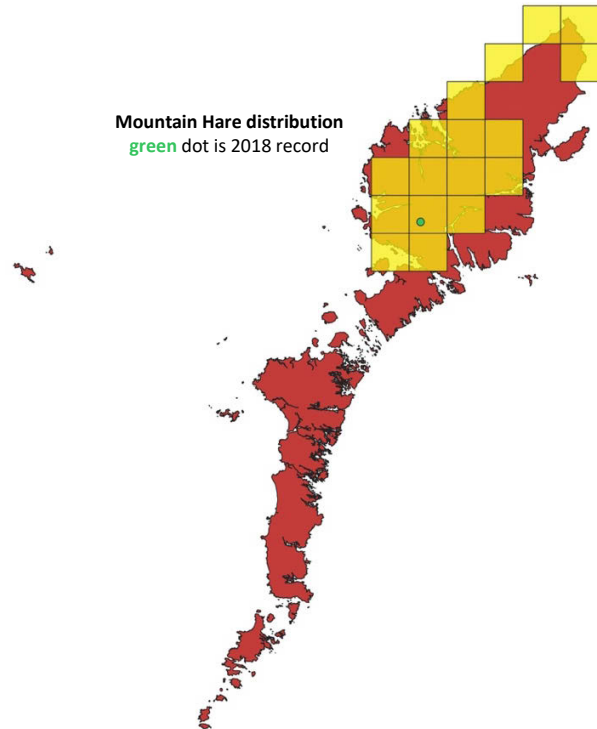
Cervus elaphus - Red Deer

Vertebrates

Of the smaller animals, only Brown Rat and Field Vole were recorded in 2018. Most of these records coming from evidence in the form of droppings, runs, burrows etc. rather than being direct sightings. There were no records of Pygmy Shrew or Wood Mouse. Apart from the odd chance sighting these are unlikely to be recorded regularly without the use of Longworth (or similar) live traps or footprint tunnels.



Evidence in the form of footprints, in this case Otter, can be useful in generating records of hard to see animals.

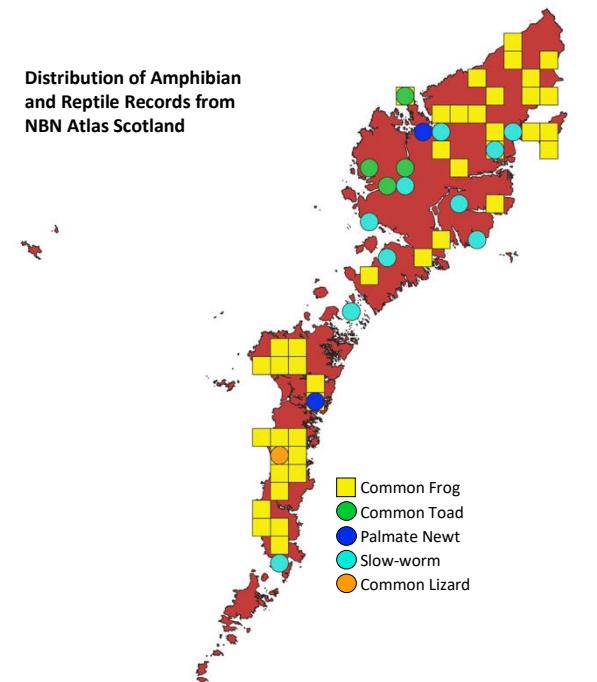


Reptiles & Amphibians



Zootoca vivipara - Common Lizard

The five terrestrial species of Amphibian and Reptile almost certainly arrived in the Outer Hebrides accidentally, or deliberately, through human activity. The only records of Common Lizard are of one thought to have accidentally been imported with freight at Range Head. There are two records at the same location about a month apart. Common Frogs and possibly Palmate Newt and Common Toad were thought to have been imported as spawn to demonstrate metamorphosis to school children.



Species	Records	
	NBN Atlas	2018
Reptiles		
Common Lizard	2	
Slow-worm	32	4
Kemp's Ridley	1	
Leathery Turtle	57	
Loggerhead Turtle	11	
Amphibians		
Common Frog	143	10
Common Toad	10	
Palmate Newt	4	1
Total	377	15

Reptiles - there is an early record of Slow-worm from Lewis at the end of the nineteenth century. When or how this species arrived is unknown. The only record of Slow-worm outside of Harris and Lewis is of one at Ludag, South Uist from 1997. All four of the 2018 records were from Harris or Lewis. No turtle sightings were recorded in 2018.

Plants, seaweeds etc

Amphibians - Common Frog is the most widespread and frequently recorded species though there were only ten records in 2018. Seven of the ten records were from South Uist and included spawn, tadpoles and adults. One record was from Grimsay, one from North Uist and the last from Lewis. The only Palmate Newt recorded was one from Great Bernera. The only previous sightings had all been on Grimsay.

Sightings of Common Toad are restricted to south-west Lewis. The first was in 2008 and once again is very likely to be the result of a deliberate introduction. No records were received of Common Toad in 2018.



Bufo bufo - Common Toad

Fish

Only thirteen records of fish were received in 2018 from four recorders. One recorder contributed ten of the records including all of the Basking Shark sightings.

Class	Species	Common Name	Records
Actinopterygii (Bony fish)	<i>Anguilla anguilla</i>	European Eel	3
	<i>Pholis gunnellus</i>	Butterfish	1
Elasmobranchii (Sharks, rays)	<i>Cetorhinus maximus</i>	Basking Shark	8
	<i>Scyliorhinus canicula</i>	Rough Hound	1

There are records on the NBN Atlas Scotland for 90 species of fish including 79 species of Bony Fish, nine Sharks and Rays, one Lamprey and a Hagfish. The species recorded in 2018 are amongst the commonest seen in the VC110.

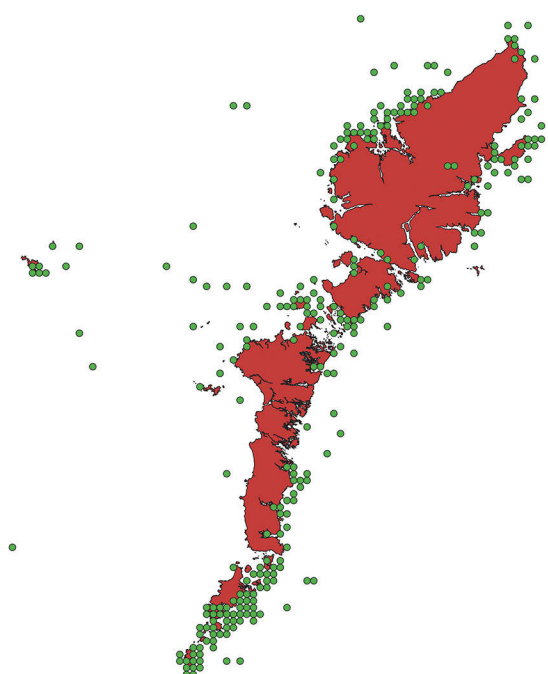
15 commonest Bony Fish and 5 commonest Sharks & Rays			
Class	Scientific name	Common name	NBN Rec'ds
Actinopterygii (Bony fish)	<i>Salmo trutta</i>	Brown/Sea Trout	295
	<i>Anguilla anguilla</i>	Eel	266
	<i>Gobiusculus flavescens</i>	Two-spotted goby	194
	<i>Salmo salar</i>	Atlantic Salmon	190
	<i>Gasterosteus aculeatus</i>	Three-spined Stickleback	164
	<i>Callionymus lyra</i>	Common Dragonet	141
	<i>Pollachius pollachius</i>	Pollack	134
	<i>Labrus mixtus</i>	Cuckoo Wrasse	125
	<i>Labrus bergylta</i>	Ballan Wrasse	120
	<i>Pholis gunnellus</i>	Butterfish	119
	<i>Pomatoschistus minutus</i>	Sand Goby	118
	<i>Taurulus bubalis</i>	Sea Scorpion	115
	<i>Pomatoschistus pictus</i>	Painted Goby	110
	<i>Ctenolabrus rupestris</i>	Goldsinny	102
	<i>Pollachius virens</i>	Coalfish	91
Elasmobranchii (Sharks & rays)	<i>Cetorhinus maximus</i>	Basking Shark	523
	<i>Scyliorhinus canicula</i>	Dogfish or Rough Hound	38
	<i>Leucoraja naevus</i>	Cuckoo Ray	5
	<i>Raja clavata</i>	Roker	4
	<i>Galeorhinus galeus</i>	Tope	2

Basking Shark is the most frequently recorded species. They are seen round most of the coastline with fewest along the shallow sandy shores on the west side of South Uist, Benbecula and North Uist.

There are hotspots around Barra and the more southerly islands, through the Sound of Harris and following the boat trip routes to St Kilda, off Stornoway and Tiump Head, and along the west coast of Lewis from Mangersta through to Ness.

Basking Sharks are first sighted around about April and numbers then rise through May and June to a peak in July before falling back again by October.

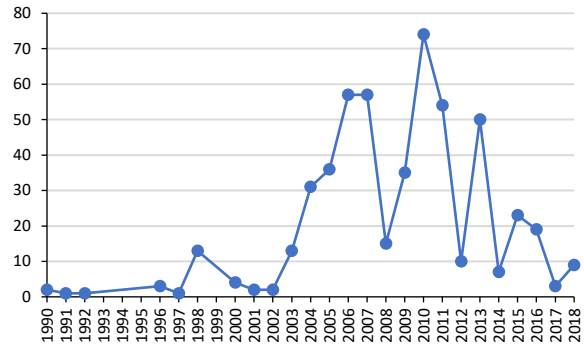
Basking Shark sightings by month	
Apr	5
May	36
Jun	142
Jul	188
Aug	145
Sep	43
Oct	4



Location of Basking Shark records and number of sightings by year (data from NBN Atlas)

Plants, seaweeds etc

Not every year is equally good for sightings of Basking Shark. From the early 2000s the number of sightings rose to a peak at around 2010. Since then there seems to have been a decline. Much is still not known about this species and there always has to be an element of caution about interpreting this type of data. The number of people sending in records each year varies. There are also a number of organisations collating sightings, often with a time lag before those data end up with the NBN.



Traigh na Clìbhe, Lewis – deep water to the west of Lewis provides more opportunities for sighting Basking Shark than do the shallow seas to the west of the Uists



Boreray – Basking sharks are often seen from boats heading for St. Kilda

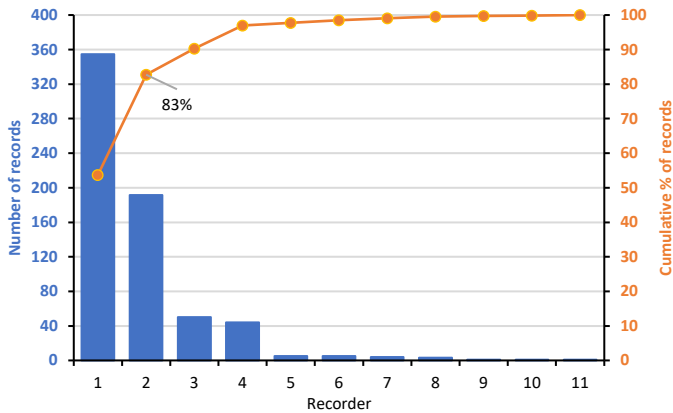


Cetorhinus maximus - Basking Shark, usually all you see is the tip of the tail, the dorsal fin and the tip of the nose just breaking the surface.

