

Outer Hebrides Biological Recording



Discovering our Natural Heritage
Biological Recording in 2017

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Robin D Sutton

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Introduction

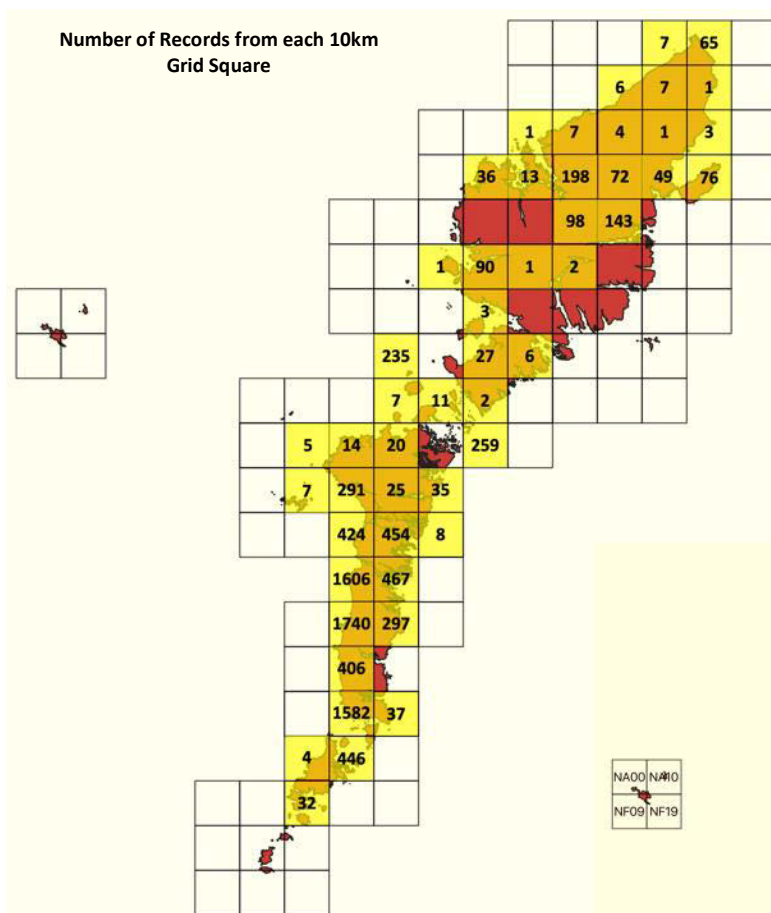
The islands of the Outer Hebrides are renowned for their outstanding wildlife and are home to many species of plants and animals that are now rare on the mainland. A combination of geography, geology, climate and the activities of man have formed an amazing variety of landscapes from the peatlands of Lewis to the sandy beaches and machair of the Uists. It is not surprising that these islands have attracted a succession of visiting naturalists, professional and amateur, often leading experts in their field, to study the islands' wildlife. Unfortunately, their notes and records returned to the mainland with them, and often remained largely inaccessible and hidden from general view in scientific publications.

Outer Hebrides Biological Recording (OHBR) was established with the intention of ensuring that the information about the plants, animals and fungi is freely available to everyone. In 2011 the OHBR biodiversity database was created for this purpose. The information we gather will help to build a more comprehensive understanding of the islands' biodiversity. These biological records are made available via the National Biodiversity Atlas Scotland (<https://scotland.nbnatlas.org/>) or directly from OHBR.

This is our first published report and it reflects the hard work and enthusiasm of the resident naturalists, the generosity of the visiting naturalists 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.

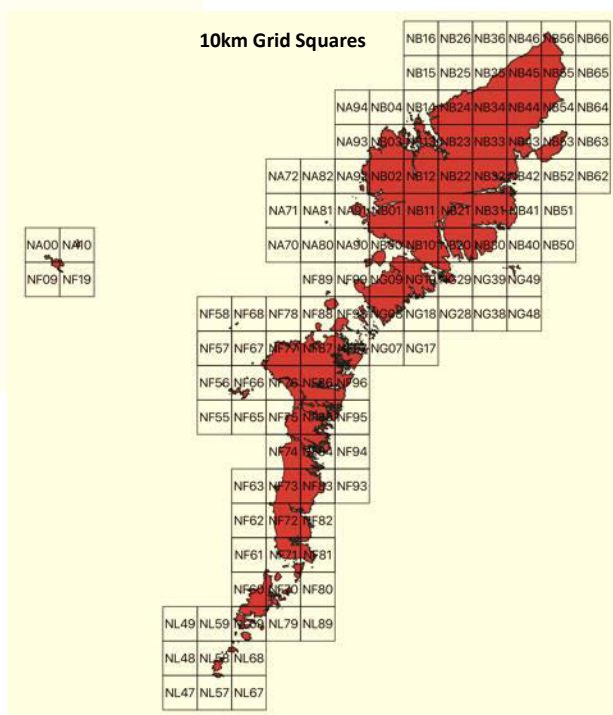
You can discover more about biological recording in the Outer Hebrides on the OHBR website (<https://www.ohbr.org.uk/>) and share your wildlife observations on our social media group page (<https://www.facebook.com/groups/286293481746505/>). Biological recording is not restricted to specialists, we are 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.

Summary of records



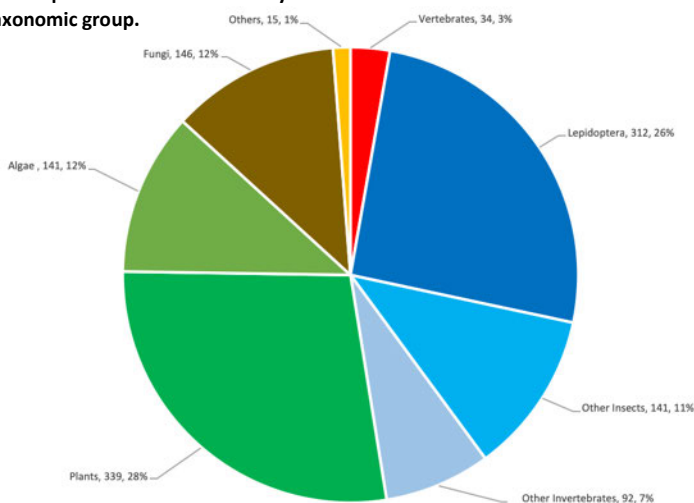
Outer Hebrides Biological Recording (OHBR) received, in 2017, more than 9,300 records of over 1200 species of plants, fungi, and a whole variety of different types of animals.

These records were submitted by 77 different recorders from 50 different 10km grid squares spread across virtually all of the Outer Hebrides. Eight people submitted over 500 records each; 50% submitted just one record. Every record is equally valued and many thanks to all who contributed.



Of the 1220 organisms reported, 47% were animals of some type, 40% were plants (giving the brown seaweeds honorary plant status because they look like plants to most of us), 12% were Fungi and there were a few Bacteria and Protozoa. Some recorders specialised. 97% of the records sent in by three recorders were of Lepidoptera (mostly moths with a few butterflies) and nearly 80% of all Lepidoptera records were sent in by these three people.

No. of species recorded in 2017 by taxonomic group.



Vertebrates (mammals, reptiles and amphibians) were popular with many recorders. Thirty-four species were recorded and the 149 records were submitted by 46 different people.

Plants were less popular subjects. Just thirteen people generated over 3,500 records of 480 plant and algae species.

In many respects 2017 was a very successful year for recording in VC110, but 1220 species is only about 20% of the species known to occur in the Outer Hebrides. There are, no doubt, also many species that occur here that haven't yet been recorded.

Summary of records

Overall summary of records

Vertebrates	Class	Common Names	VC110 Checklist	2017
			No. of Species	No. of Species (records)
	Aves*	Birds*	417*	*
	Actinopterygii	Bony Fish	59	4 (4)
	Mammalia	Mammals	35	22 (120)
	Ascidiacea	Sea Squirts	33	1 (1)
	Elasmobranchii	Sharks, Rays & Skates	7	5 (6)
	Reptilia	Reptiles	5	2 (4)
	Amphibia	Frogs, Toads & Newts	3	3 (26)
	Cephalaspidomorphi	Jawless Fish (Lampreys)	1	-
	Total		560	34 (149)

* 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	141 (864)
		Lepidoptera	501	312 (3768)
		Other Arthropods eg Crustaceans, Spiders, Millipedes etc.	219	22 (74)
	Mollusca	Snails, Slugs, Bivalves, Octopuses etc.	334	43 (139)
	Annelida	True Worms	161	3 (3)
	Cnidaria	Corals, Jellyfish, Hydra etc.	93	10 (48)
	Porifera	Sponges	49	2 (2)
	Bryozoa	Sea Mats (Moss Animalcules)	48	1 (1)
	Echinodermata	Sea Urchins, Starfish, Brittlestars, Sea Potatoes etc.	41	5 (14)
	Nemertea	Ribbon Worms	5	-
	Platyhelminthes	Flatworms	3	-
	Sipuncula	Peanut (or Star) Worms	3	-
	Brachiopoda	Lamp Shells	2	-
	Ctenophora	Comb Jellies eg Sea Gooseberry	2	1 (2)
	Others	Small marine or freshwater animals eg Cephalorhyncha, Echiura, Phoronida, Gastrotricha, Myzozoa	5	5 (7)
	Total		2440	545 (4922)

Plants	Division	Common Names	No. of Species	No. of Species (records)
	Magnoliopsida	Flowering Plants	802	310 (3213)
	Bryophyta	Mosses	324	-
	Marchantiophyta	Liverworts	161	-
	Rhodophyta	Red Algae	150	39 (60)
	Chlorophyta	Green Algae	43	35 (61)
	Charophyta	Stoneworts and Desmids	48	47 (62)
	Pteridophyta	Ferns & Horsetails	41	23 (202)
	Pinopsida	Conifers	19	4 (17)
	Lycopodiopsida	Clubmosses & Quillworts	7	2 (11)
	Anthocerotophyta	Hornworts	2	-
	Total		1597	460 (3626)

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

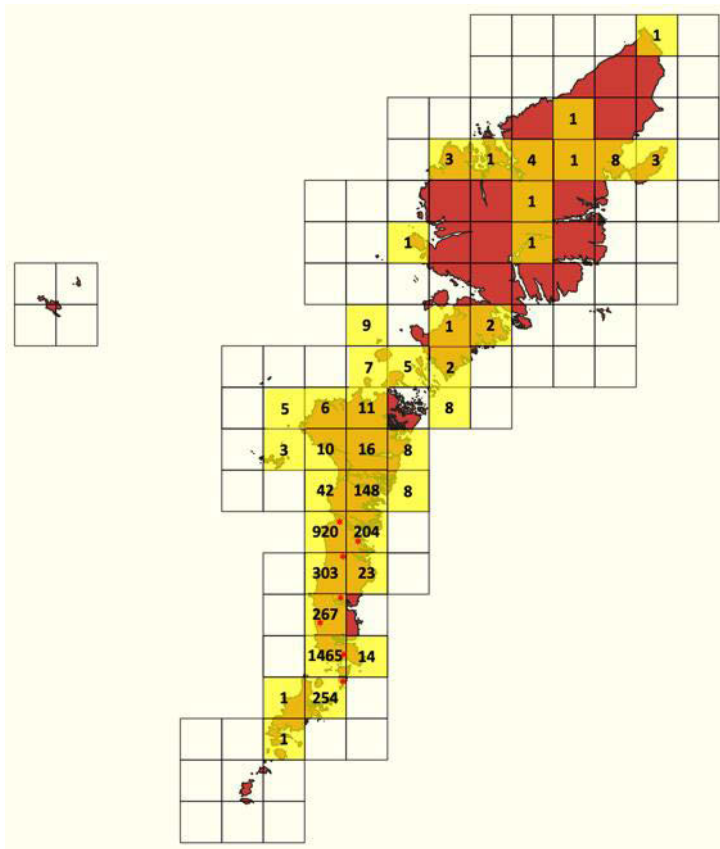
Fungi	Phylum	Common Names	No. of Species	No. of Species (records)
	Ascomycota	Sac fungi eg Orange Peel Fungus (<i>Aleuria aurantia</i>) and most Lichens	1050	14 (20) 73 (353)
	Basidiomycota	Mushroom like and other larger fungi (and Rusts)	559	58 (113)
	Chytridiomycota	Chytrids (fungi with flagellate spores)	3	-
	Zygomycota	Molds	7	-
	Oomycota	Filamentous protists (Downy Mildews)	13	1 (1)
	Total		1622	146 (487)

*Oomycota – strictly speaking these belong 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		10	10 (12)
	Chromista	Brown Seaweeds	34	20 (110)
	Protozoa		5	5(7)
	Total		49	35 129)

Lepidoptera

Insects – Lepidoptera

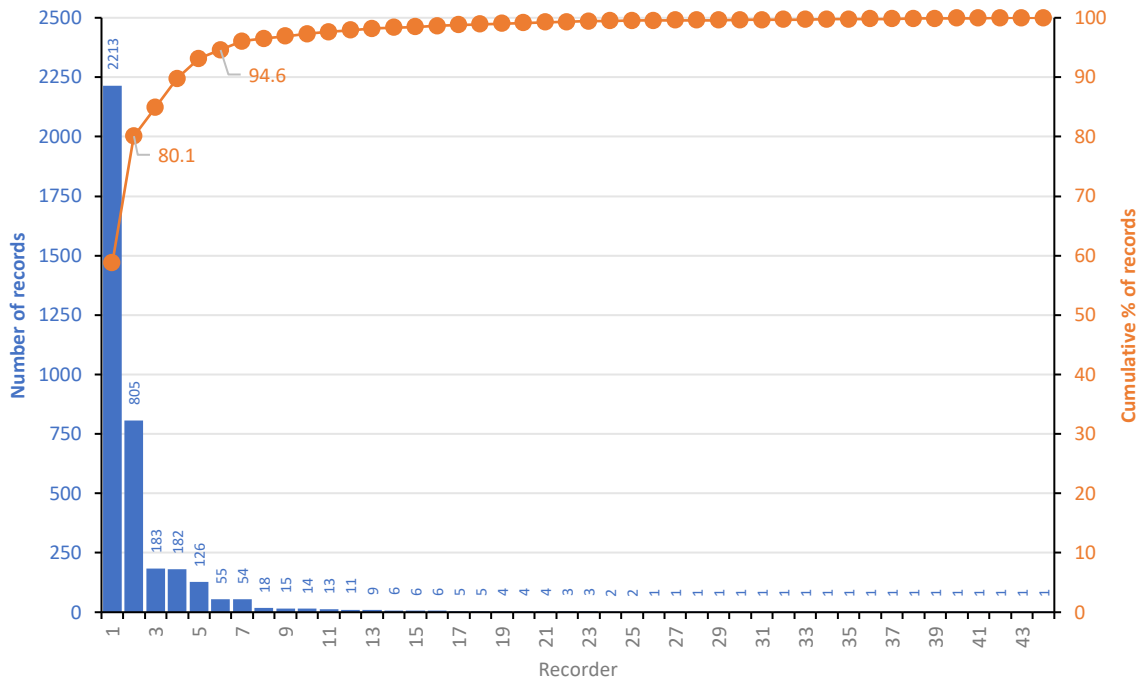


Records of Lepidoptera received in 2017 exceed those of all the other invertebrates. 4922 invertebrate records were submitted in 2017 and 76.6% (3768 records) of these were Lepidoptera, 3546 (299 species) were of moths and the remaining 222 records (13 species) were butterflies.

Group	Records	Species
Lepidoptera	3768	312
Moths	(3546)	(299)
Butterflies	(222)	(13)
Other insects	864	141
All Insects	4632	453
Other inverts.	290	92
All Inverts.	4922	545

Most (72%) of the moth records come from light traps. The approximate location of these is shown by a red asterisk in the appropriate 10km square. Lepidoptera records are heavily biased to 10km squares on South Uist (and Eriskay) where moth traps are run. In total 44 people submitted records of Lepidoptera in 2017 but 80% of the records came from two recorders who are regular moth trappers and 95% of the records came from just six recorders.

More moth trapping in other areas such as North Uist, Harris and Lewis would add considerably to the robustness of this part of the OHBR database.



Butterflies



Pieris napi - Green-veined White
(All photographs by Robin Sutton unless credited otherwise)

Thirteen species of butterfly were recorded in 2017, this is a very high percentage of the species recorded previously in VC110. One of the missing species (Clouded Yellow) is represented by a single record from 1940. The other missing species either have very restricted previous record distribution (Orange-tip at Lews Castle and Ringlet at the bottom of South Uist) or have more widespread but very infrequent records (Small White).

The Speckled Wood is another species with a restricted distribution, most records are from Stornoway. This species has been spreading within Scotland and may be worth looking out for in areas of suitable habitat but as a woodland edge species it is unlikely to become common.

Species	Number of records			
	NBN		2017	
Green-veined White	535	24.1%	54	24.3%
Meadow Brown	425	19.1%	41	18.5%
Common Blue	285	12.8%	30	13.5%
Red Admiral	238	10.7%	31	14.0%
Small Tortoiseshell	157	7.1%	11	5.0%
Large Heath	119	5.4%	6	2.7%
Painted Lady	119	5.4%	20	9.0%
Dark Green Fritillary	102	4.6%	9	4.1%
Small Heath	99	4.5%	13	5.9%
Large White	57	2.6%	1	0.5%
Grayling	43	1.9%	3	1.4%
Peacock	22	1.0%	2	0.9%
Speckled Wood	8	0.4%	1	0.5%
Small White	5	0.2%		
Ringlet	4	0.2%		
Orange-tip	2	0.1%		
Clouded Yellow	1	0.0%		
Total	2221		222	

Comparing the percentage frequency of records against those currently held by the National Biodiversity Network (NBN) shows very similar recording rates. This gives a very crude assessment of relative abundance. The species which are common nowadays (Green-veined White, Meadow Brown, Common Blue and Red Admiral) were recorded at very similar rates in 2017 to those recorded on the NBN data base. None of the species seen in 2017 shows a major shift in recording rate.

Changes in absolute abundance can only be ascertained by long term standardized counts along "butterfly transects" or similar techniques.



Polyommatus icarus - Common Blue



Vanessa cardui - Painted Lady

Lepidoptera

Moths

Most moth records (over 75%) 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	2724	76.8%
Robinson MV 125w	(2296)	(64.7%)
Actinic Trap	(399)	(11.3%)
Moth trap (general)	(29)	(0.8%)
Field Observation	679	19.1%
Netted/collected	143	4.1%
Total moth traps	3546	

In 2017 there were 3546 records of 299 species and over 20,000 individual moths. The number of individuals of each species caught in a moth trap is easily counted. Those recorded through direct observation in the field are, like records for most other invertebrates, usually recorded as “present” with no estimate of abundance attached.



Arctia caja - Garden Tiger

Most moths were not recorded very often, even in light traps. Around about half of the 299 species were recorded five or fewer times. Only 8 species were recorded more than 50 times.

