Outer Hebrides Biological Recording

Discovering our Natural Heritage

Biological Recording in 2020

Summary

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Front Cover - *Leistus fulvibarbis* – a carabid beetle
Rear Cover - a selection of Rove Beetles (Staphylinidae)

Contents

Introduction

Each year brings a new set of challenges and 2020 proved to be exceptional. At the beginning of the year when we were planning our programme of surveys, field meeting and training events, we had not anticipated the arrival of a pandemic and the changes this would have on all our lives. To comply with the COVID-19 movement and social interaction restrictions, we had to change our approach to our biological recording activities. Fortunately, we had planned two new surveys for 2020 *Signs of Spring* and *Wildlife on the Map*, which were suitable for both novice and experienced recorders and could be home based.

The inability of our resident biological recorders to move freely around the islands and the absence of visiting naturalists has had a noticeable effect on biological recording in the islands this year. The changes in the diversity and numbers of species recorded is highlighted in the following summary and makes interesting reading. We have been encouraging everyone to take an interest in some of the more unusual and under-recorded wildlife and a number of local naturalists took advantage of lock-down to investigate some of the insects and invertebrates in their gardens. The results were fascinating and we hope that they will inspire more of us to look at the wildlife on our doorstep.

It is clear that this year we have all benefitted from engaging with nature and learning to enjoy and appreciate the wildlife that surrounds us. The more we interact with our natural environment, the more we will understand why conserving our biodiversity is so important. Every single record you send contributes to the data needed to monitor changes in our wildlife, to help to ensure that quality of our natural environment is maintained, and to measure and ameliorate the effects of climate change. The contribution made by amateur naturalists in helping to map our wildlife is outstanding, and greatly appreciated.

Thank you to everyone who has participated, whether sending in records, helping with the queries on social media or helping with OHBR administration. Once again, we are grateful to Robin Sutton for compiling the annual report.

Uig Sands, Lewis – from flower rich calcareous machair grasslands to blanket mire on deep acid peat in a few kilometers. This pattern is repeated endlessly along the length of the Outer Hebrides, one of the reasons why naturalists have been attracted to the islands for generations. All photographs are by Robin Sutton unless otherwise credited.

Introduction

Biological Recording in the Outer Hebrides

Outer Hebrides Biological Recording (OHBR) was established in 2011 by a group of local amateur naturalists, to collect and collate information about the animals, plants and fungi which are found in the islands and to make these data available to everyone. Our aim is to build a comprehensive understanding of the islands' biodiversity and help ensure that decisions that may affect the quality of our natural environment are made with the best available knowledge. We maintain a database of biological records which are available on the National Biodiversity Network Atlas Scotland[1] and supplemented by a hub of wildlife websites[2].

We encourage individuals and communities to recognise the importance of maintaining biodiversity to conserve their natural heritage and to become involved in biological recording. We offer support and guidance for local biological recorders, providing training opportunities for new and more experienced recorders to improve their skills. We are committed to working together with a range of academic and conservation bodies, professional biologists and other amateur naturalists, providing local knowledge and expertise to discover more about the natural life of our islands. OHBR may be small, but by working together with national institutions and voluntary organisations, the information we collect can make a difference. You can discover more about biological recording in the Outer Hebrides on our website[3] and share your wildlife observations on our social media group page[4].

Biological recording is not restricted to specialists, we are as interested in the observations of common, easily recognisable species as those which may be rare or difficult to identify. They are important in helping us to form a picture of the islands' biodiversity and mapping the distribution of species. After all, what is common on Harris may be rare on Barra. Detailed information about biological recording and how to submit records is available on our website[5].

Our friends at Outer Hebrides Birds[6] aim to enhance their recording in the islands, and to bring together people with an interest in birds and birding in the Outer Hebrides. The County Bird Recorder is responsible for collating records of birds and information on where to submit records is available on their website[7].

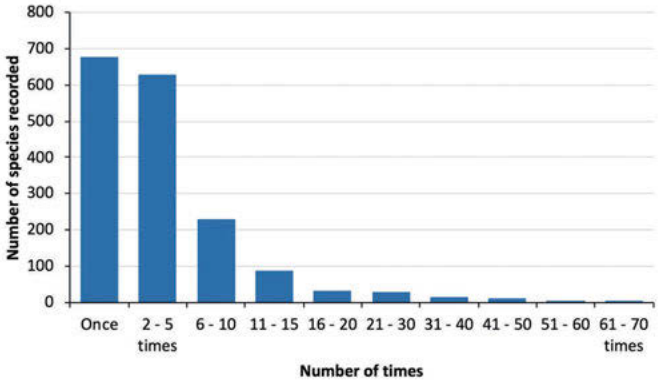
Links

[1] National Biodiversity Network Atlas Scotland – https://scotland.nbnatlas.org
[2] OHBR hub of wildlife websites - http://www.hebridensis.org/hub.php
[3] OHBR Website - https://www.ohbr.org.uk
[4] OHBR Facebook page - https://www.facebook.com/groups/286293481746505
[5] OHBR How to submit records - https://www.ohbr.org.uk/recording-wildlife.php
[6] Outer Hebrides Birds website - https://www.outerhebridesbirds.org.uk
[7] Outer Hebrides Birds recording - https://www.outerhebridesbirds.org.uk/index.php?pages/recorder

Traditional, low input, crofting areas as here on Berneray allow a wide diversity of plants and insects to flourish.

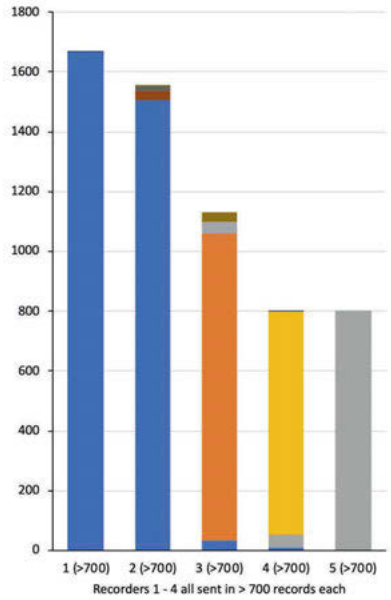
Summary

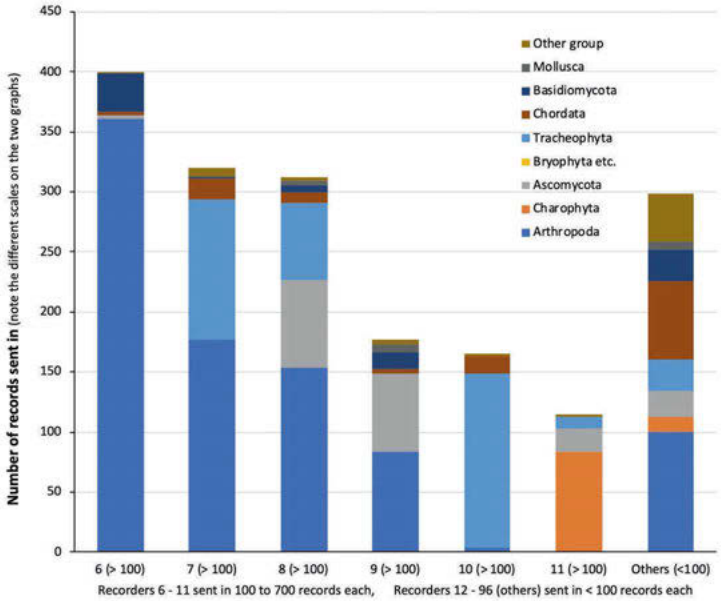
Most species are not recorded very often, 77% are recorded 5 times or less. Only 13 species were recorded more than 40 times. Ninety-six recorders sent in 7,769 records of 1,701 species to OHBR in 2020. In comparison, in 2019, there were 9,449 records of 1,827 species. This was a 18% reduction in records but just a 7% drop in number of species recorded. Given the lockdown constraints on residents, and an almost complete absence of visiting naturalists this was quite an achievement.



The top ten most frequently recorded species were all moths. Only four non-moth species make it to the top 50, Otter (38 times), Red Admiral (27) and two caddisflies, *Limnephilus marmoratus* (38), and *Plectrocnemia conspersa* (25). Moth recorders also submit huge number of records each year. The two most prolific recorders in 2020 were arthropod specialists and most of their records were of moths.

Species	Common name	Records
Apamea monoglypha	Dark Arches	63
Noctua pronuba	Large Yellow Underwing	59
Xanthorhoe designata	Flame Carpet	57
Arctia caja	Garden Tiger	51
Denticucullus pygmina	Small Wainscot	46
Lycophotia porphyrea	True Lover's Knot	45
Mythimna impura	Smoky Wainscot	45
Autographa gamma	Silver Y	45
Hydraecia micacea	Rosy Rustic	44
Cerapteryx graminis	Antler Moth	44



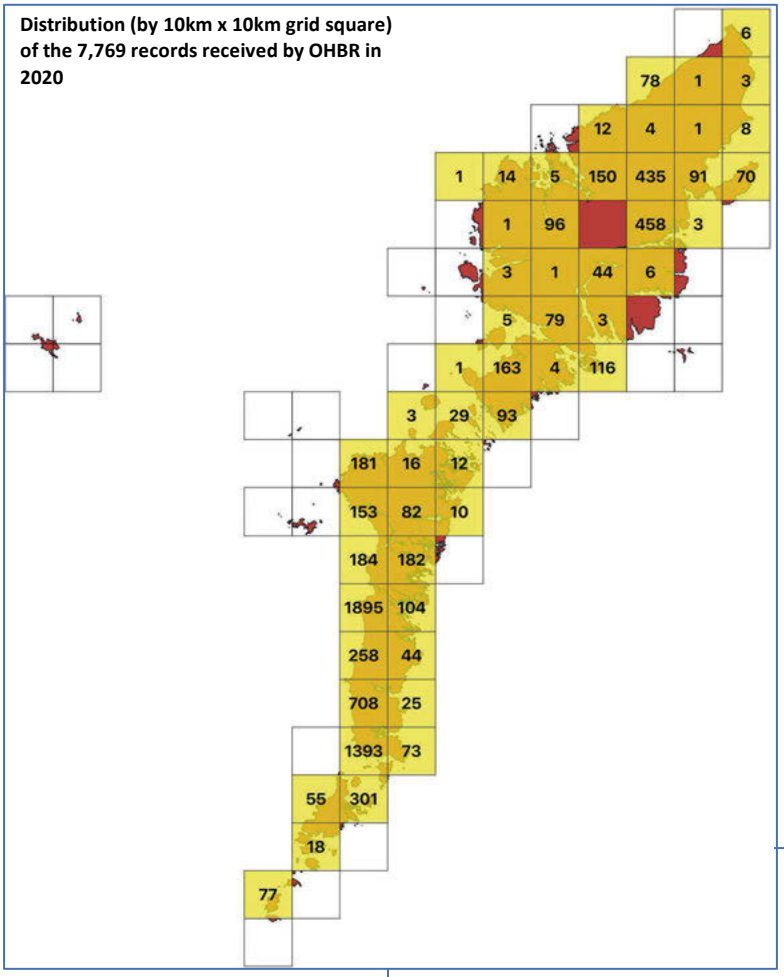


Three other recorders sent in over 700 records each. These were also specialists, one in freshwater algae (especially desmids), one in mosses and liverworts and the other in lichens (mostly in the phylum Ascomycota).

These five tell us an awful lot about moths, desmids, mosses and lichens. For information about the distribution and abundance of the other major taxonomic groups we depend on the recorders who send in fewer records. They are the ones who tell us about plants and vertebrates for example.

Each contributor has their own interests and records from all of them are valued. Collectively the 86 recorders who send in just a few records each would be number nine in the recorder league table, but way out in front in terms of the breadth of taxonomic groups they cover. They also cover a great geographical range. Together their records come from most of the Outer Hebrides.

Summary



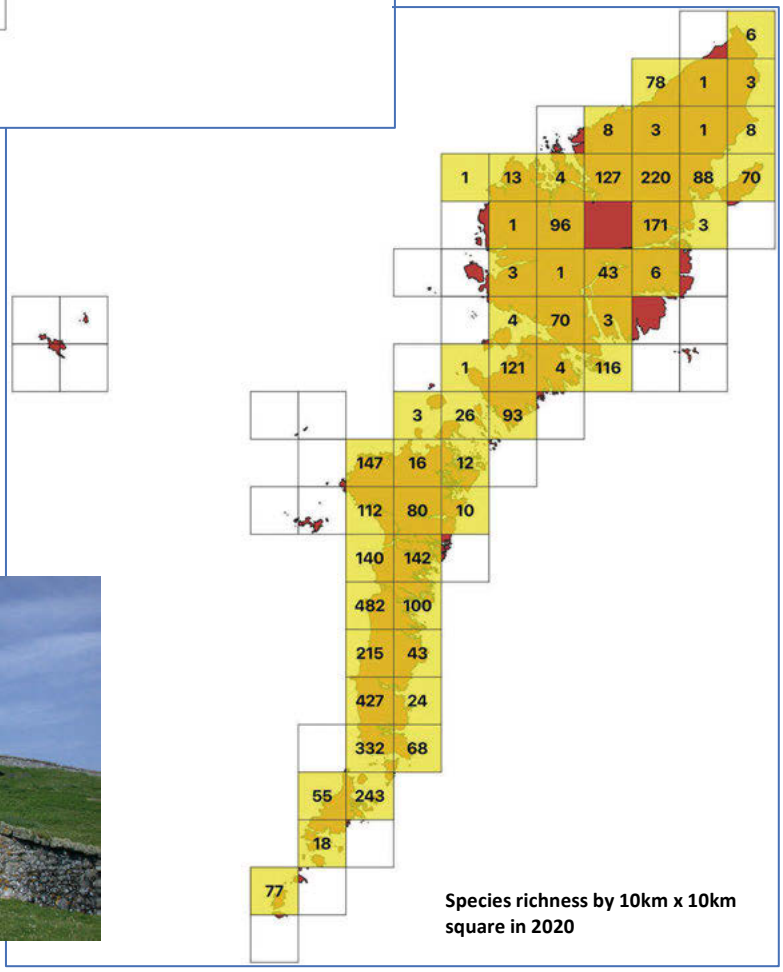
Butt of Lewis lighthouse

Records came from 53 of the 83 10km grid squares that cover the Outer Hebrides. On all maps we exclude squares covering North Rona, Sula Sgeir and the Flannan Isles which are very remote and rarely visited by naturalists.

The St Kilda group is included as these islands are regularly visited nowadays. They also have short term resident and/or seasonal inhabitants. Occassional records are submitted to OHBR by both sets of people.

Most of the un-recorded squares are very remote, difficult to access or contain just a few very small offshore islands or tiny parts of the main islands.

Barra Head lighthouse



Summary

			[1]VC110	2020
Vertebrates	**Class**	**Common Names**	**No. of Species**	**No. of Species (records)**
	Aves*	Birds*	409	*
	Actinopterygii	Bony Fish	64	5 (8)
	Mammalia	Mammals	36	22 (108)
	Ascidiacea & Thaliacea	Sea Squirts, Salps etc.	34	2 (3)
	Elasmobranchii	Sharks, Rays & Skates	6	2 (9)
	Reptilia	Reptiles	5	1 (11)
	Amphibia	Frogs, Toads & Newts	3	1 (7)
	Cephalaspidomorphi	Jawless Fish (Lampreys)	1	-
		Total	**578**	**33 (146)**

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

Invertebrates	**Phylum**	**Common Names**	**No. of Species**	**No. of Species (records)**
	Arthropoda	Insects (except Lepidoptera)	1593	225 (806)
		Lepidoptera	533	319 (3221)
		Other Arthropods, Crustaceans, Spiders, Millipedes etc.	221	32 (68)
	Mollusca	Snails, Slugs, Bivalves, Octopuses etc.	412	22 (34)
	Annelida	True Worms	160	1 (1)
	Cnidaria	Corals, Jellyfish, Hydra etc.	89	6 (14)
	Porifera	Sponges	50	-
	Bryozoa	Sea Mats (Moss Animalcules)	47	-
	Echinodermata	Sea Urchins, Starfish, Brittlestars, Sea Potatoes etc.	41	2 (3)
	Nemertea	Ribbon Worms	5	-
	Platyhelminthes	Flatworms	3	3 (4)
	Sipuncula	Peanut (or Star) Worms	3	-
	Brachiopoda	Lamp Shells	2	-
	Ctenophora	Comb Jellies e.g. Sea Gooseberry	2	1 (2)
	Others	Small marine or freshwater animals e.g. Echiura, Cephalorhyncha, Phoronida, Gastrotricha, Myzozoa	11	4 (5)
		Total	**3172**	**615 (4158)**

Plants	**Division**	**Common Names**	**No. of Species**	**No. of Species (records)**
	Magnoliopsida	Flowering Plants	950	141 (359)
	Bryophyta*	Mosses	348	145 (525)
	Marchantiophyta*	Liverworts	169	59 (220)
	Rhodophyta	Red Algae	149	-
	Chlorophyta	Green Algae	72	18 (25)
	Charophyta	Stoneworts and Desmids	Awaiting revision	325 (1125)
	Pteridophyta	Ferns & Horsetails	45	3 (5)
	Pinopsida	Conifers	23	1 (2)
	Lycopodiopsida	Clubmosses & Quillworts	9	1 (1)
	Anthocerotophyta*	Hornworts	2	-
		Total	**1767**	**693 (2262)**

* No. of species from British Bryological Society's Interim Census Catalogue 2018 by T.L. Blockeel and N.G. Hodgetts

Fungi	**Phylum**	**Common Names**	**No. of Species**	**No. of Species (records)**
	Ascomycota	Non-lichen forming Sac fungi e.g. Orange Peel Fungus	282	51 (90)
		Lichen forming Ascomycota	616	215 (974)
	Basidiomycota	Larger mushroom type species, and Rusts	539	68 (100)
		Lichen forming Basidiomycota e.g. *Lichenomphalia* spp.	6	2 (4)
	Chytridiomycota	Chytrids (fungi with flagellate spores)	2	-
	Zygomycota	Moulds	7	3 (3)
	Oomycota*	Filamentous protists (Downy Mildews)	10	-
	Myxomycota*	Slime moulds	Unknown	2 (2)
		Total	**1462**	**341 (1173)**

* Oomycota (K. Chromista) and Myxomycota (or Ph. Amoebozoa) are traditionally studied by mycologists hence their inclusion here.

Others	**Kingdom/Sub Kingdom**	**Common Names**	**No. of Species**	**No. of Species (records)**
	Bacteria	Includes Blue-green Bacteria	11	5 (6)
	Chromista	Brown Seaweeds, Diatoms etc.	79	11 (21)
	Other Protista		6	2 (3)
		Total	**96**	**18 (30)**

[1] Unless stated otherwise, No. of species for VC110 are from current OHBR checklists or NBN Atlas Scotland checklists as of 1/2/20. For some groups the later are "best guess estimates" as up to date data from some recording schemes can be slow to reach NBN.

Insects and other invertebrates

PHYLUM Arthropoda – Insects

It is estimated that there is something in the region of 24,000 species of insect in Britain. Approximately 9% of the UK insect species have been recorded, so far, from the Outer Hebrides. Of the 2,000 or so species featuring in the VC110 records, 543 (c.25%) of them were recorded in 2020. There appears to be a slightly rising trend in the number and percentage of VC 110 species recorded each year.

		Britain	VC 110		2017		2018		2019		2020	
Oder	**Common Name**	**Species[1]**	**Species[2]**	**%[3]**	**Species**	**%[4]**	**Species**	**%[4]**	**Species**	**%[4]**	**Species**	**%[4]**
Diptera	Flies	7,000	850	12.1	74	8.7	69	8.1	55	6.5	**71**	**8.4**
Hymenoptera	Bees, Wasps etc.	7,000	102	1.5	26	25.5	22	21.6	28	27.5	**29**	**28.4**
Coleoptera	Beetles	4,000	450	11.3	18	4.2	19	4.2	32	7.1	**68**	**15.1**
Lepidoptera	Butterflies & Moths	2,570	554	21.6	312	56.3	333	60.15	343	61.9	319	57.6
Hemiptera	Bugs	1,830	63	3.4	11	17.5	6	9.52	10	15.9	**16**	**25.4**
Phthiraptera	Biting lice & Sucking lice	540										
Collembola[5]	Springtails	250	7	2.8								
Trichoptera	Caddisflies	198	74	36.9			14	19.2	22	30.1	**25**	**33.8**
Thysanoptera	Thrips	179										
Psocoptera	Barkflies	100	1	1.0					1	100.0		0.0
Neuroptera	Lacewinges & Ant Lions	69	4	5.8					1	25.0	1	25.0
Siphonaptera	Fleas	62	16	25.8							**1**	**6.3**
Ephemeroptera	Mayflies	51	10	19.6			1	10.0	2	20.0	2	20.0
Odonata	Dragonflies	49	12	24.5	9	75.0	9	75.0	8	66.7	8	66.7
Plecoptera	Stoneflies	34	9	26.5					1	11.1	1	11.1
Orthoptera	Grasshoppers & Crickets	33	3	9.1	1	33.3	2	66.7	1	33.3	1	33.3
Protura[5]	Simpletails	15										
Diplura[5]	2-pronged bristle-tails	11										
Dictyoptera	Cockroaches, Termites etc.	11										
Strepsiptera	Stylops	10										
Archaeognatha	Bristle-tails	7	2	28.6	1	50.0	1	50.0	1	50.0		0.0
Dermaptera	Earwigs	7	1	14.3	1	100.0	1	100.0	1	100.0	1	100.0
Mecoptera	Scorpionflies	4										
Rhaphidioptera	Snakeflies	4										
Megaloptera	Alderflies	3	1	33.3							**1**	**100.0**
Zygentoma (Thysanura)	Silverfish & Firebrats	2										
Total		**24,039**	**2,159**	**9.0**	**453**	**21.0**	**477**	**22.2**	**506**	**23.6**	**544**	**25.4**

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

[2] From current OHBR or NBN Atlas Scotland checklists as of 1st February 2020

[3] As percentage of total British species

[4] As percentage of VC110 species

[5] Now not generally considered to be true insects

Four orders stand out as showing notable changes in either the percentage coverage of VC110 species or in the absolute numbers of species recorded. These are the orders Diptera (increase coverage of VC110 species by 1.9%), Hemiptera (↑ 9.5%), Trichoptera (↑ 4.1%) and Coleoptera (↑ 8.0%). There was clearly a greater emphasis being placed on recording Coleoptera in 2020 with more than double the number of species recorded when compared to 2019. Hymenoptera showed a 0.9% increase and there were slightly fewer species Lepidoptera recorded in 2020. Of the minor orders there was little or no change but records of one flea species and an alderfly were welcome. All these changes will be discussed separately as we consider each of the major orders in sequence.