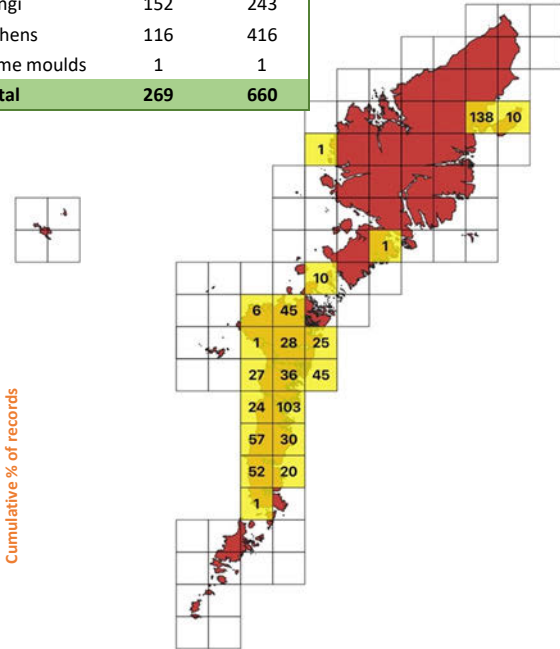
Plants, seaweeds etc

Fungi, Lichens & Slime moulds

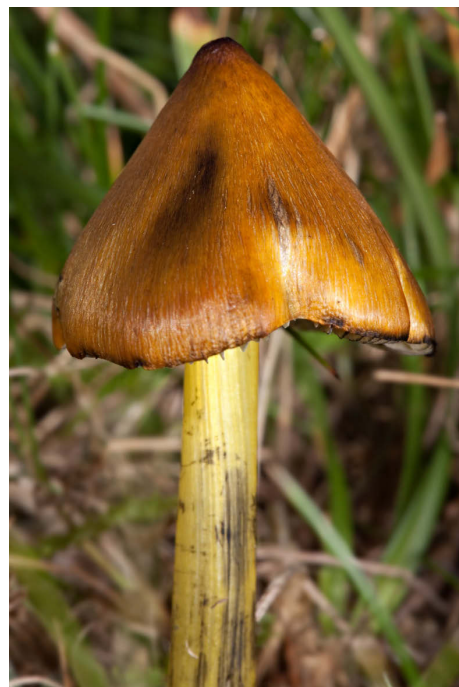
There were 660 records of 269 species of Fungi and Lichens received in 2018. This impressive total was the result of the work of eleven recorders. Two of those recorders alone contributing 546 (83%) of those records. Of the 269 species recorded over half were of Fungi but two thirds of the total records were of Lichens. Most Fungi were recorded just once or twice and only two species of Fungi were recorded more than five times. In contrast there were twenty species of Lichen recorded more than five times.



Group	Number of:	
	Species	Records
Fungi	152	243
Lichens	116	416
Slime moulds	1	1
Total	269	660



Type	Species recorded > 5 times	Common name	Records
Lichen	<i>Parmelia saxatilis</i>		19
Lichen	<i>Rhizocarpon geographicum</i>	Map Lichen	18
Lichen	<i>Xanthoria parietina</i>	Common Orange Lichen	18
Lichen	<i>Ochrolechia parella</i>	Crab's Eye Lichen	15
Lichen	<i>Parmelia omphalodes</i>		15
Lichen	<i>Anaptychia runcinata</i>		13
Lichen	<i>Peltigera membranacea</i>		13
Lichen	<i>Ramalina siliquosa</i>	Sea ivory	13
Lichen	<i>Cladonia portentosa</i>	Reindeer Moss	12
Lichen	<i>Parmotrema perlatum</i>		12
Lichen	<i>Hydropunctaria maura</i>	Tar Lichen	11
Lichen	<i>Cladonia uncialis subsp. biuncialis</i>		9
Lichen	<i>Lichina confinis</i>		9
Lichen	<i>Cladonia macilenta</i>		8
Lichen	<i>Lecanora gangaleoides</i>		7
Lichen	<i>Lecanora sulphurea</i>		7
Fungus	<i>Hygrocybe conica</i>	Blackening Waxcap	6
Fungus	<i>Taphrinaalni</i>	Alder Tongue	6
Lichen	<i>Fuscidea cyathoides</i>		6
Lichen	<i>Peltigera hymenina</i>		6
Lichen	<i>Stereocaulon vesuvianum</i>		6
Lichen	<i>Tephromela atra</i>		6



Hygrocybe conica - Blackening Waxcap, one of only two Fungi species recorded more than five times in 2018.

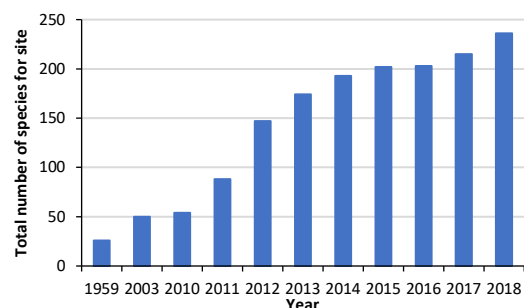
There were no records of Fungi or Lichens from Barra. Those records on South Uist, Benbecula and North Uist covered most of the 10km grid squares but on Harris and Lewis records were concentrated in the Stornoway area and specifically from the grounds of Lews Castle. Seventy-eight records of fifty-eight species of fungi and twelve records of twelve species of Lichen came from this one location



Ascocoryne sarcoides - Purple Jellydisc

Plants, seaweeds etc

The mature woodland at Lews Castle has been the site of a concentrated recording effort, particularly of fungi and lichens, since 2011. Biological recording in the Outer Hebrides for a long time depended on occasional visits by experienced naturalists. This is well shown by the Lews Castle records. Prior to 2011 fungi records from Lews Castle woods were exclusively of lichens and resulted from single visits to the woods in 1959, 2003 and 2010 by lichenologists.



Fungi Phylum/Class	Lews Castle woods - number of records by year											
	1959	2003	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Ascomycota												
Arthoniomycetes (lichen forming)	1	3				1						5
Dothideomycetes (some lichen forming)							1	1				2
Geoglossomycetes (earth tongues)						1						1
Lecanoromycetes (lichens)	24	29	44			16		11	1		13	137
Leotiomycetes (disc fungi, tar spots, mildews)				1	1	3	1	4	1	1	2	14
Pezizomycetes (cup fungi etc. plus a few lichens)					1	1	3			1	3	8
Sordariomycetes (e.g. candle snuff fungus)				1	2	2	2	4		1		12
Taphrinomycetes (leaf curl & gall forming)											1	1
Other	1					3						4
Basidiomycota												
Agaricomycetes (mushrooms/toadstools etc.)				17	101	29	25	1		16	50	228
Pucciniomycetes (rusts)				13			17					30
Tremellomycetes (jelly fungi)						1					1	2
Ustilaginomycetes (smuts)				3			1					4
Grand Total	26	32	44	35	105	57	50	21	2	19	90	448

More regular recording especially of the larger fungi (including what most people think of as typical mushrooms or toadstools) started in 2011. The number of species recorded has grown yearly since then to 236. Visits from outside specialists are still important though. The 30 records of rusts come from the same person who visited in 2011 and 2014.

There were eighteen new species of fungi for VC110 recorded in 2018, mostly from the Stornoway area. That brings the total fungi list for VC110 to 1456 species, 898 of these are in the Phylum Ascomycota including 616 lichen forming species. There are 545 species of Basidiomycota of which six are lichen formers. The remaining thirteen species are in the less well studied and recorded Phyla Chytridiomycota, Zygomycota and Oomycota.



Calocera viscosa - Yellow Stagshorn

New species 2018	Common name	Location
<i>Pseudoclitocybe cyathiformis</i>	Goblet	Creed Bridge, Stornoway
<i>Agaricus augustus</i>	Prince	Lews Castle Grounds
<i>Sarcomyxa serotina</i>	Olive Oysterling	Lews Castle Grounds
<i>Inocybe xanthomelas</i>		Lews Castle Grounds
<i>Laccaria purpureobadia</i>		Lews Castle Grounds
<i>Mycena hiemalis</i>	Winter Bonnet	Lews Castle Grounds
<i>Lycoperdon excipuliforme</i>	Pestle Puffball	Howmore, South Uist
<i>Galerina pseudomniophila</i>		Meall Mor, South Uist
<i>Gomphidius glutinosus</i>	Slimy Spike	Loch Steinavat, N.Uist
<i>Boletus subtomentosus</i>	Suede Bolete	Lews Castle Grounds
<i>Chalciporus piperatus</i>	Peppery Bolete	Lews Castle Grounds
<i>Gomphidius roseus</i>	Rosy Spike	Lower Bayble, Lewis
<i>Clavulina cinerea</i>	Grey Coral	Creed Bridge, Stornoway
<i>Calocera viscosa</i>	Yellow Stagshorn	Creed Bridge, Stornoway
<i>Pseudaegeria viridis</i>		Askernish, South Uist
<i>Hymenoscyphus calyculus</i>		Creed Bridge, Stornoway
<i>Fomes fomentarius</i>	Tinder Bracket	Lews Castle Grounds
<i>Lactarius aurantiacus</i>	Orange Milkcap	Creed Bridge, Stornoway



Bisporella sulfurina – Sulphur Disco

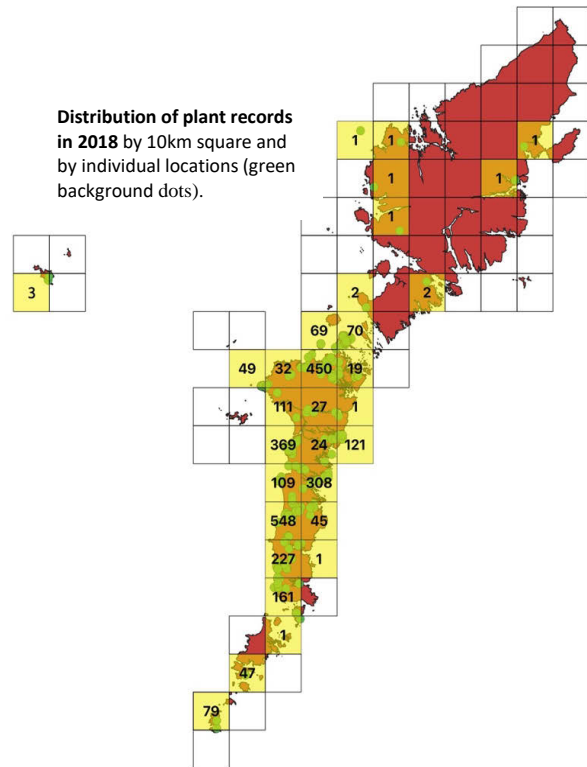
Plants, seaweeds etc

Plants, seaweeds etc.