Recorded	No. of species
1 to 5 times	149
6 to 10 times	43
11 to 20 times	42
21 to 30 times	32
31 to 50 times	25
> 50 times	8
Total	299
Top 8 species	No. of records
Drinker	109
Garden Tiger	85
Magpie	72
Small Wainscot	60
Flame Carpet	59
Large Yellow Underwing	58
Dark Arches	57
Flame Shoulder	54

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.

Breaking down the records according to the method of sampling gave different results. The top twenty species recorded by direct field observation contained three species (Six-spot Burnet, Common Nettle-tap and Common Heath) which are day flying and rarely if ever come to light.

Moth Trap		Field Observation	
Species	Records	Species	Records
Small Wainscot	57	Drinker	60
Flame Carpet	55	Garden Tiger	46
Dark Arches	55	Magpie	37
Flame Shoulder	53	Six-spot Burnet	29
Large Yellow Underwing	49	Fox Moth	27
Drinker	48	Straw Grass-veneer	22
Smoky Wainscot	44	Common Nettle-tap	21
True Lover's Knot	44	Emperor Moth	20
Bright-line Brown-eye	43	White-shouldered House-moth	17
White Ermine	42	Yellow Shell	14
Garden Tiger	39	Common Heath	14
Ingrailed Clay	38	Belted Beauty	11
Dark-barred Twin-spot Carpet	35	Northern Eggar	11
Dotted Clay	35	Brown House-moth	10
Small Square-spot	34	Large Yellow Underwing	9
Magpie	34	Rush Marble	8
Antler Moth	34	Knot Grass	8
Gold Spot	33	Arran Carpet	7
Straw Dot	33	Common Marble	7
Silver-ground Carpet	32	Brown China-mark	7



Zygaena filipendulae - Six-spot Burnet

Several of the species most frequently recorded by field observation were also species with obvious and easily identifiable caterpillars. Included amongst

Lepidoptera

these would be the big hairy caterpillars of Drinker, Fox Moth and Garden Tiger, the conspicuous bright green Emperor Moth caterpillars and the unmistakable Knot Grass.



Arctia caja - Garden Tiger



Saturnia pavonia - Emperor Moth



Acronicta rumicis - Knot Grass



Lycia zonaria - Belted Beauty (parasitised caterpillar)

Another moth perhaps more readily recorded either as a caterpillar or as the unusual flightless female often found on fence post and tall plants on dune systems is the Belted Beauty.



Lycia zonaria - Belted Beauty (female)

Two more of the field observation group of moth records stand out. These are the Brown House-moth and the White-shouldered House-moth. These are small relatively inconspicuous species which are attracted to light and occur in moth traps but perhaps also stand out when found indoors!

Estimating moth distribution and abundance by relying purely on moth trap data will underestimate both. Account needs to be taken of those species that are not attracted to light but can be readily found as they are day active or have large, distinctive caterpillars or cocoons

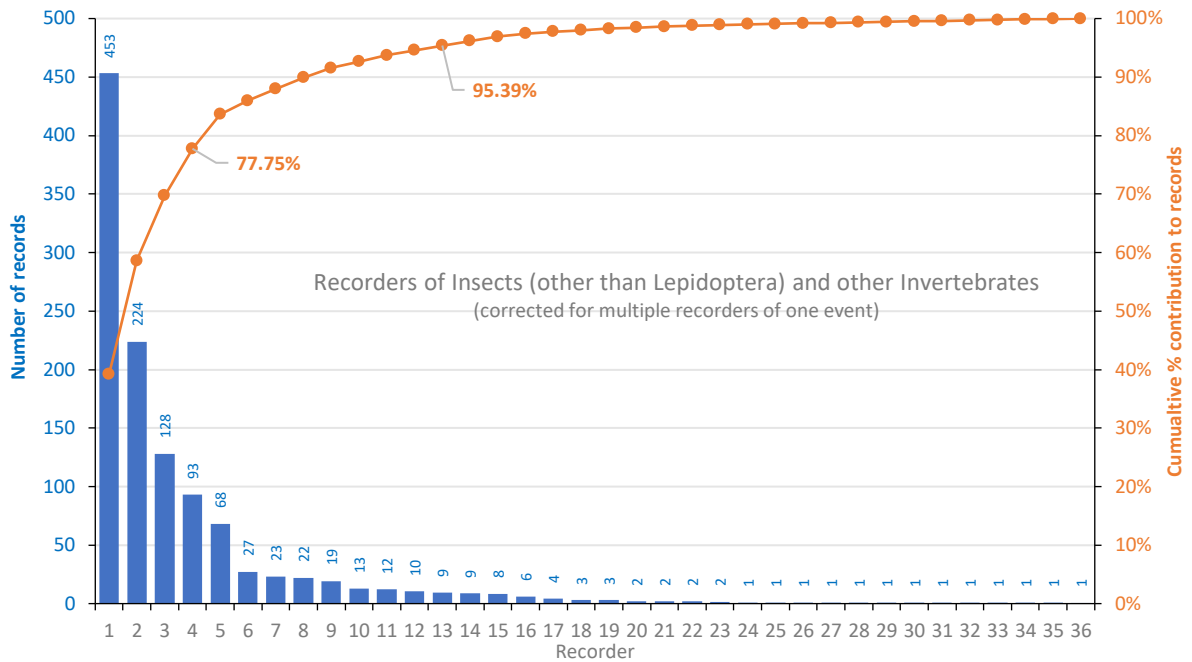


Zygaena filipendulae
Six-spot Burnet (cocoon)

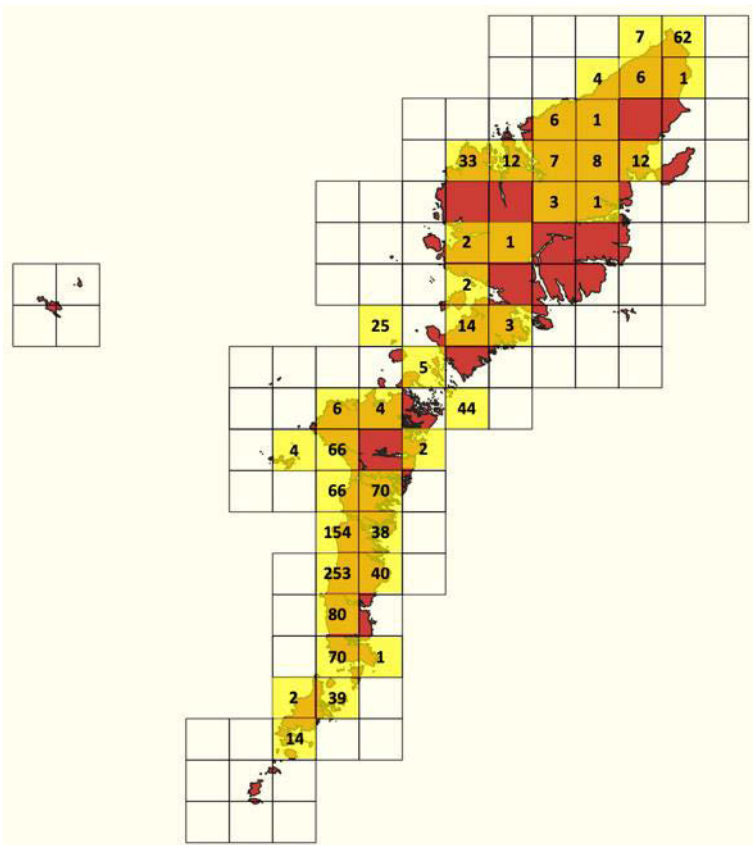
Insects other than Lepidoptera

Insects other than Lepidoptera

Thirty-six people contributed records of insects (excluding Lepidoptera) and other invertebrates. Half of these submitted three or fewer records. In contrast just four people contributed over three-quarters (c.78%) of all the records for these groups and 95% of the records were submitted by just thirteen people.



Distribution of 2017 Invertebrate Records



Invertebrate records were received from 39 10km squares in 2017 covering much of the Outer Hebrides. The distribution of records wasn't even with a distinct bias towards Benbecula and South Uist reflecting the location of the most active recorders in the area and the location of targeted survey work - for example records from the islands in the Sound of Harris.

An enduring question for any recording group is how to encourage more people to submit more records and how to extend the coverage of records from within the recording area. The OHBR is no different in many respects but the population density on the islands is low and access to some areas is difficult. On the other hand, an interest in natural history is one of the reasons some people chose to live here or is an interest that develops given exposure to the abundance of wildlife that is still a part of everyday life in the Outer Hebrides.

Insects other than Lepidoptera

It is estimated that there is something in the region of 24,000 species of insect in Britain. Of these 1,475 species feature in the VC110 records and 453 of them were recorded in 2017.

The insect records 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 but 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 so on and have been considered already.

Order	Common Name	Britain	VC110 checklist		2017 records	
		Est. No. of Species	No. of Species	% ²	No. of Species	% ³
Diptera	True Flies	7,000	260	3.7	74	28.5
Hymenoptera	Bees, Wasps, Ants, Sawflies etc.	7,000	92	1.3	26	28.3
Coleoptera	Beetles	4,000	460	11.5	18	3.9
Lepidoptera	Butterflies & Moths	2,570	501	19.5	312	62.2
Hemiptera	Bugs	1,830	57	3.1	11	19.3
Phthiraptera	Biting lice & Sucking lice	540				
Collembola ⁴	Springtails	250	7	2.8		
Trichoptera	Caddisflies	198	58	29.3		
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		
Odonata	Dragonflies & Damselflies	49	12	24.5	9	75.0
Plecoptera	Stoneflies	34	8	23.5		
Orthoptera	Grasshoppers & Crickets	33	3	9.1	1	33.3
Protura ⁴	Simpletails	15				
Diplura ⁴	2-pronged Bristle-Tails	11				
Dictyoptera	Cockroaches, Termites & Mantids	11				
Strepsiptera	Stylops	10				
Archaeognatha	Bristle-tails	7	2	28.6	1	50.0
Dermaptera	Earwigs	7	1	14.3	1	100.0
Mecoptera	Scorpionflies	4				
Rhaphidioptera	Snakeflies	4				
Megaloptera	Alderflies	3	1	33.3		
Zygentoma (Thysanura)	Silverfish & Firebrats	2				
Total		24,039	1,475		141	

¹ The Royal Entomological Society Book of British Insects Peter C Barnard 2011 Willey-Blackwell
² As percentage of total British species
³ As percentage of VC110 species
⁴ now not generally considered to be true insects

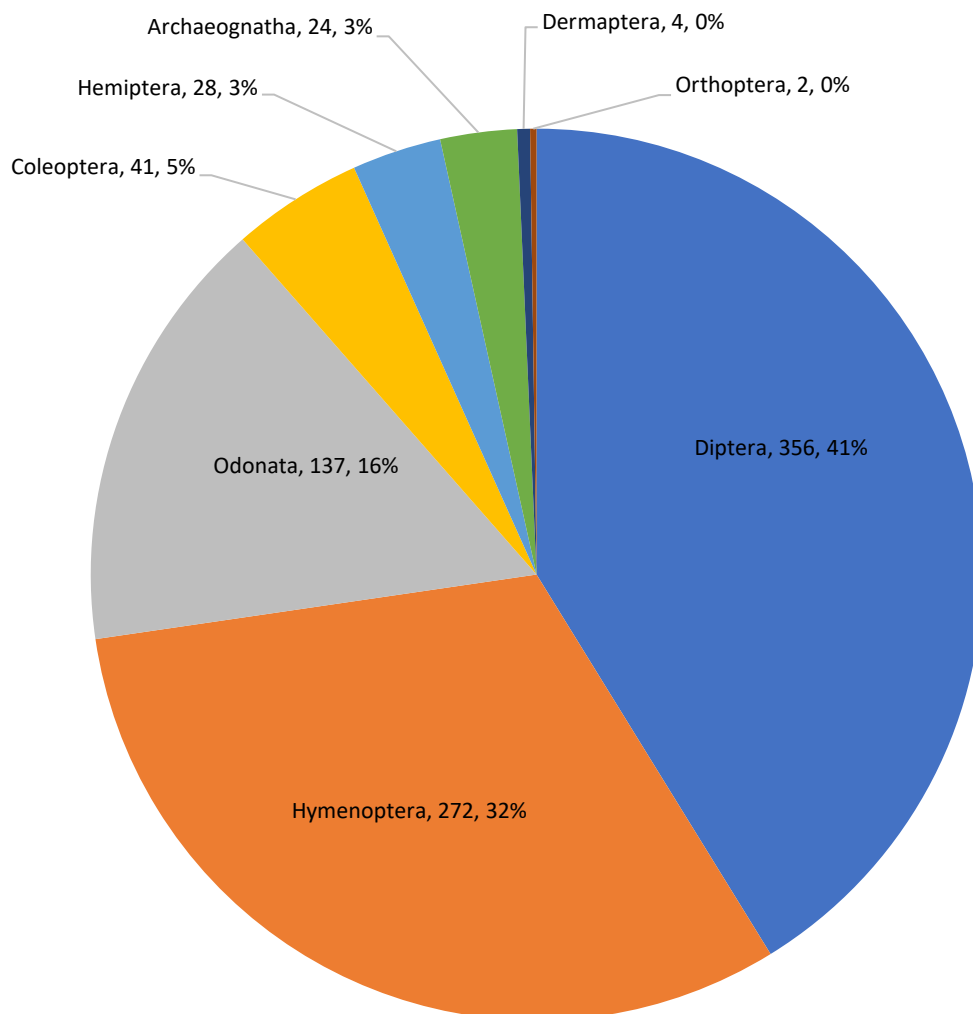
Of the British orders that contain more than 10 species VC110 has a fairly good representation amongst the aquatic insects (Caddisflies, Mayflies, Dragonflies and Stoneflies) with about 20% of British species being recorded in the Outer Hebrides. A similar percentage of Lepidoptera have been recorded here but the traditionally "more difficult orders" (Diptera, Hymenoptera, Coleoptera, Hemiptera and Collembola) are much more poorly represented. As much as anything this is undoubtedly because 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 never seem to have been interested in (Thysanoptera, Psocoptera and Phthiraptera) perhaps as these also suffered from a lack of accessible identification keys.

The recorders active in the Outer Hebrides in 2017 seem to have been pretty good at finding the Flies, Bees, Bugs, Dragonflies & Damselflies, Grasshoppers, Earwigs and Bristle-tails that are known to be here, less good at the Beetles but perhaps didn't have the time or interest to look at Caddisflies, Mayflies or Stoneflies even though quite a high proportion of British Species are known to occur in VC 110. Good keys to the aquatic stages of Mayflies, Stoneflies and Caddisflies exist and a recent (2012) Royal Entomological Society key to adult Caddisflies

Insects other than Lepidoptera

makes this group accessible. Given the small size of the recorder population in the Outer Hebrides it is inevitable that some groups will be under recorded each year. Perhaps there is merit in targeting certain groups that are known to have inadequately covered in recent years.

Order	Common Name	No. of records by Order	No. of Species
Diptera	True flies	356	74
Hymenoptera	Bees, wasps, ants etc	272	26
Odonata	Dragonflies & damselflies	137	9
Coleoptera	Beetles	41	18
Hemiptera	True bugs	28	11
Archaeognatha	Bristletails	24	1
Dermaptera	Earwigs	4	1
Orthoptera	Grasshoppers & crickets	2	1
Grand Total		864	141



Insects (other than Lepidoptera) - number of records by Order

The 141 species of insect (excluding Lepidoptera) recorded in 2017 emerged from a total of 864 records. Some species being recorded multiple times from multiple locations. The distinctive Sea Bristletail (*Petrobius maritimus* in the Order Archaeognatha) was recorded 24 times in nine different 10km squares. Most species of Insect weren't recorded very often. Forty-four percent of insect species were just recorded once. About 18% (25 species) were recorded more than ten times and only ten species were recorded more than twenty times. Not surprisingly the top recorded species are those that are the most easily identified, most charismatic species.

Insects other than Lepidoptera

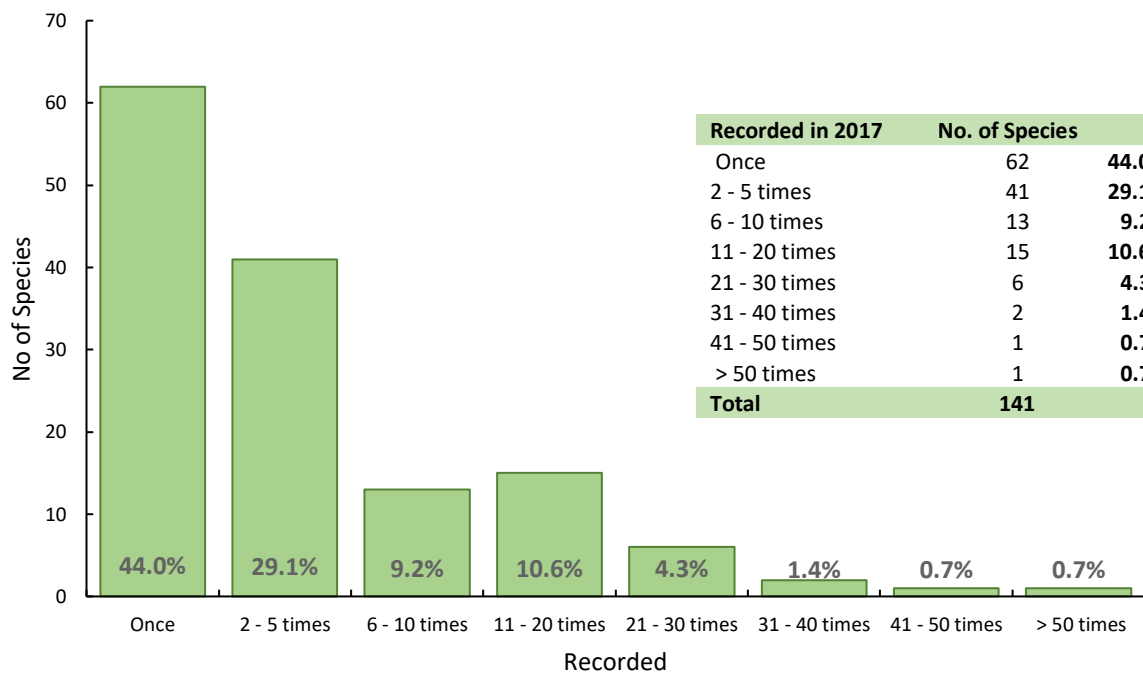
The 25 most frequently recorded species included six Bumblebees, six Dragonflies/Damselflies and seven Hoverflies. All relatively large, easy to identify species. One species of Hemiptera made it into the top 25, *Philaenus spumarius*, the Cuckoo-spit Bug, in its own way very distinctive and easy to record.