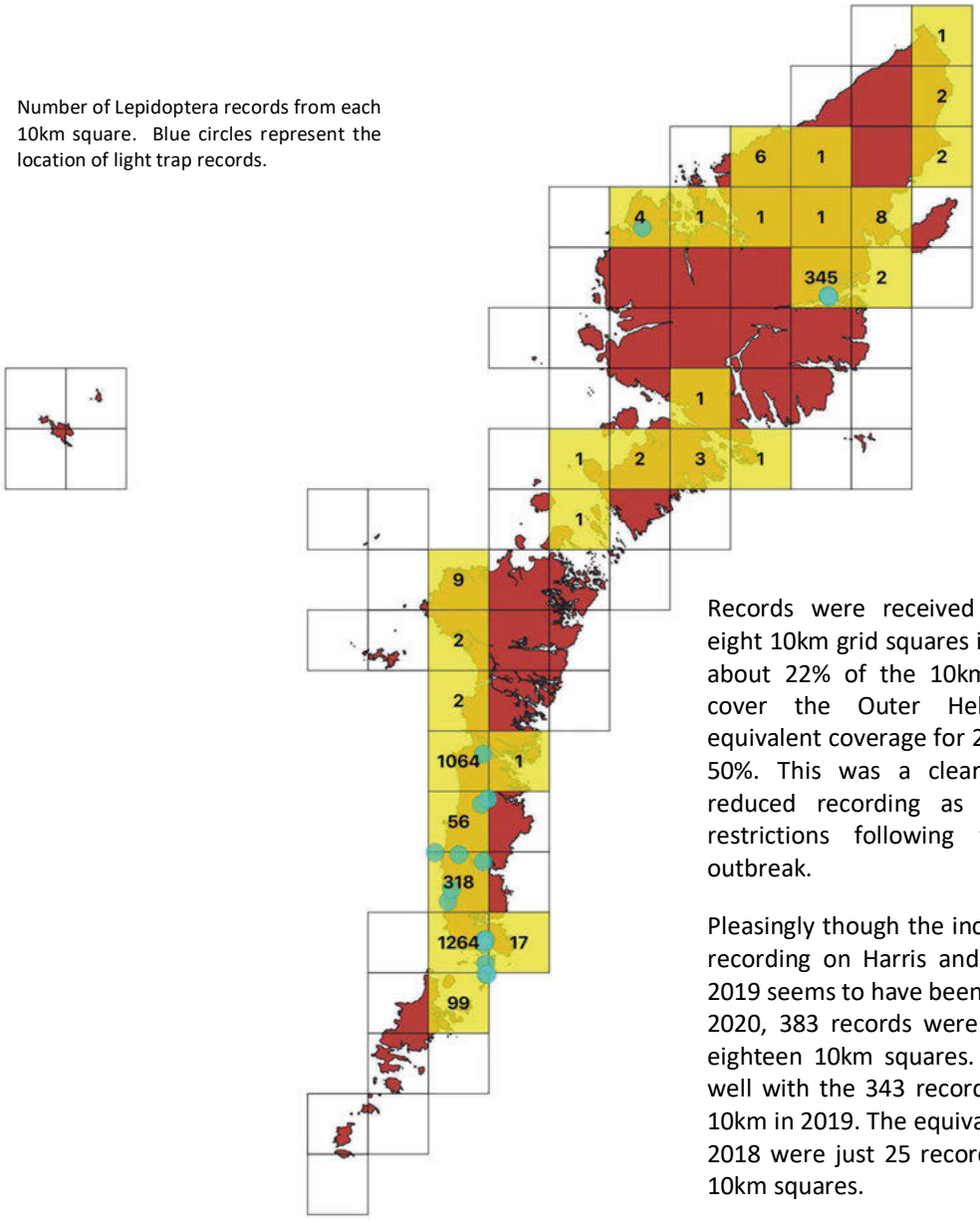
Insects and other invertebrates

Insects – Lepidoptera

As usual, records of Lepidoptera received in 2020 exceed those of all the other invertebrates. Over four thousand invertebrate records were submitted and 77% (3221 records) of these were of Lepidoptera; 3116 records of 306 species of moths and 102 records of 13 species of butterflies.

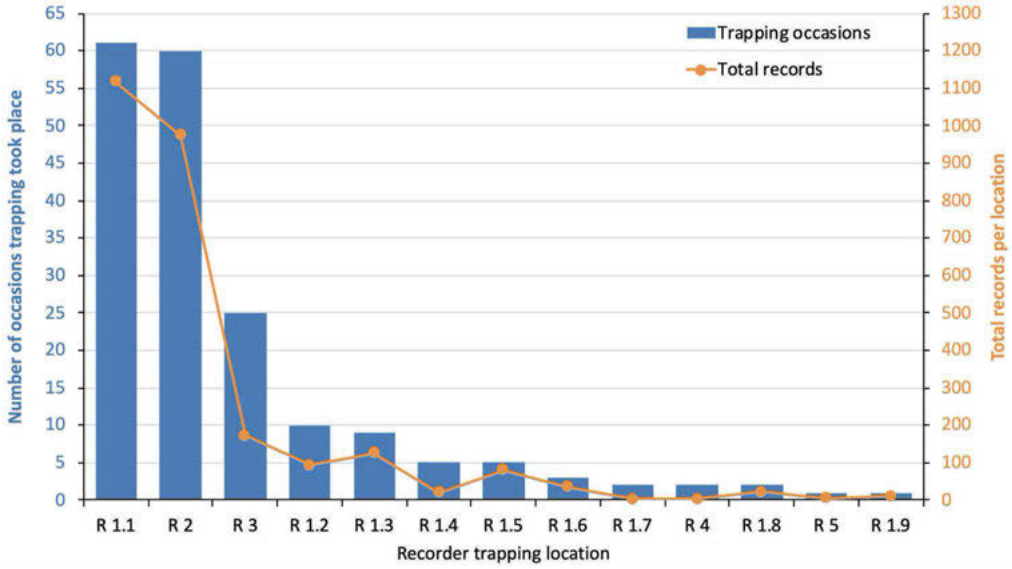
	2017			2018			2019			2020		
Group	**Records**		**Species**	**Records**		**Species**	**Records**		**Species**	**Records**		**Species**
Lepidoptera	3768	77%	312	3473	85%	333	3461	81%	343	3221	78%	319
Moths	(3546)		(299)	(3287)		(320)	(3274)		(330)	(3116)		(306)
Butterflies	(222)		(13)	(186)		(13)	(187)		(13)	(105)		(13)
Other insects	864	18%	141	533	13%	144	703	17%	163	806	19%	225
All Insects	**4632**		**453**	**4006**		**477**	**4164**		**506**	**4027**		**544**
Other inverts.	290	6%	92	77	2%	53	75	2%	53	129	3%	69
All Inverts.	**4922**		**545**	**4083**		**530**	**4239**		**559**	**4156**		**613**

Number of Lepidoptera records from each 10km square. Blue circles represent the location of light trap records.



Records were received from twenty-eight 10km grid squares in 2019. This is about 22% of the 10km squares that cover the Outer Hebrides. The equivalent coverage for 2019 was about 50%. This was a clear indication of reduced recording as the result of restrictions following the COVID-19 outbreak.

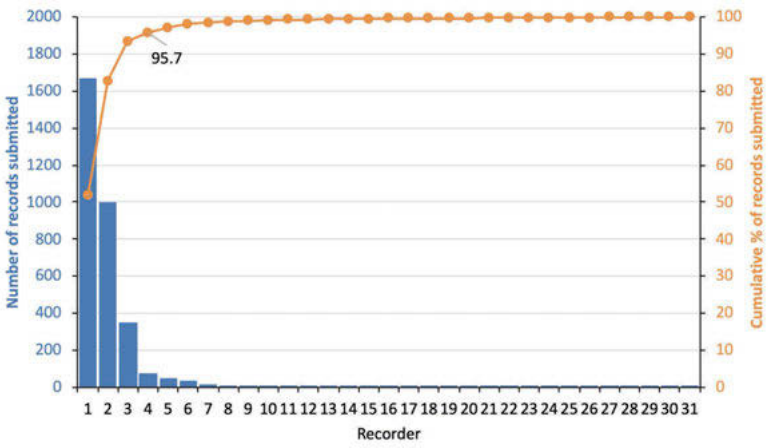
Pleasingly though the increased level of recording on Harris and Lewis seen in 2019 seems to have been maintained. In 2020, 383 records were received from eighteen 10km squares. This compares well with the 343 records from twenty 10km in 2019. The equivalent figures for 2018 were just 25 records from eleven 10km squares.



Light traps were run at thirteen locations by five recorders in 2020. Mostly these recorders operated traps at single locations but one recorder ran traps at nine different locations. The bulk of the records (2,819) came from South Uist where moth trap records account for just over 75% of the total records of Lepidoptera for all of the Outer Hebrides in 2020.

Thirty-one people submitted Lepidoptera records in 2020, ten fewer than in 2019. Most people only submitted a few observations. Twenty-four of the thirty recorders submitted less than ten records each. In contrast just four recorders contributed over 95% of the records. Many of their records were from the moth traps they ran regularly at a restricted number of locations. They give "depth" to the data and over time will enable things like the effect of climate warming on loss or gain of species and other long-term changes in abundance to be looked at. The other recorders provide a "spread" of data over a wider geographical area. In contrast to the thirteen locations from which moth trap records were submitted the remainder of the records came from 71 different locations. They give more of a general feel for the place but both types of record add to the overall value of the dataset.

Gnophos obfuscata - Scotch Annulet, photograph by Bill Neill



Butterflies

Fourteen recorders submitted 105 records of thirteen species of butterfly in 2019. This is the fourth year this annual summary has been produced and in previous years OHBR got about 200 butterfly records each year. The number of records received in 2020 was only about half of the usual total. Year on year, Green-veined White, Meadow Brown, Common Blue, Red Admiral and Painted Lady are the most consistently abundant species and were so again in 2020. Numbers of three of those species (Meadow Brown, Green-veined White and Painted Lady) were very much lower in 2020 than they were in 2019 with only Common Blue and Red Admiral being recorded at a similar level to 2019.

Polyommatus icarus - Common Blue

Painted Lady records showed the biggest change. Numbers in 2020 were down by 85% compared to 2019. Whilst changes in other species might be attributable to lockdown restrictions leading to lower recorder activity in 2020 this wouldn't be the case for Painted Lady. Across the UK in 2019 Painted Lady butterflies arrived in large numbers and were widespread and very abundant by the end of the summer. A good "Painted Lady year" is rarely followed by another the following year. Adults that emerged towards the end of summer 2019 will have migrated back towards North Africa. It is only when good conditions there allow populations to build rapidly that "Painted Lady years" are likely to occur.

Aglais urticae - Small Tortoiseshell

The other six species (Small Tortoiseshell, Small Heath, Dark Green Fritillary, Large White, Grayling and Peacock) recorded in each previous year were recorded again in 2020 at about the same level of frequency as in 2019 or had one or two extra sightings. The number of species recorded in 2020 and in each of the three previous years is thirteen. We have briefly mentioned eleven consistently recorded species. The remaining two species each year come from a set of six other species – Large Heath, Small White, Speckled Wood, Ringlet, Clouded Yellow and Orange-tip.

Species	Number of records						Trend
	NBN[1]		2017	2018	2019	2020	2020
Green-veined White	1614	20.7%	54	27	31	11	↓
Meadow Brown	1517	19.4%	41	47	27	18	↓
Common Blue	1024	13.1%	30	36	15	17	≈
Red Admiral	765	9.8%	31	24	27	27	≈
Painted Lady	586	7.5%	20	20	62	9	↓
Small Tortoiseshell	539	6.9%	11	5	6	6	≈
Large Heath	437	5.6%	6	4			NR
Dark Green Fritillary	368	4.7%	9	6	2	5	↑
Small Heath	342	4.4%	13	11	6	5	↓
Large White	239	3.1%	1	3	4	1	↓
Grayling	171	2.2%	3	1	1	2	≈
Peacock	84	1.1%	2	1	2	2	≈
Small White	40	0.5%			3	1	↓
Speckled Wood	36	0.5%	1			1	↑
Ringlet	16	0.2%					NR
Clouded Yellow	16	0.2%					NR
Orange-tip	7	0.1%		1	1		NR
Total	**7801**		**222**	**186**	**187**	**105**	

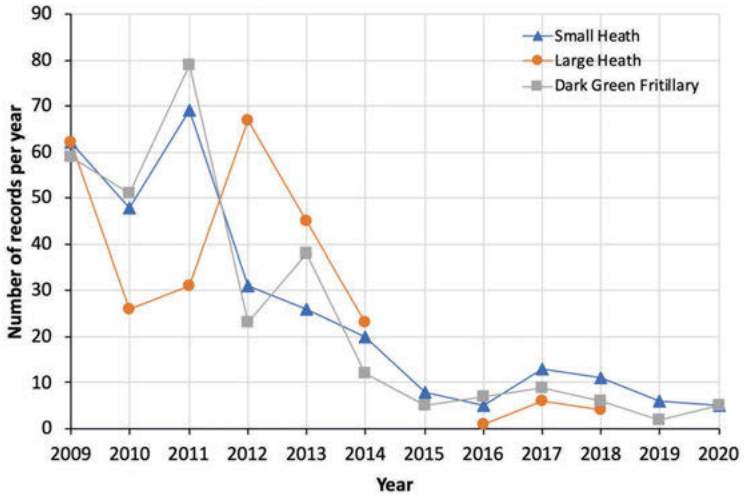
[1]as of 21/1/2021 NR = Not Recorded

Clouded Yellow is the least likely to be seen. It's another migratory species that sometimes makes its way to the UK in huge numbers. It was last seen in the Outer Hebrides in 1992 when 12 of the sixteen records occurred. The only other records being in the 1940s. The two-extra species in 2020 were Small White and Speckled Wood. As with all bar one of the previous records, the Speckled Wood was recorded from Stornoway. Small White are recorded from places throughout the Outer Hebrides from Mingulay in the south to Borve on Lewis in the North. The 2020 edition was from South Uist.

Three butterflies to look out for in 2021:

The OHBR Annual Summaries from 2017-2019 report:

- Large Heath – not recorded since 2018
- Small Heath – only 5 or 6 per year in 2019/2020
- Dark Green Fritillary – fewer than 10 records per year since 2017



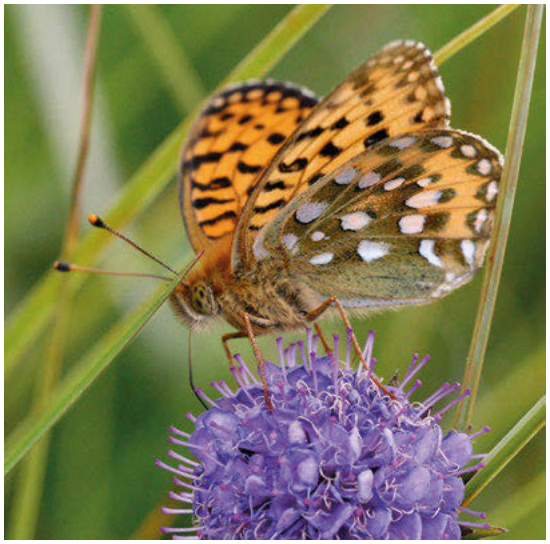
Longer term records suggest numbers being recorded have declined over the last twelve years. Prior to 2009 there was much less recording taking place on a regular basis and numbers were also low then. It's difficult to know whether the recent declines in observations are related to changes in recording intensity or whether they represent real changes caused by, perhaps, climate change or habitat degradation.

Nationally Small Heath and Large Heath are thought to be in decline but Dark Green Fritillary has shown some range expansion in northern England.

Coenonympha pamphilus - Small Heath

Knowing when each species is likely to be on the wing will help those wanting to make further records. Flight time diagrams were presented in the 2019 annual summary. Visits to appropriate habitats on appropriate dates may help answer this question. For the three species mentioned above:

- Small Heath, late May to early July visits to areas intermediate between machair and acid peatlands with meadow type grasses
- Large Heath, July visits to moorland areas with acid loving grasses especially *Eriophorum vaginatum* (Hare's-tail Cottongrass).
- Dark Green Fritillary, mid-July to mid-August visits to locations where marsh or dog violets are found.



Speyeria aglaja - Dark Green Fritillary

Speyeria aglaja - Dark Green Fritillary

Moths

As in previous years most moth records (c.85%) come from moth traps. Eight recorders ran moth traps on 187 occasions at seventeen different locations. Most traps (11) were run on South Uist, three were on Lewis with other traps at single locations, operated for a few nights, on North Uist, Harris and Eriskay. The remainder of the moth records are from direct observation in the field and from examination of collected specimens as well as two records of moths caught in the house and eight collected by sugaring.

Method	No. of records	%
All moth trap types	2656	85.2%
Robinson MV 125w	(2093)	(67.2%)
Actinic	(383)	(12.3%)
Moth trap (general)	(180)	(5.8%)
Field Observation	438	14.1%
Caught in house	2	0.1%
Netted/collected	12	0.4%
Sugaring	8	0.3%
Total moth records	**3116**	

At two locations, both on South Uist, traps were run over sixty times in 2020. These two locations generated approximately 79% of all moth records.

Moth trap by-catch

As well as moths, light traps also give a considerable by-catch of other invertebrates. Caddisflies, for instance, are close relatives of moths and are similarly attracted to light. One moth trap on South Uist was systematically checked for by-catch and over the course of 2020 generated 296 records of 72 species of invertebrates.

Order	Type	Species	Records
Diptera	True Flies	25	53
Trichoptera	Caddisflies	24	191
Coleoptera	Beetles	7	18
Hymenoptera	Bees, wasps etc.	6	13
Mollusca	Slugs	2	3
Ephemeroptera	Mayflies	2	3
Hemiptera	True Bugs	2	2
Dermaptera	Earwigs	1	7
Arachnida	Spiders etc.	1	3
Neuroptera	Lacewings	1	1
Plecoptera	Stoneflies	1	2
Total		**72**	**296**

Many of these were from insect orders that have been poorly recorded in the Outer Hebrides and included a number of "first records" for the islands. Similar systematic checking of moth trap by-catch would doubtlessly generate many more records of poorly recorded groups of invertebrates.

Recorders

The 3116 moth records for 2020 were spread between 306 species and in total 21,656 individual moths were counted by 26 recorders. Twenty recorders sent in fewer than ten records each. These were mostly of easily identifiable day flying species or those with conspicuous caterpillars. The importance of these records shouldn't be underestimated.

Data from recorders submitting <10 records		
Species	**Records**	**Individuals**
Silver Y	9	> 300
Fox Moth	4	4
Emperor Moth	3	3
Oak Eggar	2	2
Ghost Moth	2	2
Six-spot Burnet	2	9
Belted Beauty	2	2
Garden Tiger	2	2
Hebrew Character	2	16
Diamond-back Moth	1	2
Angle Shades	1	1
Winter Moth	1	1
Light Emerald	1	1
Shark	1	1
Magpie	1	1
Grey Dagger	1	1
Common Flat-body	1	1
Wood Tiger	1	1
Poplar Hawk-moth	1	1
Ruby Tiger	1	1
Total	**39**	**358**

Some such as Wood Tiger and Six-spot Burnet don't come to light traps and casual observations of these species often provide the only records received. Most of them are easily identifiable either as adults (e.g. Shark) or as caterpillars (e.g. Grey Dagger) or as both adults and caterpillars (e.g. Garden Tiger, Fox Moth, Belted Beauty).

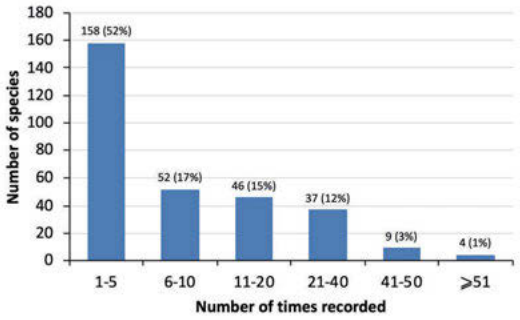
Arctia caja - Garden Tiger

Some of these observations will also have been memorable experiences for the recorders. Two stand out. Firstly, the sight of Ghost Moths performing their lekking flight in early evenings in late June or early July - a rare treat for one recorder that was surely well worth seeing. Rather more people had sightings of 100s of Silver Y at various locations - one of those times when the active migration of insects is vividly brought to mind.

Autographa gamma – Silver Y, for a full account of the Silver Y influx in 2020 see: *Hebridean Naturalist* 20: 39-43

Frequency and abundance

Most moth species are not recorded very often. Of the 306 species recorded in 2020, 52% of species were recorded 5 or fewer times and about a quarter of these were seen just once. Only thirteen were seen more than forty times.



Hydraecia micacea - Rosy Rustic, recorded 44 times in 2020

Species recorded more than 40 times	Occasions	Individuals
Dark Arches	63	1144
Large Yellow Underwing	59	224
Flame Carpet	57	193
Garden Tiger	51	892
Small Wainscot	46	758
True Lover's Knot	45	1655
Smoky Wainscot	45	735
Silver Y	45	532
Antler Moth	44	367
Rosy Rustic	44	291
Square-spot Rustic	43	859
Ear Moth agg.	42	2856
Silver-ground Carpet	42	214

The frequency a species is recorded isn't the only measure of abundance. Dark Arches was the most frequently recorded species (63 times) but the total number of individuals caught (1,144) was less than half the number of Ear Moths caught (2,856 over 42 occasions). The most glaring discrepancy between the two measures was for the Flounced Rustic. This species was only recorded six times in 2020. But on the 17th August 2020 an actinic moth trap set at Daliburgh on South Uist trapped 739 individuals of this species.

The total number of moths in a trap can be daunting. The same actinic trap that contained 739 Flounced Rustic also had 602 Ear Moths and twenty-seven other species and the total number of individual moths in the trap that night was 1,808. A mercury vapour trap set the same night at Eochar on South Uist caught more species (41) but many fewer individuals (433).

Date	Method	Species	No.
17 Aug 20	Actinic Trap	Flounced Rustic	739
17 Aug 21	Actinic Trap	Ear Moth agg.	602
18 Aug 20	Robinson MV 125w	Ear Moth agg.	537
23 Jul 21	Robinson MV 125w	True Lover's Knot	419
29 Jul 20	Robinson MV 125w	True Lover's Knot	362
16 Aug 20	Robinson MV 125w	Ear Moth agg.	318
27 May 20	Field Observation	Common Heath	315
30 Aug 20	Robinson MV 125w	Ear Moth agg.	249
31 May 20	Field Observation	Silver Y	200
14 Aug 20	Robinson MV 125w	Ear Moth agg.	195
23 Jul 20	Actinic Trap	Common Rustic agg.	191
26 Aug 20	Robinson MV 125w	Ear Moth agg.	188
20 Jul 20	Robinson MV 125w	True Lover's Knot	166
17 Aug 22	Actinic Trap	Dusky Dart	161
23 Jul 22	Robinson MV 125w	Garden Tiger	143
29 Jul 21	Robinson MV 125w	Garden Tiger	141
17 Sep 20	Robinson MV 125w	Small Wainscot	131
23 Aug 20	Robinson MV 125w	Ear Moth agg.	127
24 Jun 20	Field Observation	Diamond-back Moth	120
20 Jul 21	Robinson MV 125w	Garden Tiger	119
17 Sep 21	Robinson MV 125w	Square-spot Rustic	114
9 Aug 20	Robinson MV 125w	Smoky Wainscot	113
30 May 20	Field Observation	Silver Y	100

Insects and other invertebrates

There are records of 146 species of moths being observed directly in the field or caught in a net. The number of individuals recorded was often considerable and species such as Common Heath, Nettle Tap and Six-spot Burnet do not come to light. Males of the Belted Beauty do sometimes occur in moth traps but most records are of the flightless females often found on fence posts in dune areas.