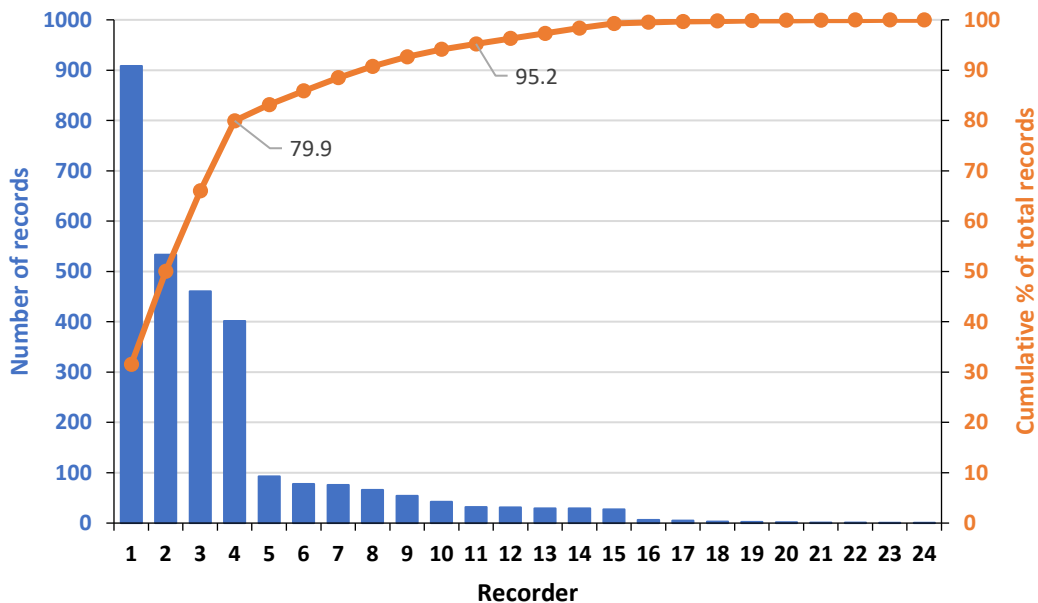
The organisms considered in this section range from microscopic bacteria through to massive multicellular trees. It is somewhat artificial to lump them all together but they do have one thing in common – the ability to fix light through photosynthesis. At some point in the past they have all been considered plants.

In 2018 we were lucky to have one of Europe’s leading experts on Desmids visit the Outer Hebrides and he contributed over 900 records of this group of algae. The second largest set of records came from a group of botanists, from the Floodplain Meadows Partnership¹, who visited a number of sites in early July and contributed over 500 records of plants.

KINGDOM	Type of “Plant”	Number of:	
		Species	Records
BACTERIA			
Cyanobacteria	Blue-green Bacteria	5	10
CHROMISTA			
Ochrophyta	Brown Seaweeds etc	14	33
	Diatoms	1	2
PLANTAE			
Rhodophyta	Red Seaweeds	12	13
Chlorophyta	Green Seaweeds	6	8
	Other green algae	9	13
Charophyta	Desmids	367	924
	Stoneworts	3	4
Pteridiophyta	Horsetails	3	14
	Ferns	16	67
Tracheophyta	Clubmosses & Quillworts	2	7
	Flowering Plants	342	1789
	Conifers	3	7
Total		783	2881



In total 2881 records were received from 24 recorders covering 783 taxa (includes species, sub species and varieties) of plants. In contrast in 2017 just 13 recorders in 3760 records of 509 taxa.



¹ A full report was published in Hebridean Naturalist, 18, 72–88

Plants, seaweeds etc

There was a very heavy bias towards records from the Uists and Benbecula. Most 10km squares on North Uist, Benbecula and South Uist had records. The fine detail shown by mapping individual locations, however, show that no records of plants were received from Barra and only one from Eriskay. In the north there were just four records from Harris and five from Lewis. As with many other groups these islands are currently very under-recorded.

Some of the smaller islands, in contrast, benefitted from targeted visits by individuals, or small groups of recorders, usually on just a single date.

Island (from S to N)	10k square	Date (2018)	Number of:	
			Records	Species
Berneray (Barra Head)	NL58	9 th -11 th June	59	59
Mingulay	NL58	3 rd July	20	20
Vatersay	NL69	20 th June	47	47
Wiay	NF84	10 th August	105	61
Flodaigh Mor	NF95	6 th August	121	53
Boreray	NF88	20 th July	66	66

Cyanobacteria - Blue-green bacteria

Ten records of five species received in 2018 from three recorders.

Cyanobacteria species	Records
<i>Chroococcus dimidiatus</i>	2
<i>Nostoc commune</i>	4
<i>Rivularia atra</i>	2
<i>Schizothrix vaginata</i>	1
<i>Stigonema minutum</i>	1

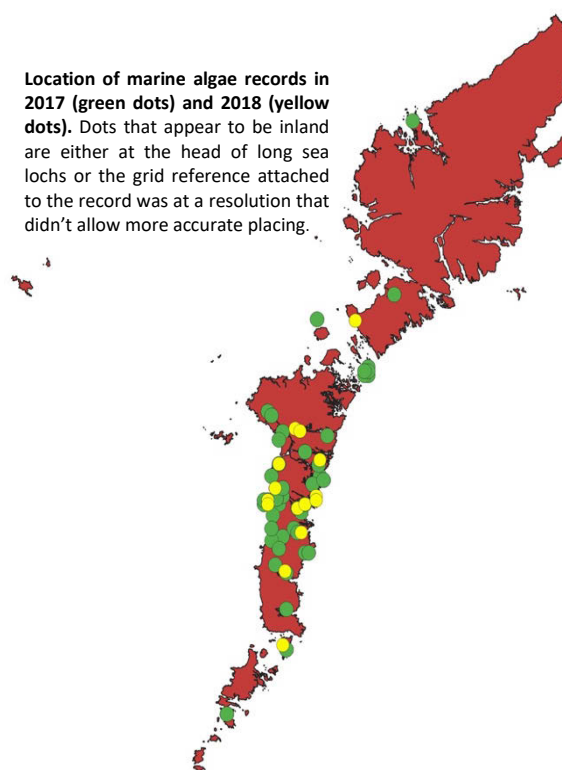
It is thought that, as the first photosynthetic organisms, Cyanobacteria were largely responsible for starting the process by which oxygen accumulated in the atmosphere, allowing the subsequent evolution of all aerobic organisms. The chloroplasts of algae and green plants are structurally the same as Cyanobacteria and are considered to have arisen by the phagocytosis (cellular ingestion) of a blue-green bacterium by a primitive ameboid species.

Marine algae

Almost all the records in 2018 came from just two recorders (eight in 2017). As a result, the taxonomic coverage was far less complete in 2018; there were fewer records (c 40% of the 2017 total) and fewer species (c. 60% of the 2017 total). There was also only about a third of the number of locations visited. As with most taxonomic groups there were very few records from Harris or Lewis in either 2017 or 2018. It had been hoped that, as a good number of people attended the Co-Coast training event organised by OHBR in May 2018 this might lead to an increase in the

number of records of marine algae (and invertebrates) received. This seems to have not been the case.

Group	Records		Species	
	2017	2018	2017	2018
Red Seaweeds	68	13	40	12
Green Seaweeds	63	8	37	6
Brown Seaweeds	109	33	19	15
Total	240	54	96	33



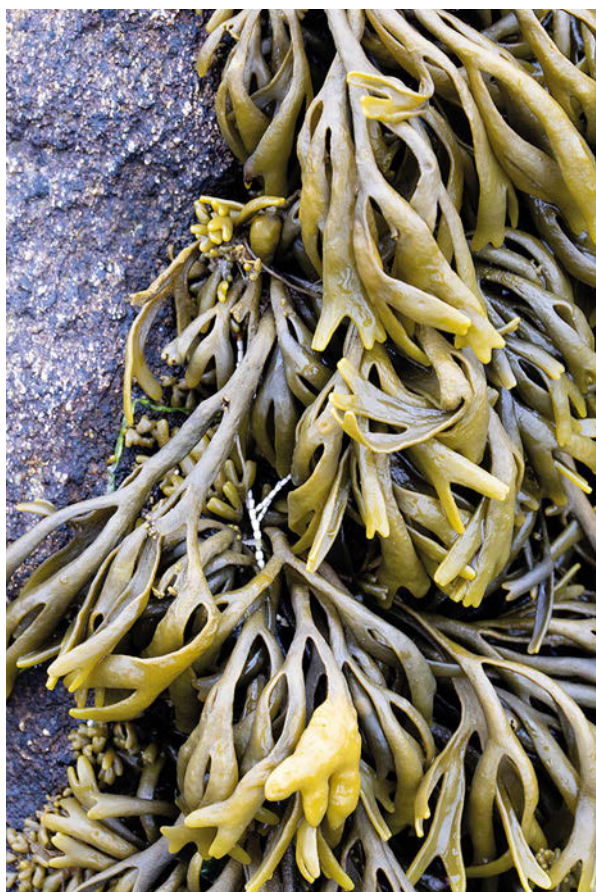
Location of marine algae records in 2017 (green dots) and 2018 (yellow dots). Dots that appear to be inland are either at the head of long sea lochs or the grid reference attached to the record was at a resolution that didn't allow more accurate placing.

The ease by which marine species can move between locations suggests that distribution changes as the result of climate change would be noticed more quickly in marine habitats than would corresponding changes in terrestrial systems. Similarly, several invasive non-native marine species have already been noted in the Outer Hebrides. Establishing simple yearly rocky shore surveys at a number of key sites would seem to be a worthwhile use of OHBR skills.

Ochrophyta Brown seaweeds

The brown seaweeds were once considered to be true algae, as the red and green seaweeds still are. They are now considered to have diverged from the evolutionary development of the other green plants at an early stage and have been placed in the Kingdom Chromista, largely on the basis of the structure of their chloroplasts. The group contains some of the most familiar and recognisable seaweeds of the shore. Species such as Channelled Wrack, Spiralled Wrack, Bladder Wrack, Egg Wrack, Serrated Wrack and Tangle form a conspicuous zonation down most, sheltered, rocky shores.

Plants, seaweeds etc



Pelvetia canaliculata - Channel Wrack, this Brown Seaweed is the most resistant to desiccation and lives highest on the shore of all the brown seaweeds. It occurs in the zone that is only covered by spring high tides and can be exposed to drying conditions for nearly two weeks.