Philaenus spumarius - Cuckoo-spit Bug



Pyrrhosoma nymphula - Large Red Damselfly



Insects other than Lepidoptera

The twenty-five most recorded species in 2017	Type of insect	No. of records
Moss Carder-bee	Bumblebee	68
White-tailed Bumblebee	Bumblebee	48
<i>Myrmica ruginodis</i>	Red Ant	34
Large Red Damselfly	Damselfly	33
Heath Bumble Bee	Bumblebee	28
<i>Rhingia campestris</i>	Hoverfly	25
Common Carder-bee	Bumblebee	25
Sea Bristletail	Bristletail	24
<i>Scathophaga stercoraria</i>	Dungfly	22
<i>Eristalis intricarius</i>	Hoverfly	21
Common Blue Damselfly	Damselfly	20
Blue-tailed Damselfly	Damselfly	20
Common Bluebottle	True Fly	20
<i>Melanostoma scalare</i>	Hoverfly	20
Downlooker Snipefly	True Fly	18
Great Yellow Bumblebee	Bumblebee	18
<i>Helophilus pendulus</i>	Hoverfly	18
<i>Melanostoma mellinum</i>	Hoverfly	17
<i>Eristalis pertinax</i>	Hoverfly	17
Four-spotted Chaser	Dragonfly	17
Common Darter	Dragonfly	16
<i>Philaenus spumarius</i>	Cuckoo-Spit Insect	16
Small Garden Bumblebee	Bumblebee	12
<i>Sericomyia silentis</i>	Hoverfly	11
Emerald Damselfly	Damselfly	11

Diptera Family	Type of Fly	No. of Records	No. of species
Syrphidae	Hoverfly	202	29
Calliphoridae	Blowfly	37	7
Scatophagidae	Dung Fly	22	1
Rhagionidae	Snipe Fly	19	2
Tipulidae	Cranefly	15	4
Cecidomyiidae	Gall Midge	12	5
Tabanidae	Horsefly	12	3
Bibionidae	Fever Fly	10	2
Muscidae		5	3
Agromyzidae	Leaf miner	4	4
Stratiomyidae	Soldier Fly	4	2
Tephritidae	Picture-wing Fly	3	2
Anthomyiidae	Leaf miner	2	2
Coelopidae	Kelp Fly	2	2
Empididae	Dance Fly	2	1
Sepsidae		2	2
Chironomidae	Midge	1	1
Dolichopodidae	Long-legged Fly	1	1
Pediciidae		1	1
Grand Total		356	74

Within each order of insects there is a clear, but not unreasonable, tendency for records to be limited to those larger, more conspicuous, more readily identifiable species.

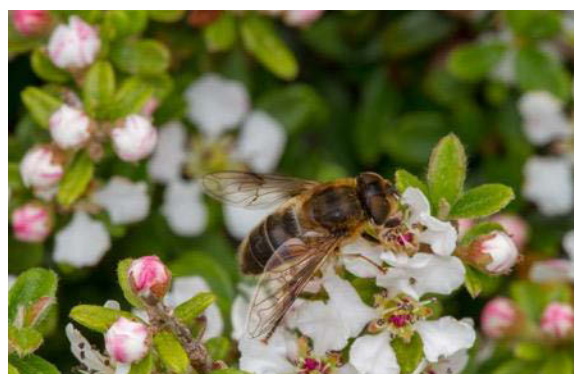
The **Order Hymenoptera** in Britain numbers about 7,000 species belonging to 57 families. In VC110 in 2017, twenty-six species belonging to just five families were recorded. Those five families were not equally represented either. The ten species of Bumblebee recorded contributed over two-thirds of all the records of Hymenoptera received in 2017.

Hymenoptera Family	Type of Hymenopteran	No. of records	No. of Species
Apidae	Solitary Bee	4	3
Apidae	Bumblebee	207	10
Cynipidae	Gall Wasp	1	1
Tenthredinidae	Sawfly	19	7
Formicidae	Ant	35	2
Vespidae	Potter Wasp	1	1
Vespidae	Social Wasp	5	2
Grand Total		272	26



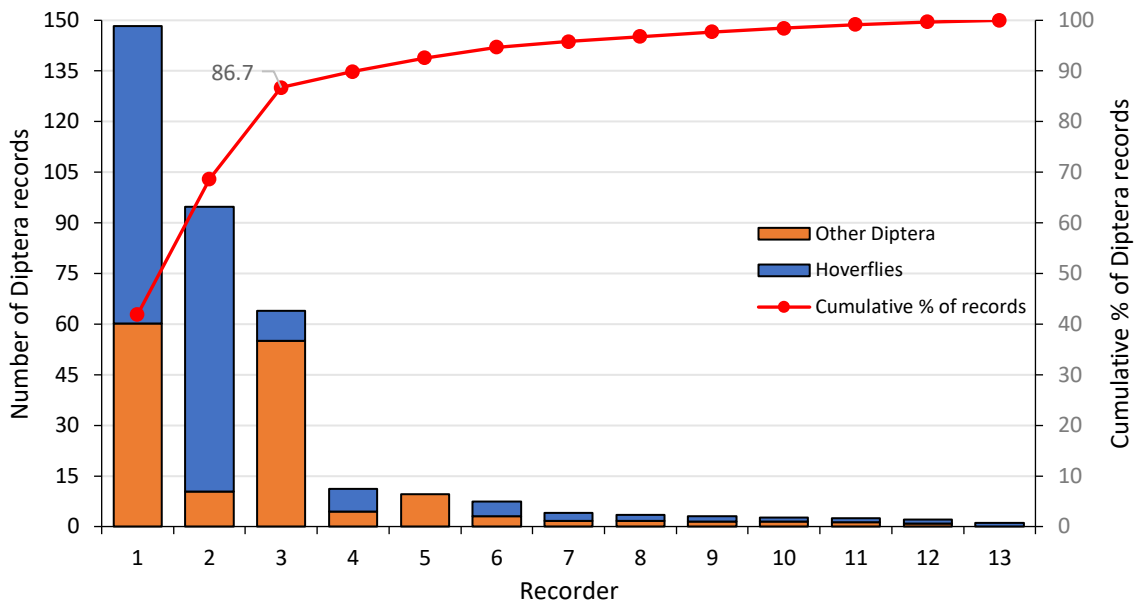
Bombus muscorum - Moss Carder Bee

The **Order Diptera** is 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 2017 there were 356 records from 74 species in 19 families. Well over half of the records however were from just one family – the Hoverflies.



Eristalis pertinax - a common Hoverfly

Insects other than Lepidoptera



Most Diptera records came from a small number of recorders. Thirteen people submitted records of Diptera but just three recorders contributed over 85% of the records.

The **Order Coleoptera** is, nationally, the third most diverse order with about 4,000 known species but a higher proportion (11.5%, 460 species) of these are recorded from VC110 compared to the Diptera (3.7%) and Hymenoptera (1.3%). Within the order there are 112 families. In 2017 records were from just 8 families and 18 species - 3.9% of the beetle species known to occur in the Outer Hebrides.



Nicrophorus investigator - Sexton Beetle

Coleoptera		No. of records
Family	Species	
Silphidae (Sexton Beetles)	<i>Thanatophilus rugosus</i>	2
	<i>Nicrophorus vespilloides</i>	1
	<i>Nicrophorus investigator</i>	3
	<i>Nicrophorus humator</i>	1
Carabidae (Ground Beetles)	<i>Pterostichus madidus</i>	1
	<i>Carabus glabratus</i>	4
	<i>Carabus problematicus</i>	1
	<i>Brosicus cephalotes</i>	1
Elateridae (Click Beetles)	<i>Ctenicera cuprea</i>	2
	<i>Athous haemorrhoidalis</i>	3
Curculionidae (Weevils)	<i>Otiorhynchus atroapterus</i>	3
	<i>Orchestes fagi</i>	1
Geotrupidae (Dor Beetles)	<i>Trypocopris vernalis</i>	1
	<i>Geotrupes stercorarius</i>	2
Staphylinidae (Rove Beetles)	<i>Staphylinus erythropterus</i>	2
	<i>Creophilus maxillosus</i>	1
Cantharidae (Soldier Beetles)	<i>Rhagonycha fulva</i>	9
Coccinellidae (Ladybirds)	<i>Coccinella undecimpunctata</i>	3
Grand Total		41



Rhagonycha fulva - Soldier Beetle

Insects other than Lepidoptera

Those families of Coleoptera that were recorded in 2017 inevitably contained the larger more readily identified species and those for which good keys exist. The Sexton Beetles are large, some are colourful and good keys exist which may explain why four species were recorded. They are also quite frequently found in moth traps.

Keys to Sexton Beetles - Silphidae

<https://www.coleoptera.org.uk/sites/www.coleoptera.org.uk/files/Silphidae%20Key.pdf>
<http://www.record-lrc.co.uk/Downloads/KeytotheBritishspeciesofgenusNicrophorus%5B07052011%5D.pdf>

There are also good online resources to aid the identification of some of the other families of Beetles recorded in 2017:

Dor Beetles

<https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbntaWtlic2luc2VjdGtleXN8Z3g6NTZiNDYwZDkwNzU4ODY4OQ>

Soldier Beetles

<http://www.markgtelfer.co.uk/wp-content/uploads/2011/10/A-field-key-to-Soldier-Beetles.pdf>

Carabids

<https://sites.google.com/site/mikesinsectkeys/Home/keys-to-coleoptera/carabidae>

Click Beetles

<http://elateridae.co.uk>

Ladybirds

http://www.ladybird-survey.org/downloads/Ladybird%20descriptions_Inf%20pack_2006_v.1.3.pdf

The other two families represented, Rove Beetles (Staphylinidae) and Weevils (Curculionidae), are generally considered difficult families of beetles to identify. The species recorded in 2017 were either very distinctive representatives of their families, eg (*Staphylinus erythropterus*), were localised species where VC110 is a known stronghold (eg The Black Marram Weevil *Otiorhynchus atropterus*), or had distinct ecologies that made them more easily identifiable. *Orchestes fagi* is a leaf-miner on Beech trees and for leaf-miners in general there are good resources on the British Leafminers website <http://www.leafmines.co.uk/html/Plants/fagus.htm> where searches can be made by host plant.

Two (of four) volumes in the Beetles of Britain and Ireland (A.G.Duff Publishing) have been published and there are eleven volumes of the Royal Entomological Society keys to various beetle families available, identifying beetles doesn't come cheap.

The **Order Hemiptera** is another that is poorly represented in the known VC110 fauna. Of the estimated 1,830 British species only 57 (3.1%) are recorded from the Outer Hebrides and of these 11 species were recorded (28 records in total) in 2017.

Hemiptera Family	Species	Records
Aphrophoridae	<i>Philaenus spumarius</i>	16
Aphidae	<i>Aphis fabae</i>	3
	<i>Eriosoma ulmi</i>	1
	<i>Uroleucon cirsii</i>	1
	<i>Uroleucon jaceae</i>	1
Psyllidae	<i>Craspedolepta nebulosa</i>	3
	<i>Livia juncorum</i>	1
	<i>Psylla alni</i>	1
Gerridae	<i>Gerris lacustris</i>	1
Nepidae	<i>Nepa cinerea</i>	1
Notonectidae	<i>Notonecta glauca</i>	1
Grand Total		28

Terrestrial species; the most frequently recorded was the common Cuckoo-spit insect *Philaenus spumarius*. There were four species of Aphid and three species of Psyllid. Identification of these is aided by the fact that they are generally host specific, limited to a particular Genus of plants:

Aphis fabae - Broad beans

Eriosoma ulmi - Elms *Ulmus* spp.

Uroleucon cirsii - on *Cirsium* species

Uroleucon jaceae - various knapweeds (*Centaurea* species)

Craspedolepta nebulosa - On Willowherbs

Livia juncorum - On various Rushes (*Juncus* sp.)

Psylla alni - On Alder (*Alnus* sp.)

There is a good website to help identify Aphids which can be searched by host plant.

http://influentialpoints.com/Gallery/Aphid_genera.htm

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

<https://www.britishbugs.org.uk/gallery/Psyloidea/psyloidea.html>

The aquatic Hemiptera were represented in 2017 by three well known and readily identifiable species.

Gerris lacustris - Common Pondskater

Nepa cinerea - Water Scorpion

Notonecta glauca - Common Water-boatman

Insects other than Lepidoptera

The **Order Odonata** in the Outer Hebrides is represented in the NBN by records of 12 species. 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 2017.



Sympetrum danae - Black Darter



Libellula quadrimaculata - Four-spotted Chaser

Species	Common Name	No. of Records
<i>Pyrrhosoma nymphula</i>	Large Red Damselfly	33
<i>Ischnura elegans</i>	Blue-tailed Damselfly	20
<i>Enallagma cyathigerum</i>	Common Blue Damselfly	20
<i>Libellula quadrimaculata</i>	Four-spotted Chaser	17
<i>Sympetrum striolatum</i>	Common Darter	19
<i>Lestes sponsa</i>	Emerald Damselfly	11
<i>Aeshna juncea</i>	Common Hawker	9
<i>Sympetrum danae</i>	Black Darter	8
Grand Total		137



Aeshna juncea - Common Hawker ovipositing

Order Orthoptera – just one species was recorded in 2017, *Myrmeleotettix maculatus* (Mottled Grasshopper). Only two other species *Omocestus viridulus* (Common Green-grasshopper, 37 records mostly on South Uist and Barra) and *Tetrix undulata* (Common Ground Hopper, 8 records on South Uist and Barra) exist within the NBN records for the Outer Hebrides.

Other Orders – to complete the summary of the Insects there were two other species recorded in 2017.

An Earwig *Forficula auricularia* (**Order Dermaptera**) – the only species of earwig recorded from VC110.

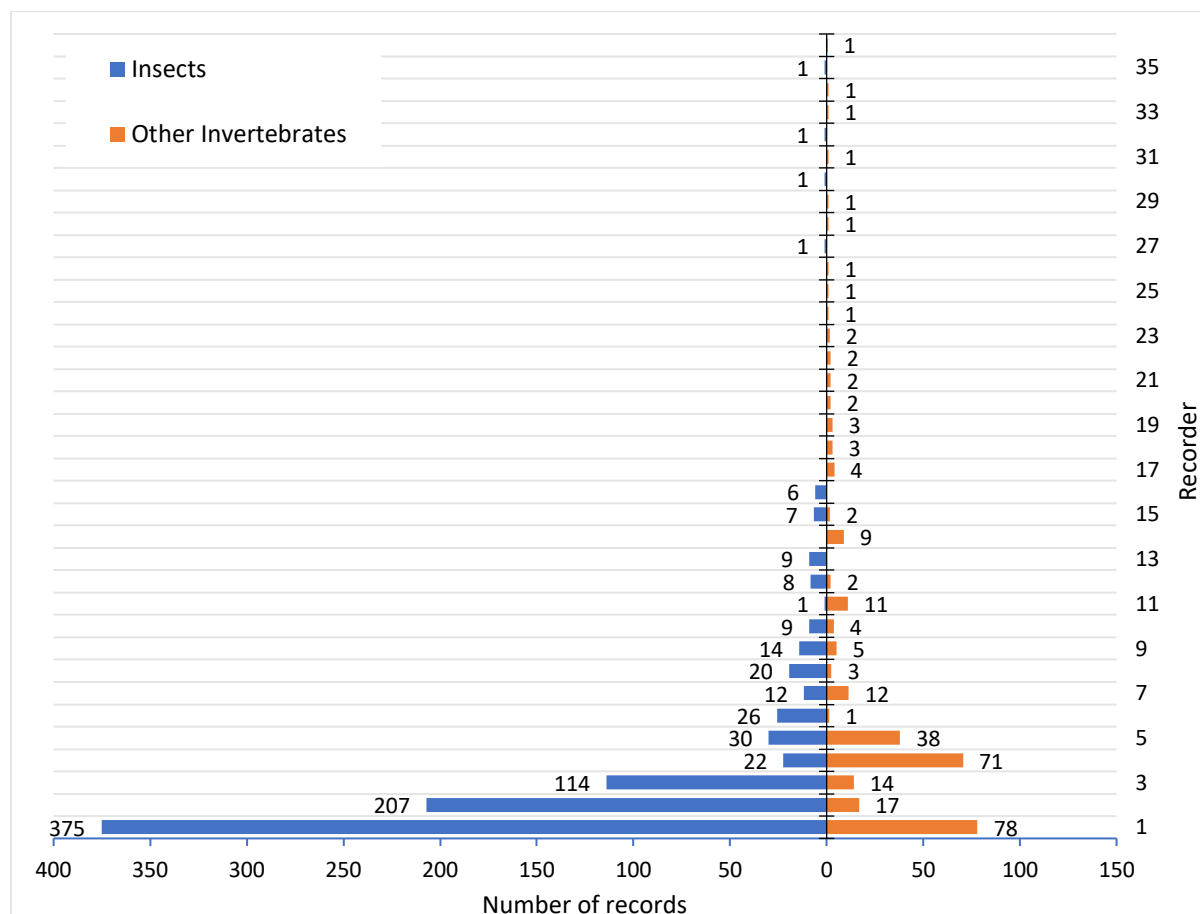
The Sea Bristletail *Petrobius maritimus* (**Order Archaeognatha**). A second, very similar, species of Bristletail (*Petrobius brevistylis*) has twice been recorded from the Outer Hebrides, both records are from St Kilda in 2010.

There were no records of insects from the other main insect orders. The lack of records from the three aquatic groups; Caddisflies (**Trichoptera**), Mayflies (**Ephemeroptera**) and Stoneflies (**Plecoptera**) is surprising in that these are generally well studied groups with good identification resources.