A rough attempt has been made to characterise the other species by their relative likelihood of being recorded by different methods (at light traps or by direct observation).

Species recorded more than 5 times by direct observation	Daytime obs. Recs.	Daytime obs. No.	At light trap Recs.	At light trap No.
Species only recorded by daytime observation				
Common Heath	16	390	-	-
Common Nettle-tap	8	37	-	-
Belted Beauty	8	21	-	-
Six-spot Burnet	8	17	-	-

Species more likely to be found by day, do visit light traps				
Silver Y	31	501	14	31
White-shouldered House-moth	8	11	2	2

Come to light but also seen by day				
Magpie	21	54	19	37
Silver-ground Carpet	16	35	26	179
Snout	14	39	17	28
Angle Shades	11	13	11	16
Mottled Beauty	7	9	11	28
Common White Wave	7	7	5	11
Diamond-back Moth	6	158	21	49
Sea-holly Flat-body	6	6	4	6
Brimstone Moth	5	9	12	27
Yellow Shell	5	7	3	3
Brown House-moth	5	6	3	3

Come to light, conspicuous adults can be seen by day, some daytime observations are of large, conspicuous caterpillars				
Fox Moth	19	19	9	26
Garden Tiger	10	10	41	882
Emperor Moth	5	5	2	2

Mainly recorded by night but sometimes seen nectaring on plants such as Buddleja by day or in evening				
Pale Straw Pearl	7	14	24	87
Light Arches	7	14	15	27
Satyr Pug	7	11	14	42
Large Yellow Underwing	6	10	53	214
Dark Arches	5	12	58	1132
Square-spot Rustic	5	8	38	851
Ear Moth agg.	5	7	37	2849

Lycia zonaria - Belted Beauty, flightless female, not attracted to light

Anthophila fabriciana – Common Nettle-tap, doesn't come to light

Abraxas grossulariata – Magpie, often seen in day light

Arctia caja - Garden Tiger, frequently recorded as caterpillar

Insects other than Lepidoptera

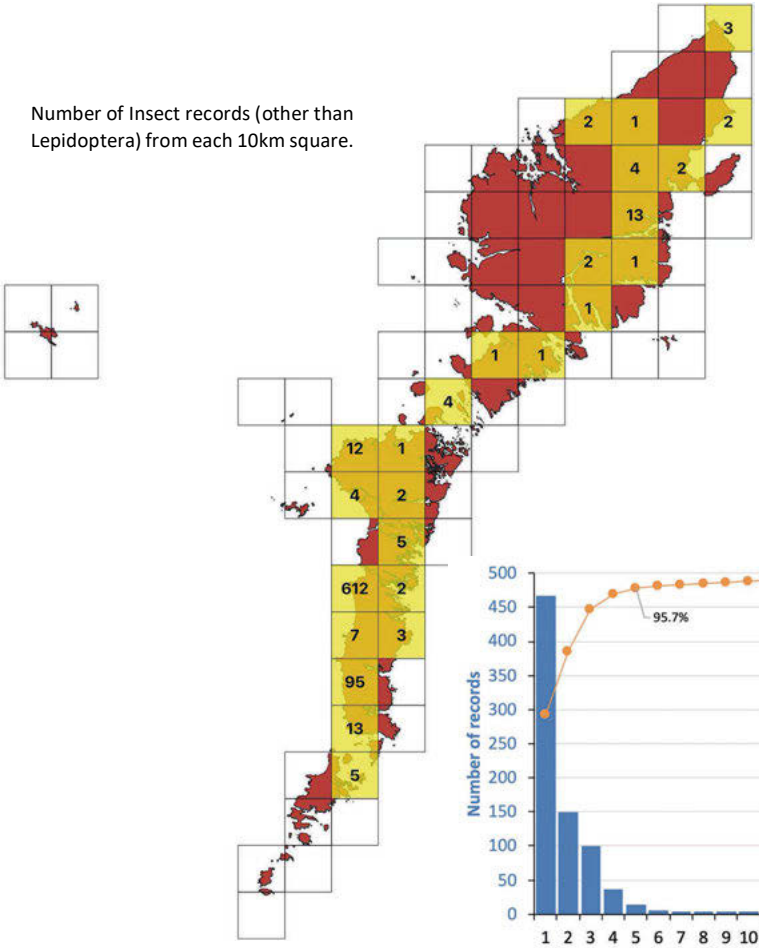
Insect recorders

Insects (other than Lepidoptera) records by island								
Island	**2017**	**%**	**2018**	**%**	**2019**	**%**	**2020**	**%**
Lewis, Harris etc.	**179**	**20.1**	**99**	**17.6**	**80**	**11.4**	**37**	**4.1**
Lewis	141		24		54		34	
Great Bernera					2			
Harris	38		75		20		3	
Scalpay					4			
North Uist etc.	**66**	**7.4**	**103**	**18.3**	**85**	**12.1**	**23**	**2.9**
Berneray	1		8		4		4	
North Uist	65		78		77		19	
Grimsay	0		17		4			
Benbecula	**77**	**8.6**	**56**	**9.9**	**3**	**0.4**	**7**	**0.9**
South Uist etc.	**506**	**56.7**	**284**	**50.4**	**483**	**68.7**	**734**	**91.5**
South Uist	485		277		481		732	
Eriskay	21		7		2		2	
Barra etc.	**64**	**7.2**	**22**	**3.9**	**52**	**7.4**	**5**	**0.6**
Barra	63		18		42		5	
Vatersay	1		2		10			
Mingulay			2					
Total	**892**		**564**		**703**		**806**	

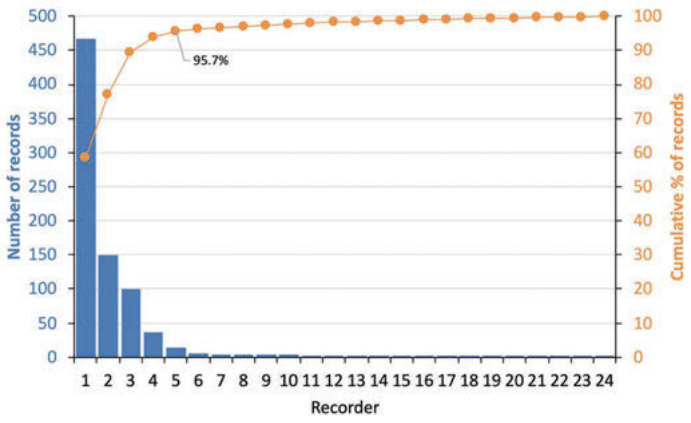
Twenty-four people submitted 806 records of insects other than Lepidoptera in 2020. This is a 13% increase in records compared to 2019 despite restrictions caused by the COVID-19 pandemic. There is still some way to go to match the levels of recording seen in 2017.

Inputs from visiting naturalists disappeared altogether and the higher number of records arose largely due to increased activity on South Uist where most of the experienced entomologists live at the moment. Five recorders sent in just over 95% of the total records.

Number of Insect records (other than Lepidoptera) from each 10km square.



Rhagio scolopaceus – Downlooker Snipefly



Insects and other invertebrates

Order	Type	Recorders		Records			Species		VC 110 species	% of VC110 species	
		2019	2020	2019	2020	Trend	2019	2020		2019	2020
Coleoptera	Beetles	8	9	88	203	↑	32	68	450	6.5	15.1
Trichoptera	Caddisflies	3	3	173	196	↑	22	25	74	30.1	33.8
Diptera	Flies	9	7	134	182	↑	55	71	850	6.5	8.4
Hymenoptera	Bees, Wasps etc.	11	17	173	124	↓	28	29	102	27.5	28.4
	(Bumblebees)			(127)	(86)		(6)	(7)			
Odonata	Dragonflies	8	12	85	49	↓	8	8	12	66.7	66.7
Hemiptera	True Bugs	4	4	22	28	↑	10	16	63	15.9	25.4
Dermaptera	Earwigs	3	3	10	9		1	1	1	100.0	100.0
Ephemeroptera	Mayflies	1	3	6	7		2	2	10	20.0	20.0
Plecoptera	Stoneflies	2	1	6	3		1	1	9	11.1	11.1
Orthoptera	Grasshoppers etc.	2	1	3	2		1	1	3	33.3	33.3
Megaloptera	Alderflies		1		1			1	1	0.0	100.0
Neuroptera	Lacewings	1	1	2	1		1	1	4	25.0	25.0
Siphonaptera	Fleas		1		1			1	2	0.0	50.0
Archaeognatha	Bristle-tails	1		1			1		2	50.0	0.0
Psocoptera	Barkflies	1		1			1		1	100.0	0.0
Total (*no. of recorders not column total)		**25***	**24***	**704**	**806**		**163**	**225**	**1584**	**10.3**	**14.2**

As we have already seen, there was an increased number of non-Lepidoptera insect records submitted to OHBR in 2020 compared to 2019; up by 13%. This didn't hold true for all orders of insects. Orders containing the more charismatic insects, Odonata (dragonflies) and Hymenoptera (bumblebees), usually receive quite a lot of casual records. Of the major insect orders (those with more than ten VC110 species) these were the two which showed a decreasing trend in the number of species recorded in 2020. The more casual records are often from islanders who have a general natural history interest and from visitors to the islands. Reduced numbers of records from these valuable sources are no doubt responsible for the drop in Hymenoptera and Odonata records in 2020.

The twenty-five most recorded species in 2020 still included five species of bumblebee and three dragonflies/damselflies. In 2019, eleven of the top twenty-one were from these two orders.

Limnephilus marmoratus – a caddisfly, the species most frequently recorded in 2020

The team award for most recorded group has now shifted to the caddisflies with seven of the top recorded species. The remaining places being occupied by five beetles, two hoverflies, and single species of ichneumon, cranefly and earwig species. These changes reflect the increased level of recording by a few recorders with particular interests in these groups, some of which have been only intermittently covered in the past.

Type	Species	Rec.
Caddisfly	*Limnephilus marmoratus*	37
Caddisfly	*Plectrocnemia conspersa*	25
White-tailed Bumblebee	*Bombus lucorum* agg.	29
Caddisfly	*Limnephilus affinis*	18
Moss Carder-bee	*Bombus muscorum*	18
Caddisfly	*Limnephilus sparsus*	17
Caddisfly	*Limnephilus lunatus*	15
Caddisfly	*Limnephilus elegans*	15
Great Yellow Bumblebee	*Bombus distinguendus*	15
Hoverfly	*Eristalis intricarius*	14
Cranefly	*Tipula paludosa*	12
Carrion Beetle	*Nicrophorus investigator*	12
Ground Beetle	*Pterostichus nigrita*	11
Common Darter	*Sympetrum striolatum*	11
Ground Beetle	*Pterostichus strenuus*	11
Marmalade Hoverfly	*Episyrphus balteatus*	11
Caddisfly	*Stenophylax permistus*	11
Common Carder Bee	*Bombus pascuorum*	9
Large Red Damselfly	*Pyrrhosoma nymphula*	9
Common Earwig	*Forficula auricularia*	9
11-spot Ladybird	*Coccinella undecimpunctata*	9
Common Red Soldier Beetle	*Rhagonycha fulva*	9
Blue-tailed Damselfly	*Ischnura elegans*	9
Garden Bumblebee	*Bombus hortorum*	9
Ichneumon	*Ophion obscuratus* agg.	9

Order Hymenoptera – Bees, wasps, ants etc

Recording synopsis
7000 British species, 102 VC110 species, 1.5% of British list. **2020**, 124 records of 29 species, 26.5% of VC List

The number of species recorded in 2020 (29 species) is similar to that seen in 2019 (28), 2018 (22) and 2017 (26).

The first highlight of 2020 was probably the confirmation of Buff-tailed Bumblebee (*Bombus terrestris*) on South Uist. Whilst a new species is always welcome this one will also add to identification problems. What was called the White-tailed Bumblebee (*Bombus lucorum*) has been known for some time to be a set of closely related species that are not identifiable to species level in the field. Having *Bombus terrestris* here adds to those identification problems. Its workers are not readily separated from those of the *Bombus lucorum* group.

Dineura testaceipes – a 1st record for the Outer Hebrides

The next highlight was a sawfly eventually identified as *Dineura testaceipes*. This was only the third record from Scotland and a first for the Outer Hebrides. Indeed, there are only eight in total from the UK. It uses its saw-like ovipositor to lay eggs in trees such as Rowan and Hawthorn. Here it is probably using Cotoneaster as a larval food plant. Sawflies as a group are under-recorded here and both the other two sawfly species *Euura ribesii* and *Dolerus aericeps* were only the second records in VC110. Both were recorded at the same locations and by the same persons who made their first records.

Family	Species	Common name or type	Records
Andrenidae	*Andrena ruficrus*	Northern Mining Bee	1
Apidae	*Bombus distinguendus*	Great Yellow Bumblebee	15
	Bombus hortorum	Garden Bumblebee	9
	Bombus jonellus	Heath Bumblebee	5
	Bombus lucorum	White-tailed Bumblebee	9
	B. lucorum/terrestris	White/Buff-tailed Bumblebee workers	1
	B. lucorum/terrestris/magnus/cryptarum	White-tailed Bumblebee	20
	Bombus muscorum	Moss Carder-bee	18
	Bombus pascuorum	Common Carder Bee	9
	Bombus terrestris	Buff-tailed Bumblebee, 1st for VC110	1*
Braconidae	*Homolobus infumator*	a braconid wasp	1
Colletidae	*Colletes floralis*	The Northern Colletes	1
Cynipidae	*Cynips divisa f. agamic*	Red-pea Gall Causer	1
Eulophidae	*Aprostocetus ptarmicae*	a chalcid wasp	1*
Formicidae	*Myrmica ruginodis*	a red ant	4
	Myrmica scabrinodis	a red ant	1
Ichneumonidae	*Netelia inedita*	an icheumon wasp	1
	Netelia vinulae	an icheumon wasp	2
	Ophion inclinans	an icheumon wasp	1
	Ophion obscuratus agg.	an icheumon wasp	9
Siricidae	*Urocerus gigas*	Greater Horntail Wasp	2
Tenthredinidae	*Dineura testaceipes*	a sawfly, 1st for VC110, 3rd for Scotland	1*
	Dolerus aericeps	a sawfly	1
	Euura ribesii	a sawfly	1
Torymidae	*Torymus chloromerus*	a chalcid wasp	1*
Vespidae	*Ancistrocerus oviventris*	a potter wasp	2
	Ancistrocerus scoticus	a potter wasp	1
	Dolichovespula sylvestris	Tree Wasp	4
	Vespula rufa	Red Wasp	1

Urocerus gigas - Greater Horntail Wasp

The Greater Horntail Wasp (*Urocerus gigas*) always creates a stir and sometimes a moment of panic when it is found. The formidable looking "sting" is actually an ovipositor used to insert eggs under the bark of pines and similar species. The larvae can take up to five years to reach maturity and then emerge. This means that they can occur in various softwoods used as building timber and emerge after the wood has been incorporated in a building in some form – sometimes to the consternation of the proud owners of a new home! There have only been three previous records from the Outer Hebrides, two from Lewis in 2011 and 2012 and a third from Harris in 2020 that was not submitted via OHBR.

Aside from these rather exciting species the bulk of the Hymenoptera records, 86 of the 121 in total, in 2010 were of bumblebees. In addition, there were four true wasps (Familiy Vespidae), two ants, a gall wasp and two solitary bees.

The remainder of the records were of various parasitoid wasps, four ichneumons and a braconid. These groups are often considered difficult and to add to that difficulty there is a lot of taxonomic reassessment taking place. Species such as *Ophion obscuratus* are now thought to be aggregates of closely related and similar looking species. *O. obscuratus* looks likely to be split into four different species. This taxonomic work has resulted in rather better keys and made the group more accessible. One recorder has started looking in a bit more detail at the larger ichneumons found in moth traps.

There is probably much more work to be done on the various ichneumons and similar species found in the Outer Hebrides. The latest NBN checklist gives just four species of braconid out of a UK list of c.1,000 and about 30 ichuemons out of c.2,000. One problem is that many have a superficial similarity. There are no real differences in colour or patterning to help. Structurally they seem very similar. The "sting" on *Netelia vinulae* just shows that is a female, it's an ovipoisitor used to lay eggs inside moth caterpillars, and again doesn't help much in identification. Their relationship with moths probably explains why this group are attracted to light just as moths are.

To achieve an accurate identification, microscopic examination of the morphology of the specimens is needed. Some idea of the level of detail to be examined can be seen in the photograph of *Ophion inclinas* at the bottom of this column. Some species can only be confirmed after dissection and examination of the genitalia. Keys to some genera of Ichnuemonidae are still not readily available.

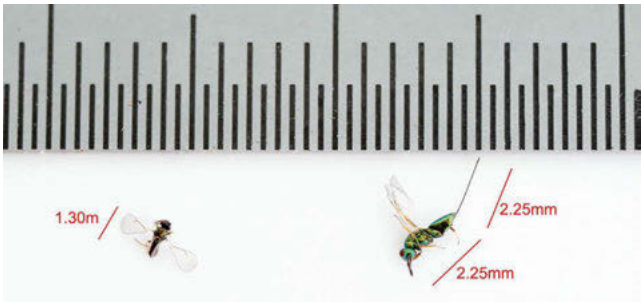
Netelia vinulae

Netelia inedita

Ophion inclinans

Two more notable Hymenoptera species recorded in 2020 were bred out from a gall that had been found on Sneezewort (*Achillea ptarmica*). The original observer posted a photograph of an odd-looking plant on the Curracag Facebook group pages on 27th June 2020 and that started a chain reaction initially involving two more local recorders.

One identified the gall as being formed by a gall midge *Rhopalomyia ptarmicae*). The second was able to breed out not just the gall former but also two tiny chalcid wasps. These had been parasitizing the larvae of the gall midge inside the gall before emerging as adults.



Aprostocetus ptarmicae *Torymus chloromerus*

The parasitic wasps were sent away to be identified involving two more people in the chain and finally the species were named as *Torymus chloromerus* (just 4 GB records on NBN) and *Aprostocetus ptarmicae* (no GB records on NBN). For the full story see: *Hebridean Naturalist* 20: 51-54

Torymus chloromerus

Aprostocetus ptarmicae

Order Trichoptera – Caddisflies or sedges

Recording synopsis
198 British species, 74 VC110 species, 37.4% of British list. **2020**, 196 records of 25 species, 33.8% of VC List

A higher proportion of British species of caddisfly, c.37%, are found in the Outer Hebrides than is the case for the other insect orders. Their larvae are aquatic and as the Outer Hebrides is blessed with numerous lochs and, streams and ditches then this isn't really surprising. Prior to 2016 just 23 caddisfly records had been received by OHBR with no records at all in 2016 or 2017. For a group that is so well represented here this was surprising. In 2018 one recorder started identifying those caddisflies caught as by-catch in one of the moth traps regularly run on South Uist. OHBR is now virtually the only provider of caddisfly records for the Outer Hebrides to the Caddisfly Recording Scheme and the NBN and about a third of all known caddisfly species for the area are recorded each year.

Species	Previous records	OHBR records			Comments
		2018	2019	2020	
Limnephilus marmoratus	41	5	30	37	
Plectrocnemia conspersa	32	2	24	25	
Limnephilus affinis	19	5	18	18	
Limnephilus sparsus	57	1	14	17	
Limnephilus elegans	4		12*	15	First since 1901
Limnephilus lunatus	12	3	13	15	
Stenophylax permistus	27	1	6	11	
Phryganea grandis	13	1	7	8	
Polycentropus flavomaculatus	35		3	7	
Oecetis furva	7		1*	5	First since 1971
Tinodes waeneri	25	3	7	5	
Limnephilus hirsutus	15	2	5	4	
Agrypnia varia	18		2	4	
Lepidostoma hirtum	26	1	2	3	
Athripsodes cinereus	16		3	3	
Ceraclea fulva	6	1	2	3	
Oecetis ochracea	20	2	7	3	
Limnephilus luridus	4		3*	3	First since 1962
Triaenodes bicolor	12			2	Recorded as larva
Halesus radiatus	17	1	3	2	
Limnephilus vittatus	4		1	2	
Athripsodes aterrimus	3			1*	Only 4th record
Mystacides azurea	16	1	2	1	
Oecetis lacustris	1*			1	Stornoway 1960
Limnephilus griseus	27		1		
Limnephilus pati	none			1*	1st in Scotland
Number of species		**14**	**22**	**25**	
Number of records		**29**	**166**	**196**	

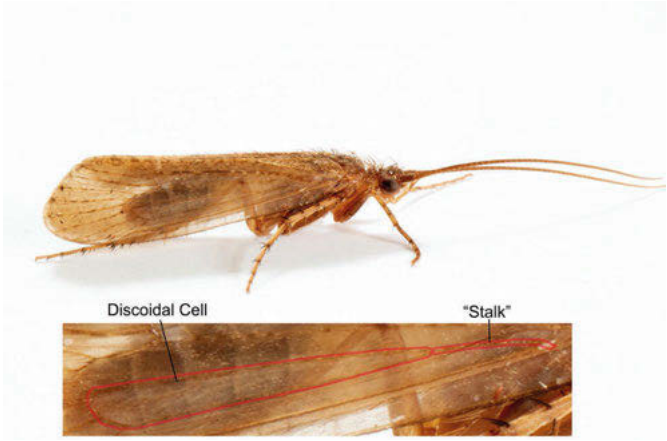
A number of species (such as *Limnephilus elegans, L. luridus,* and *L. vittatus*) that previously had been seen once or twice are now being recorded regularly.

Two new species for 2020 stand out as notable records. A specimen of *Oecetis lacustris* was only the second record for VC110. The previous record was from Stornoway in 1960. In late June only the fourth specimen of *Athripsodes aterrimus* was found. Previous records of this species were from South Uist (2) and North Uist (1) and date from prior to 1978

The truly remarkable record though was of *Limnephilus pati*. This species was only identified as a distinct species in 1980 after a leading caddisfly expert had re-examined various specimens in museums in the UK. Historic records were then generated for locations in Ireland and the Isle of Man and a few from pre-1915 in eastern England. Live specimens have subsequently been found at a few locations in the Isle of Man and in Ireland (as well as few from France, Denmark, Poland and Germany) but was thought to be extinct in Great Britain. At every known site the species is considered to be rare.

A single male *Limnephilus pati* was recorded from a light trap at Eochar, South Uist set overnight on 20th/21st July 2020. As well as being a first for the Outer Hebrides and Scotland this currently provides the only known location for the species in Great Britain though a few have been found in the UK on the Isle of Man. For a full account see: *Hebridean Naturalist* 20: 66-70.