Thirty-three records of fourteen species were submitted by three recorders in 2018. As noted earlier, for marine invertebrates, it would seem as if few of the islands active recorders systematically recorded rocky shores in 2018 and no records were received from visiting naturalists. Given that some of these brown seaweeds are easily identified and often very conspicuous species on rocky shores this is surprising.

Ochrophyta species	Common Name	Records
<i>Ascophyllum nodosum</i>	Egg Wrack	4
<i>Chorda filum</i>	Mermaid's Tresses	1
<i>Desmarestia aculeata</i>	Desmarest's Prickly Weed	2
<i>Dictyota dichotoma</i>	Brown Fan Weed	1
<i>Elachista scutulata</i>		1
<i>Fucus cottonii</i>		1
<i>Fucus serratus</i>	Serrated (or Saw) Wrack	2
<i>Fucus spiralis</i>	Spiralled Wrack	4
<i>Fucus vesiculosus</i>	Bladder Wrack	4
<i>Himantalia elongata</i>	Thong Weed	1
<i>Leathesia marina</i>		1
<i>Pelvetia canaliculata</i>	Channelled Wrack	7
<i>Pylaiella littoralis</i>		1
<i>Sargassum muticum</i>	Japanese Wireweed	3



Fucus vesiculosus - Bladder Wrack, much less resistant to drying out than Channel Wrack, this species is found mid-shore. The paired air bladders lie either side of a central "mid-rib" and help the seaweed float higher when the tide is in. This increases the amount of light that is available to them.

Rhodophyta - Red seaweeds

Less familiar than the brown seaweeds and many are more difficult to identify. Two recorders sent in thirteen records of twelve species of red seaweed in 2018.

Rhodophyta species	Common Name	Records
<i>Colaconema infestans</i>		1
<i>Corallina officinalis</i>	Common Coral Weed	1
<i>Cryptopleura ramosa</i>	Fine-veined Crinkle Weed	1
<i>Melobesia membranacea</i>		1
<i>Membranoptera alata</i>	Winged Weed	1
<i>Neosiphonia harveyi</i>	Harvey's Siphon Weed	1
<i>Plocamium cartilagineum</i>	Cartilaginous Cock's Comb	1
<i>Polysiphonia fibrillosa</i>		1
<i>Ptilota gunneri</i>	Feathered Wing Weed	2
<i>Spermothamnion repens</i>		1
<i>Sphaerocystis Schroeteri</i>		1
<i>Vertebrata lanosa</i>	Wrack Siphon Weed	1

Chlorophyta – Green seaweeds

Just eight records of six species from two recorders in 2018.

Chlorophyta species	Common Name	Records
<i>Cladophora rupestris</i>	Common Green Branched Weed	1
<i>Prasiola crispa</i>		1
<i>Prasiola stipitata</i>		1
<i>Ulothrix subflaccida</i>		1
<i>Ulva intestinalis</i>	Gut Weed	3
<i>Ulva lactuca</i>	Sea Lettuce	1

Plants, seaweeds etc

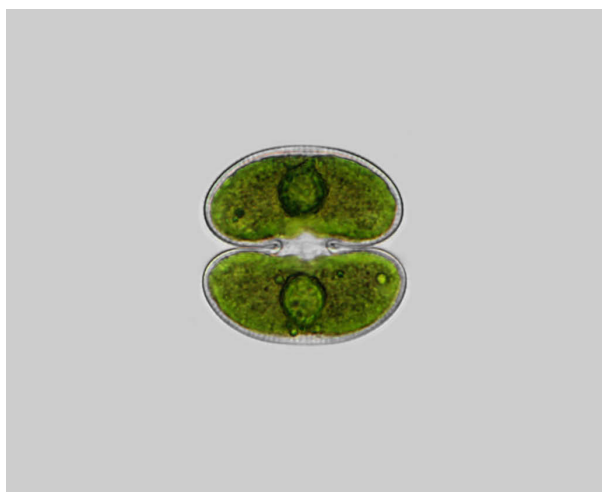
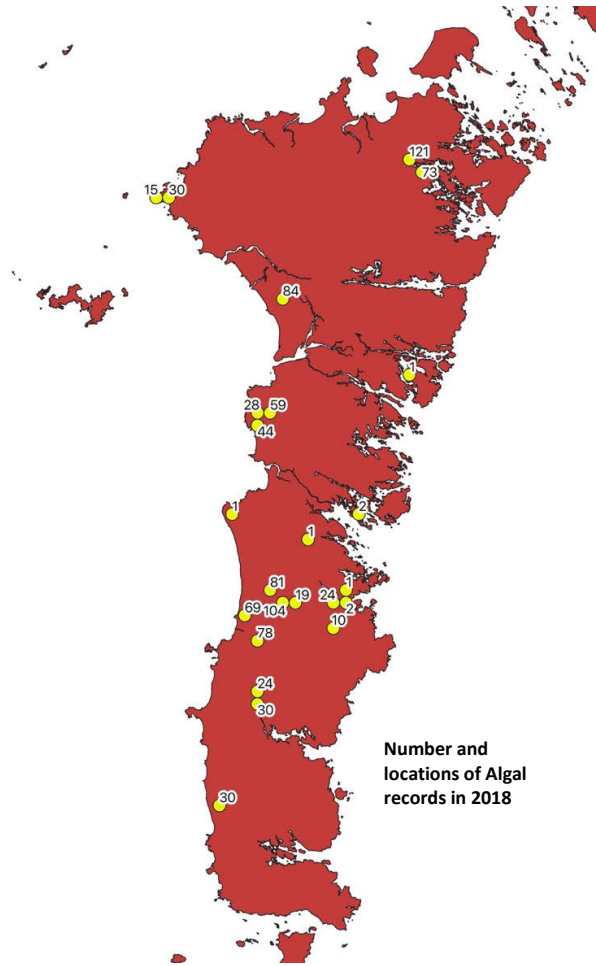
Freshwater & terrestrial algae

All of the 932 records of freshwater and terrestrial algae come, in 2018, from North Uist, Benbecula and South Uist. Most (908) are from a single recorder, a visiting Dutch expert on Desmids (Charophyta, class Zygnematophyceae). He found a prodigious number of species at locations throughout the southern part of the Outer Hebrides. Over 100 species were found, for example at both Loch na Creige, North Uist and Loch Druidibeag, South Uist.

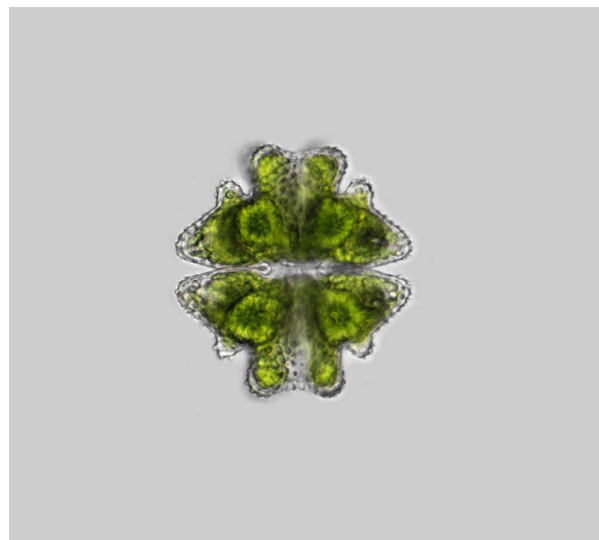
Up to the end of 2017 there had been just 41 Desmid taxa (species, subspecies, varieties and forms) recorded in VC110 mostly as the result of much hard work by two OHBR recorders over the period 2016–2017. In 2018 an extra 330 new taxa were added to the VC110 records including 72 that don't feature yet on the official UK Species Inventory (UKSI). The work of our visiting Dutch colleague has prompted a much needed revision of the UK Desmid flora.

Phylum	Class	Family	Records	Species
Chlorophyta (Green Algae)	Trebouxiophyceae	Botryococcaceae	2	1
		Oocystaceae	3	3
		Trebouxiaceae	3	1
	Chlorophyceae	Microsporaceae	2	2
		Oedogoniaceae	1	1
		Ulvophyceae	Trentepohliaceae	2
Charophyta	Zygnematophyceae (Desmids)		916	367
	Characeae (Stoneworts)		3	3
Total			932	379

Seven species of Desmid were also recorded by OHBR recorders at three sites on South Uist and there were three records of three species of Stonewort (Charophyta, class Characeae) and thirteen records of nine species of other freshwater or terrestrial Green Algae (Chlorophyta).



Cosmarium depressum – a freshwater Desmid, photo Chris Johnson



Euastrum verrucosum – a freshwater Desmid, photo Chris Johnson

Plants, seaweeds etc

PTERIDOPHYTA - Ferns, horsetails etc

The NBN Atlas lists 42 species of ferns, horsetails, etc. from VC110. Two of these species, Alpine Lady Fern and Intermediate Polypody are considered dubious records and are ignored here. There are also a number of hybrids recorded that are not listed below. At the top, in descending order of frequency, are Hard Fern and Water Horsetail with over 1000 records of each.

Species on NBN ⁴ Atlas (in descending frequency)	Common Name (bold >200 records)	2018 records
<i>Blechnum spicant</i>	Hard Fern	13
<i>Equisetum fluviatile</i>	Water Horsetail	6
<i>Dryopteris dilatata</i>	Broad Buckler-fern	3
<i>Athyrium filix-femina</i>	Lady Fern	
<i>Polypodium vulgare</i>	Polypody	
<i>Pteridium aquilinum</i>	Bracken	13
<i>Equisetum arvense</i>	Common Horsetail	6
<i>Equisetum palustre</i>	Marsh Horsetail	2
<i>Asplenium marinum</i>	Sea Spleenwort	1
<i>Osmunda regalis</i>	Royal Fern	6
<i>Oreopteris limbosperma</i>	Lemon-scented Fern	2
<i>Dryopteris aemula</i>	Hay-scented Buckler-fern	5
<i>Asplenium adiantum-nigrum</i>	Black Spleenwort	1
<i>Ophioglossum vulgatum</i>	Adder's Tongue	13
<i>Dryopteris affinis</i>	Scaly Male Fern	1
<i>Hymenophyllum wilsonii</i>	Wilson's Filmy Fern	2
<i>Dryopteris filix-mas</i>	Common Male Fern	1
<i>Asplenium trichomanes</i>	Maidenhair Spleenwort	
<i>Phegopteris connectilis</i>	Beech Fern	1
<i>Botrychium lunaria</i>	Moonwort	4
<i>Equisetum sylvaticum</i>	Wood Horsetail	
<i>Phyllitis scolopendrium</i>	Hart's-tongue	
<i>Dryopteris carthusiana</i>	Narrow Buckler-fern	
<i>Cystopteris fragilis</i>	Brittle Bladder-fern	
<i>Asplenium ruta-muraria</i>	Wall-rue	1
<i>Equisetum variegatum</i>	Variegated Horsetail	
<i>Ophioglossum azoricum</i>	Small Adder's-tongue	
<i>Dryopteris expansa</i>	Northern Buckler-fern	
<i>Pilularia globulifera</i>	Pillwort	
<i>Cryptogramma crispa</i>	Parsley Fern	
<i>Dryopteris borrieri</i>	Borrer's Scaly Male Fern	
<i>Polystichum aculeatum</i>	Hard Shield-Fern	
<i>Equisetum pratense</i>	Shady Horsetail	
<i>Dryopteris cambrensis</i>	Narrow Scaly Male Fern	
<i>Dryopteris oreades</i>	Mountain Male Fern	
<i>Gymnocarpium dryopteris</i>	Oak Fern	
<i>Asplenium viride</i>	Green Spleenwort	
<i>Ceterach officinarum</i>	Rusty-back Fern	
<i>Equisetum telmateia</i>	Giant Horsetail	
<i>Polystichum setiferum</i>	Soft Shield-fern	
Total Records		201

In 2018 eleven recorders sent in eighty-one records of eighteen species. This is a reduced level of recording compared to 2017 when there were 201 records of 22 species from twelve recorders.