Invertebrates other than Insects

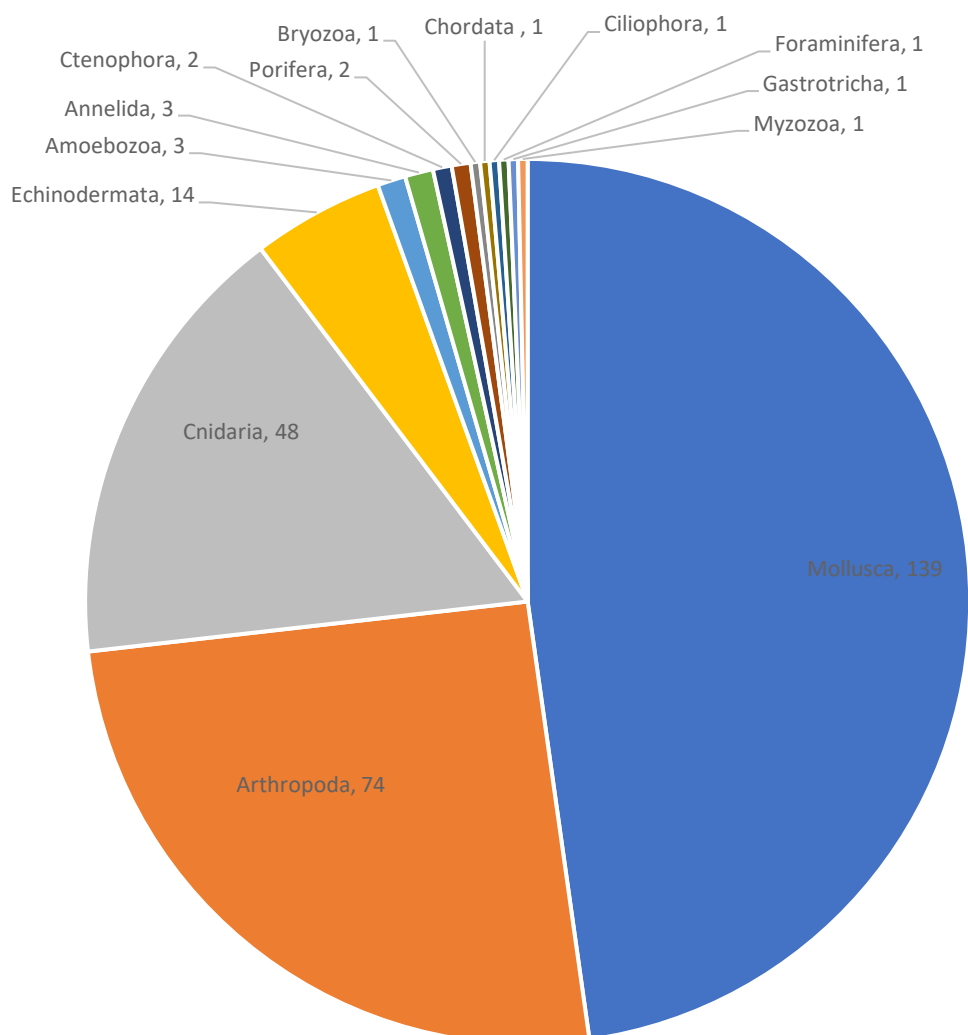
Invertebrates other than Insects

Of the 1155 records of insects (other than Lepidoptera) and other invertebrates submitted in 2017 there were 864 insect records sent in by 19 recorders and 291 records of other invertebrates from 30 recorders. Many of the "other invertebrate" records are of those species likely to be of interest and identifiable by people with a general natural history interest whereas, for many insects, a more specialised skill set is needed.



Phylum	Common Name	No. of records by Phylum 2017	No. of Species
Mollusca	Snails, Limpets, Mussels and many similar marine and freshwater animals	139	43
Arthropoda	Spiders, Mites, Woodlice, Millipedes, Crabs, Lobsters etc.	74	22
Cnidaria	Corals, Jellyfish, Hydra etc.	48	10
Echinodermata	Sea Urchins, Starfish, Brittlestars, Sea Potatoes etc.	14	5
Amoebozoa	Amoeba	3	1
Annelida	Marine Polychaete and other worms	3	3
Ctenophora	Comb Jellies eg Sea Gooseberry	2	1
Porifera	Sponges	2	2
Bryozoa	Sea Mats, Moss Animalcules	1	1
Chordata	Sea Squirts etc.	1	1
Ciliophora	Microscopic Ciliates such as <i>Paramecium</i>	1	1
Foraminifera	Forams (microscopic marine ameboid Protists)	1	1
Gastrotricha	"Hairy-backs" - microscopic worm like animals	1	1
Myzozoa	Microscopic animals related to the Ciliates	1	1
Grand Total		291	93

Invertebrates other than Insects



Invertebrates (other than Insects) - number of records by phylum

Records of animals belonging to 13 invertebrate phyla were received in 2017. The sea squirts (Phylum Chordata, Class Ascidiacea) are for convenience included here, as a 14th phylum, as very few people would recognise them as being anything other than an invertebrate. The notochord which is the key characteristics of the Chordata is only present in the larval stage. Further-more they will be found and recorded along with many invertebrate species during casual explorations of the sea shore so for our purposes it makes sense to discuss their records together.

The current checklist for the Outer Hebrides (VC110) contains 942 species of invertebrate in 19 phyla. This contrasts with the 1468 species of insect on the checklist. The 93 species of invertebrate represent approximately 10% of the known non-insect invertebrate fauna of VC 110. Similarly, the 141 species of insect (excluding Lepidoptera) recorded in 2017 is about 10% of the known insect species for VC110.

A rough estimate based on the known ecological characteristics of the various classes of organism on the VC 110 checklist suggests that 80 - 85% of the non-insect invertebrates recorded are marine organisms whilst only 15 - 20% are terrestrial (including those which live in freshwater habitats). The insects are exclusively terrestrial (including those in freshwater). A couple of bristletails live on rocks high on the shore but are also found inland on exposed rocks in damp locations and are best considered terrestrial. Insects are in fact terrestrial throughout the world apart from four species of Caddisfly that undergo their larval development in the body cavities of starfish and are only known from Australia and New Zealand. One springtail *Anura maritima* (not a true insect) is maritime but has not been recorded from VC110.

Invertebrates other than Insects

Of the marine invertebrates, some are benthic (bottom living), some pelagic (living in the water column) and some intertidal (littoral). The sampling and identification of those which are benthic or pelagic is often difficult. In contrast the intertidal zone invertebrates are well known, easy to search for, and relatively easy to identify.

Summary of current (non-insect) Invertebrate Checklist for VC110

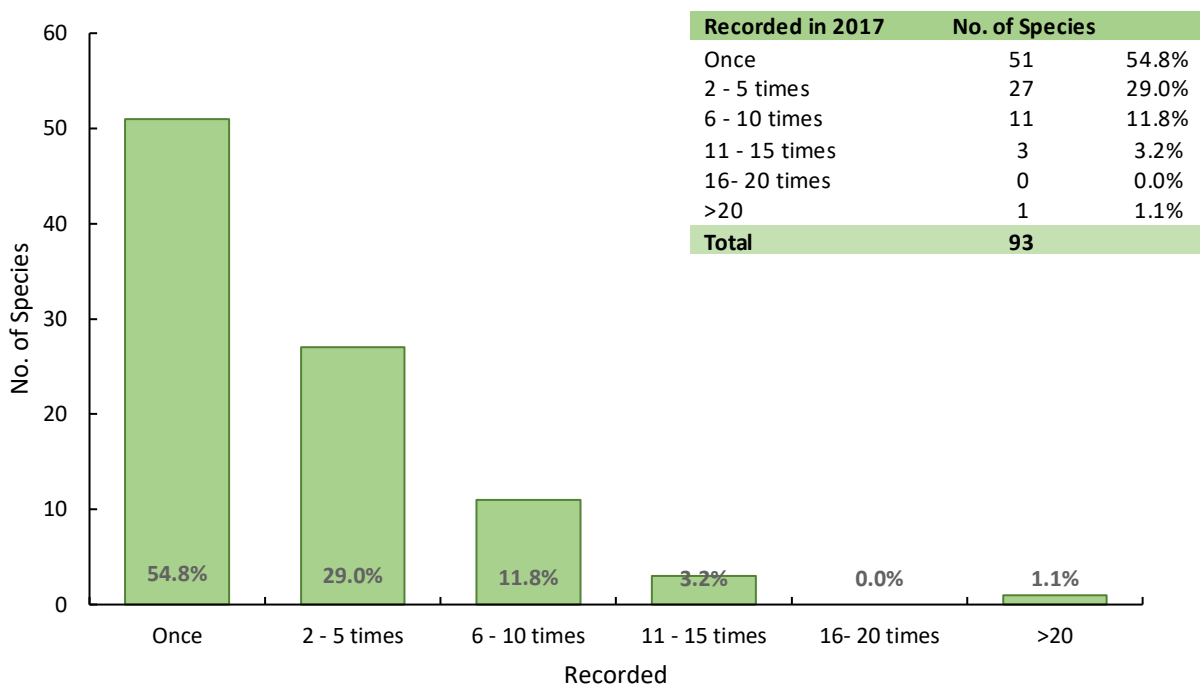
Phylum	Class	Types of animal	Order	Species
Annelida	Clitellata	Leeches etc.	Arhynchobdellida	2
			Haplotaxida	4
			Rhynchobdellida	2
	Oligochaeta	True worms	Crassiclitellata	11
	Polychaeta	Marine worms such as Ragworms (<i>Neiris</i>) and Lugworms (<i>Arenicola</i>)	Eunicida	4
			Phyllodocida	45
Sabellida			26	
Spionida			23	
Terebellida	26			
Echiura	Echiuroidea	Spoon worms	Bonelliida	1
Arthropoda	Arachnida	Spiders, mites, harvestmen, pseudoscorpions etc.	Araneae	17
			Ixodida	3
			Mesostigmata	1
			Opiliones	11
			Prostigmata	10
			Pseudoscorpiones	2
			Trombidiformes	1
	Branchiopoda		Diplostraca	1
	Chilopoda	Centipedes	Geophilomorpha	1
			Lithobiomorpha	1
	Diplopoda	Millipedes	Chordeumatida	1
			Julida	4
	Entognatha	Springtails	Polydesmida	3
			Collembola	7
	Malacostraca	Crabs, lobsters, woodlice etc	Amphipoda	63
Cumacea			6	
Decapoda			39	
Isopoda			27	
Mysida			2	
Nebaliacea			1	
Tanaidacea			3	
				Lepadiformes
Maxillopoda	Barnacles, water fleas etc	Sessilia	8	
Ostracoda	"French bean" water fleas	Podocopida	1	
Pycnogonida	Sea spiders	Pantopoda	4	
Brachiopoda	Craniata	Lamp shells	Craniida	1
	Rhynchonellata	Lamp shells	Terebratulida	1
Bryozoa	Gymnolaemata	Sea mats	Cheilostomatida	32
			Ctenostomatida	8
	Stenolaemata	Sea mats	Cyclostomatida	8
Cephalorhyncha	Priapulida	Penis worms		1
Chordata		Sea squirts	Asciacea	33
Cnidaria	Anthozoa	Sea anemones, corals	Actiniaria	25
			Alcyonacea	4
			Ceriantharia	2
			Corallimorpharia	1
			Pennatulacea	3
			Scleractinia	1
	Zoantharia	2		
	Hydrozoa	Hydroids, Portugese Man of War, By-the-wind Sailor	Anthoathecata	13
			Leptothecata	31
			Siphonophorae	1
Scyphozoa	True jellyfish	Rhizostomeae	1	
		Semaeostomeae	5	
Staurozoa		Stauromedusae	4	
Ctenophora	Tentaculata	Comb jellies	Cydippida	1
			Lobata	1

Invertebrates other than Insects

Echinodermata	Asteroidea	Starfish	Forcipulatida	4
			Paxillosida	2
			Spinulosida	2
			Valvatida	5
	Crinoidea	Feather stars, sea lillies	Comatulida	3
	Echinoidea	Sea urchins	Camarodonta	3
			Spatangoida	1
	Holothuroidea	Sea cucumbers	Apodida	4
			Aspidochirotida	1
			Dendrochirotida	6
Ophiuroidea	Brittle stars	Ophiurida	10	
Mollusca	Bivalvia	Cockles, oysters, mussels etc	[unassigned] Euheterodonta	4
			Anomalodesmata	4
			Arcoida	2
			Carditoida	1
			Limoida	1
			Lucinoida	3
			Myoida	4
			Mytiloida	8
			Ostreoida	2
			Pectinoida	9
			Unionoida	1
			Veneroida	61
			Caudofoveata	Small, burrowing, wormlike molluscs
	Cephalopoda	Octopuses, squids, cuttlefish	Myopsida	1
			Octopoda	1
			Sepiida	2
	Gastropoda	Snails	Caenogastropoda	7
			[unassigned] Pulmonata	2
			Anaspidea	2
			Cephalaspidea	5
			Hygrophila	9
			Littorinimorpha	40
			Neogastropoda	6
			Nudibranchia	43
			Pleurobranchomorpha	2
			Pulmonata	60
			Runcinacea	1
Sacoglossa			6	
Systemmatophora			1	
Thecosomata			1	
Polyplacophora	Chitons	Chitonida	6	
		Lepidopleurida	2	
Nemertea	Ribon Worms	Anopla	2	
		Enopla	1	
		Palaeonemertea	2	
Phoronida			1	
Platyhelminthes	Rhabditophora	Flatworms	Polycladida	1
			Seriata	2
Porifera	Calcarea	Calcareous sponges	Baerida	1
			Clathrinida	2
			Leucosolenida	5
	Demospongiae	Most sponges	Astrosporida	4
			Chondrosida	2
			Dendroceratida	1
			Dictyoceratida	1
			Hadromerida	7
			Halichondrida	5
			Haplosclerida	3
			Poecilosclerida	16
Homoscleromorpha	Sponges	Homosclerophorida	2	
Sipuncula	Sipunculidea	Peanut worms	Phascolosomatida	1
			Golfingiida	2

Invertebrates other than Insects

Most invertebrates (54.8%) recorded in 2017 were just recorded once. Of the 93 species recorded in 2017 only 22 were recorded five or more times and only four more than ten times. The most commonly recorded invertebrates were from marine habitats. Only three of the most frequently recorded species (two Woodlice and one Snail) are associated with terrestrial habitats all the rest are marine organisms.



Species	No. of records	Habitat
<i>Velella velella</i> (By-the-wind Sailor)	21	Marine
<i>Carcinus maenas</i> (Green Shore Crab)	14	Marine
<i>Patella vulgata</i> (Common Limpet)	13	Marine
<i>Chrysaora hysoscella</i> (Compass Jellyfish)	11	Marine
<i>Littorina obtusata</i> (Flat Periwinkle)	10	Marine
<i>Ligia oceanica</i> (Sea Slater)	10	Marine
<i>Cerastoderma edule</i> (Common Cockle)	9	Marine
<i>Helicella itala</i> (Heath Snail)	9	Terrestrial
<i>Janthina janthina</i> (Violet Snail)	9	Marine
<i>Mytilus edulis</i> (Common Mussel)	8	Marine
<i>Orchestia gammarellus</i> (Sandhopper)	8	Marine
<i>Littorina littorea</i> (Common Periwinkle)	8	Marine
<i>Oniscus asellus</i> (Common Shiny Woodlouse)	7	Terrestrial
<i>Buccinum undatum</i> (Common Whelk)	6	Marine
<i>Semibalanus balanoides</i> (Acorn Barnacle)	6	Marine
<i>Heteranomia squamula</i> (Saddle Oyster)	5	Marine
<i>Nucella lapillus</i> (Dog Whelk)	5	Marine
<i>Echinus esculentus</i> (Edible Sea Urchin)	5	Marine
<i>Philoscia muscorum</i> (Common Striped Woodlouse)	5	Terrestrial
<i>Actinia equina</i> (Beadlet Anemone)	5	Marine
<i>Lepas (Anatifa) anatifera</i> (Common Goose Barnacle)	5	Marine
<i>Littorina saxatilis</i> (Rough Periwinkle)	5	Marine

Invertebrates other than Insects

Terrestrial Invertebrates

Type of animal	Group	Number of species	
		VC110	2017
Phylum Arthropoda			
Centipedes	Chilopoda	2	-
Millipedes	Diplopoda	8	1 (3)*
Springtails	Collembola	7	-
Woodlice	Isopoda	27	4 (25)
Spiders	Araneae	17	4 (4)
Harvestmen	Opiliones	11	1 (1)
Ticks	Ixodida	3	-
Mites	Acari	12	3 (3)
Pseudoscorpions		1	-
Phylum Mollusca			
Slugs		18	-
Snails		42	4 (17)
Freshwater Bivalves		10	-
Pond Snails		10	2 (2)
Phylum Annelida			
Leech	Clitellata (part)	4	-
True Worm	Oligochaeta	11	-
Flatworms	Platyhelminthes	3	-
Grand Total		186	19 (55)

(No.)* = total number of records for each species in 2017

Species	Common Name
<i>Gyraulus crista</i>	Nautilus Ramshorn
<i>Radix peregra</i>	Wandering Snail
<i>Cochlicella acuta</i>	Pointed Snail
<i>Cornu aspersum</i>	Common Garden Snail
<i>Discus rotundatus</i>	Rounded Snail
<i>Helicella itala</i>	Heath Snail
<i>Amaurobius similis</i>	Lace-weaver Spider
<i>Araneus diadematus</i>	Garden Orb-web Spider
<i>Meta menardi</i>	Cave Spider
<i>Pholcus phalangioides</i>	Cobweb Spider
<i>Mitopus morio</i>	Saddleback Harvestman
<i>Aceria nalepa</i>	Gall Mite on Alder
<i>Aceria nervisequa</i>	Gall Mite on Beech
<i>Aceria thomasi</i>	Gall Mite on Thyme
<i>Tachypodoiulus niger</i>	White-legged Snake Millipede
<i>Ligia oceanica</i>	Sea Slater
<i>Oniscus asellus</i>	Common Shiny Woodlouse
<i>Philoscia muscorum</i>	Common Striped Woodlouse
<i>Porcellio scaber</i>	Common Rough Woodlouse

Three of species of terrestrial invertebrates recorded in 2017 are Gall Midges. These are usually host specific and knowing the host makes it fairly straight forward to identify these organisms. The FSC Aidgap Key to British Plant Galls by Margaret Redfern & Peter Shirley has been the standard identification work for plant galls for a number of years and generally works very well. The nomenclature does vary from that used by the NBN in some instances though. For example the NBN's *Aceria nalepa* = *Eriophyes inangulis* in the FSC key. The British Plant

Gall Society (<https://www.british-galls.org.uk>) has a downloadable, and useful, list of gall formers and their host species.

Harvestmen can be identified using a multi access key developed as part of the FSC's Biolinks project. <https://harvestmen.fscbiodiversity.uk> There is also a simple fold out chart to harvestmen produced by the FSC and available online from their publication department.

Many groups of terrestrial invertebrates are covered by the FSC Aidgap series; as well as Plant Galls they cover Woodlice, Land Snails, Earthworms, Springtails, Centipedes, Freshwater Bivalves, Slugs, Pseudoscorpions and more.



Meta menardi - Cave Spider

Marine Invertebrates

Marine organisms make up most of the other 74 species recorded. They include a mix of the species commonly found on rocky shores together with some of the "drift" fauna that washes up on the shores around the Outer Hebrides each year. Of this group of species, four make it onto the list of 22 species recorded five or more times in 2017; *Velella velella* (By-the-wind Sailor), *Chrysaora hysoscella*

Invertebrates other than Insects

(Compass Jellyfish), *Janthina janthina* (Violet Snail), and *Lepas anatifera* (Common Goose Barnacle).