There surely must be other locations on South Uist where *Limnephilus pati* might be found. The species is similar to *Limnephilus hirsutus* and separating the two species needs careful examination of the wings. It is hoped that, in 2021, light traps and perhaps some direct sampling of similar locations can be used to look for the species. As only about a third of the species known from VC110 have been recorded in recent years it is hoped that we can also confirm the presence of some of these species at the same time.



Limnephilus hirsutus - showing a key diagnostic characteristic, the length of the discoidal cell

Limnephilus pati and *L. hirsutus* showing the difference in the length of the discoidal cell and cell stalk. The cell is shorter and the stalk longer in *L. pati*

Some of the "missing species" are associated with running water rather than the lochs, marshes and ditches that surround the current main recording area on South Uist. Expanding sampling to include kick sampling for larvae in faster streams and rivers and running portable light traps adjacent to those locations would provide a different range of species.

One or two of the species not recorded recently may prove to be absent or be the result of mis-identifications or in reality be rare species with restricted distributions. Some are intriguing, *Limnephilus auricula* has only been recorded in the Outer Hebrides from St. Kilda. The six records all date from pre-1906.

The species is said to be common and widespread elsewhere in the UK and associated with temporary pools, ponds and ditches. If it occurs on St. Kilda it is hard to believe that it is missing from elsewhere in the Outer Hebrides.

Species not or infrequently recorded recently	Last record	Previous Records
Molanna albicans	1900	3
Halesus digitatus	1900	2
Lype phaeopa	1900	2
Athripsodes bilineatus	1900	1
Hydroptila sparsa	1900	1
Limnephilus auricula	1906	6
Beraea pullata	1935	2
Limnephilus extricatus	1940	4
Ceraclea nigronervosa	1960	3
Wormaldia occipitalis	1960	2
Hydroptila simulans	1960	1
Limnephilus coenosus	1966	6
Limnephilus ignavus	1966	3
Limnephilus stigma	1966	2
Stenophylax vibex	1966	2
Oxyethira frici	1967	2
Limnephilus politus	1970	1
Hydroptila tineoides	1973	5
Potamophylax cingulatus	1976	5
Oxyethira sagittifera	1976	3
Oxyethira flavicornis	1977	3
Cyrnus flavidus	1977	2
Holocentropus picicornis	1978	5
Ceraclea annulicornis	1982	1
Hydropsyche angustipennis	1998	1
Phryganea bipunctata	1998	1
Polycentropus irroratus	2001	3
Neureclipsis bimaculata	2002	1
Sericostoma personatum	2004	21
Plectrocnemia geniculata	2006	23
Micropterna sequax	2006	10
Apatania muliebris	2006	7
Oxyethira falcata	2006	3
Rhyacophila dorsalis	2007	39
Hydropsyche pellucidula	2007	25
Polycentropus kingi	2007	7
Agapetus fuscipes	2007	5
Plectrocnemia brevis	2007	1
Hydropsyche siltalai	2008	42
Cyrnus trimaculatus	2010	14
Triaenodes bicolor	2010	12
Limnephilus incisus	2010	3
Philopotamus montanus	2013	30
Tinodes maclachlani	2013	21
Beraea maurus	2013	7
Limnephilus borealis	2013	1
Anabolia nervosa	2015	2
Agrypnia obsoleta	2017	3
Limnephilus rhombicus	2017	2
Limnephilus flavicornis	2017	1

Order Diptera – True Flies

Recording synopsis

7000 British species, 850 VC110 species, 12.1% of British list. **2020**, 182 records of 71 species, 8.4% of VC List

Group	Family	Type	Species	Rec's
Nematocera	Anisopodidae	Window gnats	2	7
	Bibionidae	St. Mark's flies	2	3
	Cecidomyiidae	Gall Midges	1	3
	Chironomidae	Non-biting midges	2	2
	Mycetophilidae	Fungus gnats	1	1
	*Tipuloidae	Craneflies	16	53
	Trichoceridae	Winter gnats	1	1
Brachycera	Agromyzidae	Leaf mining flies	5	6
	Calliphoridae	Blowflies & bluebottles	4	7
	Coelopidae	Kelp flies	1	2
	Drosophilidae	Fruit flies	1	2
	Fanniidae	Lesser houseflies	1	1
	Heleomyzidae	Helomyzids	1	1
	Muscidae	Muscids	2	2
	Psilidae	Root flies	1	1
	Rhagionidae	Snipe flies	1	4
	Scathophagidae	Dung flies	2	2
	Sciomyzidae	Snail-killing flies	1	1
	Syrphidae	Hoverflies	21	71
	Tabanidae	Clegs, horse flies etc	3	5
	Tachinidae	Parasitic flies	1	2
	Tephritidae	Fruit flies	1	2
Total	* Superfamily		**71**	**179**

Erioptera squalida – a cranefly and a new species for the Outer Hebrides, only 3 previous records, from the Perth area, for the whole of Scotland.

Family	Nematocera Species	Common name or type	Rec's
Anisopodidae	*Sylvicola cinctus*	a window gnat	6
	Sylvicola punctatus	a window gnat	1
Bibionidae	*Dilophus febrilis*	a St. Mark's fly	2
	Bibio pomonae	a St. Mark's fly	1
Cecidomyiidae	*Rhopalomyia ptarmicae*	a gall midge	3
Chironomidae	*Chironomus*	a non-biting midge	1
	Chironomus plumosus	a non-biting midge	1
Mycetophilidae	*Paratinia sciarina*	a fungus gnat	1*
Tipuloidae	*Tipula paludosa*	a cranefly	12
	Dicranophragma nemorale	a short-palped cranefly	8
	Tipula rufina	a cranefly	5
	Phylidorea ferruginea	a short-palped cranefly	4
	Tricyphona immaculata	a hairy-eyed cranefly	4
	Tipula luna	a cranefly	4*
	Tipula oleracea	a cranefly	4
	Limonia nubeculosa	a short-palped cranefly	2
	Rhipidia maculata	a short-palped cranefly	2*
	Tipula confusa	a cranefly	2
	Dicranomyia didyma	a short-palped cranefly	1
	Erioptera squalida	a short-palped cranefly	1*
	Ormosia hederae	a short-palped cranefly	1
	Nephrotoma cornicina	a cranefly	1
	Tipula luteipennis	a cranefly	1*
	Tipula pagana	a cranefly	1
Trichoceridae	*Trichocera major*	a winter cranefly	1*

With 71 species, Diptera were second only to the Lepidoptera (343 species) in terms of the number of species of insects recorded in 2020. In terms of the overall diversity of these orders in VC110 there are 554 species of Lepidoptera recorded from the Outer Hebrides and 850 Diptera species. Approximately 8% of the known Diptera species were recorded in 2020 compared to c.58% of the Lepidoptera. In addition, only c.12% of the UK species of Diptera have been recorded here compared to c.22% of the Lepidoptera.

The butterflies and moths of the Outer Hebrides are well recorded by a number of experienced resident naturalists as well as some visiting experts. There will rarely have been any resident local naturalists who have specialised in the Diptera and recording within this group will have depended much more on visiting entomologists. As a result, the Dipetra of VC110 are much less well known than are the Lepidoptera.

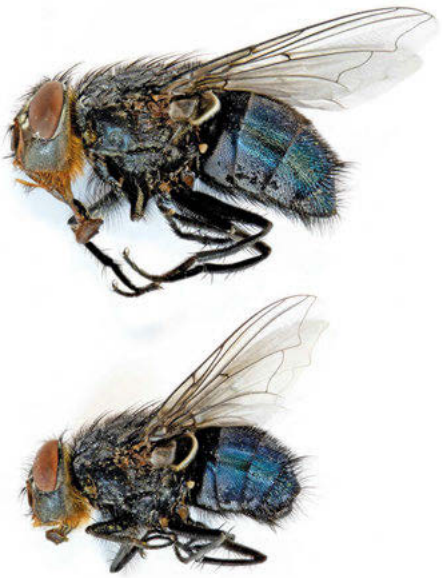
Two families of Diptera contain most of the 2020 records. The hoverflies (Syrphidae) always feature strongly in the annual OHBR records. They are attractive animals and, with care, are fairly easy to photograph. There are also good identification resources for the group.

The second group which seems to be attracting attention is the craneflies (Tipuloidea). Better identification works are becoming available through the Cranefly Recording Scheme but I doubt if many people would consider "daddy-long legs" particularly attractive. They have been under-recorded in VC110 in the past and a number of new species for the Outer Hebrides have been recorded by OHBR recently.

If more people take more of an interest in the Diptera this will be reflected in the number of new species being found. Those for 2020 are marked with an* in the table opposite.

Family	Brachycera Species	Common name or type	Rec's
Syrphidae	*Eristalis intricarius*	a hoverfly	14
	Episyrphus balteatus	Marmalade Hoverfly	11
	Eristalis pertinax	a hoverfly	7
	Rhingia campestris	a hoverfly	7
	Scaeva pyrastri	a hoverfly	6
	Helophilus pendulus	a hoverfly	4
	Sericomyia silentis	a hoverfly	3
	Syrphus vitripennis	a hoverfly	3
	Volucella bombylans	a hoverfly	3
	Eristalis arbustorum	a hoverfly	2
	Cheilosia illustrata	a hoverfly	1
	Helophilus hybridus	a hoverfly	1
	Lejogaster metallina	a hoverfly	1
	Leucozona glaucia	a hoverfly	1
	Leucozona lucorum	a hoverfly	1
	Melanostoma scalare	a hoverfly	1
	Meliscaeva cinctella	a hoverfly	1
	Neoascia podagrica	a hoverfly	1
	Platycheirus albimanus	a hoverfly	1
	Platycheirus manicatus	a hoverfly	1
	Syrphus	a hoverfly	1
Agromyzidae	*Phytomyza ranunculi*	a leaf mining fly	2
	Aulagromyza hendeliana	a leaf mining fly	1
	Chromatomyia aprilina	a leaf mining fly	1
	Chromatomyia horticola	a leaf mining fly	1
	Chromatomyia primulae	a leaf mining fly	1
Coelopidae	*Coelopa frigida*	a kelp fly	2
Drosophilidae	*Scaptomyza flava*	a fruit fly	2
Heleomyzidae	*Heteromyza commixta*	a helomyzid	1
Psilidae	*Loxocera aristata*	a root-fly	1
Sciomyzidae	*Tetanocera robusta*	a snail-killing fly	1*
Tephritidae	*Trypeta zoe*	a fruit fly	2
Calliphoridae	*Cynomya mortuorum*	Yellow-faced Blowfly	4
	Calliphora vicina	Common Bluebottle	3
	Lucilia illustris	Illustrious Greenbottle	2
	Calliphora vomitoria	Orange-bearded Bluebottle	1
Fanniidae	*Fannia lepida*	a lesser housefly	1
Muscidae	*Graphomya maculata*	a muscid	1
	Phaonia angelicae	a muscid	1
Rhagionidae	*Rhagio scolopaceus*	Downlooker Snipefly	4
Scathophagidae	*Scathophaga calida*	a dung-fly	1
	Scathophaga litorea	a dung-fly	1
Tabanidae	*Chrysops relictus*	Twin-lobed Deerfly	3
	Haematopota pluvialis	Notch-horned Cleg	1
	Hybomitra montana	Slender-horned Horsefly	1
Tachinidae	*Tachina grossa*	a parasitic fly	2

The 179 records of 71 Diptera species were sent in by just seven recorders. Most of the casual records were of more attractive hoverflies and some of the bigger clegs, horseflies and similar types of fly. Few would consider flies to be the most attractive insects but even dead bluebottles, collected from the window-sill can look stunningly attractive at high magnification.



Calliphora vomitoria - Orange-bearded Bluebottle

Tetanocera robusta – a snail killing fly, another first record for the Outer Hebrides

Calliphora vicina – Common Bluebottle

Order Coleoptera – Beetles

Recording synopsis

4000 British species, 450 VC110 species, 11.3% of British list. **2020**, 203 records of 68 species, 15.1% of VC List

Method	All beetle families		Carabidae (ground beetles)		Staphylinidae (rove beetles)		Silphidae (carrion beetles)	
	Records	Species	Records	Species	Records	Species	Records	Species
Pitfall trap	114	49	59	19	27	16	13	5
Field record	65	32	12	8	10	6	6	4
Light trap	20	8	1	1			13	3
Netted	2	2						
In house	1	1			1	1		
Not recorded	1	1	1	1				
Totals	**203**	**68***	**73**	**21***	**38**	**16***	**32**	**6***

Totals* in the species columns are not simply the sums of those columns.
Some species will be recorded by several different methods.

In 2019 there were 88 records of 32 beetle species submitted to OHBR. These figures more than doubled in 2020 with 202 records of 67 species. This was due, largely, to the efforts of two recorders on South Uist who made a special effort to record beetles within their gardens including the use of pitfall traps.

Pitfall traps are simply a container, jam jars are about the right size, sunk into the ground so that the rim of the jar is flush with the soil surface. A cover is usually provided in the form of a piece of wood or slate supported above the jar on three or so small stones so that ground active animals can still wander freely over the ground but the trap is protected from flooding in heavy rain. The traps are very effective at generating records of beetles such as ground beetles, rove beetles and carrion beetles as well as other surface-active invertebrates such as spiders, woodlice, centipedes and millipedes. In 2020 pitfall traps at two locations generated over half of all the records of beetle species recorded in 2020. Light traps can also provide beetle records, particularly of carrion beetles, dung beetles and occasionally diving beetles.

Family	Species	Common name or type	Rec's
Aphodiidae	*Aphodius rufipes*	a dung beetle	2
	Aphodius rufus	a dung beetle	2
Apionidae	*Protapion apricans*	Clover Seed Weevil	2
	Protapion fulvipes	White Clover Seed Weevil	1
Byrrhidae	*Cytilus sericeus*	a pill beetle	1
Cantharidae	*Rhagonycha fulva*	Common Red Soldier Beetle	9
Carabidae	*Amara aenea*	Common Sun Beetle	3
	Amara ovata	a ground beetle	4
	Bembidion guttula	a ground beetle	1
	Bembidion tetracolum	a ground beetle	8
	Bradycellus verbasci	a ground beetle	1
	Carabus glabratus	a ground beetle	1
	Carabus granulatus	a ground beetle	2
	Clivina fossor	a ground beetle	1
	Curtonotus aulicus	a ground beetle	1
	Dyschirius globosus	a ground beetle	3
	Elaphrus cupreus	a ground beetle	2
	Harpalus rufipes	Strawberry Seed Beetle	1
	Leistus fulvibarbis	a ground beetle	1
	Nebria brevicollis	a ground beetle	1
	Nebria salina	a ground beetle	3
	Notiophilus biguttatus	a ground beetle	4
	Paranchus albipes	a ground beetle	5
	Pterostichus madidus	Black Clock	2
	Pterostichus niger	a ground beetle	6
	Pterostichus nigrita	a ground beetle	11
	Pterostichus nigrita agg.	a ground beetle	2
	Pterostichus strenuus	a ground beetle	11
Coccinellidae	*Coccinella 11-punctata*	11-spot Ladybird	9

Cytilus sericeus - Pill Beetle, family Byrrhidae. On the underside there are slots that this beetle can "store" its legs in so it then resembles a tiny pill that predators find hard to grasp

Bembidion tetracolum – a small (c. 6mm long) ground beetle. The body form is typical of most beetles in the family Carabidae. They are active predators and their prey depends on the size of the beetle. This probably feeds on tiny springtails or mites

Insects and other invertebrates

Family	Species	Common name or type	Rec's
Curculionidae	*Ceutorhynchus contractus*	Cabbage Leaf Weevil	1
	Otiorhynchus atroapterus	Black Marram Weevil	1
	Otiorhynchus singularis	Clay-coloured Weevil	1
	Otiorhynchus sulcatus	Vine Weevil	5
Dytiscidae	*Agabus bipustulatus*	a diving beetle	2
	Colymbetes fuscus	a diving beetle	1
	Dytiscus semisulcatus	a diving beetle	2
Elateridae	*Athous haemorrhoidalis*	a click beetle	3
	Hypnoidus riparius	a click beetle	5
Geotrupidae	*Geotrupes spiniger*	a dor beetle	1
Gyrinidae	*Gyrinus caspius*	Whirligig beetles	1
	Gyrinus substriatus	a whirligig beetle	2
Hydrophilidae	*Megasternum concinnum*	a water beetle	1
Leiodidae	*Catops chrysomeloides*	a small carrion beetle	1
	Choleva agilis	a small carrion beetle	2*
	Sciodrepoides watsoni	a small carrion beetle	2
Nitidulidae	*Meligethes aeneus*	Common Pollen Beetle	3
Silphidae	*Nicrophorus humator*	Black Sexton Beetle	2
	Nicrophorus investigator	a sexton beetle	12
	Nicrophorus vespilloides	a sexton beetle	5
	Silpha atrata	Black Carrion Beetle	1
	Silpha tyrolensis	a sexton beetle	5
	Thanatophilus rugosus	a sexton beetle	7
Staphylinidae	*Aleochara curtula*	a rove beetle	7
	Anotylus rugosus	a rove beetle	3
	Bisnius fimetarius	a rove beetle	1
	Creophilus maxillosus	Hairy Rove Beetle	4
	Gyrohypnus angustatus	a rove beetle	1
	Ischnosoma splendidum	a rove beetle	1
	Oxypoda brevicornis	a rove beetle	1
	Philonthus laminatus	a rove beetle	7
	Philonthus succicola	a rove beetle	1
	Quedius curtipennis	a rove beetle	1
	Quedius mesomelinus	a rove beetle	1*
	Staphylinus erythropterus	a rove beetle	2
	Stenus clavicornis	a rove beetle	1
	Stenus similis	a rove beetle	1
	Tachinus rufipes	a rove beetle	3
	Tachyporus hypnorum	a rove beetle	3
		New VC110 species indicated with*	

Dytiscus semisulcatus – family Dytiscidae, one of the larger diving beetles. Normally seen in water they fly readily and are sometimes attracted to outside lights. This one was on the verge of a small road and its likely it confused wet tarmac for the surface of a pond

Leistus fulvibarbis – family Carabidae. A large ground beetle said to specialise in catching springtails. The various, hairs, spines and other segments of its mouthparts form a catching basket to help retain them before the sharp pointed mandibles finish them off

Nicrophorus investigator – family Silphidae, one of the sexton or carrion beetles. Without beetles like these the countryside would be littered with the corpses of dead birds and mammals

Stenus similis – family Staphylinidae. This species lives in waterside habitats and can propel itself across the water surface like a camphor boat

Staphylinus erythropterus – family Staphilinidae. All members of this family have very short wing cases and their wings are carefully folded up underneath them

Order Odonata – Dragonflies & Damselflies

Recording synopsis

49 British species, 12 VC110 species, 24.5% of British list. **2020**, 49 records of 8 species, 66.7% of VC List

Species	Common Name	2017	2018	2019	2020
Aeshna juncea	Common Hawker	11	11	10	3
Enallagma cyathigerum	Common Blue Damselfly	23	18	13	5
Ischnura elegans	Blue-tailed Damselfly	22	13	12	9
Lestes sponsa	Emerald Damselfly	11	5	7	2
Libellula quadrimaculata	Four-spotted Chaser	17	18	8	3
Pyrrhosoma nymphula	Large Red Damselfly	35	25	8	10
Sympetrum danae	Black Darter	9	8	10	6
Sympetrum striolatum	Common Darter	20	11	17	11
Total		**148**	**109**	**85**	**49**

The OHBR database has records for eight Odonata species (dragonflies and damselflies). NBN has records of a further four. One (*Sympetrum nigrescens*) is now subsumed into *Sympetrum striolatum* and the others are vagrants or are based on records of doubtful provenance and haven't been seen in recent years.

Species	Common Name	Status
Anax ephippiger	Vagrant Emperor	Rare vagrant, single record 2012
Sympetrum nigrescens	Highland Darter	Now considered a dark form of *Sympetrum striolatum*
Cordulegaster boltonii	Golden-ringed Dragonfly	Four post 1960 records
Aeshna cyanea	Southern Hawker	One record (2011) from Lewis

All of the eight species were recorded in 2020 as in each of the last three years. Despite the activity of twelve recorders the total number of records has declined once again. In 2020 COVID-19 restrictions no doubt played a part in the reduction but this decline continues a consistent trend over the last four years.

Despite being thought of as one of the more charismatic insect groups there would seem to be a lessening interest in recording this group. This is a shame as freshwater habitats are such an important characteristic of the Outer Hebrides and there is still a lot to find out about the dragonflies and damselflies of the area. There are still few records from the Bays area of Harris and a need to monitor what seems to be a continuing spread of the Emerald Damselfly are two projects that spring to mind.

Ischnura elegans - Blue-tailed Damselfly

Order Hemimptera – True Bugs

Recording synopsis

1830 British species, 63 VC110 species, 3.4% of British list. **2020**, 28 records of 16 species, 25.4% of VC List

Family	Species	Common name or type	Rec's
Suborder Cicadomorpha			
Aphrophoridae	*Philaenus spumarius*	Cuckoo-spit Insect	4
Cicadellidae	*Evacanthus interruptus*	a leaf hopper	1
Suborder Heteroptera			
Anthocoridae	*Anthocoris nemorum*	Common Flower Bug	2
Corixidae	*Hesperocorixa sahlbergi*	a lesser water boatman	2
	Sigara distincta	a lesser water boatman	3
	Sigara scotti	a lesser water boatman	2
Gerridae	*Gerris lacustris*	Common Pond Skater	1
	Gerris odontogaster	Toothed Pond Skater	2
	Gerris thoracicus	a pond skater	1
Lygaeidae	*Scolopostethus thomsoni*	a ground bug	2*
	Stygnocoris sabulosus	a ground bug	1*
Miridae	*Closterotomus norwegicus*	Potato Capsid	2
	Orthops campestris	a capsid	1*
	Stenodema calcarata	a grass bug	1*
Nepidae	*Nepa cinerea*	Water Scorpion	1
Veliidae	*Velia caprai*	Water Cricket	2
Total			**28**

A group that is poorly represented in the VC110 fauna or perhaps not often looked at. Just over 3% of the UK species are known to occur here. The order Hemiptera contains a mixture of terrestrial and freshwater species. One is extremely well known the Cuckoo-spit Insect. Many of the freshwater species are probably familiar to many but aren't necessarily easy to get down to species level. Roughly a third of the 63 VC110 species are aquatic bugs such as water boatmen, pond skaters and water crickets.

Four new (to VC110) species of terrestrial bugs were found in 2020, two ground bugs, a capsid and a grass bug.