Botrychium lunaria – Moonwort, Berneray July 2018. Note the two Lesser Clubmoss plants just to the left of the Moonwort.



Asplenium ruta-muraria - Wall-rue

Plants, seaweeds etc

TRACHEOPHYTA - Lycopodiopsida (Clubmosses & Quillworts)

Five species of Clubmoss have been recorded from VC110. Of these, two are common, Lesser Clubmoss and Fir Clubmoss, and the other three are infrequently recorded.

Species	Common Name	Records	
		NBN ⁴	2018
<i>Selaginella selaginoides</i>	Lesser Clubmoss	767	4
<i>Huperzia selago</i>	Fir Clubmoss	434	3
<i>Diphasiastrum alpinum</i>	Alpine Clubmoss	16	-
<i>Lycopodium clavatum</i>	Stag's-horn Clubmoss	10	-
<i>Lycopodiella inundata</i>	Marsh Clubmoss	4	-
Total		7	7



Selaginella selaginoides - Lesser Clubmoss

There were just seven records of two common clubmosses submitted in 2018. Fir Clubmoss was recorded from both North and South Uist, and Lesser Clubmoss from South Uist, North Uist and Berneray. There were no records this year of either species from Harris and Lewis.

TRACHEOPHYTA – Pinopsida (Conifers)

Species	Common Name	2018 records
<i>Juniperus communis</i>	Juniper	4
<i>J. communis</i> subsp. <i>communis</i>	Common Juniper	1
<i>J. communis</i> subsp. <i>nana</i>	Dwarf Juniper	2
Total		7

There were only seven records of Conifers in 2018. All were of Juniper (including its two subspecies *J. communis communis* and *J. communis nana*). Records were from the Druidibeg, Drimore and Allt Bholagair on South Uist and also from Wiay and Ronaigh.

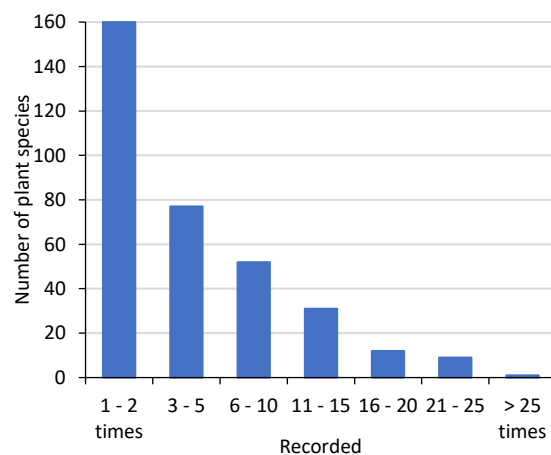
There were no records this year from Harris or Lewis and none of the further nineteen conifer taxa on the NBN database (all non-native ornamental or commercial forest species) were recorded.



Juniperus communis – Juniper

TRACHEOPHYTA – Magnoliopsida (Flowering Plants)

In 2018 there were 1789 records of 342 species of flowering plants submitted to OHBR. This was the work of 19 individual recorders and one group - the botanists of the Floodplain Meadows Partnership who were on the islands for a short visit in early July 2018. This later group contributed 510 of the total number of records. Most plant species were not recorded very often. Nearly half (160 out of 342) were just recorded once or twice. Only ten species were recorded more than twenty times.



Plants, seaweeds etc

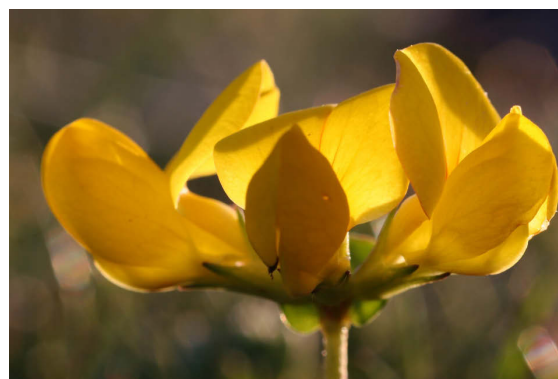
Family	Type of plant	Species	Records
Poaceae	Grasses	32	98
Asteraceae	Daisies, Thistles etc.	31	178
Cyperaceae	Sedges	31	133
Orchidaceae	Orchids	19	101
Caryophyllaceae	Campions, Chickweeds	15	66
Apiaceae	Umbellifers	14	44
Fabaceae	Vetches, Clovers, Trefoils	13	109
Plantaginaceae	Plantains, Speedwells	13	94
Juncaceae	Rushes, Wood-rushes	13	38
Orobanchaceae	Rattles, Eye-brights	12	69
Brassicaceae	Scurveygrass, Charlock	11	30
Potamogetonaceae	Pondweeds	10	28
Ranunculaceae	Buttercups	9	71
Polygonaceae	Docks & Sorrels	9	55
Rosaceae	Rose, Cinquefoils, Tormentil	8	89
Lamiaceae	Selfheal, Thymes, Mints	8	44
Primulaceae	Primroses, Bog Pimpernel	6	44
Ericaceae	Heathers	5	62
Salicaceae	Willows	5	34
Boraginaceae	Bugloss, Forget-me-nots	5	18
Rubiaceae	Bedstraws	4	32
Violaceae	Violets, Pansies etc.	4	24
Crassulaceae	Stonecrops, Roseroot	4	20
Onagraceae	Willowherbs	4	17
Amaranthaceae	Oraches, Glasswort	4	7
Droseraceae	Sundews	3	21
Geraniaceae	Crane's-bills, Stork's-bills	3	8
Papaveraceae	Poppies	3	7
Lentibulariaceae	Butterworts, Bladderworts	2	26
Polygalaceae	Milkworts	2	20
Caprifoliaceae	Devil's-bit Scabious	2	19
Iridaceae	Irises	2	16
Urticaceae	Nettles	2	16
Campanulaceae	Harebell	2	14
Juncaginaceae	Arrowgrasses	2	13
Nartheciaceae	Bog Asphodel	2	13
Linaceae	Fairy Flax	2	11
Nymphaeaceae	White Water Lilly	2	7
Betulaceae	Birch	2	5
Asparagaceae	Bluebell, Squill	2	4
Euphorbiaceae	Spurges	2	4
Typhaceae	Floating Bur-reed	2	4
Haloragaceae	Water-milfoil	2	3
Araliaceae	Ivy	1	21
Plumbaginaceae	Thrift	1	17
Menyanthaceae	Bogbean	1	8
Oxalidaceae	Wood Sorrel	1	6
Gentianaceae	Centuary, Field Gentian	1	5
Alismataceae	Water Plantains	1	4
Hypericaceae	St Johns Worts	1	2
Montiaceae	Blinks	1	2
Myricaceae	Bog Myrtle	1	2
Zosteraceae	Common Eelgrass	1	2
Adoxaceae	Elderberry	1	1
Aquifoliaceae	Holly	1	1
Lythraceae	Water Purslane	1	1
Phrymaceae	Monkey Flower	1	1
Total		342	1789

Species belonging to 57 different families were recorded. The most frequently recorded families were Grasses (Poaceae), Sedges (Cyperaceae) and the Daisies, Thistles, Dandelions etc (Asteraceae).

Thirty individual species were recorded fifteen or more times. Interestingly there are no grasses in this list, just one sedge (Common Cottongrass despite its name is actually a sedge), but five members of the daisy family.

Plant species would seem to fall into one of two groups – those that are very common but often ignored (e.g. Grasses, Sedges, Plantains and Nettle) and those that are so showy or interesting that they can't be ignored (e.g. Orchids, Butterwort and Sundew). The experienced botanists of the Floodplain Meadows group were very good at recording species of the former group. Many of the rest of us went for the latter group.

Species	Common Name	Records
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	27
<i>Potentilla erecta</i>	Tormentil	25
<i>Plantago lanceolata</i>	Ribwort Plantain	25
<i>Rumex acetosa</i>	Common Sorrel	25
<i>Calluna vulgaris</i>	Ling	24
<i>Potentilla anserina</i>	Silverweed	24
<i>Eriophorum angustifolium</i>	Common Cottongrass	24
<i>Pinguicula vulgaris</i>	Butterwort	24
<i>Trifolium repens</i>	White Clover	22
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort	21
<i>Bellis perennis</i>	Daisy	20
<i>Dactylorhiza fuchsii</i>	Common Spotted Orchid	20
<i>Plantago maritima</i>	Sea Plantain	20
<i>Silene flos-cuculi</i>	Ragged Robin	19
<i>Salix repens</i>	Creeping Willow	18
<i>Prunella vulgaris</i>	Selfheal	17
<i>Thymus polytrichus</i>	Thyme	17
<i>Armeria maritima</i>	Thrift	17
<i>Vicia cracca</i>	Tufted Vetch	17
<i>Hypochaeris radicata</i>	Cat's-ear	16
<i>Anagallis tenella</i>	Bog Pimpernel	16
<i>Ranunculus acris</i>	Meadow Buttercup	16
<i>Senecio jacobaea</i>	Ragwort	15
<i>Succisa pratensis</i>	Devil's-bit Scabious	15
<i>Plantago coronopus</i>	Buck's-horn Plantain	15
<i>Thalictrum minus</i>	Lesser Meadow-rue	15
<i>Cirsium vulgare</i>	Spear Thistle	15
<i>Drosera rotundifolia</i>	Round-leaved Sundew	15
<i>Dactylorhiza purpurella</i>	Northern Marsh Orchid	15
<i>Urtica dioica</i>	Nettle	15



Lotus corniculatus - Bird's-foot Trefoil, the most frequently recorded plant species in 2018.