Examples of “drift” fauna found in 2017

Species	Common Name	Records
<i>Verella verella</i>	By-the-wind Sailor	21
<i>Chrysaora hysoscella</i>	Compass Jellyfish	11
<i>Janthina janthina</i>	Violet Snail	9
<i>Lepas anatifera</i>	Common Goose Barnacle	5
<i>Cyanea capillata</i>	Lion's Mane Jellyfish	4
<i>Aurelia aurita</i>	Moon Jellyfish	2
<i>Pleurobrachia pileus</i>	Sea Gooseberry	2
<i>Dosima fascicularis</i>	Buoy Barnacle	1
<i>Cyanea lamarckii</i>	Blue Jellyfish	1



Verella verella - By-the-wind Sailor



Mass stranding of Jellyfish – North Usit



Cyanea lamarckii - Blue Jellyfish



Aurelia aurita - Moon Jellyfish

The remaining invertebrate records are mostly species typical of rocky shores or Molluscs likely to be found as empty shells on sandy beaches:

Phylum/Class	Type of animal	No. of species
Annelida		
Polychaeta	Polychaete worms	3
Arthropoda		
Malacostraca	Crabs	4
Maxillopoda	Barnacles	2
Bryozoa	Sea mat	1
Chordata		
Ascidiacea	Sea squirt	1
Cnidaria		
Anthozoa	Sea anemone	3
Hydrozoa	Hydroids	2
Ctenophora	Sea gooseberry	1
Echniodermata		
Asteroidea	Starfish	1
Echinoidea	Sea urchin	3
Ophiuroidea	Brittlestar	1
Mollusca		
Bivalvia	Bivalves	18
Gastropoda	Sea snails	18
Porifera	Sponges	2
Obscure Phyla		
Myzozoa		1
Ciliophora		1
Foraminifera		1
Gastrotricha		1
Amoebozoa		1

Invertebrates other than Insects



Ophiothrix fragilis - Common Brittlestar with *Trivia monacha* - Spotted Cowrie



A Phyllodoce worm (Class Polychaeta)

Vertebrates

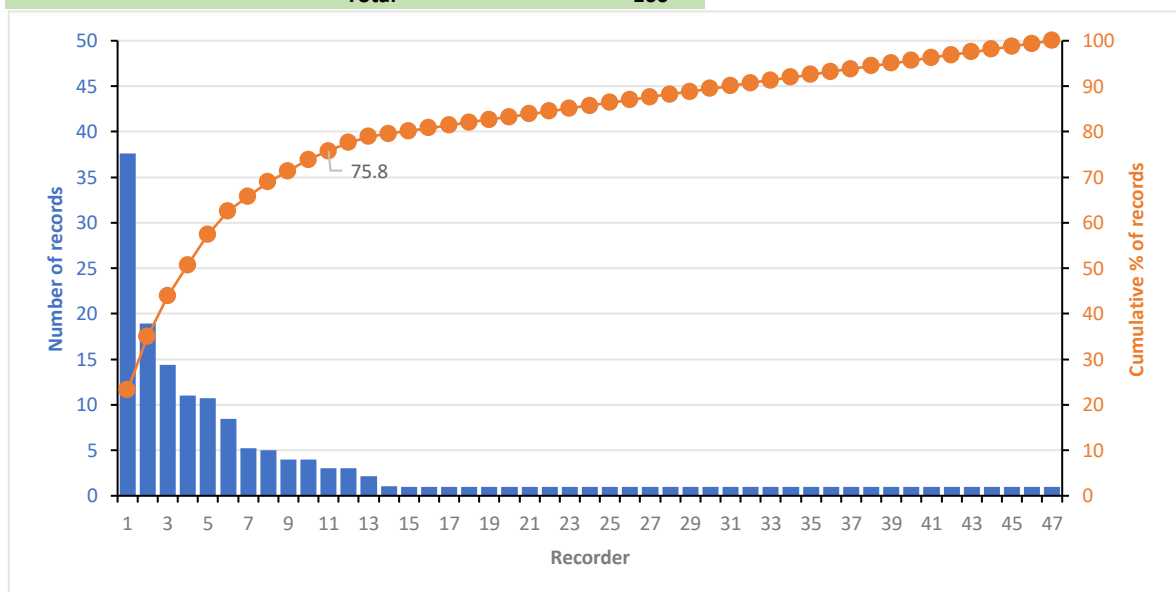
Vertebrates

Class	Type of Animal	Species	Records
Actinopterygii (4 species)	Bony Fish	Brown/Sea Trout	1
		Common Dragonet	1
		Gasterosteus	1
		Grey Trigger-fish	1
Amphibia (3 species)	Amphibians	Common Frog	22
		Palmate Newt	3
		Common Toad	1
Elasmobranchii (5 species)	Skates & Rays	Rough Hound	2
		Broadnose Skate	1
		Cuckoo Ray	1
		Large Spotted Dogfish	1
		Spotted Ray	1
Mammalia (22 species)	Mammals	Otter	40
		Rabbit	14
		Red Deer	11
		Grey Seal	10
		Hedgehog	10
		Field Vole	6
		Common Dolphin	5
		Pygmy Shrew	4
		Bottle-nosed Dolphin	2
		Common Porpoise	2
		Common Seal	2
		Minke Whale	2
		Risso's Dolphin	2
		Sowerby's Beaked Whale	2
		Brown Rat	1
		Cuvier's Beaked Whale	1
		Long-finned Pilot Whale	1
		Mountain Hare	1
		Sperm Whale	1
		White-beaked Dolphin	1
Feral Ferret	1		
American Mink	1		
Reptilia (2 species)	Reptiles	Slow-worm	3
		Leatherback Turtle	1
		Number of species	36
		Total	160

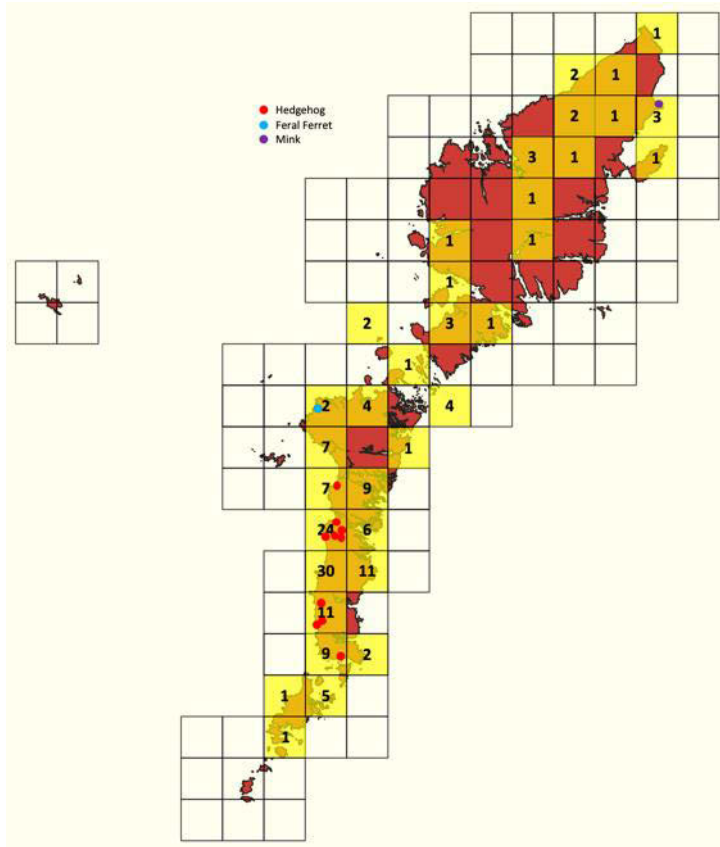
In 2017 there were 160 records of vertebrates (Phylum Chordata) submitted to OHBR. They covered 36 species of Bony Fish, Rays & Skates, Amphibians, Reptiles and Mammals. Records were received from thirty-four 10km squares ranging from a Leathery Turtle on Vatersay in the south to a Grey Seal at Roinn a' Roidh near the Butt of Lewis in the north.

Forty-six individuals and one school (Sgoil na Pairc, Gravir, Lewis) submitted records of vertebrates with 11 recorders being responsible for just over 75% of the records. In contrast, about two-thirds of recorders sent in single observations. These were of easily identified, interesting, unusual or charismatic species:

Species	People
Otter	6
Common Frog	5
Slow-worm	3
Bottle-nosed Dolphin	2
Sowerby's Beaked Whale	2
Minke Whale	1
Leathery Turtle	1
Pygmy Shrew	1
Common Dragonet	1
Long-finned Pilot Whale	1
Common Dolphin	1
Palmate Newt	1
Hedgehog	1
Common Toad	1
Sperm Whale	1
Feral Ferret	1
White-beaked Dolphin	1
Grey Seal	1
Grey Trigger-fish	1



Vertebrates



A large proportion of residents of, and visitors to, the Outer Hebrides have a general interest in natural history sufficient to be able to identify at least some of these species. Encouraging people to collect and submit these types of records would be useful in many respects.

Included in the vertebrate records were three species considered as Invasive Non-native Species (INNS) in the Outer Hebrides. Two of them (Hedgehog and American Mink) have been the subject of long term, and to some people, controversial control programmes because of their impact on breeding seabirds and waders.

In 2017, there was a single Mink record from Tolsta Beach on Lewis and ten records of Hedgehogs from Benbecula and South Uist where it seems clear that a substantial population exists. The location of the coloured dots on the map opposite are accurate to 10km square but not necessarily within those squares.



Erinaceus europaeus – Hedgehog (All photographs by Robin Sutton unless credited otherwise)

Vertebrates

Mammals

Order	VC110 Checklist	2017 Records
Artiodactyla	Feral Sheep	-
	Red Deer	11
Carnivora	Domestic Cat	-
	Otter	40
	Feral Ferret	1
	American Mink	1
	Walrus	-
	Grey Seal	10
	Common Seal	2
Cetartiodactyla	Minke Whale (Lesser Rorqual)	2
	Humpback Whale	-
	Sperm Whale	1
	Common Dolphin	5
	Long-finned Pilot Whale	1
	Risso's Dolphin	2
	White-sided Dolphin	-
	White-beaked Dolphin	1
	Killer Whale	-
	Blue-white (Striped) Dolphin	-
	Bottle-nosed Dolphin	2
	Common Porpoise	2
	Sowerby's Beaked Whale	2
	Cuvier's Beaked Whale	1
	Chiroptera	Noctule Bat species
Common (or 45 kHz) Pipistrelle		-
Long-eared Bat species		-
Insectivora	Hedgehog	10
	Pygmy Shrew	4
Lagomorpha	Brown Hare	-
	Mountain Hare	1
	Rabbit	14
Rodentia	Field (Wood) Mouse	-
	Field Vole	6
	House Mouse	-
	Brown Rat	1
	Black Rat	-
Total		120

Of the 36 species of mammal on the VC110 checklist, 22 (61%) were recorded in 2017. Of the "missed" species we can probably ignore Feral Sheep and Domestic Cat. Up to 2017 there had only been a single record (as recorded by NBN) of Walrus in 1999. Humpback Whales are mostly recorded from Tiumpan Head by Whale and Dolphin Conservation (WDC) shorewatchers and their records go to NBN rather than through OHBR. A quick check on NBN for Humpback Whales indicated about 70 records of 107 individuals at Tiumpan Head in 2017. Most sightings of White-sided Dolphins and Killer Whales are again made at Tiumpan Head by WDC; in 2017 they recorded 9 and 12 respectively of these species there. The Blue-white (or Striped) Dolphin is a species more generally recorded from warmer waters with just five records from the Outer Hebrides.

Looking at the other missing species from the 2017 records then Brown Hare is probably only a dubious VC110 species anyway. There are just two records (one is a duplicate record anyway) on NBN, both from 1967 on Uisgnaval Mor on Harris. House Mouse is similarly only recorded twice by NBN, perhaps as another "domestic" species it has largely been ignored. There are many more records of Field Mouse but unless anyone was Longworth trapping in 2017 it would perhaps be unlikely to be recorded.

Finally the bats; most records on NBN are of "Pipistrelles" recorded from the Stornoway area but it may be worth checking other wooded areas with a bat detector. Noctules have been recorded at North Loch Eynort and there is an old 1900 record of a Long-eared Bat at Balranald on North Uist.

In conclusion the OHBR 2017 mammal records would seem to have given a good representation of those species found, and likely to be seen, in VC110.



Phoca vitulina - Common Seal



Halichoerus grypus - Grey Seal, pup

Vertebrates

Fish

The VC110 checklist contains 67 species of fish - 59 species in the Class Actinopterygii (Bony Fish), 7 species from the Class Elasmobranchii (Skates, Rays & Sharks) and the Sea Lamprey (Class Cephalaspidomorphi). The majority of these are marine species and many of the records held by NBN are the result of specialised marine surveys beyond the scope of most recorders submitting records to OHBR. Marine species likely to be recorded would be those that are found washed up dead or have (in the case of the Elasmobranchs) distinctive egg cases. “Mermaids Purse” egg cases of skates, rays and small sharks are often washed up on beaches in the Outer Hebrides or can be found on rocky shores tangled in the seaweeds at extreme low tides.

In 2017 there were just 10 records of fish received by OHBR. Three of these records were of egg cases (Broadnose Skate, Bull Huss and Rough Hound) and the Grey Trigger-fish was found dead on the beach on Eriskay.

Class/Species	Common Name	Records
Actinopterygii		
<i>Salmo trutta</i>	Brown/Sea Trout	1
<i>Callionymus lyra</i>	Common Dragonet	1
<i>Gasterosteus sp.</i>	Stickleback sp.	1
<i>Balistes capriscus</i>	Grey Trigger-fish	1
Elasmobranchii		
<i>Bathyraja brachyurops</i>	Broadnose Skate	1
<i>Leucoraja naevus</i>	Cuckoo Ray	1
<i>Scyliorhinus stellaris</i>	Large Spotted Dogfish	1
<i>Scyliorhinus canicula</i>	Rough Hound*	2
<i>Raja montagui</i>	Spotted Ray	1
Total Records		10
* Also known as: Small-spotted Catshark, Sandy Dogfish, Lesser-spotted Dogfish or Morgay		

Fish are currently poorly recorded by OHBR recorders and, with the exception of Brown Trout, are probably mostly casual beach finds.



Salmo trutta – Brown Trout



Balistes capriscus - Grey Trigger-fish



Egg case of *Scyliorhinus canicula* – Rough Hound

The NBN data set shows other observations of fish made around the Outer Hebrides in 2017 - Basking Shark and Sun Fish were recorded by Hebridean Whale and Dolphin Trust and Whale and Dolphin Conservation observers but were not submitted to OHBR.



Spot the Basking Shark

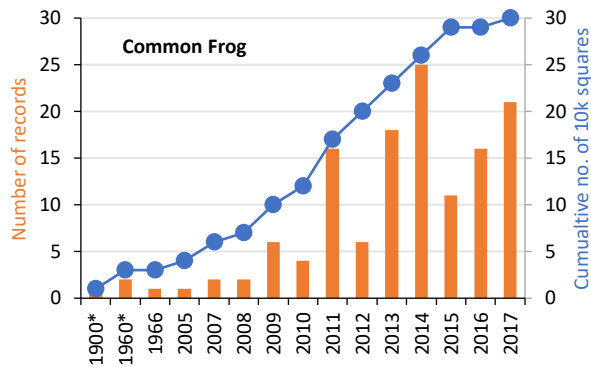
Vertebrates

Reptiles and Amphibians

Thirty records of reptiles (2 species, 4 records) and amphibians (3 species, 26 records) were submitted to OHBR in 2017. It is likely that all amphibians and Slow-worm are the result of introductions to the Outer Hebrides.

Phylum/Species	Common Name	2017 Records
Amphibia		
<i>Rana temporaria</i>	Common Frog	22
<i>Bufo bufo</i>	Common Toad	1
<i>Lissotriton helveticus</i>	Palmate Newt	3
Reptilia		
<i>Zootoca vivipara</i>	Common Lizard	-
<i>Lepidochelys kempii</i>	Kemp's Ridley Turtle	-
<i>Dermochelys coriacea</i>	Leatherback Turtle	1
<i>Caretta caretta</i>	Loggerhead Turtle	-
<i>Anguis fragilis</i>	Slow-worm	3
Total Records		30

Prior to 2017 Palmate Newt was unrecorded in VC110. The three 2017 records all originated from Grimsay. Records of Common Frog, in contrast, are widely spread, coming from eleven 10km squares across South Uist, North Uist, Harris and Lewis in 2017. NBN data show early records from the 1960s in one or two 10km squares. From 2005 the number of records and cumulative number of squares from which frogs were recorded increase rapidly, perhaps partially due to more thorough recording.



(* records extracted from Atlases where dates are categorised as pre or post 1960)

The single record of a Common Toad was from north-west Harris. All Toad records are from NW Harris and SW Lewis and are post 2008. This species is, probably, a recent introduction to this part of the Outer Hebrides and may spread further.

Reptile records in 2017 were of just two species, Slow-worm and Leatherback (or Leathery) Turtle. The three Slow-worm records were from Harris (2) and Lewis (1). Historically most Slow-worm records come from Harris and Lewis with just one from Ludag at the southern end of South Uist.



Bufo bufo - Common Toad

Of the other reptiles recorded in VC110, Leatherback Turtle is the most likely to be seen. There have been over 50 previous records of this species compared to 11 Loggerhead Turtle and a single Kemp's Ridley Turtle - found dead on a beach on Benbecula in 2008. The 2017 Leatherback Turtle record was from Vatersay.



Rana temporaria - Common Frog

The only other species of reptile recorded from the Outer Hebrides is Common Lizard. There are two records of this species from Range Head on South Uist. They were individuals found dead in 2000 and were suspected to have been imported accidentally on freight.

Plants, Seaweeds etc.

Plants, seaweeds etc.