Gerris thoracicus – a pond skater

Sigara distincta – a lesser water boatman

Orthops campestris – a capsid, a new species for VC110

Stygnocoris sabulosus - a ground bug found in the moth trap. New to VC110

Whilst freshwater bugs are generally well recorded there are probably more species of terrestrial bugs to be found in the Outer Hebrides. It would be worthwhile sweep netting terrestrial vegetation specifically for Hemiptera. More key works are now available on-line and there is a good web site:
www.britishbugs.org.uk/gallery.html

Minor Orders

Order	Species	Common name or type	Rec
Dermaptera	*Forficula auricularia*	Common Earwig	9
Ephemeroptera	*Cloeon simile*	a mayfly	5
	Caenis luctuosa	Angler's Curse	2
Plecoptera	*Nemoura cinerea*	a stonefly	3
Orthoptera	*Myrmeleotettix maculatus*	Mottled Grasshopper	2
Megaloptera	*Sialis lutaria*	Alder Fly	1
Neuroptera	*Micromus paganus*	a lacewing	1
Siphonaptera	*Ceratophyllus fringillae*	House Sparrow/Starling nest flea	1

Order Dermaptera – Earwigs & Cockroaches

Recording synopsis

7 British species, 1 VC110 species, 14.3% of British list. **2020**, 9 records of 1 species, 100% of VC List

Forficula auricularia - Common Earwig

The single species of earwig found in the Outer Hebrides was recorded on nine occasions.

Order Ephemeroptera – Mayflies

Recording synopsis

51 British species, 10 VC110 species, 19.6% of British list. **2020**, 7 records of 2 species, 20.0% of VC List

Cloeon simile – a mayfly, adult

Cloeon simile – a mayfly, larva

Two species were recorded in 2020, *Cloeon simile* as a larva from Loch an Duin on South Uist and Loch Bhrusda on Berneray and as an adult at a moth trap on South Uist. Mass emergence of *Caenis luctuosa,* the Angler's Curse mayfly, was recorded twice on South Uist on 31st May and 24th June. Many thousands were involved but only the few hundred attracted to a South Uist moth trap were recorded.

More systematic sampling of freshwater habitats for larval stages would generate many more records of this under-recorded order.

Order Plecoptera – Stoneflies

Recording synopsis
34 British species, 9 VC110 species, 26.5% of British list. **2020**, 3 records of 1 species, 11.1% of VC List

Nemoura cinerea – a stonefly, adult

Nemoura cinerea – a stonefly, larva

Adults of one species *Nemoura cinerea* were recorded as moth trap by-catch on South Uist on two occasions (April and May) and as a larva from a small ditch adjacent to the moth trap location in December.

Another under-recorded order where stream dipping would yield new records.

Order Neuroptera – Lacewings

Recording synopsis
69 British species, 4 VC110 species, 5.8% of British list.**2020**, 1 record of 1 species, 25.0% of VC List

Micromus paganus – a brown lacewing recorded in 2020

Micromus variegatus – the brown lacewing recorded in 2019

A single species of brown lacewing *Micromus paganus* was recorded on a single occasion in June from the same light trap that produced many of the other records in this section. The only other record for this species in the Outer Hebrides is one from Barra that is simply dated in the NBN data base as pre-1980. It can be separated from the similarly sized *Micromus variegatus* (recorded at the same location in 2019) by the less mottled wings.

Order Psocoptera – Barklice or Barkflies

Recording synopsis
100 British species, 1 VC110 species, 1% of British list.
2020, No records in 2020

Not recorded in 2020

Insects and other invertebrates

Order Orthoptera – Grasshopers & Crickets

Recording synopsis
33 British species, 3 VC110 species, 9.1% of British list.
2020, 2 records of 1 species, 33.3% of VC List

Two records of Mottled Green Grasshopper in late June from South Uist are the only records for 2020.

Myrmeleotettix maculatus - Mottled Green Grasshopper photograph by Bill Neill

Order Archaeognatha – Bristletails

Recording synopsis
7 British species, 2 VC110 species, 28.6% of British list.
2020, no records in 2020.

Not recorded in 2020

Order Megaloptera – Alderflies

Recording synopsis
3 British species, 1 VC110 species, 33.3% of British list.
2020, 1 record of the only VC110 species, 100% of VC list

A specimen of Alderfly, *Sialis lutaria*, the only species known in the Outer Hebrides was found on South Uist in June. No photgraphs available. Last recorded here in 2016 on Grimsay and prior to that just five records all from South Uist, three in 1977 and two in 1983.

Order Siphonaptera – Fleas

Recording synopsis
62 British species, 16 VC110 species, 25.8% of British list.
2020, 1 record of 1 species, 6% of VC list

Ceratophyllus (Ceratophyllus) fringillae – House Sparrow/Starling nest flea

A specimen of *Ceratophyllus (Ceratophyllus) fringillae* was found in March in debris cleared from a nest box on South Uist. A new species for VC110.

Ideas for insect recording in the future – first suggested for 2020 but COVID-19 lockdown got in the way

- Celebrate Moth night, 8th - 10th July 2021 https://www.mothnight.info/taking-part/ – if you don't have a moth trap try a bright light and a big white sheet, or sugaring or wine-roping. It's a good time of year to look for Ghost Moths lekking, mild, humid conditions and open rough grassland are ideal.
- Encourage moth trappers to record by-catch, offer support to aid identification of unfamiliar groups.
- Establish recording transects or spot count locations as "constant effort" locations for bumblebees, dragonflies and butterflies in typical habitats, iconic locations or under-recorded areas. Tentative suggestions are:
  - Barra – Northbay woods and Loch an Dùin
  - North Loch Eynort – woodland
  - Druidibeg – machair to moorland
  - Balranald – machair
  - Bays of Harris
  - Stornoway – woodland and woodland edge
  - Loch Stiapabhat, Ness
- Provide mentoring support for new recorders of groups such as Bumblebees, Dragonflies, and Butterflies to support establishment of "constant effort" recording areas.
- Identify distribution gaps and encourage more recording in areas such as Bays of Harris and Ness area of Lewis. Butterflies and Dragonflies initially and other orders as provisional distribution maps are developed.
- Support "own patch" recording and encourage more systematic coverage of less recorded taxa.
- Provide skills training and support for recorders wanting to carry out freshwater invertebrate sampling.
- VC110 wide surveys of important local species e.g. Belted Beauty (*Lycia zonaria*).

One small garden

Order	Species	New for VC110	Records
Lepidoptera	156		997
Diptera	53	7	94
Coleoptera	42	2	107
Trichoptera	24	1	193
Hymenoptera	13	1	27
Hemiptera	12	4	16
Odonata	5		15
Ephemeroptera	2		3
Neuroptera	1		1
Dermaptera	1		7
Plecoptera	1		3
Total	**310**	**15**	**1463**

The value of "own patch" recording can be illustrated by the records for a single garden on South Uist in 2020. The garden is small and the fact that it's in the Outer Hebrides is the only thing that is special about it. For a number of years there has been a moth trap run in the garden when conditions are suitable.

Three years ago, the owner of the garden decided to take more notice of the by-catch in the trap. They started with the caddisflies which are close relatives of the Lepidoptera and require similar levels of identification skills as those for micro-moths. Needing a bit more detailed examination were the craneflies and those were added to the list of things recorded.

Lockdown conditions in early 2020 led to the decision to try and identify as many species of insect that could be found in the garden. Not just in the moth trap catch but things that were encountered during routine gardening and by setting a few pitfall traps in suitable places.

By the end of the year 310 insect species had been identified including fifteen that were new to the Outer Hebrides and generated over 1,400 records. Some of the species had very few records for the whole of Scotland and one, the caddisfly *Limnephilus pati,* was new not just for the Outer Hebrides and Scotland but was the only GB record since 1915, in fact the species was considered to be extinct in Great Britain.

I think there have been relatively few entomologists who have lived on the islands for an extended time. Most have been visitors who have stayed for fairly short periods of time and on a rather casual basis, some more regularly than others. Developing the necessary identifications skills took some time but they can be acquired slowly as new groups start to become interesting. There are now excellent resources and informed help available on the internet; it has never been easier to become adept at identifying and recording insects.

Invertebrates other than Insects

Twenty-eight recorders submitted 131 records of 71 different species in 2020. This represents quite an increase in recording compared to the last couple of years, 72% more records and 33% more species recorded. It has still not returned to the level of recording seen in 2017 but is nevertheless encouraging.

Phylum	Common Name	No. of records				No of species			
		2017	2018	2019	**2020**	2017	2018	2019	**2020**
Mollusca	Slugs, Snails, Limpets, Mussels etc.	139	31	27	**34**	43	28	20	**22**
Arthropoda	Spiders, Mites, Woodlice, Millipedes, Crabs, Lobsters etc.	74	24	19	**68**	22	16	15	**32**
Cnidaria	Corals, Jellyfish, Hydra etc.	48	18	15	**14**	10	5	7	**6**
Echinodermata	Sea Urchins, Starfish, Brittlestars, Sea Potatoes etc.	14	1	3	**3**	5	1	3	**2**
Amoebozoa	Amoeba	3			**1**	1			**1**
Annelida	Leeches, marine Polychaete and other worms	3	1		**1**	3	1		**1**
Ctenophora	Comb Jellies eg Sea Gooseberry	2		1	**2**	1		1	**1**
Porifera	Sponges	2		2		2		2	
Bryozoa	Sea Mats, Moss Animalcules	1	1			1	1		
Chordata	Sea Squirts etc.	1	1	6	**4**	1	1	3	**3**
Ciliophora	Microscopic Ciliates such as Paramecium	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			
Rotifera	Rotifers			2				2	
Platyhelminthes	Flatworms				**4**				**3**
Total		**291**	**76**	**75**	**131**	**93**	**53**	**53**	**71**

Nine people submitted records of species of terrestrial invertebrates (other than insects), but twenty-two sent in records of marine species and just two sent in records of freshwater species.

Other invertebrates - terrestrial species

Seventy-two records of 38 species were sent in by nine recorders. There are only single recorders for all species apart from *Oniscus asellus* (Common Shiny Woodlouse) and *Helicella itala* (Heath Snail). Each observer though did often record the same species on a number of occasions. The spider *Segestria senoculata*, for example, was recorded by the same observer but on four occasions. Many records were casual sightings of easily identified species but there did seem to be a more systematic attempt to generate records for some groups.

Helicella itala – Heath Snail, recorded by two people on two occasions

Segestria senoculata – a spider recorded on 4 occasions

Oniscus asellus – Common Shiny Woodlouse, recorded by 3 people

PHYLUM Arthropoda

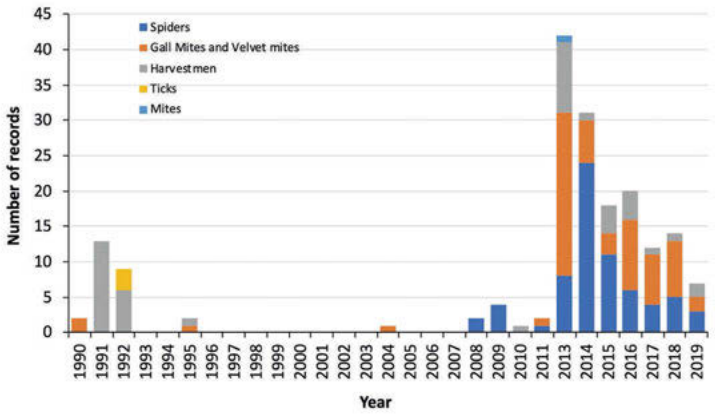
Fifty-two records of twenty-seven species of terrestrial arthropod were recorded in 2020. Two under-recorded groups Arachnids and Myriapoda (millipedes & centipedes) were looked at in rather more detail than is usual.

Group	Class	Species	Common Name	Recorded by	Records
Spiders	Arachnida	*Amaurobius similis*	a spider	1	2
		Araneus diadematus	Garden Cross Spider	1	1
		Enoplognatha ovata	a spider	1	1*(1)
		Metellina merianae	a spider	1	2*(10)
		Metellina segmentata	a spider	1	2
		Pardosa nigriceps	a spider	1	1
		Pardosa pullata	a spider	1	1
		Pholcus phalangioides	Cobweb Spider	1	1
		Segestria senoculata	a spider	1	4*(4)
		Tegenaria domestica	Common House Spider	1	1*(2)
		Tetragnatha extensa	a spider	1	3
		Textrix denticulata	a spider	1	1
		Tibellus maritimus	a spider	1	1*(1)
		Zygiella x-notata	a spider	1	3*(3)
Harvestmen		*Leiobunum rotundum*	a harvestman	1	1
		Megabunus diadema	a harvestman	1	2
		Mitopus morio	a harvestman	1	1
		Platybunus triangularis	a harvestman	1	2
Centipedes	Chilopoda	*Lithobius (Lithobius) forficatus*	a centipede	1	1
		Lithobius (Lithobius) melanops	a centipede	1	2
Millipedes	Diplopoda	*Brachyiulus pusillus*	a millipede	1	3*
		Cylindroiulus latestriatus	a millipede	1	1
		Ophyiulus pilosus	a millipede	1	3
		Polydesmus angustus	Common Flat-backed Millipede	1	5
	Malacostraca	*Oniscus asellus*	Common Shiny Woodlouse	3	4
		Porcellio scaber	Common Rough Woodlouse	1	2
Gall mites	Trombidiformes	*Aceria nalepai*	a gall mite	1	1
Total					**52**

Numbers in the **Records** column marked with an asterix have no prior NBN records **2*(10)**, the figure in brackets afterwards is the estimated number of records/locations shown on Spider & Harvestman Recording Scheme maps for those species.

Arachnida - spider, harvestmen, mites, ticks etc.

NBN receives few arachnid records each year. Since 2008 almost all the NBN records of arachnids have been submitted through OHBR. In the last three years fewer than fifteen records have been submitted annually.



Gall mites (Trombidiformes) have featured fairly strongly in the records derived from OHBR. Identification of these is based on knowing the host plant. Most species of mite are specific to a single host species. Just one species, a gall former on Alder, was recorded in 2020.

Using the NBN database six species of spider recorded in 2020 would seem to be new species for the Outer Hebrides. This does not reflect the true status of these Arachnids in the Outer Hebrides. Some spider records are submitted directly to the British Arachnalogical Society and these, unfortunately, are not shared with NBN. Checking distribution maps produced by the Spider and Harvestman Recording Scheme (SRS) for each of these species shows that in each case there are a few records for those species.

Identification difficulty rating from:
http://srs.britishspiders.org.uk/portal.php/p/Welcome

1 - Can be identified at sight in the field by anyone with a bit of experience. Species with which the beginner rapidly becomes familiar. Usually identifiable from a photo. Records acceptable from most sources.
2 - Can be identified in the field with care and experience. Needs a good view or examination with a good quality lens. Beginners should take voucher specimens until they gain familiarity and experience. May be identifiable from a good photo. Records acceptable from competent recorders.
3 - Adult voucher specimen needs checking under magnification and good lighting. The Recording Scheme would accept records from experienced recorders without further question unless the date, region or habitat was especially unusual. Voucher specimen should be retained. Records accepted from known experienced recorders.

There is no doubt that identifying and recording spiders and harvestmen is a specialised occupation. The SRS rates species according to their ease of identification. Of the species recorded in 2020 only two (*Araneus diadematus* and *Megabunus diadema*) are considered as **category 1** species. Four (*Pholcus phalangioides, Textrix denticulata, Leiobunum rotundum* and *Mitopus morio*) are **category 2** and the remainder are difficult, **category 3**, species which probably require detailed examination, usually of the reproductive structures, under a microscope in good lighting.

Araneus diadematus – Common Garden Spider, category 1

Textrix denticulata – category 2 (ID hint: very long spinnerets)

For the majority of spiders, those in category 3, a clear view of their reproductive structures, the palps of males and epigyne of females, are required. With good technique, patience and a chunk of luck you can photograph these on live specimens of some of the larger species. In some species they can only be seen on preserved specimens under a microscope. They can only be seen on mature males and females and immature individuals may not be identifiable.

Amaurobius similis – male showing palps

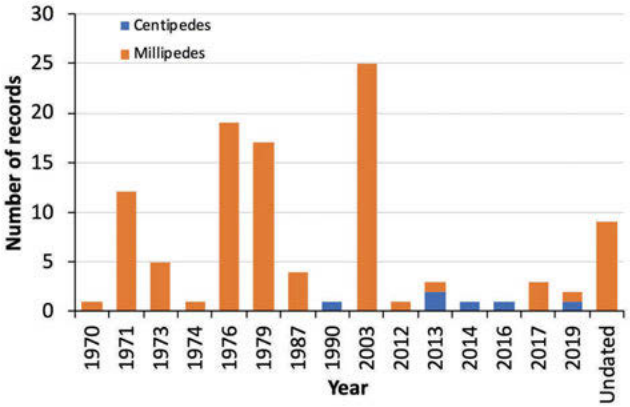
Metellina segmentata – female, showing epigyne on underside

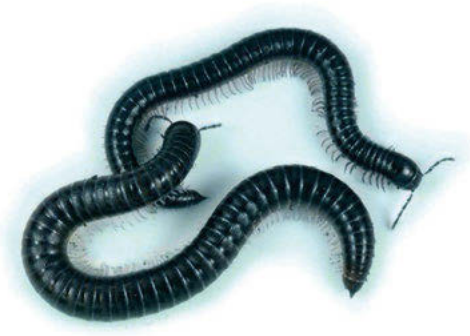
Myriopoda – centipedes and millipedes

Another under-recorded group. In recent years fewer than five records per year have been submitted to NBN and the first dated records are from 1970. For many other groups of arthropods records go back into the early 20th century if not earlier. There are some undated records which may predate 1970. In the last three OHBR summaries there have only been three records of two species.

In comparison 2020 was a bumper year with a positive glut of records. There were 15 records in total covering two centipede and four millipede species. One of the millipedes (*Brachyiulus pusillus*) was newly recorded for the Outer Hebrides.

Like arachnids, centipedes and millipedes are not easy to identify and accurate determination of species will often require microscopic examination of preserved, mature adult, specimens.





Ophyiulus pilosus – a millipede

Brachyiuus pusillus – a millipede, new to VC110

Polydesmus angustus – Common Flat-back Millipede

Lithobius melanops – a centipede

Woodlice

Species	Common name	Total records (all years)	Recent records													2020 (OHBR)
			2000	2002	2004	2007	2009	2012	2013	2014	2015	2016	2017	2018	2019	
Porcellio scaber	Common Rough Woodlouse	224	1	1	14		4	1	1			8	10	1		2
Oniscus asellus	Common Shiny Woodlouse	205				2			1	8	5		3	1	4	4
Ligia oceanica	Common Sea Slater	180							1		4	2	7	2	2	
Trichoniscus pusillus	Common Pygmy Woodlouse	85											5			
Philoscia muscorum	Common Striped Woodlouse	35							1							
Porcellio spinicornis		9	No recent records, last seen 1983													
Trichoniscoides saeroeensis		6	No recent records, last seen 1983													
Androniscus dentiger	Rosy Woodlouse	5	No recent records, last seen 1980													
Cylisticus convexus		4	No recent records, last seen 1980													
Trichoniscus pygmaeus		2	No recent records, last seen 1983													
Haplophthalmus mengii		1	No recent records, last seen 1983													
Porcellio dilatatus		1	No recent records, last seen 1980													

Comparison of antennae of *Oniscus asellus* and *Porcellio scaber*

Porcellio scaber - Common Rough Woodlouse

As a group the woodlice have been poorly recorded in recent years. Although twelve species are known from the Outer Hebrides most have not been recorded since the 1980s. The three most frequently recorded species are *Porcellio scaber*, *Oniscus asellus* and *Ligia oceanica*. As the name suggests the later species is very much an animal of seashore habitats. The other two can be easily found by turning over bits of wood, rock or almost any other material lying on the ground.

Their common names aid identification as can be seen from the photographs, *Oniscus assellus* really is shiny and *Porcellio Scaber* has a much more matt appearance. The best feature though is probably the final part of the antenna, the flagellum, in *Oniscus* the flagellum has three sections whilst in *Porcellio* there are just two. It can be difficult to see so a hand lens is probably needed.

Much more interesting is the enormous range of local names used for woodlice in different parts of the country.

Local names for woodlice (spellings may vary)	
billybakers	granddads
billybuttons	granfy croogers
cailleach-òsag	granny granshers
cailleach-chòsag	granny greys
charliepigs	gravys
cheeseballs	leatherjackets
cheeselogs	moch y coed (wood pigs)
cheeserockers	monkeypedes
cheesers	nutbugs
cheeseybobs	ogopogos
cheesybugs	parson pigs
chiggypigs	peabugs
chiggywigs	peabugs
chiselbugs	penny sows
choogeypigs	pishamares
chuckypigs	pryfaid lludw (ashflies)
croogers	slaters
crunchy bats	slateybeetles
dampers	slunkerpigs
flumps	sourbugs
grammasows	ticktocks
grammasows	timperpigs
granddadpigs	woodpigs

PHYLUM Mollusca - slugs and snails

Group	Class	Species	Common Name	Recorded by	Records
Slugs & snails	Gastropoda	*Arion (Arion) flagellus*	Green-soled Slug	1	2
		Arion (Mesarion) subfuscus	Dusky Slug	1	2
		Arion ater agg.	*Arion ater* agg.	1	1
		Tandonia sowerbyi	Sowerby's Keeled Slug	1	1
		Deroceras invadens	Tramp Slug	1	2
		Cochlicopa cf. lubrica	Slippery Moss Snail	1	1
		Cornu aspersum	Garden Snail	1	2
		Helicella itala	Heath Snail	2	2
		Nesovitrea (Perpolita) hammonis	Rayed Glass Snail	1	2
		Oxychilus (Oxychilus) cellarius	Cellar Snail	1	2
		Trochulus (Trochulus) striolatus	Strawberry Snail	1	2
		Xeroplexa intersecta	Wrinkled Snail	1	1
Total					**20**

	Species (Records) by year			
	2017	**2018**	**2019**	**2020**
Slug			5 (7)	5 (8)
Snail	9 (17)	3 (6)	2 (5)	7 (12)

Six recorders sent in records of terrestrial molluscs in 2020. No single species was recorded by more than one person apart from the Heath Snail. The level of recording was higher than in the previous two years with five species of slug and seven snails being found.

Nesovitrea (Perpolita) hammonis – Rayed Glass Snail

Trochulus (Trochulus) striolatus – Strawberry Snail

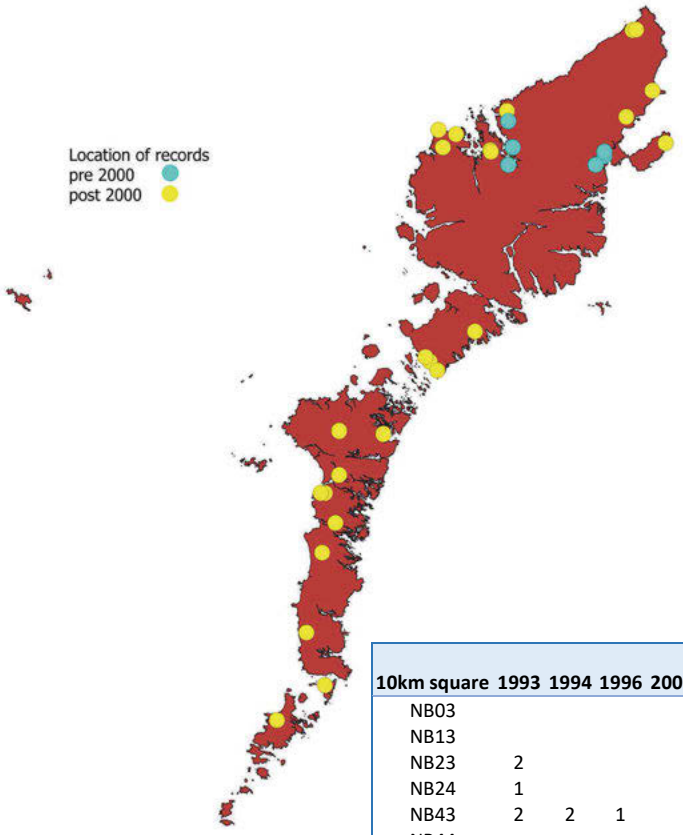
Snails can be surprisingly photogenic but if an identification needs to be made then the photographs need to show certain key features. For snails that means that the dorsal surface, ventral surface (showing the umbilicus) and lateral views are all needed. Similarly for slugs, photographs need to show the position of the breathing pore, the presence of any keel, size and patterning of the tubercules and a view of the sole of the foot showing any lateral markings and variation in colour.