Plants, seaweeds etc

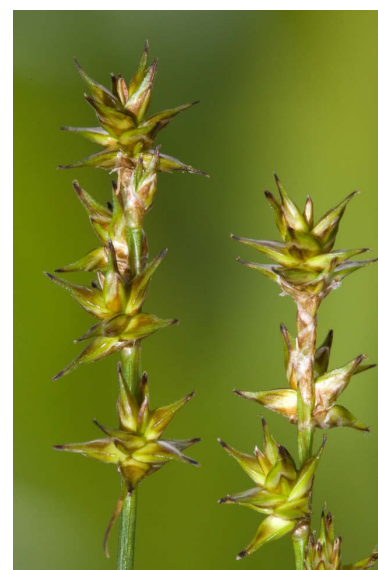
Family Cyperaceae - Sedges – there were fewer records of slightly more species in 2018 than in 2017. Most of the common species (ranked according to the number of NBN Atlas Scotland records) were found in 2018 as they were in 2017. There was a subtle shift amongst the less common species to things like the club-rushes, spike-rushes and other species of wet marginal habitats reflecting no doubt the interests of the recorders active in 2018 and in particular the sites looked at by the Floodplain Meadows team.

Small-fruited Yellow Sedge (*Carex viridula* subsp. *viridula*) stands out as the commonest species not recorded in either 2017 or 2018. The coverage of the other species seems good so in the future it may be worth targeting likely habitats for this species and for other sedges not recorded in the last couple of years.

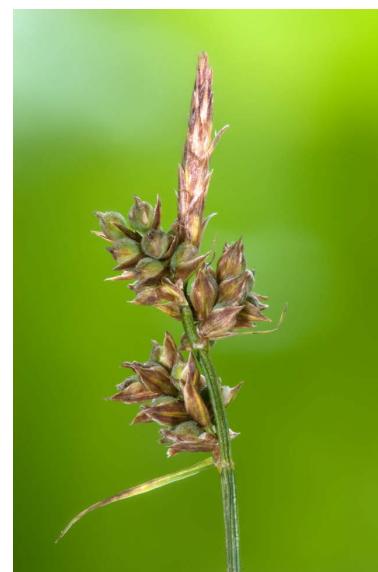
Species	Common Name	NBN	2017	2018
<i>Carex nigra</i>	Common Sedge	2183	28	8
<i>Trichophorum germanicum</i>	Deergrass	2006	22	1
<i>Eriophorum angustifolium</i>	Common Cottongrass	1983	49	24
<i>Carex panicea</i>	Carnation Sedge	1657	30	8
<i>Carex echinata</i>	Star Sedge	1418	20	5
<i>Eleocharis palustris</i>	Common Spike-rush	1408	10	9
<i>C. viridula</i> subsp. <i>oedocarpa</i>	Common Yellow Sedge	1386	7	5
<i>Eleocharis multicaulis</i>	Many-stalked Spike-rush	1218	3	2
<i>Carex flacca</i>	Glaucous Sedge	1192	3	5
<i>Carex binervis</i>	Green-ribbed Sedge	1034	11	3
<i>Carex pulicaris</i>	Flea Sedge	917	7	5
<i>Schoenus nigricans</i>	Black Bog-rush	898	7	7
<i>Carex arenaria</i>	Sand Sedge	715	10	10
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	714	19	5
<i>Carex rostrata</i>	Bottle Sedge	701	6	2
<i>Eleocharis fluitans</i>	Floating Club-rush	699	2	5
<i>Carex pilulifera</i>	Pill Sedge	533	4	1
<i>Carex leporina</i>	Oval Sedge	531	1	1
<i>Eleocharis quinqueflora</i>	Few-flowered Spike-rush	502	2	3
<i>Carex dioica</i>	Dioecious Sedge	438	1	4
<i>C. viridula</i> subsp. <i>viridula</i>	Small-fruited Yellow Sedge	417	-	-
<i>Carex hastiana</i>	Tawny Sedge	389	1	-
<i>Rhynchospora alba</i>	White Beak-sedge	323	1	1
<i>Carex limosa</i>	Bog-sedge	306	1	-
<i>Isolepis setacea</i>	Bristle Club-rush	272	-	1
<i>Blysmus rufus</i>	Saltmarsh Flat-sedge	265	-	1
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush	263	-	2
<i>Eleocharis uniglumis</i>	Slender Spike-rush	220	-	4
<i>Carex maritima</i>	Curved Sedge	202	-	-
<i>Carex distans</i>	Distant Sedge	179	1	-
<i>Carex paniculata</i>	Greater Tussock Sedge	151	-	-
<i>Bolboschoenus maritimus</i>	Sea Club-rush	150	-	1
<i>Schoenoplectus lacustris</i>	Common Club-rush	131	-	3
<i>C. viridula</i> subsp. <i>brachyrrhyncha</i>	Long-stalked Yellow Sedge	125	-	1
<i>Carex diandra</i>	Lesser Tussock Sedge	123	-	1
<i>Carex bigelowii</i>	Stiff Sedge	109	-	-
<i>Carex extensa</i>	Long-bracted Sedge	99	-	-
<i>Carex pauciflora</i>	Few-flowered Sedge	74	1	-
<i>Cladium mariscus</i>	Great Fen Sedge	72	-	-
<i>Carex otrubae</i>	False Fox Sedge	69	-	-
<i>Carex canescens</i>	White Sedge	53	1	-
<i>Isolepis cernua</i>	Slender Club-rush	53	-	-
<i>Carex pallescens</i>	Pale Sedge	38	-	-
<i>Carex lasiocarpa</i>	Slender Sedge	36	-	-
<i>Carex disticha</i>	Distant Sedge	29	-	4
<i>Carex caryophyllea</i>	Spring Sedge	18	-	-
<i>Eriophorum latifolium</i>	Broad-leaved Cottongrass	18	-	-
<i>Carex acutiformis</i>	Lesser Pond Sedge	6	-	-
<i>Carex hirta</i>	Hairy Sedge	6	-	-
<i>Carex sylvatica</i>	Wood Sedge	6	-	1
<i>Blysmus compressus</i>	Flat-headed Sedge	4	-	-
<i>Carex aquatilis</i>	Water Sedge	3	-	-
<i>Carex pendula</i>	Pendulous Sedge	3	-	-
<i>Carex vesicaria</i>	Bladder Sedge	2	-	-
Total records			248	133
Number of species			26	31



Carex pulicaris – Flea Sedge



Carex echinata – Star Sedge



Carex pilulifera – Pill Sedge

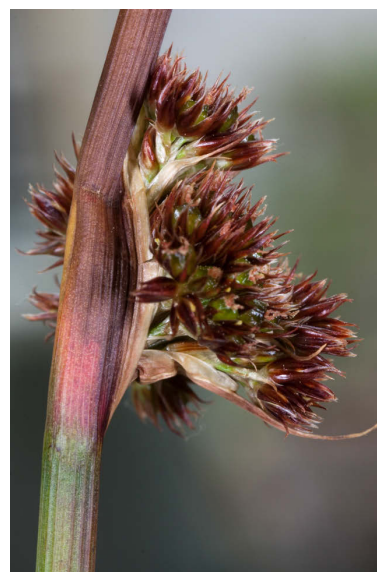
Plants, seaweeds etc

Family Juncaceae – Rushes and Woodrushes – were less well covered in 2018 than in 2017. The total number of records dropped from 144 to 38 and there were slightly fewer species recorded as well.

Sharp-flowered Rush, Baltic Rush and Hairy Wood-rush were species recorded in 2018 that had been missed in 2017. In contrast Compact Rush was not recorded in 2018 but had been in 2017. This species is often missed as it is superficially similar to Soft Rush. The key features of Compact Rush being a slightly more matt, sometimes greyish/green colouration to the stem and fewer, wider grooves on the stem than in soft rush.

Species	Common Name	NBN	2017	2018
<i>Juncus acutiflorus</i>	Sharp-flowered Rush	546	-	1
<i>Juncus ambiguus</i>	Frog Rush	9	-	-
<i>Juncus articulatus</i>	Jointed Rush	1575	11	5
<i>J. articulatus x acutiflorus = J. x surrejanus</i>		2	-	-
<i>Juncus balticus</i>	Baltic Rush	269	-	2
<i>Juncus bufonius</i>	Toad Rush	642	7	5
<i>J. bufonius</i> agg.	Toad Rush agg.	414	-	-
<i>Juncus bulbosus</i>	Bulbous Rush	1997	15	7
<i>Juncus conglomeratus</i>	Compact Rush	553	4	-
<i>J. conglomeratus</i> var. <i>subuliflorus</i>		7	-	-
<i>Juncus effusus</i>	Soft-rush	1565	78	8
<i>J. effusus</i> var. <i>effusus</i>		132	-	-
<i>J. effusus</i> var. <i>spiralis</i>		193	-	-
<i>J. effusus</i> var. <i>subglomeratus</i>		32	-	-
<i>Juncus filiformis</i>	Thread Rush	19	-	-
<i>Juncus gerardii</i>	Saltmarsh Rush	664	3	1
<i>Juncus inflexus</i>	Hard Rush	1	-	-
<i>Juncus maritimus</i>	Sea Rush	44	1	-
<i>Juncus squarrosus</i>	Heath Rush	884	6	1
<i>Juncus tenuis</i>	Slender Rush	5	1	-
<i>Juncus trifidus</i>	Three-leaved Rush	7	1	-
<i>Luzula campestris</i>	Field Wood-rush	689	6	3
<i>Luzula multiflora</i>	Heath Wood-rush	920	2	2
<i>L. multiflora</i> subsp. <i>congesta</i>		124	2	1
<i>L. multiflora</i> subsp. <i>multiflora</i>		129	1	-
<i>Luzula pilosa</i>	Hairy Wood-rush	160	-	1
<i>Luzula spicata</i>	Spiked Wood-rush	16	-	-
<i>Luzula sylvatica</i>	Great Wood-rush	532	6	1
		Total records	144	38
		Number of species	15	13

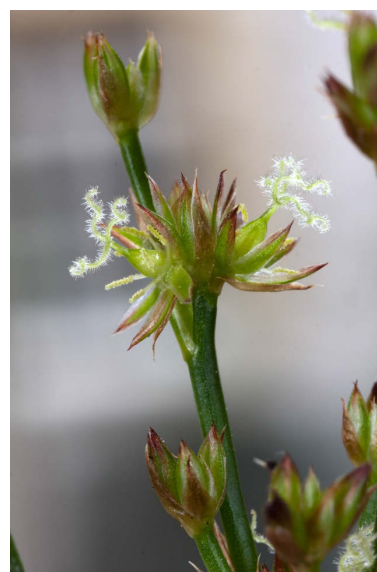
In terms of identification, the rushes are a more accessible group than are either grasses or sedges. They are a group that is often ignored but a good range of species are known from the Outer Hebrides. The Field Studies Council fold out key to rushes provides an easy to carry guide to this group and can be recommended:



Juncus conglomeratus – Compact Rush



Juncus effusus – Soft Rush



Juncus acutiflorus – Sharp-flowered Rush

Plants, seaweeds etc

Family Orchidaceae – Orchids – these were rather better recorded in 2018 than in 2017. The number of records increased from 82 to 99 and the number of species covered went from eleven to eighteen. It probably isn't the case that there were more orchids around but that there were more people with an interest in orchids on the islands.