PHYLUM			
Class	Types of "Plant"	No. of	
Order		species	
PROTOZOA	Photosynthetic flagellates (3 records)		
Euglenoidea		3	
CYANOBACTERIA	Blue-green Bacteria (12 records)		
Cyanophyceae		10	
OCHROPHYTA	Brown Seaweeds etc		
Bacillariophyceae	Diatoms (1 record)	1	
Phaeophyceae	Brown Seaweeds (109 records)	19	
RHODOPHYTA	Red Seaweeds (68 records)		
Compsopogonophyceae		1	
Florideophyceae		38	
Porphyridiophyceae		1	
CHLOROPHYTA	Green Seaweeds (63 records)		
Chlorophyceae		16	
Trebouxiophyceae		3	
Ulvophyceae		18	
CHAROPHYTA	Stoneworts, Desmids etc (62 records)		
Klebsormidiophyceae	Filamentous green alga	1	
Zygnematophyceae	Desmids	60	
Charophyceae	Stoneworts	1	
PTERIDOPHYTA	Ferns, Horsetails etc (210 records)		
Equisetopsida			
Equisetales	Horsetails	4	
Polypodiopsida			
Hymenophyllales	Filmy-ferns	1	
Osmundales	Royal Fern	1	
Polypodiales	Buckler Ferns, Bracken etc.	16	
Psilotopsida			
Ophioglossales	Adder's-tongue etc.	3	
TRACHEOPHYTA			
Lycopodiopsida	Clubmosses & Quillworts (2records)		
Lycopodiales		1	
Selaginellales		1	
Magnoliopsida	Flowering Plants (3213 records)		
Alismatales	Pondweeds and Arrowgrass	9	
Apiales	Umbellifers such as Hogweed	10	
Aquifoliales	Holly	1	
Asparagales	Orchids, Irises, Bluebell	13	
Asterales	Composites such as Daisy	31	
Brassicales	Brassicas such as Charlock	11	
Caryophyllales	Docks, Oraches, Campions etc	29	
Dioscoreales	Bog Asphodel	1	
Dipsacales	Devil's Bit Scabious, Honeysuckle	2	
Ericales	Heathers and allied species	11	
Fabales	Clovers, Vetches & Trefoils	11	
Fagales	Trees such as Birch & Alder	7	
Gentianales	Bedstraws	7	
Geraniales	Crane's-bills, Stork's-bills	3	
Lamiales	Rattle, Plantains, Speedwells	33	
Magnoliopsida	Forget-me-nots, Bugloss	4	
Malpighiales	St.John's wort, Violet, Willow	19	
Myrtales	Willowherbs	3	
Nymphaeales	Water Lillies	1	
Oxalidales	Wood Sorrel	1	
Poales	Grasses, Sedges, Rushes etc.	66	
Ranunculales	Buttercups	11	
Rosales	Roses, Cinquefoils, Rowan etc.	13	
Sapindales	Sycamore	1	
Saxifragales	Saxifrages	6	
Pinopsida	Conifers (17 records)		
Pinales	Pines, Juniper etc.	6	
	Total species	509	
	Total records	3760	

The organisms considered in this section range from microscopic unicellular flagellates 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. They are not nowadays.

In total 3760 records were received from just 13 recorders covering 509 species of plants. It is striking how few recorders were involved in submitting plant records compared to other taxonomic groups

Group	Recorders	Species	Records
Plants	13	509	3760
Lepidoptera	44	313	3768
Other Insects	36	141	864
Other Inverts.	30	93	291
Vertebrates	47	36	160

Whilst this is perhaps not surprising for the specialist taxonomic groups, such as some of the algae, it does indicate that very few people outside a regular core of OHBR recorders are sending in plants records. The contrast with the vertebrates is most striking. With this group there were only 160 records of 36 species but these were submitted by 47 different recorders. Many of these would be "casual" records of things seen by people just spending time outside. These same people are not submitting casual plant records.

PROTOZOA – Euglenoidea

Three species identified microscopically from samples taken on Shillay, Monach Islands (1 species) and Sgarabhaigh, Sound of Harris (2 species).

CYANOBACTERIA - Blue-green Bacteria

Twelve records of ten species. 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 bacteria by a primitive ameboid species.

Plants, Seaweeds etc.

OCHROPHYTA - Phaeophyceae - 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 Phylum 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.

Species recorded >20 times (in descending frequency)	Common Name	2017 records
<i>Laminaria hyperborea</i>	Cuvie	1
<i>Saccharina latissima</i>	Sugar Kelp	1
<i>Dictyota dichotoma</i>		-
<i>Chorda filum</i>	Mermaid's Tresses	-
<i>Fucus vesiculosus</i>	Bladder Wrack	17
<i>Fucus serratus</i>	Serrated Wrack	9
<i>Ascophyllum nodosum</i>	Egg Wrack	23
<i>Laminaria digitata</i>	Tangle	4
<i>Halidrys siliquosa</i>	Sea Oak	2
<i>Pelvetia canaliculata</i>	Channelled Wrack	23
<i>Desmarestia aculeata</i>		2
<i>Alaria esculenta</i>	Dabberlocks	-
<i>Saccorhiza polyschides</i>	Furbelows	-
<i>Fucus spiralis</i>	Spiralled Wrack	9
<i>Desmarestia viridis</i>		-
<i>Himanthalia elongata</i>	Sea Thong	4
<i>Asperococcus fistulosus</i>		-
<i>Asperococcus bullosus</i>		-
<i>Pseudolithoderma extensum</i>		-
<i>Cutleria multifida</i>		-
<i>Desmarestia ligulata</i>		-
<i>Pylaiella littoralis</i>		4
<i>Fucus ceranoides</i>	Horned Wrack	-
<i>Leathesia marina</i>		1
<i>Spongonema tomentosum</i>		-
<i>Cladostephus spongiosus</i>		-
<i>Scytosiphon lomentaria</i>		-
<i>Stilophora tenella</i>		-
<i>Mesogloia vermiculata</i>		-
Other less common species recorded in 2017		
<i>Fucus cottonii</i>		3
<i>Ectocarpus siliculosus</i>		1
<i>Ralfsia verrucosa</i>		1
<i>Hincksia secunda</i> ²		1
<i>Myrionema strangulans</i> ²		1
<i>Hincksia granulosa</i> ¹		1
Total records		119
¹ First record for VC110 ² Second record for VC110		

The NBN data base currently lists 72 species of brown seaweeds recorded from VC110. Twenty-nine of these have been recorded twenty times or more. Of these relatively common species thirteen

were recorded in 2017. A further six, less common species were also recorded in 2017. In total eight recorders generated 119 records of 19 different species of brown seaweed in 2017 from 35 different 10km squares.

Two of the less common species *Hincksia secunda* and *Myrionema strangulans* were second records for VC110 - both recorded at Gairbh-eilean, North Uist. This was a new location having been previously recorded on the Airport Beach on Benbecula in 2016. A second *Hincksia* species (*H. granulosa*) was recorded for the first time in VC110 in 2017 – at Camas ant-Seilideir on Harris.



Pelvetia canaliculata – Channelled Wrack (Photo Chris Johnson)



Fucus spiralis - Spiralled Wrack (Photo Chris Johnson)

OCHROPHYTA - Bacillariophyceae - Diatoms

A single species of diatom (*Tabellaria flocculosa*) was recorded in 2017, from Grogarry and North Loch Eynort in South Uist. There are just two other species of Diatoms recorded from VC110 - *Melosira* sp. and *Tryblionella compressa* - a measure of the difficulty in identifying the 2800 British species.

Plants, Seaweeds etc.

RHODOPHYTA – Red Seaweeds

The NBN data base has records from VC110 for 178 species of red seaweeds. Many of these records come from dive surveys, often at considerable depth. The accessory pigments that give red seaweeds their colour allow them to live at much greater depths than can green or brown seaweeds. Deepwater species are unlikely to be recorded by OHBR observers so only 76 of the 178 NBN species feature on the OHBR checklist for Rhodophyta.

Apart from some of the larger, more distinctive, intertidal species most red seaweeds don't have common names. Their identification is considered to be relatively difficult and, for some species, requires microscopic examination. Keys to some of the commoner intertidal species of seaweed (including brown and green seaweeds) are at: <http://magnusgaard.com/onewebmedia/EA%20Seaweed%20reference%20manual.pdf>

Species recorded >20 times (in descending frequency)	Common Name	2017 records
<i>Delesseria sanguinea</i>	Sea Beech	1
<i>Plocamium cartilagineum</i>		3
<i>Cryptopleura ramosa</i>		1
<i>Chondrus crispus</i>	Carrageen	1
<i>Callophyllis laciniata</i>		1
<i>Membranoptera alata</i>		1
<i>Corallina officinalis</i>	Coral Weed	2
<i>Palmaria palmata</i>	Dulse	1
<i>Mastocarpus stellatus</i>	False Irish Moss	1
<i>Heterosiphonia plumosa</i>		1
<i>Nitophyllum punctatum</i>		-
<i>Dilsea carnosa</i>	Red Rags	2
<i>Vertebrata lanosa</i>		9
<i>Furcellaria lumbricalis</i>		4
<i>Cystoclonium purpureum</i>		1
<i>Ceramium virgatum</i>		2
<i>Odonthalia dentata</i>		1
<i>Ptilota gunneri</i>		2
<i>Polyides rotundus</i>		-
<i>Lithothamnion glaciale</i>		-
<i>Rhodomela confervoides</i>		2
<i>Osmundea pinnatifida</i>	Pepper Dulse	1
<i>Polysiphonia elongata</i>		1
<i>Plumaria plumosa</i>		-
<i>Dumontia contorta</i>		1
<i>Halurus flosculosus</i>		-
<i>Porphyra umbilicalis</i>	Purple Laver	-
<i>Ahnfeltia plicata</i>		2
<i>Phymatolithon calcareum</i>	Common Maerl	1
<i>Asparagopsis armata</i>	Harpoon Weed	-
<i>Polyides rotunda</i>		1
<i>Rhodothamniella floridula</i>		1
<i>Osmundea hybrida</i>		-
<i>Hildenbrandia rubra</i>		1
<i>Ceramium shuttleworthianum</i>		-
Total records		45

Identification difficulties are perhaps the reason that in 2017 eight recorders submitted just 60 records of 39 species of Rhodophyta.

Thirty-five of the OHBR checklist species can be considered common having been recorded more than 20 times. Twenty-six of these species were recorded in 2017 (45 records in total). An epiphytic species, *Vertebrata* (formerly *Polysiphonia*) *lanosa* that can commonly be found growing on Egg Wrack (*Ascophyllum nodosum*) in the middle part of the shore was the most frequently recorded species.



Palmaria palmata - Dulse Photo Chris Johnson

Records of a further 13, less frequently recorded, species were received in 2017. For five of these species (*B. turfosum*, *C. richteriana*, *G. pistillata*, *S. subintegra* and *A. parvulum*) they were the first records for VC110. Three other species were recorded for only the second time (*A. gallicum*, *C. granulatum* and *L. obtusa*).

Species	No. of NBN records	2017 records
<i>Sphaerococcus coronopifolius</i>	13	1
<i>Melobesia membranacea</i>	8	1
<i>Ceramium pallidum</i>	4	1
<i>Neosiphonia harveyi</i>	3	1
<i>Spermothamnion repens</i>	3	1
<i>Acrochaetium parvulum</i> ¹	2	2
<i>Aglaothamnion gallicum</i> ²	2	1
<i>Callithamnion granulatum</i> ²	2	1
<i>Laurencia obtusa</i> ²	2	1
<i>Batrachospermum turfosum</i> ¹	1	1
<i>Chroothecce richteriana</i> ¹	1	1
<i>Gigartina pistillata</i> ¹	1	1
<i>Sahlingia subintegra</i> ¹	1	1
Total records		14

¹ First records for VC110 ² Second record for VC110

Plants, Seaweeds etc.

CHLOROPHYTA - Green Seaweeds; Terrestrial and Freshwater Algae

The Phylum Chlorophyta contains algae which are found in terrestrial (T), freshwater (FW) and marine (M) habitats. Some species occupy transitional habitats such as brackish water (FW/M). A few of the marine species have long established common names.

<i>Codium fragile subsp. fragile</i>	Green Sea-fingers
<i>Ulva intestinalis</i>	Gutweed
<i>Bryopsis plumosa</i>	Hen Pen
<i>Ulva lactuca</i>	Sea Lettuce
<i>Codium tomentosum</i>	Velvet Horn

These green seaweeds are the most readily identified of the green algae. The latest field guides to seaweeds have common names for most of the marine seaweeds. *Rhizoclonium riparium* is “commonly” called “Rooting Green Thread Weed” according to the otherwise excellent second edition of Seaweeds of Britain and Ireland (by Bunker, Brodie, Maggs and Bunker, Wild Nature Press (2017)). Most of the terrestrial and freshwater species and many other marine species require microscopic examination to identify them to species level.

Not all green algae appear green in the field though they all contain the green photosynthetic pigment, chlorophyll. The red and brown seaweeds also contain chlorophyll. In those groups the green colour is masked by the presence of secondary photosynthetic pigments that allow them to live lower on the seashore and deeper underwater than can the green seaweeds.



Trentepohlia aurea - a terrestrial green alga. The orange colour comes from beta carotene the same pigment that gives carrots their orange colour.

The NBN data set contains 75 species recorded from VC110. Of these 43 are included in the OHBR checklist. The remaining species have been recorded by benthic, marine, dive surveys and are

outside the scope of OHBR. In 2017 61 records of 35 species were received by OHBR from eight recorders.

Twenty were recorded for the first time in the Outer Hebrides in 2017. Seventeen of these new VC110 species are associated with freshwater habitats (though three do occur in brackish water), two are terrestrial species and one is a marine species.

Species (OHBR Checklist) (in descending frequency)	Habitat	2017 records	First record
<i>Cladophora rupestris</i>	M	8	1978
<i>Ulva intestinalis</i>	M	8	1978
<i>Chaetomorpha linum</i>	M	2	1984
<i>Ulva lactuca</i>	M	2	1978
<i>Ulva prolifera</i>	M	1	1993
<i>Rhizoclonium riparium</i>	M	1	1993
<i>Spongomorpha aeruginosa</i>	M	-	1993
<i>Codium fragile fragile</i>	M	-	1978
<i>Trentepohlia aurea</i>	T	1	2005
<i>Blidingia minima</i>	M	1	1978
<i>Blidingia marginata</i>	M	1	1993
<i>Cladophora hutchinsiae</i>	M	1	1984
<i>Codium fragile atlanticum</i>	M	-	
<i>Ulva clathrata</i>	M	3	1993
<i>Ulva compressa</i>	M	-	2004
<i>Sphaerocystis Schroeteri</i> ¹	T	4	2017
<i>Ulva linza</i>	M	1	1999
<i>Ulva rigida</i>	M	-	1994
<i>Acrosiphonia arcta</i>	M	-	1978
<i>Eremosphaera viridis</i> ¹	FW	3	2017
<i>Acutodesmus obliquus</i> ¹	FW	2	2017
<i>Gloeocystis vesiculosa</i> ¹	FW/T	2	2017
<i>Haematococcus pluvialis</i>	FW	1	2016
<i>Pseudopediastrum boryanum</i> ¹	FW	2	2017
<i>Ulothrix flacca</i>	M	1	2015
<i>Botryococcus braunii</i> ¹	FW	1	2017
<i>Bulbochaete mirabilis</i> ¹	FW	1	2017
<i>Chaetomorpha ligustica</i> ¹	FW/M	1	2017
<i>Cladophora glomerata</i> ¹	FW/M	1	2017
<i>Cladophora laetevirens</i>	M	-	2016
<i>Coenococcus planctonicus</i> ¹	FW	1	2017
<i>Dicranochaete reniformis</i> ¹	FW	1	2017
<i>Eremosphaera gigas</i> ¹	T	1	2017
<i>Microspora amoena</i>	FW	1	2006
<i>Microspora floccosa</i> ¹	FW	1	2017
<i>Microspora stagnorum</i> ¹	FW	1	2017
<i>Monostroma membranaceum</i> ¹	FW	1	2017
<i>Mucidosphaerium pulchellum</i> ¹	FW	1	2017
<i>Planktosphaeria gelatinosa</i> ¹	FW	1	2017
<i>Sphaerellopsis fluvialilis</i> ¹	FW	1	2017
<i>Stigeoclonium lubricum</i> ¹	FW	1	2017
<i>Ulva intestinaloides</i>	M	-	2016
<i>Ulvella setchellii</i> ¹	M	1	2017
Total records		61	
¹ First records for VC110			

Plants, Seaweeds etc.

CHAROPHYTA – Stoneworts and Desmids

This group contains two morphologically distinct types of species. One, the Stoneworts (Class Charophyceae) are reasonably large (up to 120cm long) branched multicellular algae that tend to grow in clear, nutrient poor, water bodies. Superficially they look a little like Horsetails, with a “stem” and whorls of side branches, but grow submerged in the water. They are called stoneworts as they tend to become encrusted in calcium carbonate deposits. When they die their encrusted remains form marl deposits on the bottoms of various water bodies. Various lochs, throughout the Outer Hebrides, have been identified by Plantlife as important sites for stoneworts at a UK and European level: https://www.plantlife.org.uk/application/files/7214/8233/2561/Important_Stonewort_Areas_-_summary.pdf

Thirty-four species of Class Charophyceae occur within the UK. The importance of the Outer Hebrides for stoneworts means the flora here is well known. With the earliest record (*Chara globularis*) dating back to 1894 there are now well over 500 records on the NBN data base of sixteen species.

Just a single stonewort record was submitted to OHBR in 2017. *Nitella opaca* (Dark Stonewort) - Loch Ceann a'Bhaigh, South Uist.

In contrast to the Class Charophyceae the other Charophytes (Classes Klebsormidiophyceae and Zygnematophyceae) are simpler in form being either unicellular (Order Desmidiiales) or forming simple filamentous chains (Orders Klebsormidiales and Zygnematales). They are poorly known from the Outer Hebrides. Prior to 2017 there were no records of these algae from VC110.

In 2017, 66 records of 50 species of Charophyta were added to the database for VC110. Forty-nine of these species were new for the vice-county. Whilst eight people were involved in the collection of specimens and hence logged as recorders for the submission of the records the identification of all but one of these species was the work of a single determiner.

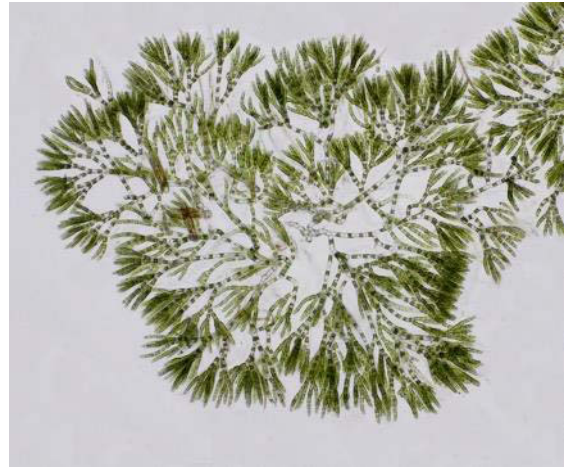
Class	2017 records
Order	
Species	
Charophyceae	
Charales (Stoneworts)	
<i>Nitella opaca</i>	1
Klebsormidiophyceae	
Klebsormidiales (filamentous algae)	
<i>Klebsormidium mucosum</i>	1
Zygnematophyceae	
Desmidiiales (Desmids – unicellular algae)	
<i>Actinotaenium cucurbita</i>	2
<i>Closterium acutum</i> var. <i>variabile</i>	1
<i>Closterium costatum</i>	1
<i>Closterium parvulum</i>	3
<i>Closterium setaceum</i>	1
<i>Cosmarium amoenum</i>	1
<i>Cosmarium botrytis</i>	1
<i>Cosmarium depressum</i> var. <i>planctonicum</i>	1
<i>Cosmarium fontigenum</i>	1
<i>Cosmarium granatum</i>	1
<i>Cosmarium margaritifera</i>	1
<i>Cosmarium pyramidatum</i>	1
<i>Cosmarium regnellii</i>	1
<i>Cosmarium regnesii</i>	3
<i>Cosmarium subcostatum</i>	1
<i>Desmidium pseudostreptonema</i>	1
<i>Euastrum ampullaceum</i>	1
<i>Euastrum ansatum</i>	1
<i>Euastrum bidentatum</i>	1
<i>Euastrum denticulatum</i>	1
<i>Euastrum dubium</i>	1
<i>Euastrum humerosum</i> var. <i>affine</i>	1
<i>Euastrum insulare</i>	1
<i>Euastrum turneri</i>	1
<i>Hyalotheca dissiliens</i>	3
<i>Micrasterias truncata</i>	2
<i>Spondylosium pulchellum</i>	1
<i>Staurastrum anatinum</i>	1
<i>Staurastrum avicula</i>	1
<i>Staurastrum crenulatum</i>	1
<i>Staurastrum dilatatum</i>	1
<i>Staurastrum gracile</i>	1
<i>Staurastrum lapponicum</i>	1
<i>Staurastrum tetracerum</i>	1
<i>Staurodesmus dejectus</i>	1
<i>Tetmemorus granulatus</i>	1
<i>Tetmemorus laevis</i>	3
<i>Xanthidium antilopaeum</i>	1
Zygnematales (filamentous algae)	
<i>Cylindrocystis brebissonii</i> var. <i>turgida</i>	1
<i>Cylindrocystis cushleackae</i>	2
<i>Cylindrocystis gracilis</i>	2
<i>Mougeotia</i>	1
<i>Mougeotia scalaris</i>	1
<i>Netrium digitus</i>	4
<i>Netrium digitus</i> var. <i>latum</i>	1
<i>Netrium oblongum</i>	1
<i>Netrium oblongum</i> var. <i>cylindricum</i>	2
<i>Zygonium ericetorum</i>	1
Total Records	66

Plants, Seaweeds etc.