Xeroplexa intersecta - Wrinkled Snail

Tandonia sowerbyi – Sowerby's Keeled Slug

PHYLUM Platyhelminthes - flatworms

Group	Class	Species	Common Name	Recorded by	Records
Platyhelminthes	Rhabditophora	Arthurdendyus triangulatus	New Zealand Flatworm	1	1



First recorded in the Outer Hebrides in 1993. Early sightings were restricted to Lewis with records from the Stornoway and Callanish areas. By 2000 records were being received from most areas. Most records just record presence but some are counts which range from 2 – 100 individuals.

The species is thought to have arrived in the UK on the soil around the roots of imported plants in the 1960s. It is now well established particularly in Scotland, Northern Ireland and Northern England. They feed on earthworms and can severely reduce their populations with consequential effects on soil structure and fertility.

	Year												
10km square	1993	1994	1996	2003	2005	2008	2010	2012	2013	2015	2016	2017	2020
NB03							1	1	3				
NB13									2				
NB23	2												
NB24	1										1	1	
NB43	2	2	1										1
NB44						1							
NB46										1	1		
NB53							1						
NB54					2								
NF60				1									
NF71						1							
NF72									2				
NF74									1				
NF75									2				
NF84												1	
NF85									2				
NF86									1				
NF96								1					
NG08							2		2				
NG19												1	
Total	**5**	**2**	**1**	**1**	**2**	**2**	**4**	**2**	**15**	**1**	**2**	**3**	**1**

PHYLUM Amoebozoa - Ameoba

Group	Class	Species	Common Name	Recorded by	Records
Amoeba	Tubulinea	*Planocarina carinata*	a testate amoeba	1	1

One record of a testate amoeba associated with Spagnum species was recorded from Allt Bholagair, South Uist. Testate amoeba, unlike most amoeba, have a hard outer casing, a test. This can persist long after the animal has died and can accumulate in lake sediments and in peat. Examination of the tests of different species at different layers within sediment cores can provide evidence of past climate.

Other invertebrates – freshwater species

Phylum	Class	Species	Common Nameor type	Recorders	Records
Annelida	Clitellata	*Helobdella stagnalis*	a leech	1	1*
Arthropoda	Arachnida	*Hydrachna*	a water mite	1	1
	Branchiopoda	*Chydorus sphaericus*	a water flea (Crustacean)	1	1
Mollusca	Bivalvia	*Pisidium*	a pea mussel	1	1
	Gastropoda	*Anisus (Anisus) leucostoma*	White-lipped Ramshorn	1	2
		Galba (Galba) truncatula	Dwarf Pond Snail	1	1
		Radix balthica	Wandering Snail	1	2
		Potamopyrgus antipodarum	Jenkins' Spire Snail	2	4
Platyhelminthes	Rhabditophora	*Polycelis nigra*	a flatworm	1	2
		Polycelis nigra or tenuis	a flatworm most probably *Polycelis nigra*	1	1
Total					**17**

Helobdella stagnalis - a leech, Phylum Annelida

PHYLUM Annelida – worms and leeches

A single record of a single species of leech *Helobdella stagnalis* received from South Uist. This species has not been recorded before from the Outer Hebrides. This species of leech shows a high level of brood care. It carries it's young around, for several weeks, attached to the underside and it also feeds them. When they detach and become free living they are already well developed. The heads of two youngsters can just about be seen (arrowed) in the upper photograph.

Pisidium - a pea mussel, length 4.8mm, Phylum Mollusca

PHYLUM Arthropoda - water mites and water fleas

Two species recorded, one a freshwater mite that couldn't be identified to species level. The other a small water flea identified as *Chydorus sphaericus.* One precious record of this species dated 2017 from the island of Shillay in the Sound of Harris.

PHYLUM Mollusca - snails and freshwater mussels

Records of one bivalve, a pea mussel of the Genus *Pisidium*. These are small, often < 5mm, and have few characteristics externally that can be used to identify them to species level. The most useful characters are the size and shape of the various teeth that make up the hinge. Even when these can be seen in good detail, identification is difficult and needs the observer to have developed experience of numerous species before the can be named reliably.

Potamopyrgus antipodarum - Jenkins' Spire Snail

Galba truncatula – Dwarf Pond Snail

Anisus leucostoma - White-lipped Ramshorn

Polycelis nigra or tenuis – a flatworm

Four species of gastropod snail were also recorded. One *Potamopyrgus antipodarum* is an invasive species native to South Island, New Zealand. It was first recorded in GB at Gravesend, Kent in 1859 and is now ubiquitous in freshwater apart from stagnant ponds and very peaty water.

The Wandering Snail (*Radix balthica*) is a very widespread species able to cope with a wide range of conditions. It prefers still or slow flowing water and can tolerate the low oxygen conditions in stagnant ponds. In those conditions it is helped by the presence in its haemolymph of a copper based respiratory pigment haemocyanin.

Galba truncatula (formerly *Lymnaea truncatula*) or Dwarf Pond Snail is a tiny relative (c.2.5mm tall) of the much larger Wandering Snail. It is important as an intermediate host of flukes such as *Fasciola hepatica* and *Calicophoron daubneyi*. It was found in a seasonally flooded area of machair and can occur in damp grassland.

The final mollusc was a tiny ramshorn snail - *Anisus leucostoma* (White-lipped Ramshorn) found in a small ditch on South Uist.

PHYLUM Platyhelminthes – flatworms

Tiny dark "worms" that glide across the surface of dead plants, mud in slow flowing streams, diches and ponds. Unlike leeches and proper worms, they are not segmented and the body changes little in length. They are unusual animals in not having a through gut. There is only one opening, the pharynx, and this serves for both taking in food and disposing of waste.

They are carnivorous, perhaps more correctly, partial scavengers as it is likely that most of their prey are sick or injured individuals. They eat by everting their pharynx into the prey, secreting digestive enzymes to break down its tissues then they re-swallow the pharynx and take in the semi-digested food.

The other unusual feature of these animals is their regenerative power. If the head is cut off it regrows the rest of the body and the headless body will regrow its head. A handy trick.

Other invertebrates - marine species

Phylum	Class	Species	Common name	Recorded	Records
Arthropoda	Malacostraca	*Phronima*	a parasite of Salps	1	1
	Maxillopoda	*Dosima fascicularis*	Buoy Barnacle	5	5
		Lepas (Anatifa) anatifera	Common Goose Barnacle	7	8
Chordata	Thaliacea	*Salpa*	Salps	3	3
Cnidaria	Hydrozoa	*Aequorea*	Crystal Jellyfish	2	2
		Velella velella	By-the-wind Sailor	1	1
	Scyphozoa	*Aurelia aurita*	Moon Jellyfish	1	1
		Chrysaora hysoscella	Compass Jellyfish	1	4
		Cyanea capillata	Lion's Mane Jellyfish	4	5
		Rhizostoma pulmo	Barrel Jellyfish	1	1
Ctenophora	Tentaculata	*Pleurobrachia pileus*	Sea Gooseberry	1	2
Echinodermata	Asteroidea	*Asterias rubens*	Common Starfish	2	2
	Echinoidea	*Echinocardium cordatum*	Sea Potato	1	1
Mollusca	Bivalvia	*Aequipecten opercularis*	Queen Scallop	1	1
		Mytilus edulis	Blue Mussel	1	1
	Cephalopoda	*Sepia officinalis*	Common Cuttlefish	1	1
		Sepiola atlantica	Atlantic Bobtail Squid	1	1
	Gastropoda	*Capulus ungaricus*	Hungarian Cap Shell	1	1
Total					**41**

PHYLUM Arthropoda - crabs, lobsters, barnacles etc.

Thirteen recorders sent in records of three species. Most records were of either the Common Goose Barnacle *Lepas (Anatifa) anatifera* or the Bouy Barnacle *Dosima fascicularis,* likely to have been found as strandline records; *Phronomia* is almost always found within a transparent, gelatinous casing formed from the outer layers of a Salp or similar gelatinous zooplankton species.

"*Phronima sedentaria* is a type of hyperiid amphipod, or small crustacean, that preys on gelatinous plankton, such as salps. The free-floating organism is equipped with claw-like appendages that slice open its victims, enabling the creature to crawl in and devour the soft tissues from the inside out. It then uses the leftover bits of the prey's body to build a gelatinous protective home, or barrel, where females can deposit their young" - Lauren J. Young Science Friday October 29th 2015.

PHYLUM Chordata - sea squirts etc.

Strictly speaking these should be considered along with the vertebrates as they possess a primitive structure called a notochord that is a precursor of a proper spine. They are marine organisms that are generally found with other marine organisms and we will consider them here. The only records this year was of salps – sent in by three recorders. These are gelatinous members of the zooplankton and its generally their empty skin that is washed up on beaches.

PHYLUM Cnidaria - jellyfish, anemones etc.

Velella velella - By-the-wind Sailor

Eight recorders submitted records of six species. Unusually there was only one sighting sent in of *Velella velella,* the By-the-wind Sailor. These are long-distant travelers that get blown across the Atlantic and often end up on our shores in large strandings. Most of the records were of true jellyfish with two species in particular being well recorded - Lion's Mane Jellyfish (*Cyanea capillata*) and the Compass Jellyfish (*Chrysaora hysoscella*).

Aurelia aurita – Moon Jellyfish

There were also single sightings of three more jellyfish – Moon Jellyfish (*Rhizostoma pulmo*) and Barrel Jellyfish (*Aurelia aurita*) are quite frequently encountered but the Crystal Jellyfish (*Aequorea*) is less often seen. There are only nine records on NBN two from Sula Sgeir, one from North Rona, three on St. Kilda, one on Lewis and one on South Uist. The species is said to be bioluminescent.

PHYLUM Ctenophora - sea gooseberries

Just two records of Sea Gooseberry in 2020, both from Traigh na Beirghe, Lewis.

PHYLUM Echinodermata - starfish, brittle stars, sea urchins etc.

Three records, two of Common Starfish (*Asterias rubens*) at North Glendale (South Uist) and Luskentyre (Harris) and one of Sea potato (*Echinocardium cordatum*) again at Luskentyre. Both are commonly found washed up on beaches throughout the Outer Hebrides.

Aequipecten opercularis - Queen Scallop

PHYLUM Mollusca - snails, limpets, mussels etc.

Five records of five species representing a range of molluscan body forms. Two were bivalves, Queen Scallop (*Aequipecten opercularis*) and Blue Mussel (*Mytilus edulis*), two were cephalopods, Atlantic Bobtail Squid (*Sepiola atlantica*) and Common Cuttlefish (*Sepia officinalis*) and the last an odd looking gastropod the Hungarian Cap Shell (*Capulus ungaricus*).

Capulus ungaricus - Hungarian Cap Shell

Vertebrates

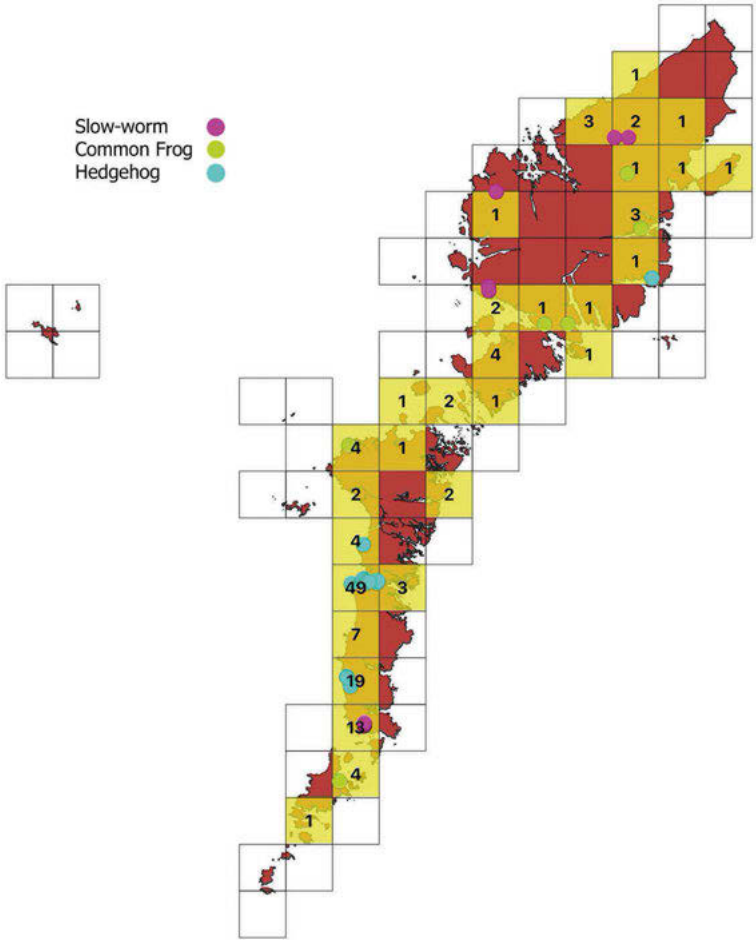
Records Received	2017	2018	2019	2020
Records	160	158	171	143
Species	36	29	31	30
Recorders	46	34	49	38

Fewer records were received in 2020 than in recent years. Once again, more individuals contribute to recording vertebrates than to most other taxonomic groupings. Just over half of people submitted just single records, often of an exciting species such as an Otter (five people) or a Cetacean including sightings Common Dolphin and Sperm Whale. Several were things found on beachs, Lumpsucker, Trigger Fish or Dog Fish. There were also some nice inland records of species such as Common Frog and Slow-worm.

As in 2019 many of the records were of casualties. Two-thirds of all Hedgehog records were of road kill and half of cetacean sightings were of stranded or dead animals on various beaches around our coasts. The only species where droppings, footprints or other signs were important sources of records were Otter and Dogfish. For this last species, four of the records were of egg cases washed up on beaches.

Order	Species	Common Name	Stranded or otherwise	Droppings, footprints, runs or other signs	General observation	Total
Fish						
Bony Fish	*Belone belone*	Garfish	1			1
	Gasterosteus aculeatus	Three-spined Stickleback			3	3
	Cyclopterus lumpus	Lumpsucker			3	3
	Balistes capriscus	Grey Trigger-fish	1			1
Sharks, rays etc	*Scyliorhinus canicula*	Lesser Spotted Dogfish	2	4	1	7
	Cetorhinus maximus	Basking Shark			2	2
Amphibian						
Frog	*Rana temporaria*	Common Frog			7	7
Reptiles						
Lizard	*Anguis fragilis*	Slow-worm			11	11
Mammals						
Carnivore	*Lutra lutra*	Otter	4	7	27	38
	Halichoerus grypus	Grey Seal	1		2	3
	Phoca vitulina	Common Seal			1	1
Cetacean	*Balaenoptera acutorostrata*	Minke Whale			1	1
	Balaenoptera physalus	Fin Whale			1	1
	Delphinus delphis	Common Dolphin	1		2	3
	Globicephala melas	Long-finned Pilot Whale	1		1	2
	Grampus griseus	Risso's Dolphin			1	1
	Lagenorhynchus acutus	Atlantic White-sided Dolphin			1	1
	Lagenorhynchus albirostris	White-beaked Dolphin	1		1	2
	Stenella coeruleoalba	Striped Dolphin	1			1
	Tursiops truncatus	Bottle-nosed Dolphin			2	2
	Phocoena phocoena	Common Porpoise	1			1
	Physeter macrocephalus	Sperm Whale	2		1	3
	Ziphius cavirostris	Cuvier's Beaked Whale	1			1
Bat	*Pipistrellus pipistrellus*	Pipistrelle			1	1
Insectivore	*Erinaceus europaeus*	Hedgehog	12		6	18
	Sorex minutus	Pygmy Shrew			5	5
Rabbits & hares	*Oryctolagus cuniculus*	Rabbit	1		5	6
Rodents	*Apodemus sylvaticus*	Wood Mouse			2	2
	Microtus agrestis	Field Vole	3		5	8
	Rattus norvegicus	Brown Rat	2		5	7
Total			**35**	**11**	**97**	**143**

PHYLUM Chordata - Vertebrate sightings



Records of vertebrates were received from thirty 10km squares spread over most of the Outer Hebrides. A 36% reduction from 47 in 2019. There is a concentration of records on South Uist where some of the most active recorders live and where numbers of records are boosted there by most of the Hedgehog records.

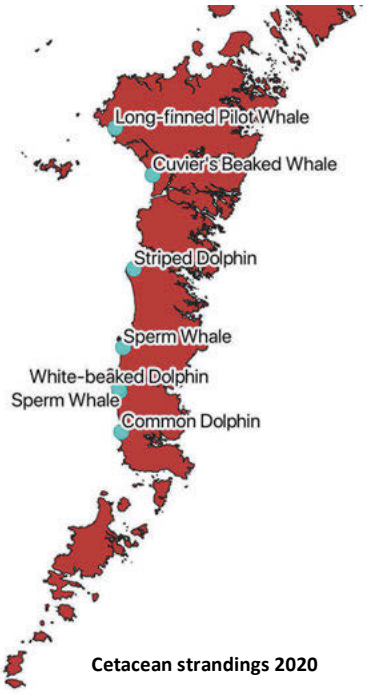
The drop in the number of 10km squares covered and in the number of species recorded (down 22% from 2019) is most likely linked to travel restrictions during COVID-19 lockdown reducing the chances of making the sort of casual observations that make up the bulk of vertebrate records each year.

Certain species had very localised distributions. Apart from a single record on Lewis, Hedgehog records were confined to South Uist and Benbecula. Slow-worm were only seen on Harris, Lewis and South Uist but the Frog records ranged from Lewis down to Barra.

PHYLUM Chordata - Cetaceans - strandings

Seven cetacean strandings were recorded in 2020 these are mapped left. All on the west coast of either North or South Uist. In addition, there were eleven records of nine species of live cetaceans. A number were recorded during survey work north of St. Kilda. The sight of an estimated 15+ Sperm Whales off Tiumpan Head, Lewis must have been memorable.

Species	Location	Date	Number
Atlantic White-sided Dolphin	10 miles north of St. Kilda	08/07/2020	3
Bottle-nosed Dolphin	Ardivachar Point, South Uist	29/04/2020	4
Bottle-nosed Dolphin	Ardivachar, South Uist	01/05/2020	6
Common Dolphin	South Glendale, South Uist	06/04/2020	2
Common Dolphin	Eriskay causeway	07/04/2020	1
Fin Whale	10 miles north of St. Kilda	08/07/2020	1
Long-finned Pilot Whale	Lochboisdale, South Uist	13/06/2020	17
Minke Whale	10 miles north of St. Kilda	08/07/2020	1
Risso's Dolphin	10 miles north of St. Kilda	08/07/2020	8
Sperm Whale	Tiumpan Head, Lewis	11/11/2020	15+
White-beaked Dolphin	10 miles north of St. Kilda	08/07/2020	2



Cetacean strandings 2020

Vertebrates

PHYLUM Chordata - Other Mammals (non-cetaceans)

Species	2019	2020
Otter	26	38
Hedgehog	32	18
Field Vole	5	8
Brown Rat	9	7
Rabbit	5	6
Pygmy Shrew	8	5
Grey Seal	9	3
Common Seal	6	2
Wood Mouse		2
Pippistrelle		1
Mountain Hare	6	
Red Deer	2	
Total	**106**	**90**

Of the non-cetacean species Otter and Hedgehog were the most commonly recorded. Hedgehog remain common and abundant on South Uist and Benbecula and are regularly recorded as road-kill.

Grey Seal and Common Seal are much more abundant than their number of records suggest. They are more or less constant around the coasts of most islands, are often commented on by visitors but rarely recorded.

Brown Rat, Field Vole and Pygmy Shrew are probably widespread but, when compared to the seals, much less likely to be spotted and are similarly under recorded.

Phoca vitulina - Common Seal

Rabbit numbers, certainly on parts of South Uist, had been low for a few years. A sighting at Ardivachar in February was the first there for over a year and by May "first evidence [of] breeding for 2 years" was noted - such is the way of rabbits.

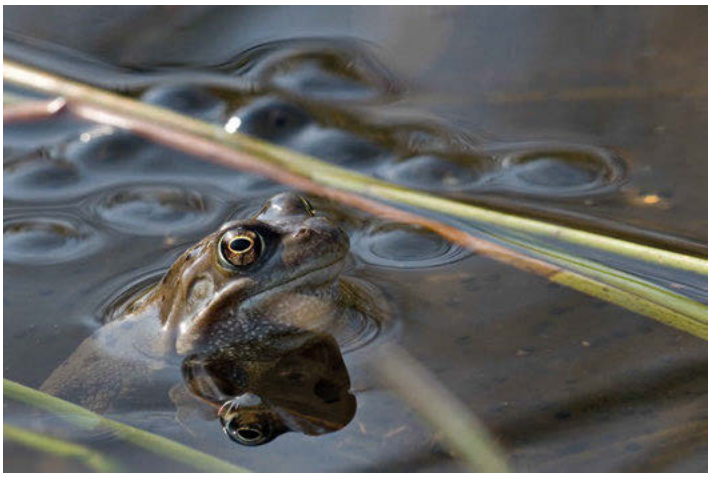
Wood Mice on Barra and at Ardivachar, South Uist, were nice sightings as was a Pipistrelle on Barra. There are few previous records of bats for VC110. Many are only partially identified but Common Pipistrelle is the one most frequently recorded.

Oryctolagus cuniculus - Rabbit

The Nathusius's Pipistrelle (*Pipistrellus nathusii*) from 2014, was recorded on St Kilda. This might seem like an odd place to find a bat but this species is known as a long distant migrant and a wind-blown bat is perhaps as likely as some of the rare birds blown in to places like St. Kilda.