Species	Common Name	NBN	2017	2018
<i>Anacamptis pyramidalis</i>	Pyramidal Orchid	71	1	11
<i>Coeloglossum viride</i>	Frog Orchid	308	1	8
<i>C. viride</i> x <i>D. fuchsii</i>		20	-	-
<i>C. viride</i> x <i>D. purpurella</i>		6	-	-
<i>Dactylorhiza eбудensis</i>	Hebridean Marsh-orchid	21	1	2
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid	340	18	20
<i>D. fuchsii</i> x <i>incarnata</i>		14	-	1
<i>D. fuchsii</i> x <i>maculata</i>		11	-	-
<i>D. fuchsii</i> x <i>purpurella</i>		17	-	1
<i>D. fuchsii</i> x <i>traunsteinerioides</i>		5	-	-
<i>Dactylorhiza incarnata</i>	Early Marsh-orchid	140	9	5
<i>D. incarnata</i> subsp. <i>coccinea</i>		142	3	6
<i>D. incarnata</i> subsp. <i>incarnata</i>		56	-	3
<i>D. incarnata</i> subsp. <i>pulchella</i>		12	-	-
<i>D. incarnata</i> x <i>purpurella</i> = <i>D. x latirella</i>		26	-	1
<i>D. incarnata</i> x <i>traunsteinerioides</i>		2	-	-
<i>Dactylorhiza maculata</i>	Heath Spotted-orchid	500	28	7
<i>D. maculata</i> subsp. <i>ericetorum</i>		152	-	2
<i>D. maculata</i> x <i>occidentalis</i>		1	-	-
<i>D. maculata</i> x <i>purpurella</i>		62	-	-
<i>Dactylorhiza purpurella</i>	Northern Marsh-orchid	337	8	15
<i>D. purpurella</i> x <i>majalis</i>		8	-	-
<i>Dactylorhiza traunsteinerioides</i>	Narrow-leaved Marsh-orchid	5	-	-
<i>D. traunsteinerioides</i> subsp. <i>francis-drucei</i>	Lapland Marsh-orchid	23	-	-
<i>Dactylorhiza x jenensis</i>		3	-	-
<i>Gymnadenia borealis</i>	Heath Fragrant-orchid	3	-	-
<i>Gymnadenia conopsea</i>	Fragrant Orchid	13	-	1
<i>Gymnadenia conopsea</i> subsp. <i>conopsea</i>		3	-	-
<i>G. conopsea</i> x <i>D. fuchsii</i>		2	-	-
<i>Gymnadenia densiflora</i>	Marsh Fragrant-orchid	6	-	-
<i>Hammarbya paludosa</i>	Bog Orchid	173	-	-
<i>Neottia cordata</i>	Lesser Twayblade	216	7	1
<i>Neottia ovata</i>	Common Twayblade	135	2	7
<i>Orchis mascula</i>	Early-purple Orchid	70	-	2
<i>Platanthera bifolia</i>	Lesser Butterfly-orchid	141	4	6
<i>Platanthera chlorantha</i>	Greater Butterfly-orchid	21	-	-
<i>Spiranthes romanzoffiana</i>	Irish Lady's-tresses	144	-	-
		Records	82	99
		Number of species	11	18

Most of the common species and some of the more commonly recorded sub-species and hybrids were seen. The exceptions being species like Bog Orchid and Irish Lady's-tresses that have restricted distributions and unlike most orchids are hard to spot and so will not be seen by casual recorders.

Orchid taxonomy often seems, to non-specialists, to be in a constant state of flux. The status of *Dactylorhiza eбудensis*, the Hebridean Marsh Orchid, is of particular interest to us in VC110 as it was long held to be endemic to North Uist. It currently seems to be regarded as a form of the Lapland Marsh Orchid, in itself a subspecies of the Narrow-leaved Marsh Orchid, so it now has the snappy scientific name *Dactylorhiza traunsteinerioides* subsp. *francis-drucei* var. *eбудensis*. NBN still accepts records of *Dactylorhiza eбудensis* so we'll use that.



D. incarnata subsp. *coccinea* -
Early Marsh-orchid



Anacamptis pyramidalis -
Pyramidal Orchid, with Kidney Vetch.



Dactylorhiza eбудensis -
Hebridean Marsh-orchid

Plants, seaweeds etc

Family Poales – Grasses

There were fewer records of grasses but more species recorded in 2018 than in 2017. In 2017, 191 records of 24 species were submitted, in 2018 the number of records was down to 97 but these covered 32 species. Most of the commoner species were recorded.

Overall approximately 30% of the grass species recorded for VC110 were recorded in 2018. This is quite a low percentage “hit-rate” compared to Sedges (50%), Orchids (49%) and Rushes (43%).

The lack of records of Mat-grass (*Nardus stricta*), Wavy-hair Grass (*Deschampsia flexuosa*) and Velvet Bent (*Agrostis canina*) suggests that less time was spent recording in acid habitats than was the case in 2017.

Species	Common Name	NBN	2017	2018
<i>Agrostis stolonifera</i>	Creeping Bent	1985	5	3
<i>Holcus lanatus</i>	Yorkshire-fog	1525	36	8
<i>Festuca rubra</i> agg.	Red Fescue	1448	5	2
<i>Molinia caerulea</i>	Purple Moor-grass	1387	25	6
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	1188	11	2
<i>Nardus stricta</i>	Mat-grass	917	7	
<i>Aira praecox</i>	Early Hair-grass	843	7	2
<i>Festuca vivipara</i>	Viviparous Sheep's-fescue	767	15	8
<i>Poa annua</i>	Annual Meadow-grass	751	5	
<i>Cynosurus cristatus</i>	Crested Dog's-tail	746	17	5
<i>Agrostis capillaris</i>	Common Bent	709	4	
<i>Glyceria fluitans</i>	Floating Sweet-grass	690	2	3
<i>Danthonia decumbens</i>	Heath-grass	648	3	5
<i>Deschampsia flexuosa</i>	Wavy Hair-grass	635	7	
<i>Lolium perenne</i>	Perennial Rye-grass	617	1	1
<i>Poa trivialis</i>	Rough Meadow-grass	563		1
<i>Ammophila arenaria</i>	Marram	529	7	7
<i>Phragmites australis</i>	Common Reed	487	6	7
<i>Poa humilis</i>	Spreading Meadow-grass	434	3	3
<i>Alopecurus geniculatus</i>	Marsh Foxtail	432		2
<i>Arrhenatherum elatius</i>	False Oat-grass	406	1	1
<i>Dactylis glomerata</i>	Cock's-foot	387	14	3
<i>Agrostis canina</i>	Velvet Bent	370	6	
<i>Puccinellia maritima</i>	Common Saltmarsh-grass	361		
<i>Elytrigia juncea</i>	Sand Couch	266		1
<i>Elytrigia repens</i>	Common Couch	258		
<i>Bromus hordeaceus</i>	Soft-brome	241		2
<i>Deschampsia setacea</i>	Bog Hair-grass	210	1	
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	207		
<i>Holcus mollis</i>	Creeping Soft-grass	204		
<i>Koeleria macrantha</i>	Crested Hair-grass	166		6
<i>Agrostis vinealis</i>	Brown Bent	162		
<i>Festuca ovina</i> agg.	Sheep's Fescue agg.	157	1	
<i>Catabrosa aquatica</i>	Whorl-grass	154		1
<i>Helictotrichon pubescens</i>	Downy Oat-grass	151		5
<i>Phleum pratense</i>	Timothy	115		
<i>Aira caryophylla</i>	Silver Hair-grass	104		
<i>Bromus hordeaceus</i>	Common Soft-brome	95		
<i>Avena strigosa</i>	Bristle Oat	90		2
<i>Catapodium marinum</i>	Sea Fern-grass	84		
<i>Poa pratensis</i>	Smooth Meadow-grass	77		1
<i>Alopecurus pratensis</i>	Meadow Foxtail	69		1
<i>Brachypodium sylvaticum</i>	False-brome	60		
<i>Leymus arenarius</i>	Lyme-grass	53	2	1
<i>Phalaris arundinacea</i>	Reed Canary-grass	49		
<i>Festuca arundinacea</i>	Tall Fescue	41		1
<i>Hierochloa odorata</i>	Holy-grass	40		3
<i>Glyceria declinata</i>	Small Sweet-grass	38		
<i>Vulpia bromoides</i>	Squirreltail Fescue	37		
<i>Phleum bertolonii</i>	Smaller Cat's-tail	36		
<i>Cortaderia richardii</i>	Early Pampas-grass	32		
<i>Festuca pratensis</i>	Meadow Fescue	32		
<i>Poa palustris</i>	Swamp Meadow-grass	27		
<i>Agrostis gigantea</i>	Black Bent	25		
<i>Briza media</i>	Quaking-grass	24		
<i>Lolium multiflorum</i>	Italian Rye-grass	17		

Plants, seaweeds etc

Species contd.	Common Name	NBN	2017	2018
<i>Festuca arenaria</i>	Rush-leaved Fescue	13		
<i>Avena fatua</i>	Wild-oat	11		
<i>Cortaderia selloana</i>	Pampas-grass	11		1
<i>Catapodium rigidum</i>	Fern-grass	10		
<i>Hordeum distichon</i>	Two-rowed Barley	10		
<i>Poa nemoralis</i>	Wood Meadow-grass	8		
<i>Secale cereale</i>	Rye	7		1
<i>Spartina anglica</i>	Common Cord-grass	7		
<i>Avena sativa</i>	Oat	6		
<i>Poa chaixii</i>	Broad-leaved Meadow-grass	6		
<i>Hordeum vulgare</i>	Six-rowed Barley	5		
<i>Phalaris canariensis</i>	Canary-grass	5		
<i>Bromus lepidus</i>	Slender Soft-brome	4		
<i>Catabrosa aquatica var. uniflora</i>	Whorl-grass	4		
<i>Bromus sterilis</i>	Barren Brome	3		
<i>Festuca brevipila</i>	Hard Fescue	3		
<i>Trisetum flavescens</i>	Yellow Oat-grass	3		3
<i>Triticum aestivum</i>	Bread Wheat	3		
<i>Avena sterilis</i>	Winter Wild-oat	2		
<i>Bromus racemosus</i>	Smooth Brome	2		
<i>Festuca gigantea</i>	Giant Fescue	2		
<i>Hordeum secalinum</i>	Meadow Barley	2		
<i>Puccinellia distans</i>	Reflexed Saltmarsh-grass	2		
<i>Vulpia myuros</i>	Rat's-tail Fescue	2		
<i>Alopecurus myosuroides</i>	Black-grass	1		
<i>Festuca filiformis</i>	Fine-leaved Sheep's-fescue	1		
<i>Spartina townsendii</i>	Townsend's Cord-grass	1		

The families with the lowest "hit-rate" in 2018 are amongst the most diverse in the Outer Hebrides. The Rosaceae (7%), Asteraceae (14%), Salicaceae (14%) all have a large number of species recorded from VC110 but contain many difficult taxa. For example, in the Rosaceae there are 33 species (*Taraxacum* species) and 45 species of Hawkweed (*Hieraceum* species); and whilst there are only 30 willows (*Salix* species) they all seem to hybridise with each other and nearly half the recorded taxa are hybrids

Identification of these difficult families requires a level of botanical expertise that most of our local recorders would have to work hard to match and it is likely that recording of these groups will remain dependent on occasional visiting experts.