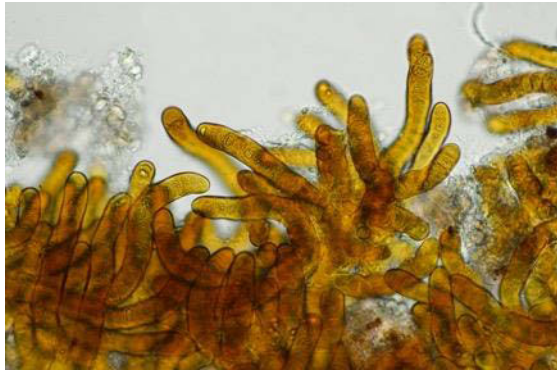
Many of the smaller organisms in the summaries above can only be identified by microscopic examination. The following photomicrographs by Chris Johnson give a feel for the range of forms, and beauty, of these when viewed under a microscope.



Chroococcus turgidus - Blue-green Bacteria, Cyanobacteria



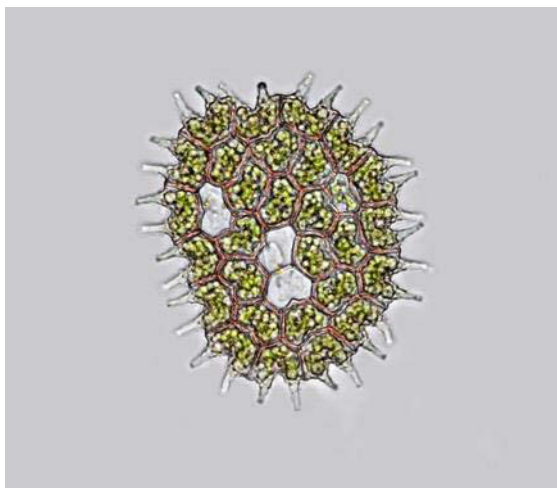
Chaetophora pisiformis - Green Alga, Chlorophyta



Stigonema minutum - Blue-green Bacteria, Cyanobacteria



Closterium costatum - Desmid, Charophyta



Pseudopediastrum boryanum - Green Alga, Chlorophyta



Micrasterias truncate - Desmid, Charophyta

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.

The species in bold below can be considered as common species, each having been recorded over 200 times.

Species on NBN Atlas (in descending frequency)	Common Name (bold >200 records)	2017 records
<i>Blechnum spicant</i>	Hard Fern	39
<i>Equisetum fluviatile</i>	Water Horsetail	19
<i>Dryopteris dilatata</i>	Broad Buckler-fern	11
<i>Athyrium filix-femina</i>	Lady Fern	6
<i>Polypodium vulgare</i>	Polypody	4
<i>Pteridium aquilinum</i>	Bracken	26
<i>Equisetum arvense</i>	Common Horsetail	29
<i>Equisetum palustre</i>	Marsh Horsetail	7
<i>Asplenium marinum</i>	Sea Spleenwort	2
<i>Osmunda regalis</i>	Royal Fern	6
<i>Oreopteris limbosperma</i>	Lemon-scented Fern	7
<i>Dryopteris aemula</i>	Hay-scented Buckler-fern	19
<i>Asplenium adiantum-nigrum</i>	Black Spleenwort	4
<i>Ophioglossum vulgatum</i>	Adder's Tongue	6
<i>Dryopteris affinis</i>	Scaly Male Fern	
<i>Hymenophyllum wilsonii</i>	Wilson's Filmy Fern	3
<i>Dryopteris filix-mas</i>	Common Male Fern	3
<i>Asplenium trichomanes</i>	Maidenhair Spleenwort	4
<i>Phegopteris connectilis</i>	Beech Fern	2
<i>Botrychium lunaria</i>	Moonwort	
<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	1
<i>Asplenium ruta-muraria</i>	Wall-rue	
<i>Equisetum variegatum</i>	Variegated Horsetail	1
<i>Ophioglossum azoricum</i>	Small Adder's-tongue	1
<i>Dryopteris expansa</i>	Northern Buckler-fern	1
<i>Pilularia globulifera</i>	Pillwort	
<i>Cryptogramma crista</i>	Parsley Fern	
<i>Dryopteris borreri</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

Twelve OHBR recorders submitted 201 records of 22 of the 40 species confirmed from the Outer Hebrides in 2017.

All of the common fern and horsetail species were recorded and there were single records of four of the less commonly recorded species - Brittle Bladder-fern, Variegated Horsetail, Small Adder's-tongue and Northern Buckler-fern.



Ophioglossum vulgatum - Adder's-tongue



Asplenium marinum - Sea Spleenwort

Plants, Seaweeds etc.



Selaginella selaginoides - Lesser Clubmoss



Selaginella selaginoides - Lesser Clubmoss, in typical Machair habitat with *Anagallis tenella* - Bog Pimpernel

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	2017
<i>Selaginella selaginoides</i>	Lesser Clubmoss	767	5
<i>Huperzia selago</i>	Fir Clubmoss	434	6
<i>Diphasiastrum alpinum</i>	Alpine Clubmoss	16	-
<i>Lycopodium clavatum</i>	Stag's-horn Clubmoss	10	-
<i>Lycopodiella inundata</i>	Marsh Clubmoss	4	-
Total			11

There were just 11 records of two common clubmosses submitted in 2017. Two of the Fir Clubmoss records were from South Uist all of the remaining records came from Harris & Lewis.

TRACHEOPHYTA – Pinopsida (Conifers)

Seventeen records of Conifers were received in 2017. Fourteen were of Juniper (including its two subspecies *J. communis communis* and *J. communis nana*). Most (11) of the juniper records were from the Druidibeg area on South Uist with two from Lewis and one from South Glendale also on South Uist. The NBN database contains a further 19 taxa, all non-native ornamental or commercial forest species.

Species	Common Name	2017 records
<i>Juniperus communis</i>	Juniper	8
<i>J. communis</i> subsp. <i>communis</i>	Common Juniper	3
<i>J. communis</i> subsp. <i>nana</i>	Dwarf Juniper	3
<i>Larix decidua</i>	European Larch	1
<i>Pinus contorta</i> subsp. <i>latifolia</i>	Lodgepole Pine	1
<i>Pinus sylvestris</i>	Scots Pine	1
Total		17



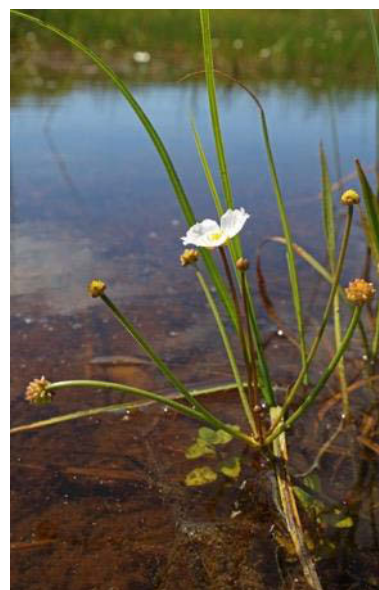
Juniperus communis – Juniper - male flower

Plants, Seaweeds etc.

TRACHEOPHYTA – Magnoliopsida

Order	Family	Types of plants	Species	Records
Alismatales	Alismataceae	Water Plantains	1	5
	Araceae	Lord's & Ladies	1	8
	Juncaginaceae	Arrowgrasses	2	4
	Potamogetonaceae	Pondweeds	5	32
Apiales	Apiaceae	Umbellifers	9	49
	Araliaceae	Ivy	1	42
Aquifoliales	Aquifoliaceae	Holly	1	1
Asparagales	Asparagaceae	Bluebell, Squill	1	10
	Iridaceae	Irises	2	45
	Orchidaceae	Orchids	11	82
Asterales	Asteraceae	Daisies, Thistles etc.	30	287
	Campanulaceae	Harebell	1	11
	Menyanthaceae	Bogbean	1	34
Brassicales	Brassicaceae	Scurveygrass, Charlock	11	66
Caryophyllales	Amaranthaceae	Oraches, Glasswort	5	10
	Caryophyllaceae	Campions, Chickweeds	14	97
	Droseraceae	Sundews	2	74
	Montiaceae	Blinks	1	7
	Plumbaginaceae	Thrift	1	26
	Polygonaceae	Docks & Sorrels	6	104
	Dioscoreales	Nartheciaceae	Bog Asphodel	1
Dipsacales	Caprifoliaceae	Devil's-bit Scabious	2	32
Ericales	Ericaceae	Heathers	6	179
	Primulaceae	Primroses, Bog Pimpernel	5	55
Fabales	Fabaceae	Vetches, Clovers, Trefoils	9	159
	Polygalaceae	Milkworts	2	55
Fagales	Betulaceae	Birch	6	7
	Myricaceae	Bog Myrtle	1	15
Gentianales	Gentianaceae	Centuary, Field Gentian	2	11
Geraniales	Rubiaceae	Bedstraws	5	41
	Geraniaceae	Crane's-bills, Stork's-bills	3	13
Lamiales	Lamiaceae	Selfheal, Thymes, Mints	9	58
	Lentibulariaceae	Butterworts, Bladderworts	4	57
	Orobanchaceae	Rattles, Eye-brights	8	101
	Plantaginaceae	Plantains, Speedwells	13	155
	Magnoliopsida	Boraginaceae	Bugloss, Forget-me-nots	4
Malpighiales	Euphorbiaceae	Spurges	1	2
	Hypericaceae	St Johns Worts	4	19
	Linaceae	Fairy Flax	1	6
	Salicaceae	Willows	9	72
	Violaceae	Violets, Pansies etc.	4	58
	Myrtales	Onagraceae	Willowherbs	3
Nymphaeales	Nymphaeaceae	White Water Lilly	1	24
Oxalidales	Oxalidaceae	Wood Sorrel	1	5
Poales	Cyperaceae	Sedges	27	248
	Juncaceae	Rushes, Wood-rushes	16	145
	Poaceae	Grasses	24	192
	Typhaceae	Floating Bur-reed	1	2
	Ranunculales	Papaveraceae	Poppies	2
Ranunculaceae		Buttercups	9	140
Rosales	Rosaceae	Rose, Cinquefoils, Tormentil	13	212
	Urticaceae	Nettles	1	42
Sapindales	Sapindaceae	Sycamore	1	1
Saxifragales	Crassulaceae	Stonecrops, Roseroot	2	40
	Grossulariaceae	Black Currant	1	1
	Haloragaceae	Water-milfoil	1	7
	Saxifragaceae	Saxifrages	2	3
Total			310	3213

In 2017 13 recorders submitted 3213 records of 310 flowering plants species from 23 10km squares. The number of species recorded represents about 38% of the species recorded from VC110 in the NBN database. Records were located through much of the Outer Hebrides but with a concentration of records, and individual 1km squares, in the southern part of the area.



Alisma plantago-aquatica - Water Plantain

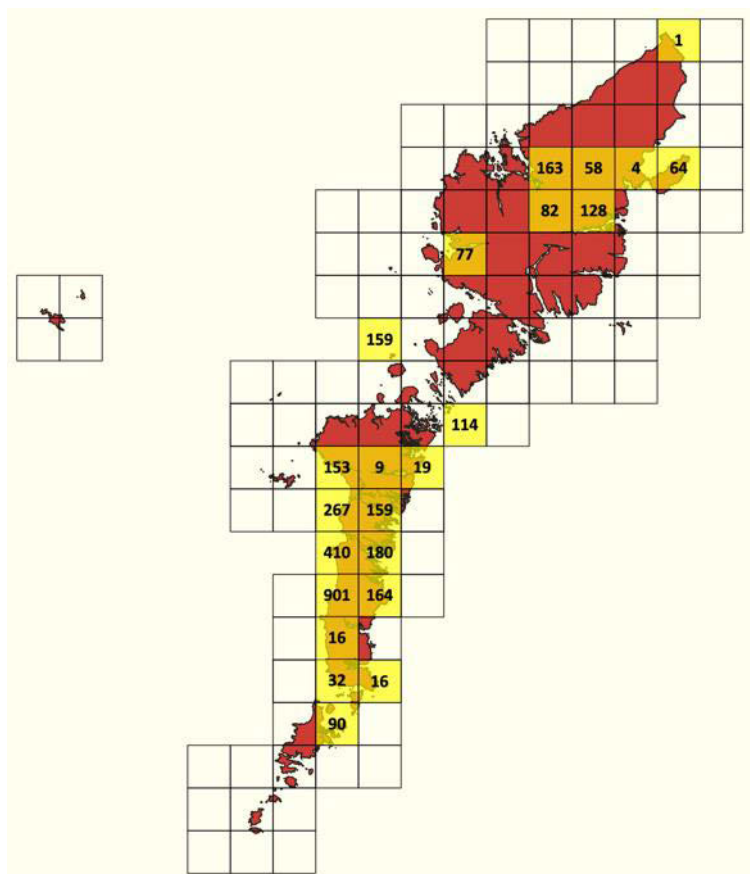


Drosera rotundifolia - Round-leaved Sundew



Eriophorum angustifolium - Common Cottongrass

Plants, Seaweeds etc.



10km Square	No. of 1k Squares	2017 records
NB01	1	77
NB22	2	82
NB23	3	163
NB32	1	128
NB33	2	58
NB43	4	4
NB53	1	64
NB56	1	1
NF70	3	90
NF71	3	32
NF72	5	16
NF73	37	901
NF74	16	410
NF75	7	267
NF76	2	153
NF81	2	16
NF83	12	164
NF84	12	180
NF85	6	106
NF86	2	9
NF89	4	159
NF96	3	19
NG07	4	114
Grand Total	133	3213

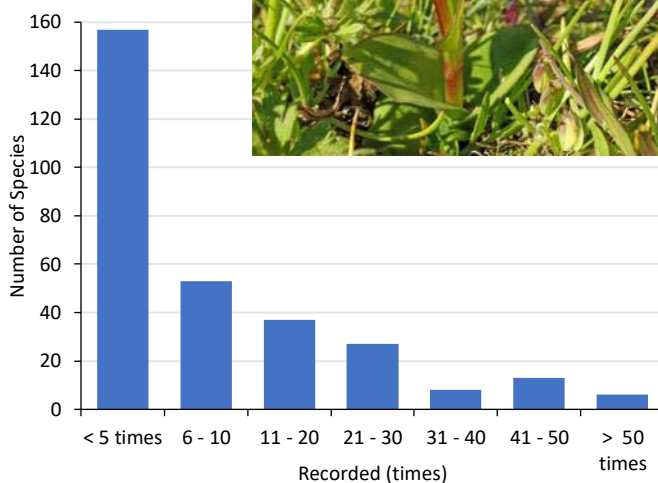
The high number of records from squares NF89 and NG07 illustrate targeted visits by a group of regular recorders to specified locations. On the 25th July 2017 a group visited Siolaigh, an island in the Sound of Harris and generated 159 records of 71 vascular plant species. On the 1st August the group visited the islands of Sgarabhaigh and Liungaigh, also in the Sound of Harris, and made 114 records of 57 plant species. The high total records for 10k squares in the southern islands of the Outer Hebrides results partially from similar targeted visits to locations, or sets of adjacent 1km squares, on certain dates.

Most species recorded in 2017 weren't recorded very often. Over half were recorded less than five times.

Dactylorhiza viridis - Frog Orchid (1 record in 2017)



Calluna vulgaris - Heather (recorded 79 times)
and *Erica cinerea* - Bell Heather (26 times)



Plants, Seaweeds etc.

Fifty-four species were recorded more than 20 times in 2017.

Species	Common Name	2017 records
<i>Calluna vulgaris</i>	Heather	79
<i>Juncus effusus</i>	Soft-rush	78
<i>Potentilla erecta</i>	Tormentil	60
<i>Plantago lanceolata</i>	Ribwort Plantain	52
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	51
<i>Polygala serpyllifolia</i>	Heath Milkwort	51
<i>Eriophorum angustifolium</i>	Common Cottongrass	49
<i>Potentilla anserina</i>	Silverweed	49
<i>Bellis perennis</i>	Daisy	47
<i>Trifolium repens</i>	White Clover	47
<i>Drosera rotundifolia</i>	Round-leaved Sundew	46
<i>Iris pseudacorus</i>	Yellow Iris	44
<i>Rumex acetosa</i>	Common Sorrel	43
<i>Viola riviniana</i>	Common Dog-violet	43
<i>Cirsium vulgare</i>	Spear Thistle	42
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort	42
<i>Pedicularis sylvatica</i>	Lousewort	42
<i>Urtica dioica</i>	Common Nettle	42
<i>Pinguicula vulgaris</i>	Butterwort	41
<i>Ranunculus repens</i>	Creeping Buttercup	38
<i>Sedum anglicum</i>	English Stonecrop	38
<i>Holcus lanatus</i>	Yorkshire-fog	36
<i>Cardamine pratensis</i>	Cuckooflower	34
<i>Menyanthes trifoliata</i>	Bogbean	34
<i>Empetrum nigrum</i>	Crowberry agg.	32
<i>Ranunculus acris</i>	Meadow Buttercup	32
<i>Erica tetralix</i>	Cross-leaved Heath	31
<i>Carex panicea</i>	Carnation Sedge	30
<i>Rubus fruticosus</i> agg.	Bramble	30
<i>Salix repens</i>	Creeping Willow	30
<i>Carex nigra</i>	Common Sedge	28
<i>Dactylorhiza maculata</i>	Heath Spotted-orchid	28
<i>Drosera anglica</i>	Great Sundew	28
<i>Potentilla palustris</i>	Marsh Cinquefoil	28
<i>Sorbus aucuparia</i>	Rowan	28
<i>Armeria maritima</i>	Sea Pink	26
<i>Erica cinerea</i>	Bell Heather	26
<i>Rumex crispus</i>	Curled Dock	26
<i>Senecio jacobaea</i>	Common Ragwort	26
<i>Euphrasia officinalis</i> agg.	Eyebright	25
<i>Molinia caerulea</i>	Purple Moor-grass	25
<i>Plantago coronopus</i>	Buck's-horn Plantain	25
<i>Prunella vulgaris</i>	Selfheal	25
<i>Nymphaea alba</i>	White Water-lily	24
<i>Trifolium pratense</i>	Red Clover	24
<i>Angelica sylvestris</i>	Wild Angelica	23
<i>Caltha palustris</i>	Marsh-marigold	23
<i>Digitalis purpurea</i>	Foxglove	22
<i>Narthecium ossifragum</i>	Bog Asphodel	22
<i>Primula vulgaris</i>	Primrose	22
<i>Ranunculus flammula</i>	Lesser Spearwort	22
<i>Trichophorum germanicum</i>	Deergrass	22
<i>Ranunculus ficaria</i>	Lesser Celandine	21
<i>Thymus polytrichus</i>	Wild Thyme	21



Menyanthes trifoliata – Bogbean



Potentilla palustris – Marsh Cinquefoil



Narthecium ossifragum - Bog Asphodel

Plants, Seaweeds etc.