Scientific name	Common name	Year
Plecotus	Long-eared Bat species	1900
Pipistrellus	Pipistrelle Bat species	1970
Pipistrellus	Pipistrelle Bat species	2000
Pipistrellus pipistrellus	Common Pipistrelle	2000
Pipistrellus pipistrellus	Common Pipistrelle	2000
Pipistrellus pipistrellus	Common Pipistrelle	2002
Pipistrellus pipistrellus	Common Pipistrelle	2002
Pipistrellus pipistrellus	Common Pipistrelle	2004
Pipistrellus pipistrellus	Common Pipistrelle	2004
Chiroptera	Bat	2004
Pipistrellus pipistrellus	Common Pipistrelle	2005
Pipistrellus pipistrellus	Common Pipistrelle	2007
Nyctalus	Nyctalus Bat species	2008
Nyctalus	Nyctalus Bat species	2008
Pipistrellus pipistrellus	Common Pipistrelle	2008
Chiroptera	Bat	2008
Pipistrellus	Pipistrelle Bat species	2013
Pipistrellus	Pipistrelle Bat species	2013
Pipistrellus nathusii	Nathusius's Pipistrelle	2014
Pipistrellus	Pipistrelle Bat species	2015
Pipistrellus	Pipistrelle Bat species	2016
Pipistrellus pipistrellus	Pipistrelle	2019

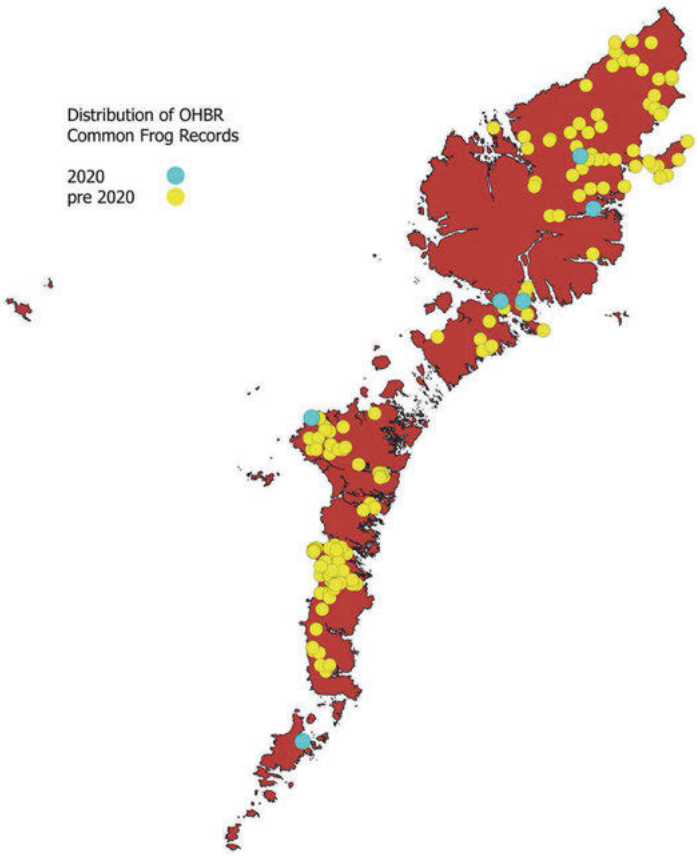
PHYLUM Chordata - Amphibian and Reptiles



Rana temporaria - Common Frog

OHBR received few records of any amphibians or reptiles in 2020. There were eleven Slow-worm records, two from Harris, three from Lewis and six from South Uist. For an account of the Slow-worms in the Outer Hebrides see: *Hebridean Naturalist* 20: 36–38.

There were slightly more Common Frog records, seven, scattered widely across the islands from Lewis to Barra. Most were from areas where the species seems well established but the record from Barra was a first for this island.



These two species seem to have been the most widespread and established species in the Outer Hebrides. Records for both go back into the 1960s and earlier though the name of the recorder is often not known and the general provenance of the records is sometimes unclear. Distribution atlases often categorise data as pre-1960 or post 1960 for example and when those data are extracted they will have dates that match those categories.

No records of Common Toad have been received since 2016 and it would be interesting to see whether this species still exists on Lewis. Common Lizard was never more than an accidental import with cargo to the Range on South Uist. It is unsure whether Palmate Newt became established on Grimsay or Great Bernera, the locations of the only records for this species.

Species	1900	1960	1963	1966	1997	2000	2002	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Common Frog	2	4		1				1	1	11	2	6	4	24	6	18	24	11	16	27	12	17	7	**194**
Common Lizard						2																		**2**
Common Toad											4		2		2			1	1					**10**
Palmate Newt																				4	1			**5**
Slow-worm	8	4	2		1		1					1			1	2				3	4	2	5	**34**
Total	**10**	**8**	**2**	**1**	**1**	**2**	**1**	**1**	**1**	**11**	**6**	**7**	**6**	**24**	**9**	**20**	**24**	**12**	**17**	**34**	**17**	**19**	**12**	**245**

PHYLUM Chordata - Fish

Scyliorhinus canicular – Lesser Spotted Dogfish, egg case with developing embryo.

Scyliorhinus canicular - Lesser Spotted Dogfish, empty egg case found on the drift line.

Gasterosteus aculeatus – Three-spined Stickleback

Seventeen records of six species of fish were received in 2020. Two of the species were members of the Class Elasmobranchii which includes sharks and rays. There were two sightings of Basking Shark both in July. One was seen off St. Kilda and the other in the Sound of Barra. The other species was a much smaller shark the Lesser Spotted Dogfish (or Rough Hound). The empty egg cases of this species are commonly found on the drift line and formed the basis of four of the seven records for 2020.

The other main class of fish is the Actinopterygii. These are known as Bony Fish to separate them from the sharks and rays that have cartilaginous skeletons. There were records of four species.

Balistes capriscus – Grey Trigger-fish, Islay Nov. 2003

Three of these, Garfish (*Belone belone*), Lumpsucker (*Cyclopterus lumpus*) and Grey Trigger-fish (*Balistes capriscus*), are marine species. The Grey Trigger-fish is a species that is rapidly spreading north around UK coasts as the sea heats up due to climate warming. This was previously thought of as warm water species more typical of the Mediterranean. All records from Scottish coastal waters date from 2000 onwards and now come from as far north as Thurso in Caithness.

The final species the Three-spined Stickleback (*Gasterosteus aculeatus*) is a freshwater species though it can occur in brackish water. In 2020 specimens were reported by two people. One by a recorder netting desmids in Loch Bhrusda, Berneray and the other was from someone clearing a ditch on South Uist.

Fungi, Lichens, Slime moulds and a few other things

Phylum	Type	Species	Records	Examples
Ascomycota	Lichen	215 (64%)	974 (83%)	eg. *Xanthoria parietina* - Common Orange Lichen
	Fungus	51 (15%)	90 (7%)	eg. *Xylaria hypoxylon* - Candlesnuff Fungus
Basidiomycota	Lichen	2 (<1%)	4 (<1%)	eg. *Lichenomphalia umbellifera* - Heath Navel
	Fungus	68 (20%	100 (9%)	eg. *Tremella foliacea* - Leafy Brain
				eg. *Laccaria amethystina* - Amethyst Deceiver
Total		**336**	**1168**	

Other organisms often mistaken for fungi or recorded by mycologists				
Phylum	**Type**	**Species**	**Records**	**Species found in 2020**
Zygomycota	Moulds	3	3	*Mucor genevensis* - on Greylag Goose droppings
				Mortierella bainieri - on sheep dung
				Pilobolus crystallinus Dung Cannon - on sheep dung
Amoebozoa	Slime Mould	2	2	*Fuligo septica*
				Mucilago crustacea Dog Vomit Slime Mould
Cercozoa	N fixing bacteria	1	2	*Plasmodiophora alni* Forms root nodules on Alder (*Alnus* sp.)
Chlorophyta	Alga	1	1	*Trentepohlia abietina*

Xanthoria parietina – a lichen in phylum Ascomycota

Xylaria hypoxylon – a non-lichen fungus in phylum Ascomycota

There were 1168 records of 336 species of fungi and lichens received in 2020. Lichens, although a mutualistic relationship between a fungus and various other organisms (mainly algae), are classified by the status of the fungal partner. Most of the lichen forming fungi belong to the phylum Ascomycota. This group of lichens dominated the 2019 records, 64% of the species and 83% of the total records fungi were of lichen forming Ascomycota.

The other main group of fungi are in the phylum Basidiomycota. Just over 20% of the fungi records in 2020 were of species in this group. Some of these can also become lichenized including the two species of *Lichenomphalia* recorded in 2020.

Lichenomphalia umbellifera - Heath Navel, a lichen forming species in the phylum Basidiomycota

Most species of Basidiomycota form conventional "mushroom" like fruiting bodies like those of

Amethyst Deceiver (*Laccaria amethystina*) found at North Loch Eynort. Some such as the jelly like Leafy Brain (*Tremella foliacea*) found on Lewis near Stornoway take on rather different forms.

Laccaria amethystina

Tremella foliacea – Leafy Brain

Then there are slime moulds; ameoboid protists (phylum Amoebozoa) that look like fungi and have long been studied by mycologists but which are taxonomically difficult to categorize. Two species were recorded in 2020, both on Lewis, *Mucilago crustacea* known rather inelegantly as Dog's Vomit Slime Mould. A second, *Fuligo septica,* has confusingly in the past also been called Dog's Vomit.

Mucilago crustacea – Dog Vomit Slime Mould

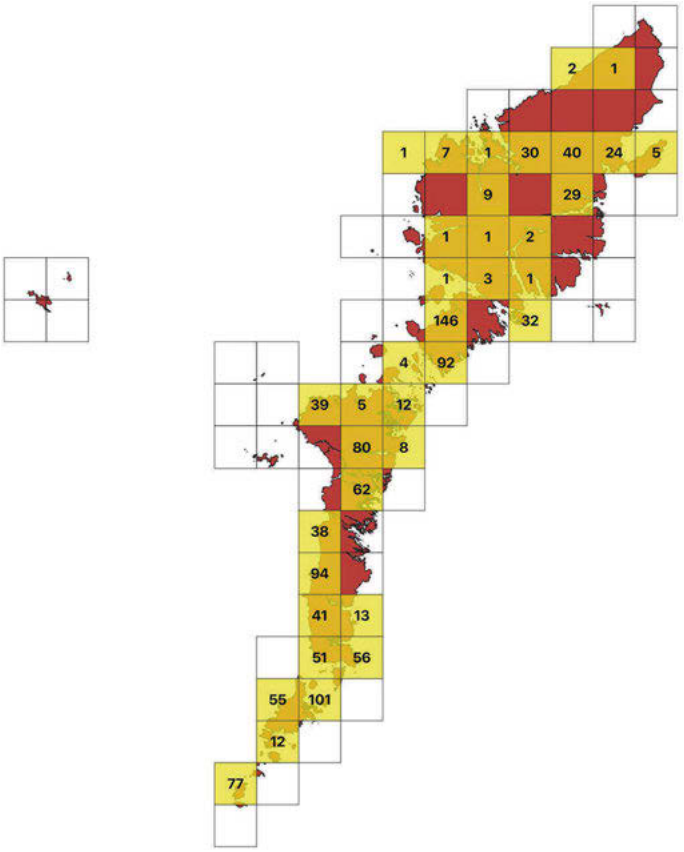
Mucilago crustacea - the slime mould formerly also known as Dog's Vomit, that's why we use scientific names.

Three species found in 2020, *Mucor genevensis*, *Mortierella bainieri* and *Pilobolus crystallinus* were once thought of as fungi. They were found growing on various sorts of dung after keeping samples in a moist chamber for a while. These are now placed in their own phylum – Zygomycota. Moulds such as Bread Mould (*Rhizopus stolonifer)* also fall into this group.

Also found by fungus interested recorders - a nitrogen-fixing bacterium *Plasmodiophora alni*, that forms nodules on the roots of alder and an alga, *Trentepohlia abietina* that is often mistaken for a fungus.

Island	Records	% of total
Lewis	146	12.6
Harris	249	21.2
Scalpay	31	2.6
Berneray	3	0.3
Lingaigh	4	0.3
North Uist	115	9.8
Benbecula	48	4.1
Grimsay	14	1.2
South Uist	207	18.0
Eriskay	181	15.4
Barra	86	7.4
Vatersay	7	0.6
Mingulay	77	6.5
Total	**1168**	

The 1168 records of fungi received in 2020 were fairly evenly distributed throughout the Outer Hebrides compared to some of the other major taxonomic groups.



Records were received from twenty-one people in total. Ten people sent in records of Ascomycota with one person contributing 803 (75.5%) of the 1064 records for this phylum. The Ascomycota are generally thought to be a more "difficult" group than the Basidiomycota. For starters just 11% of the Ascomycota species found have common names compared to 76% of the Basidomycota. Seventeen people contributed 104 records of Basidiomycota species in total.

Hygrocybe punicea - Crimson Wax Cap

Flammulina velutipes – Velvet Shank

Plants, seaweeds, other algae etc.

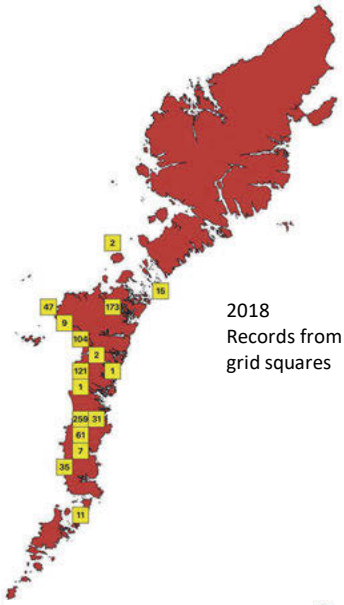
KINGDOM		2017		2018		2019		2020	
Phylum	Type of "Plant"	Species	Records	Species	Records	Species	Records	Species	Records
BACTERIA									
Cyanobacteria	Blue-green Bacteria	10	12	5	10	3	3	4	4
Proteobacteria	Sulphur Bacteria							1	2
PROTOZOA									
Euglenozoa	Flagellate algae							2	3
Myzozoa	Dinoflagellate							1	1
CHROMISTA									
Ciliophora	Ciliates							1	1
Ochrophyta	Brown Seaweeds etc	19	109	14	33	14	18	1	3
	Diatoms	1	1	1	2	2	2	4	4
	Other Ochrophyta							6	14
PLANTAE									
Rhodophyta	Red Seaweeds	40	68	12	13	3	3		
Chlorophyta	Green Seaweeds	34	60	6	8	5	6		
	Other green algae	3	3	9	13	12	14	18	24
Charophyta	Desmids	60	60	367	924	358	959	325	1125
	Stoneworts	1	1	3	4				
	Other Charophyta	1	1						
Anthocerophyta	Hornworts					1	1		
Marchantiophyta	Liverworts	88	398	71	224	72	207	59	220
Bryophyta	Mosses	182	1011	150	527	144	569	145	525
Pteridiophyta	Horsetails	4	65	3	14	3	20	2	4
	Ferns	21	145	16	67	15	59	1	1
Tracheophyta	Clubmosses & Quillworts	2	2	2	7	2	3	1	1
	Flowering Plants	304	3213	342	1789	298	1949	141	359
	Conifers	6	17	3	7	3	7	1	2
	Total	**776**	**5166**	**1013**	**3642**	**935**	**3820**	**713**	**2293**

Phylum	Tracheophyta	Ochrophyta	Charophyta	Chlorophyta	Pteridophyta	Cyanobacteria	Protozoa	Bryophyta	Marchantiophyta	Proteobacteria	Ciliophora	Myzozoa	Grand Total
Recorders	15	5	3	3	3	2	2	1	1	1	1	1	
Recorder							Records						
1		14	1030	14		2	1			2	1	1	**1065**
2								525	220				**745**
3	145				2								**147**
4	117	1											**118**
5	10		83										**93**
6	64			1	2								**67**
7		4	12	9		2	2						**29**
8	5												**5**
9	4												**4**
10	4												**4**
11	3												**3**
12	2												**2**
13	2												**2**
14	2												**2**
15		1											**1**
16	1												**1**
17	1												**1**
18	1												**1**
19					1								**1**
20	1												**1**
21		1											**1**
Records	**362**	**21**	**1125**	**24**	**5**	**4**	**3**	**525**	**220**	**2**	**1**	**1**	**2293**

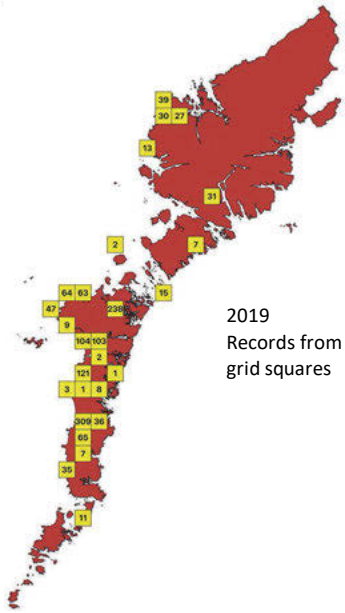
The organisms considered in this section range from microscopic bacteria through to massive multicellular trees. It is somewhat artificial to lump them all together but they do have one thing in common. They are photosynthetic. They fix light energy, converting it to chemical energy in the form of sugars. All were considered plants at some point in the past.

In total 2293 records were received from twenty recorders covering 713 taxa (includes species, subspecies and varieties) of plants. Fifteen recorders sent in records of Tracheophyta (flowering plants, conifers, clubmosses etc.). As the relative difficulty of identification increases the number of recorders decreases. Identifying algae, liverworts, and mosses which make up the bulk of the records, is very much a specialist activity. We are lucky to have a good "desmidiologist" and a good bryologist resident in the islands.

2017
Records from ten 5km grid squares

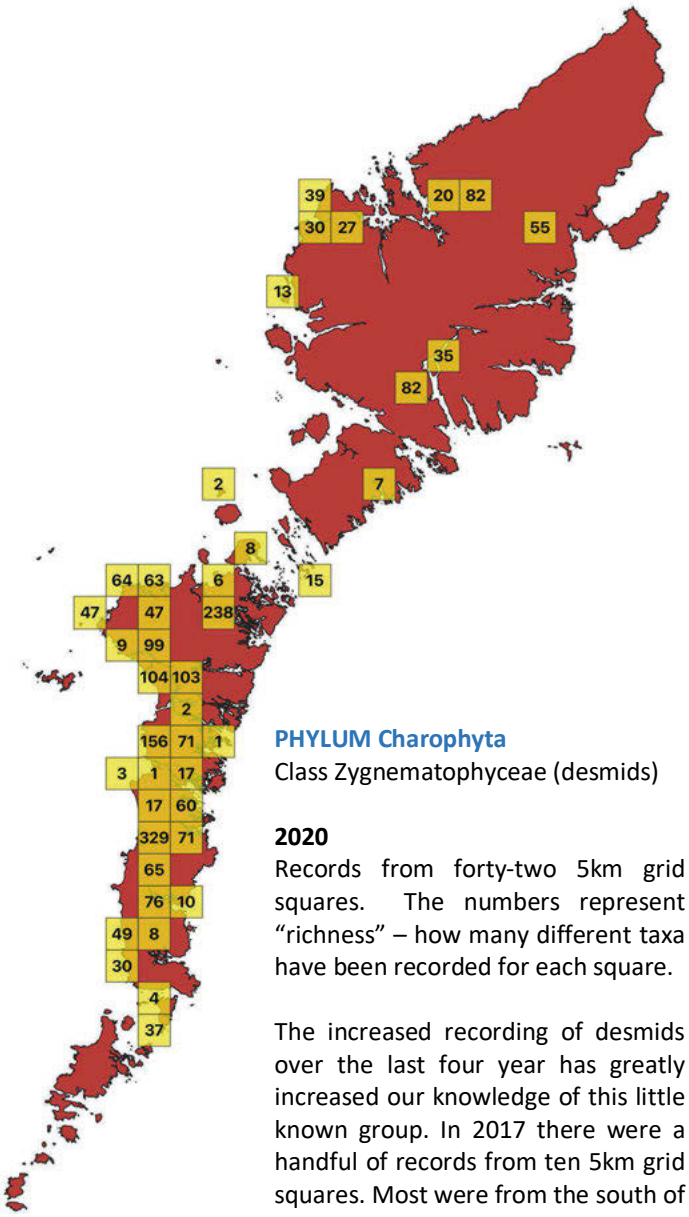


2018
Records from sixteen 5km grid squares



2019
Records from twenty-seven 5km grid squares

Desmid species richness 2020
Records from forty-two 5km grid squares



PHYLUM Charophyta

Class Zygnematophyceae (desmids)

2020

Records from forty-two 5km grid squares. The numbers represent "richness" – how many different taxa have been recorded for each square.

The increased recording of desmids over the last four year has greatly increased our knowledge of this little known group. In 2017 there were a handful of records from ten 5km grid squares. Most were from the south of the area, Eriskay through to the Sound of Harris.

A visit by a leading European expert provided a stimulus for further recording and by 2018 there were records from sixteen 5km grid squares. By 2019 that had grown to twenty-seven and by 2020, forty-two 5km squares had records of desmids.

There are now nearly 3,500 records of over 600 desmid taxa. Many of those taxa have not yet made it onto the official UK Species Inventory.

Plants, seaweeds, other algae etc.

PHYLUM Cyanobacteria - Blue-green bacteria

Identification of these requires specialist texts and microscopic examination. Four records of four species received in 2020 from two recorders.

Cyanobacteria species	Records
Coelosphaerium kuetzingianum	1
Gomphosphaeria aponina	1
[1]*Stigonema minutum*	1
Aphanocapsa incerta	1

Various PHYLA - Marine algae

The only records of any marine algae in 2020 were of the invasive species *Sargassum muticum* – Wireweed. Three recorders sent in sightings of this species from three different locations – on North Uist, South Uist and Eriskay.

Group	Records				Species			
	2017	2018	2019	2020	2017	2018	2019	2020
Red Seaweeds	68	13	2	-	40	12	2	-
Green Seaweeds	63	8	3	-	37	6	3	-
Brown Seaweeds	109	33	9	3	19	15	8	3
Total	**240**	**54**	**14**	**3**	**96**	**33**	**13**	**3**

Various PHYLA - Terrestrial and freshwater algae

The records of terrestrial and freshwater algae were dominated by desmids (Phylum Charophyta, Class Zygnematophyceae, 1125 records of 325 different taxa). These are covered later. In contrast only 42 records of 28 species of other freshwater or terrestrial algae were received in 2020.

The Phyla Chlorphyta (green algae) are thought to be true plants, belonging to the Kingdom Plantae. Eighteen species of Chlorophyta were recorded with most species being found on single occasions. One species *Trentepohlia abietina* is terrestrial often found forming a bright orange covering on the bark of a variety of deciduous and coniferous tree species. Most of the others were secondary catch collected during desmid sampling.

The Ochrophyta (brown algae), though, belong to the Kingdom Chromista. This distinction being made to a large extent on the structure of the walls surrounding the chloroplasts. Members of the Chromista have the chloroplasts surrounded by an extra wall compared to members of the Plantae. Ten species of Ochrophyta were found, once again as by-catch collected during desmid sampling.

The remaining species belong to a variety of phyla and again were mostly collected during desmid sampling.

[1]Examples of some of species found in 2020 are shown on the next two pages. Most are in the phyla Chlorophyta, Ochrophyta or Charophyta. Examples of a blue-green bacteria (Cyanobacteria) and a ciliate (Ciliophora) are also shown.