Family	Type of plant	No. of species "Hit rate"		
		NBN	2018	%
Asteraceae	Daisies, Thistles etc.	219	31	14
Rosaceae	Rose, Cinquefoils, Tormentil	112	8	7
Poaceae	Grasses	110	32	29
Cyperaceae	Sedges	62	31	50
Orobanchaceae	Rattles, Eye-brights	59	12	20
Brassicaceae	Scurveygrass, Charlock	52	11	21
Caryophyllaceae	Campions, Chickweeds	41	15	37
Orchidaceae	Orchids	39	19	49
Plantaginaceae	Plantains, Speedwells	37	13	35
Salicaceae	Willows	36	5	14
Fabaceae	Vetches, Clovers, Trefoils	35	13	37
Lamiaceae	Selfheal, Thymes, Mints	35	8	23
Polygonaceae	Docks & Sorrels	33	9	27
Juncaceae	Rushes, Wood-rushes	30	13	43
Apiaceae	Umbellifers	29	14	48
Potamogetonaceae	Pondweeds	26	10	38
Ranunculaceae	Buttercups	23	9	39
Boraginaceae	Bugloss, Forget-me-nots	21	5	24
Amaranthaceae	Oraches, Glasswort	21	4	19

Plants, seaweeds etc

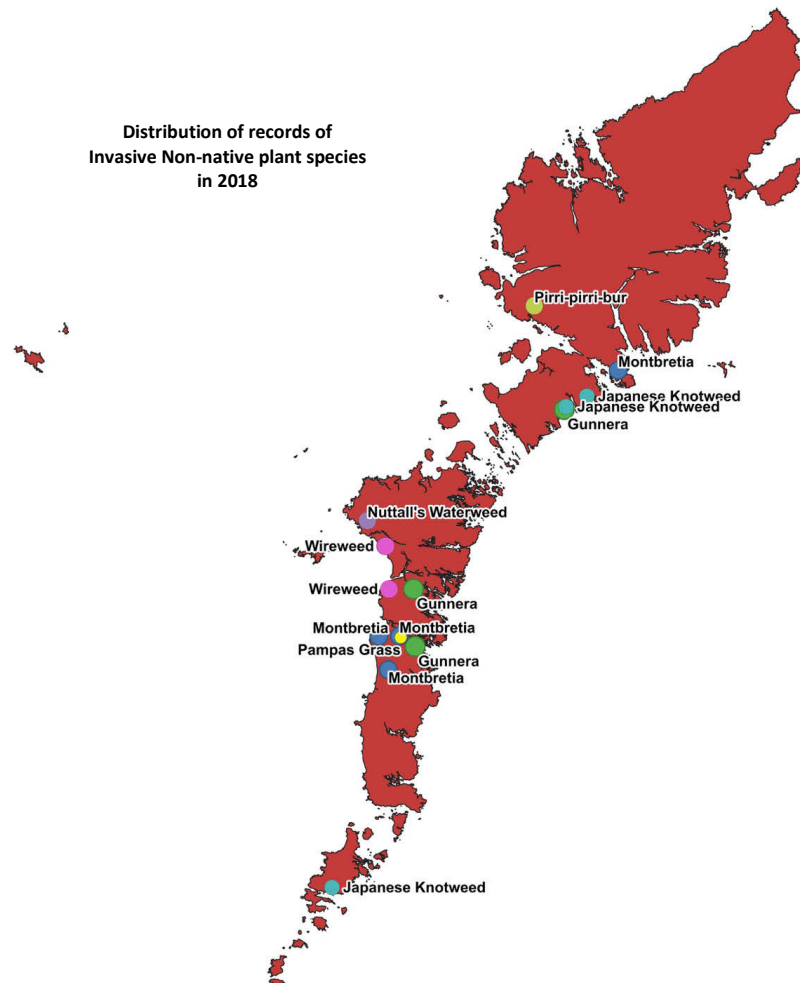
Invasive Non-native Species

Sixteen records of seven species of plants classified as Invasive Non-native Species (INNS) were received in 2018. Six of these were flowering plants the seventh a brown seaweed. All have the potential to have a visual and ecological impact on the environment. The distribution of the species records as shown, no doubt, represents only a partial picture of their true distribution.

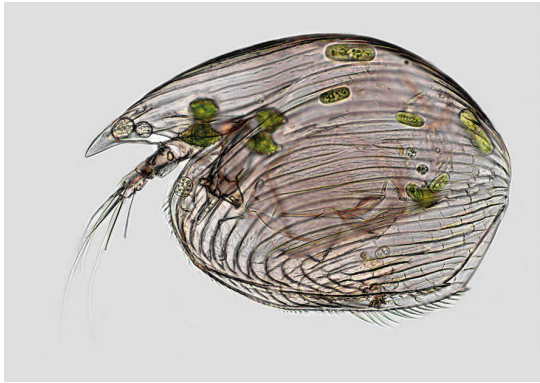
Gaining a better understanding of the distribution of these species would be a useful focus in future years. An OHBR information leaflet on Marine Non-native Invasive Species already exists as a useful resource: it is available to download from the publications page of the OHBR website.

Type of plant	Common name	Scientific name	Total
Flowering plant	Gunnera	<i>Gunnera</i> sp.	3
	Japanese Knotweed	<i>Fallopia japonica</i>	3
	Montbretia	<i>Crocasmia</i> spp.	4
	Nuttall's Waterweed	<i>Elodea nuttallii</i>	1
	Pampas Grass	<i>Cortaderia</i> spp.	1
	Pirri-pirri-bur	<i>Acaena novae-zelandiae</i>	1
Brown Seaweed	Wireweed	<i>Sargassum muticum</i>	3
Grand Total			16

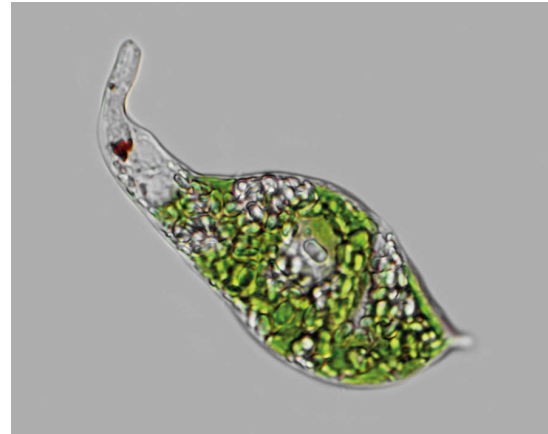
Distribution of records of
Invasive Non-native plant species
in 2018



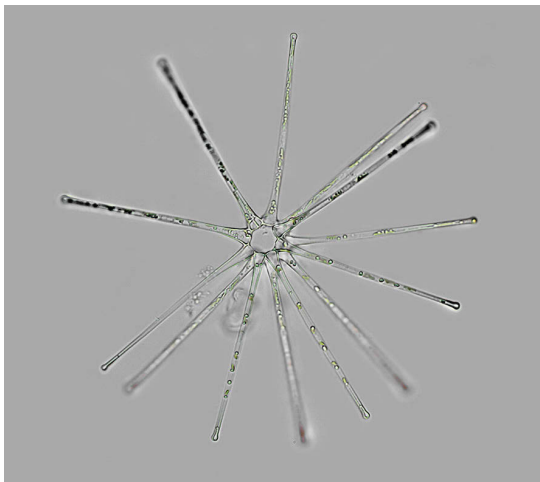
Life under the microscope – photographs by Chris Johnson



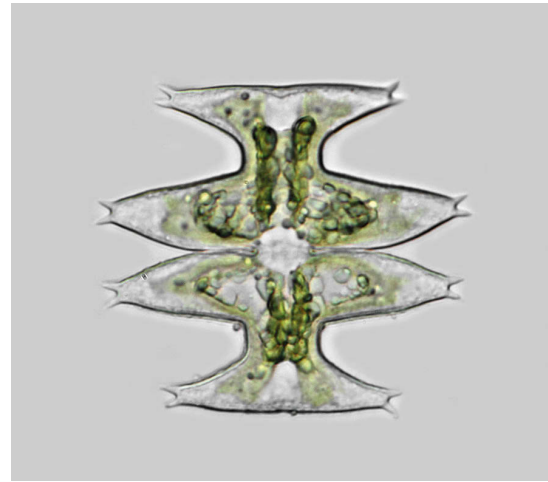
Acroperus harpae – a Water Flea, Order Cladocera



Euglena mutabilis – a single celled flagellate Eukaryote



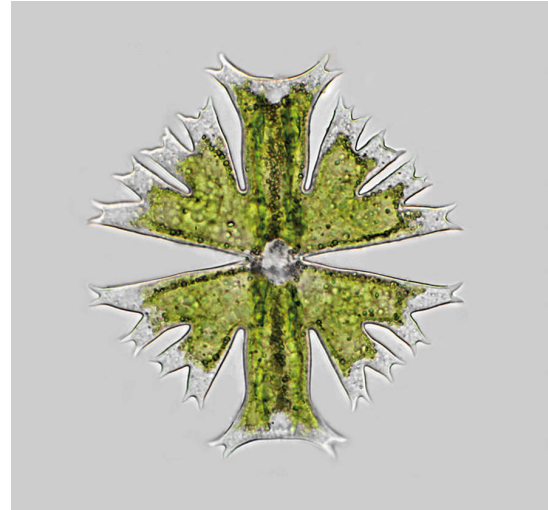
Asterionella formosa – a Diatom



Micrasterias pinnatifida – a freshwater Desmid



Acanthocystis turfacea – a Sun Animalcule



Micrasterias crux-melitensis – a freshwater Desmid



Closterium aciculare – a freshwater Diatom



Working Together

To help sustain and enhance the biodiversity of the Outer Hebrides and enrich the lives of local communities and future generations

To increase our knowledge of the wildlife: flora, fauna and fungi, of our islands and make this information available to everyone

To encourage everyone to take an interest in the natural world and provide opportunities to participate in biological recording