Family Cyperaceae Sedges - were generally well covered in 2017. Most of the species commonly recorded on the NBN database were sighted in 2017. Changes in nomenclature means that historic records of Deergress as *Trichophorum caespitosum* are probably of *Trichophorum germanicum*. Similarly, the status of *Carex viridula* may have caused some confusion as all three subspecies are recorded on the NBN database.

Species	Common Name	NBN records	2017 records
<i>Carex nigra</i>	Common Sedge	2183	28
<i>Eriophorum angustifolium</i>	Common Cottongrass	1983	49
<i>Carex panicea</i>	Carnation Sedge	1657	30
<i>Carex echinata</i>	Star Sedge	1418	20
<i>Eleocharis palustris</i>	Common Spike-rush	1408	10
<i>C. viridula subsp. oedocarpa</i>	Common Yellow Sedge	1386	7
<i>Eleocharis multicaulis</i>	Many-stalked Spike-rush	1218	3
<i>Carex flacca</i>	Glaucous Sedge	1192	3
<i>Trichophorum caespitosum</i>	Deergress	1088	
<i>Carex binervis</i>	Green-ribbed Sedge	1034	11
<i>Carex pulicaris</i>	Flea Sedge	917	7
<i>Schoenus nigricans</i>	Black Bog-rush	898	7
<i>Carex arenaria</i>	Sand Sedge	715	10
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	714	19
<i>Carex rostrata</i>	Bottle Sedge	701	6
<i>Eleocharis fluitans</i>	Floating Club-rush	699	2
<i>Carex pilulifera</i>	Pill Sedge	533	4
<i>Carex leporina</i>	Oval Sedge	531	1
<i>Eleocharis quinqueflora</i>	Few-flowered Spike-rush	502	2
<i>Carex dioica</i>	Dioecious Sedge	438	1
<i>C. viridula subsp. viridula</i>	Small-fruited Yellow Sedge	417	
<i>Carex hostiana</i>	Tawny Sedge	389	1
<i>Rhynchospora alba</i>	White Beak-sedge	323	1
<i>Carex limosa</i>	Bog-sedge	306	1
<i>Isolepis setacea</i>	Bristle Club-rush	272	
<i>Blysmus rufus</i>	Saltmarsh Flat-sedge	265	
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush	263	
<i>Eleocharis uniglumis</i>	Slender Spike-rush	220	
<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	
<i>Schoenoplectus lacustris</i>	Common Club-rush	131	
<i>C. viridula subsp. brachyrrhyncha</i>	Long-stalked Yellow Sedge	125	
<i>Carex diandra</i>	Lesser Tussock Sedge	123	
<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	
<i>Carex caryophylla</i>	Spring Sedge	18	
<i>Eriophorum latifolium</i>	Broad-leaved Cottongrass	18	
<i>Trichophorum germanicum</i>	Deergress	18	22
<i>Carex viridula</i>	Common Yellow Sedge	7	
<i>Carex acutiformis</i>	Lesser Pond Sedge	6	
<i>Carex hirta</i>	Hairy Sedge	6	
<i>Carex sylvatica</i>	Wood Sedge	6	
<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	



Eleocharis uniglumis - Slender Spike-rush



Blysmus compressus - Flat-headed Sedge



Carex canescens - White Sedge

Plants, Seaweeds etc.

Family Juncaceae – Rushes and Woodrushes – were well covered in 2017. Most species featuring on the NBN database were recorded. The exceptions being a few of the less common species such as Frog Rush and Thread Rush. Frog Rush was until 1978 considered as part of the *Juncus bufonius* group and is probably under recorded in the Outer Hebrides. The absence of records for Baltic Rush is perhaps surprising as saltmarshes and damp grasslands in the Outer Hebrides are one of its UK strongholds. Sharp-flowered Rush is another odd missing species given its overall level of past recording indicated by the number of NBN records.

Hard Rush has only been recorded once in VC110, a record from 2005 just to the east of Castlebay, and is thought to have been introduced. This species is scarce in Scotland and most records come from locations to the south of the Highland Boundary Fault.

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

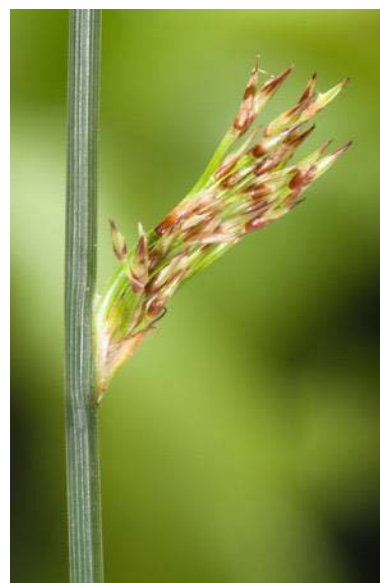
The other taxa recorded within this family are either of sub-species or hybrids. None of these were recorded in 2017.



Juncus acutiflorus - Sharp-flowered Rush

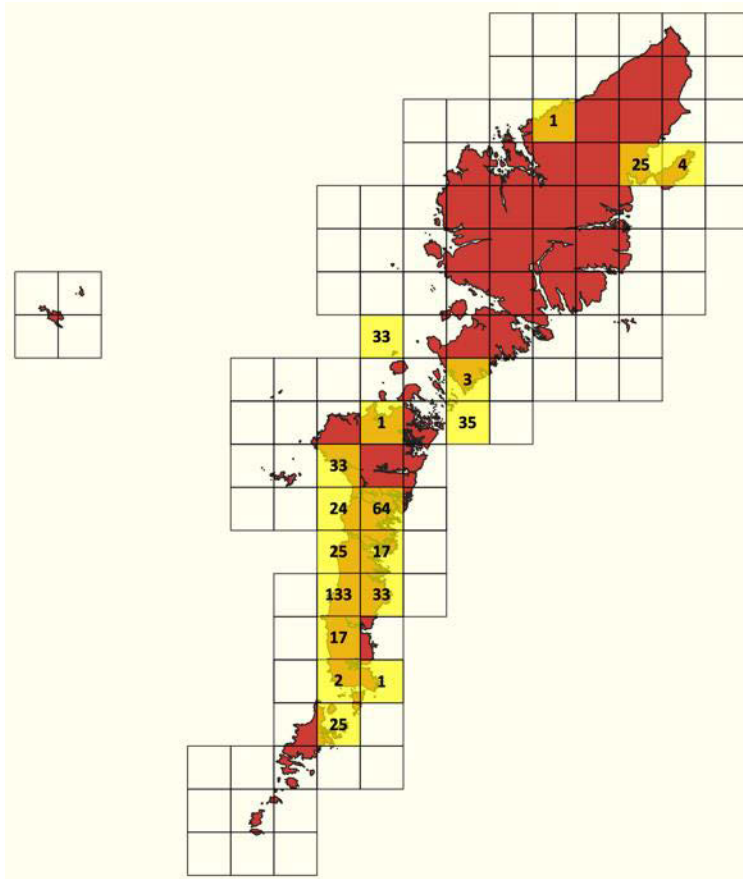


Juncus conglomeratus - Compact Rush



Juncus inflexus - Hard Rush

Fungi



Fungi

A total of 487 records of 146 species of fungi (including 1 record of a Downy Mildew, an Oomycete rather than a true fungus) were submitted to OHBR in 2017 by ten recorders. Half of these records (73 species) were of Lichens the remainder were either non-lichen forming species of Ascomycota or were Basidiomycota.

Records came from 20 10km squares with a notable concentration in the southern section of the recording area. Most of the records from Harris and Lewis were from the grounds of Lews Castle in Stornoway and included the only records of a number of woodland species such as Jellybaby, Elfin Saddle, Amethyst Deceiver, Wood Blewit, Stump Puffball and Porcelain Fungus.

No Lichens were recorded from Lewis. An absence, no doubt, of identification skills rather than an absence of Lichens.



Lycoperdon pyriforme - Stump Puffball



Leotia lubrica - Jellybaby



Laccaria amethystina - Amethyst Deceiver

Fungi

Fungi - Ascomycota

The NBN database contains records of 1055 species of Ascomycota (including Lichens). In 2017 OHBR recorders submitted 373 records of 87 species. Most of these records were of Lichens (353 records of 73 species).

Ascomycota (Lichens)	2017 records
<i>Arthonia radiata</i>	2
<i>Dermatocarpon intestiniforme</i>	1
<i>Dermatocarpon luridum</i>	1
<i>Dermatocarpon miniatum</i>	2
<i>Hydropunctaria maura</i>	6
<i>Verrucaria mucosa</i>	1
<i>Cladonia chlorophaea s. lat.</i>	4
<i>Cladonia digitata</i>	1
<i>Cladonia diversa</i>	1
<i>Cladonia fimbriata</i>	2
<i>Cladonia floerkeana</i>	4
<i>Cladonia humilis</i>	2
<i>Cladonia macilentia</i>	5
<i>Cladonia ochrochlora</i>	1
<i>Cladonia polydactyla</i>	5
<i>Cladonia portentosa</i>	15
<i>Cladonia pyxidata</i>	1
<i>Cladonia ramulosa</i>	1
<i>Cladonia rangiformis</i>	4
<i>Cladonia squamosa</i>	1
<i>Cladonia squamosa var. squamosa</i>	2
<i>Cladonia squamosa var. subsquamosa</i>	2
<i>Cladonia subcervicornis</i>	6
<i>Cladonia uncialis</i>	8
<i>Evernia prunastri</i>	1
<i>Hypogymnia physodes</i>	3
<i>Lecanora chlorotera</i>	4
<i>Lecanora gangaleoides</i>	9
<i>Lecanora poliophaea</i>	1
<i>Lecanora sulphurea</i>	2
<i>Lecidella elaeochroma</i>	2
<i>Lecidella elaeochroma f. soralifera</i>	1
<i>Lecidella meiococca</i>	1
<i>Lepraria finkii</i>	2
<i>Melanelixia fuliginosa</i>	1
<i>Parmelia omphalodes</i>	5
<i>Parmelia saxatilis</i>	26
<i>Parmelia sulcata</i>	5
<i>Parmotrema crinitum</i>	3
<i>Parmotrema perlatum</i>	6
<i>Parmotrema reticulatum</i>	2
<i>Ramalina cuspidata</i>	7
<i>Ramalina farinacea</i>	2
<i>Ramalina fastigiata</i>	1
<i>Ramalina siliquosa</i>	16
<i>Ramalina subfarinacea</i>	6
<i>Sphaerophorus globosus</i>	4
<i>Stereocaulon vesuvianum</i>	1
<i>Tephromela atra</i>	5
<i>Usnea flammea</i>	2
<i>Usnea subfloridana</i>	1
<i>Xanthoparmelia conspersa</i>	3
<i>Xanthoparmelia loxodes</i>	2
<i>Lichina confinis</i>	5
<i>Pectenaria atlantica</i>	1
<i>Peltigera canina</i>	1
<i>Peltigera horizontalis</i>	2
<i>Peltigera hymenina</i>	6
<i>Peltigera membranacea</i>	22

<i>Ochrolechia parella</i>	Crabs Eye Lichen	23
<i>Rhizocarpon geographicum</i>		30
<i>Anaptychia runcinata</i>		16
<i>Buellia stellulata</i>		1
<i>Caloplaca crenularia</i>		5
<i>Caloplaca ferruginea</i>		1
<i>Caloplaca marina</i>	Orange Sea Lichen	4
<i>Caloplaca thallicola</i>		2
<i>Heterodermia obscurata</i>	Coralloid Rosette-lichen	1
<i>Physcia adscendens</i>		1
<i>Physcia aipolia</i>		1
<i>Physcia tenella</i>		1
<i>Xanthoria aureola</i>		2
<i>Xanthoria parietina</i>	Common Orange Lichen	26

Ascomycota (Non- Lichen species)	2017 records
<i>Sphaerulina hyperici</i>	1
<i>Stigmidium ascopylli</i>	6
<i>Kabatia periclymeni</i>	1
<i>Rhopoglyphus filicinus</i>	1
<i>Geoglossum cookeanum</i>	1
<i>Erysiphe hyperici</i>	1
<i>Chlorociboria</i>	1
<i>aeruginascens</i>	1
<i>Leotia lubrica</i>	1
<i>Mitrulella paludosa</i>	1
<i>Cheilymenia sp.</i>	1
<i>Helvella lacunosa</i>	1
<i>Scutellinia superba</i>	1
<i>Xylaria hypoxylon</i>	1
<i>Taphrina tosquinetii</i>	2



Cladonia floerkeana (Photo Chris Johnson)



Physcia aipolia (Photo Chris Johnson)

Fungi – Basidiomycota

There are 559 species of Basidiomycota fungi recorded from VC110 in the NBN database. In 2017 recorders sent in 113 records of 58 species to OHBR. In addition there was a single record of a Downy Mildew *Albugo lepigoni* an Oomycete which, although not true fungi, have long been studied by mycologists.

Basidiomycota		2017 records
<i>Agaricus campestris</i>	Field Mushroom	4
<i>Agaricus sylvaticus</i>	Blushing Wood Mushroom	1
<i>Agrocybe praecox</i>	Spring Fieldcap	1
<i>Amanita muscaria</i>	Fly Agaric	1
<i>Amanita vaginata</i>	Grisette	1
<i>Arrhenia sphagnicola</i>	Sphagnum Navel	1
<i>Bolbitius titubans</i>	Yellow Fieldcap	1
<i>Bovista nigrescens</i>	Brown Bovist	1
<i>Clitocybe metachroa</i>	Twotone Funnel	1
<i>Clitocybe nebularis</i>	Clouded Agaric	1
<i>Conocybe dunensis</i>	Dune Conecap	1
<i>Coprinopsis nivea</i>	Snowy Inkcap	2
<i>Coprinus comatus</i>	Shaggy Inkcap	1
<i>Entoloma conferendum</i>	Star Pinkgill	3
<i>Flammulina velutipes</i> var. <i>velutipes</i>	Velvet Shank	1
<i>Galerina paludosa</i>	Bog Bell	4
<i>Gliophorus irrigatus</i>	Slimy Waxcap	1
<i>Gliophorus laetus</i>	Heath Waxcap	1
<i>Gliophorus psittacinus</i>	Parrot Waxcap	2
<i>Porpolomopsis calyptriformis</i>	Pink Ballerina	1
<i>Hygrocybe cantharellus</i>	Goblet Waxcap	1
<i>Hygrocybe chlorophana</i>	Golden Waxcap	1
<i>Hygrocybe coccinea</i>	Scarlet Hood	1
<i>Hygrocybe conica</i>	Blackening Waxcap	1
<i>Hygrocybe conicoides</i>	Dune Waxcap	1
<i>Hygrocybe helobia</i>	Garlic Waxcap	1
<i>Hygrocybe insipida</i>	Spangle Waxcap	1
<i>Hygrocybe reidii</i>	Honey Waxcap	1
<i>Cuphophyllus russocoriacea</i>	Cedarwood Waxcap	1
<i>Cuphophyllus virginea</i>	Snowy Waxcap	1
<i>Cuphophyllus virginea</i> var. <i>virginea</i>	Snowy Waxcap	1
<i>Laccaria amethystina</i>	Amethyst Deceiver	1
<i>Lepista flaccida</i>	Tawny Funnel	1
<i>Lepista nuda</i>	Wood Blewit	1
<i>Lichenomphalia umbellifera</i>	Heath Navel	11
<i>Lycoperdon pyriforme</i>	Stump Puffball	1
<i>Oudemansiella mucida</i>	Porcelain Fungus	1
<i>Panaeolina foenicisecii</i>	Brown Mottlegill	1
<i>Panaeolus papilionaceus</i>	Petticoat Mottlegill	2
<i>Panaeolus semiovatus</i>	Egghead Mottlegill	2
<i>Phragmidium violaceum</i>	Violet Bramble Rust	1
<i>Psilocybe semilanceata</i>	Magic Mushroom	1
<i>Rhodocollybia maculata</i>	Spotted Toughshank	1
<i>Sphagnurus paluster</i>	Sphagnum Greyling	2
<i>Stropharia semiglobata</i>	Dung Roundhead	3
<i>Pseudohydnum gelatinosum</i>	Jelly Tongue	1
<i>Leccinum scabrum</i>	Brown Birch-bolete	1
<i>Cantharellus aurora</i>	Golden Chanterelle	2
<i>Cantharellus tubaeformis</i>	Winter Chanterelle	1
<i>Hydnum repandum</i>	Hedgehog Fungus	1
<i>Byssomerulius corium</i>	Netted Crust	1
<i>Trametes versicolor</i>	Turkeytail	1
<i>Lactarius rufus</i>	Rufous Milkcap	1
<i>Lactarius glyciosmus</i>	Coconut Milkcap	1
<i>Russula cyanoxantha</i>	Charcoal Burner	1
<i>Gymnosporangium cornutum</i>	Rowan Crown	4
<i>Melampsora hypericorum</i>	Tutsan Rust	1
<i>Puccinia urticata</i>	Nettle Clustercup Rust	27



Arrhenia sphagnicola - Sphagnum Navel



Hygrocybe reidii - Honey Waxcap



Puccinia urticata - Nettle Clustercup Rust



Oudemansiella mucida - Porcelain Fungus



Working Together

To help to sustain and enhance the biodiversity of the Outer Hebrides to 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