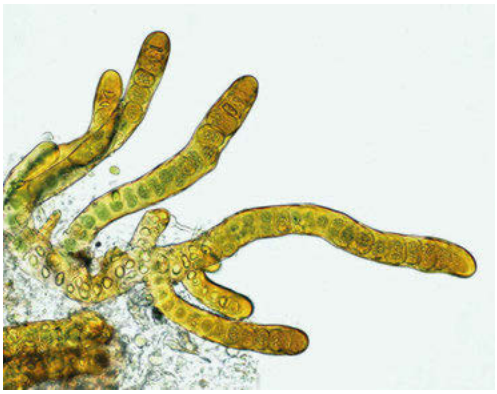
PHYLUM / Class		Records
CHLOROPHYTA – Green Algae (Kingdom Plantae)		
Chlorophyceae	*Botryococcus braunii*	3
	Chlamydomonas mutabilis	1
	Coelastrum sphaericum	1
	Oedogonium undulatum	1
	[1]*Pandorina morum*	3
	Pediastrum angulosum	3
	Pediastrum tetras	1
	[1]*Pseudopediastrum boryanum*	1
	Scenedesmus brasiliensis	1
	Scenedesmus magnus	1
	Sphaerocystis schroeteri	1
	Tetraedron regulare	1
Trebouxiophyceae	[1]*Geminella mutabilis*	1
	Lagerheimia wratislaviensis	1
	Oocystis naegelii	1
	Pseudoquadrigula britannica	1
	Trochiscia reticularis	1
Ulvophyceae	*Trentepohlia abietina*	1
OCHROPHYTA – Brown Algae (Kingdom Chromista)		
Bacillariophyceae	[1]*Frustulia saxonica*	1
	Surirella biseriata	1
Cymbellales	*Encyonema silesiacum*	1
*Fragilariales	*Pseudostaurosira parasitica var subconstricta*	1
Raphidophyceae	[1]*Gonyostomum semen*	2
Synurophyceae	[1]*Synura sphagnicola*	3
Xanthophyceae	*Chlorobotrys regularis*	1
	[1]*Goniochloris fallax*	1
	Ophiocytium cochleare	3
	Pseudostaurastrum enorme	4
	28 species, total records	**42**

* unusually grows as an epiphyte on other algae especially diatoms

Miscellaneous freshwater species - algal sampling by catch		
CILIOPHORA		
Heterotrichea	[1]*Stentor*	1
MYZOZOA		
Dinophyceae	*Peridinium cinctum*	1
PROTEOBACTERIA		
Thiotrichales	*Achromatium oxaliferum*	2
PROTOZOA		
Euglenoidea	*Phacus longicauda*	1
	Trachelomonas armata	2
	5 species, total records	**7**

Plants, seaweeds, other algae etc.

All photographs by Chris Johnson

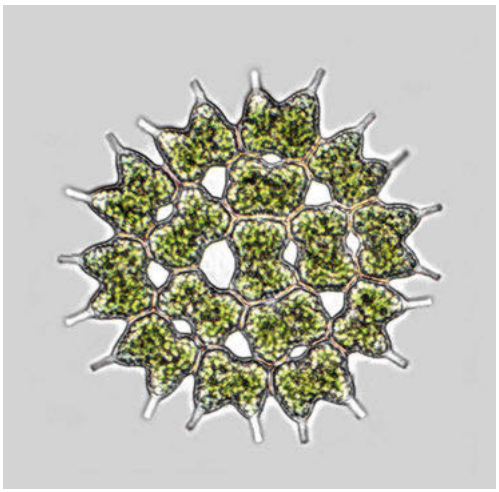


Stigonema minutum - Phylum Cyanobacteria

Stentor - Phylum Ciliophora

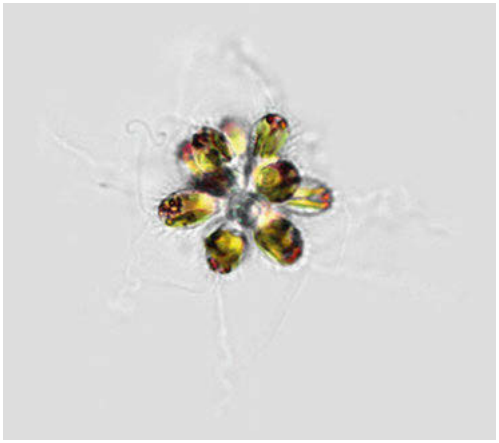
Pandorina morum - Phylum Chlorophyta

Geminella mutabilis - Phylum Chlorophyta



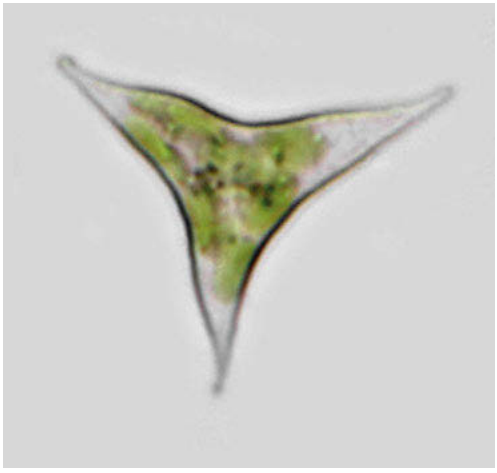
Pseudopediastrum boryanum - Phylum Chlorophyta

Frustulia saxonica - Phylum Ochrophyta

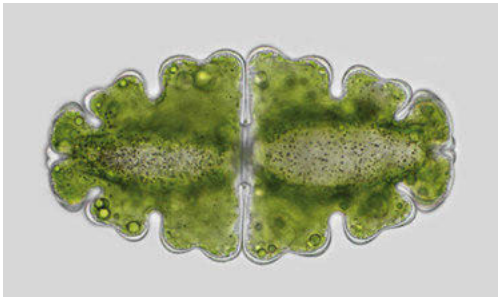


Synura sphagnicola - Phylum Ochrophyta

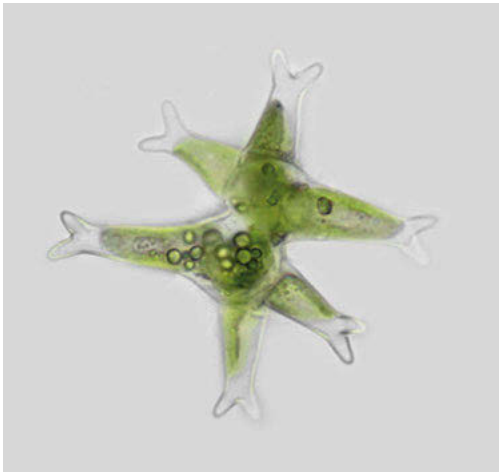
Gonyostomum semen - Phylum Ochrophyta



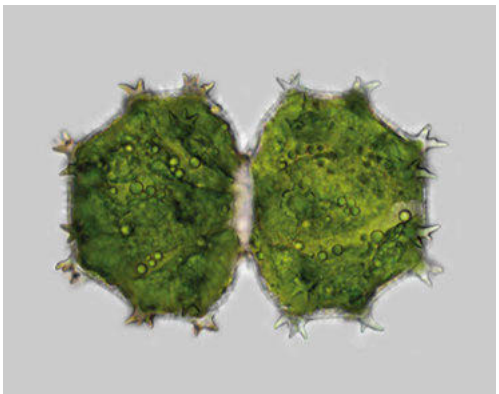
Goniochloris fallax - Phylum Ochrophyta



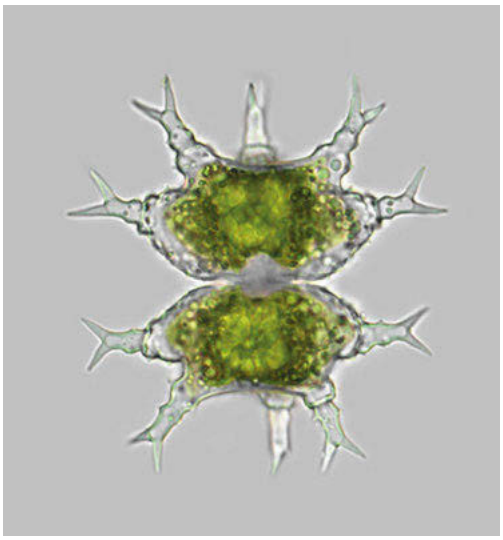
Euastrum oblongum - Phylum Charophyta, a desmid



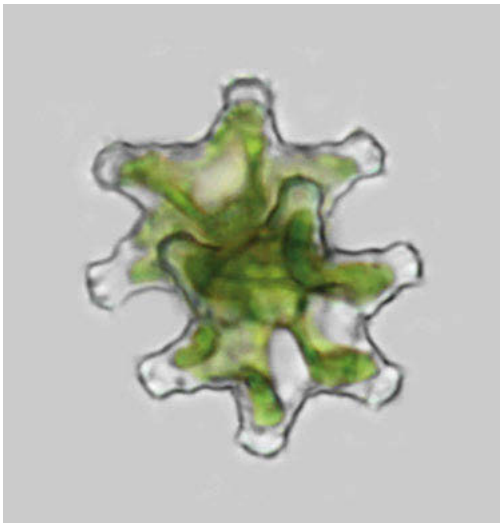
Staurastrum brachiatum - Phylum Charophyta, a desmid



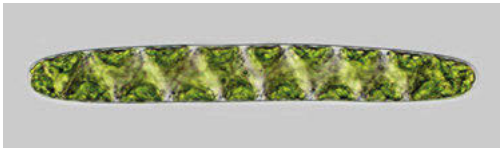
Xanthidium armatum - Phylum Charophyta, a desmid



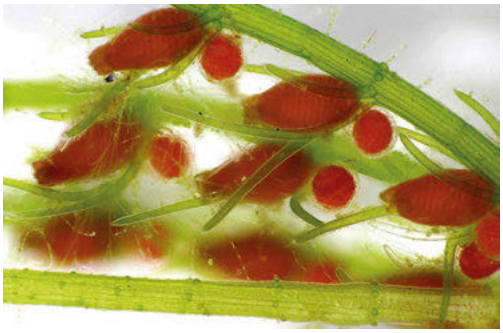
Staurastrum furcigerum - Phylum Charophyta, a desmid



Staurastrum margaritaceum – Ph. Charophyta, a desmid



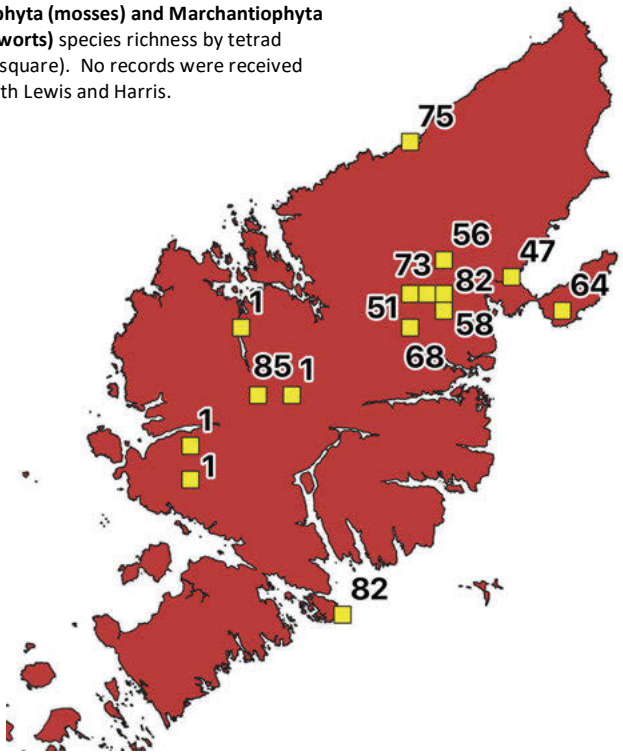
Spirotaenia condensate - Phylum Charophyta, a desmid



Chara virgate – Delicate Stonewort, Phylum Charophyta, in the same phylum as the desmids but stoneworts have a very different appearance. They look much more like vascular plants than algae. A number of sites in the Outer Hebrides are of international importance for stoneworts.

PHYLA Anthocerophyta (Hornworts), Marchantiophyta (Liverworts) and Bryophyta (Mosses)

Phylum / Island	**Records**
Bryophyta (mosses)	
Harris	2
Lewis	469
Scalpay	54
Total	**525**
Marchantiophyta (liverworts)	
Lewis	192
Scalpay	28
Total	**220**
Grand Total	**745**



Bryophyta (mosses) and Marchantiophyta (liverworts) species richness by tetrad (2km square). No records were received outwith Lewis and Harris.

One recorder sent in 525 records of 145 species of Bryophyta (mosses) and 220 records of 59 species of Marchantiophyta (liverworts). No other records from these groups were received from any other recorders. The majority (89%) of these records were from Lewis with the remainder from Scalpay and Harris.

Apart from a few casual sightings most records came from detailed surveys within eleven tetrads.

Nineteen species of moss or liverwort were present at all or almost all of the eleven locations.

Species (*liverworts in blue*)	**Sites**
Racomitrium fasciculare	11
Rhytidiadelphus squarrosus	11
Racomitrium lanuginosum	11
Campylopus introflexus	11
Racomitrium aciculare	11
Dicranum scoparium	11
Hylocomium splendens	11
Sphagnum cuspidatum	10
Diplophyllum albicans	10
Sphagnum palustre	10
Rhytidiadelphus loreus	10
Hypnum jutlandicum	10
Sphagnum capillifolium subsp. rubellum	10
Odontoschisma sphagni	10
Sphagnum denticulatum	10
Pleurozium schreberi	10
Sphagnum tenellum	10
Polytrichum commune var. commune	10
Mnium hornum	10

Rhytidiadelphus squarrosus – a common species in a range of habitats.

For someone wishing to develop their identification skills for these neglected phyla then this list provides a good starting point. Most are relatively easy to identify with a little practice and can be found in a variety of moorland and mire type habitats. The British Bryological Society's *Mosses and Liverworts of Britain and Ireland – a field guide* (ISBN 978-0-9561310-1-0) will provide a good starting point.

PHYLUM 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.

VC 110 species (in descending frequency)	Common Name (**bold** >200 records)	2020 records
Blechnum spicant	**Hard Fern**	-
Equisetum fluviatile	**Water Horsetail**	2
Dryopteris dilatata	**Broad Buckler-fern**	-
Athyrium filix-femina	**Lady Fern**	-
Polypodium vulgare	**Polypody**	-
Pteridium aquilinum	**Bracken**	-
Equisetum arvense	**Common Horsetail**	2
Equisetum palustre	**Marsh Horsetail**	-
Asplenium marinum	**Sea Spleenwort**	-
Osmunda regalis	**Royal Fern**	-
Oreopteris limbosperma	**Lemon-scented Fern**	-
Dryopteris aemula	**Hay-scented Buckler-fern**	-
Asplenium adiantum-nigrum	**Black Spleenwort**	-
Ophioglossum vulgatum	**Adder's Tongue**	1
Dryopteris affinis	**Scaly Male Fern**	-
Hymenophyllum wilsonii	**Wilson's Filmy Fern**	-
Dryopteris filix-mas	**Common Male Fern**	-
Asplenium trichomanes	**Maidenhair Spleenwort**	-
Phegopteris connectilis	**Beech Fern**	-
Botrychium lunaria	Moonwort	-
Equisetum sylvaticum	Wood Horsetail	-
Phyllitis scolopendrium	Hart's-tongue	-
Dryopteris carthusiana	Narrow Buckler-fern	-
Cystopteris fragilis	Brittle Bladder-fern	-
Asplenium ruta-muraria	Wall-rue	-
Equisetum variegatum	Variegated Horsetail	-
Ophioglossum azoricum	Small Adder's-tongue	-
Dryopteris expansa	Northern Buckler-fern	-
Pilularia globulifera	Pillwort	-
Cryptogramma crispa	Parsley Fern	-
Dryopteris borreri	Borrer's Scaly Male Fern	-
Polystichum aculeatum	Hard Shield-fern	-
Equisetum pratense	Shady Horsetail	-
Dryopteris cambrensis	Narrow Scaly Male Fern	-
Dryopteris oreades	Mountain Male Fern	-
Gymnocarpium dryopteris	Oak Fern	-
Asplenium viride	Green Spleenwort	-
Ceterach officinarum	Rusty-back Fern	-
Equisetum telmateia	Giant Horsetail	-
Polystichum setiferum	Soft Shield-fern	-
	Total Records	**5**

Only five records of Pteridiophyta were received in 2020 from three recorders. *Equisetum fluviatile* (Water Horsetail) was recorded from Eriskay and Benbecula and *Equisetum arvense* (Common Horsetail) was recorded from two locations on Benbecula. The final record was of *Ophioglossum vulgatum* (Adder's Tongue) at South Lochboisdale on South Uist.

Ophioglossum vulgatum - Adder's Tongue

PHYLUM Tracheophyta

Lycopodiopsida (Clubmosses & Quillworts)

Just one of six species of Clubmoss and Quillwort recorded from VC110 was recorded in 2020, a sighting of Lesser Clubmoss at Loch Druidibeg

		Records	
Species	**Common Name**	**VC110**	**2020**
Selaginella selaginoides	Lesser Clubmoss	767	1
Huperzia selago	Fir Clubmoss	434	-
Isoetes lacustris	Quillwort	388	
Diphasiastrum alpinum	Alpine Clubmoss	16	-
Lycopodium clavatum	Stag's-horn Clubmoss	10	-
Lycopodiella inundata	Marsh Clubmoss	4	-
		Total	**1**

Selaginella selaginoides – Lesser Clubmoss

Phylum Tracheophyta – Pinopsida (Conifers)

Species	Common Name	2020 records
Juniperus communis	Juniper	2
	Total	**2**

There were only two records of Conifers in 2020. Both were of Juniper (*Juniperus communis*) with records from Harris and Lewis.

Juniperus comminis – Juniper, male

PHYLUM Tracheophyta – Magnoliopsida (Flowering Plants)

In 2020 there were 359 records of 141 taxa of flowering plants submitted to OHBR. This was the work of fifteen individual recorders. Most of the recording in 2020 was concentrated from Eriskay to North Uist with just 7% (25 records) coming from north of the Sound of Harris.

Number of flowering plants recorded by island	
Island	**Records**
Benbecula	164
South Uist	66
North Uist	51
Eriskay	46
Lewis	16
Harris	9
Barra	3
Berneray	2
Vatersay	2
Grand Total	**359**

Family	Type of plant	Species	Records
Poaceae	Grasses	32	232
Asteraceae	Daisies, Thistles etc.	31	224
Cyperaceae	Sedges	26	130
Fabaceae	Vetches, Clovers etc.	11	108
Rosaceae	Rose, Cinquefoils etc.	14	105
Plantaginaceae	Plantains, Speedwells	12	97
Ranunculaceae	Buttercups	6	94
Orobanchaceae	Rattles, Eyebrights	10	76
Juncaceae	Rushes, Wood-rushes	10	74
Caryophyllaceae	Campions, Chickweeds	9	70
Polygonaceae	Docks & Sorrels	6	61
Lamiaceae	Selfheal, Thymes, Mints	9	55
Ericaceae	Heathers	5	53
Orchidaceae	Orchids	10	45
Rubiaceae	Bedstraws	4	43
Apiaceae	Umbellifers	7	42
Brassicaceae	Scurvygrass, Charlock	8	29
Onagraceae	Willowherbs	8	27
Primulaceae	Primroses etc.	5	25
Salicaceae	Willows	5	24
Iridaceae	Irises	1	22
Polygalaceae	Milkworts	2	21
Boraginaceae	Bugloss, Forget-me-nots	5	19
Lentibulariaceae	Butterworts etc.	4	19
Urticaceae	Nettles	1	18
Caprifoliaceae	Devil's-bit Scabious	2	16
Nartheciaceae	Bog Asphodel	1	15
Plumbaginaceae	Thrift	1	15
Potamogetonaceae	Pondweeds	3	15
Araliaceae	Ivy	2	13
Crassulaceae	Stonecrops, Roseroot	3	13
Linaceae	Fairy Flax	1	13
Menyanthaceae	Bogbean	1	13
Nymphaeaceae	White Water Lilly	1	13
Hypericaceae	St Johns Worts	2	10
Violaceae	Violets, Pansies etc.	2	9
Droseraceae	Sundews	1	8
Gunneraceae	Gunnera	1	8
Sapindaceae	Sycamore	1	8
Gentianaceae	Centaury, Field Gentian	2	7
Amaranthaceae	Oraches, Glasswort	2	6
Betulaceae	Birch, Hazel etc.	3	6
Total		**141**	**359**

One hundred and forty-one (141) species of plant belonging to 42 different families were recorded in 2020. The comparable figures for 2019 were 298 species of 65 families. A higher number of records in 2019 the result of one visiting botanist who spent a week "square bashing" on Harris and Lewis.

As in previous years the most frequently recorded families were the Poaceae (grasses), Asteraceae (daisies, thistles, dandelions) and Cyperaceae (sedges).

Species	Common Name	Records
Eriophorum angustifolium	Common Cottongrass	9
Trifolium repens	White Clover	8
Rumex acetosa	Common Sorrel	8
Potentilla anserina	Silverweed	8
Ranunculus flammula	Lesser Spearwort	7
Lotus corniculatus	Bird's-foot Trefoil	7
Trifolium pratense	Red Clover	7
Nymphaea alba	White Water-lily	7
Plantago lanceolata	Ribwort Plantain	7
Menyanthes trifoliata	Bogbean	7
Calluna vulgaris	Heather	6
Potentilla erecta	Tormentil	6
Potamogeton polygonifolius	Bog Pondweed	6
Euphrasia officinalis agg.	Eyebright	6
Jacobaea vulgaris	Common Ragwort	6
Ranunculus acris	Meadow Buttercup	6
Achillea millefolium	Yarrow	5
Plantago maritima	Sea Plantain	5
Plantago coronopus	Buck's-horn Plantain	5
Carex panicea	Carnation Sedge	5
Potamogeton natans	Broad-leaved Pondweed	5
Galium verum	Lady's Bedstraw	5

Eriophorum angustifolium - Common Cottongrass, the most frequently recorded plant species in 2020. Changes in abundance of plants such as cottongrasses can indicate things like over grazing of heather moorland or high rates of nitrogen deposition.

Twenty-two species were recorded five times or more including many species familiar to all of us. The value of recording common things is often underestimated. It's easy to get seduced by a showy saxifrage but ignore the common but equally attractive Red Clover. Changes in abundance of common species can, for example, indicate major changes in land management, climate effects or levels of atmospheric pollutants.

Trifolium pratense – Red Clover, hard to miss when growing in profusion as here on Berneray. Changes in abundance could indicate major changes in crofting practices.

Euphrasia officinalis agg. – Eyebright, increased use of chemical fertilizers could change the abundance of species such as eyebright.

Nymphaea alba – White Water-lily, could be affected by a major change in acidity of freshwater lochs.

Family Cyperaceae – Sedges, the number of records and species recorded in 2020 was markedly lower than in previous years. Perceived as a difficult group, the lack of records perhaps reflects the absence of records from visiting botanists who may have more expertise or interest in this group. A number of species have no recent records. It would be interesting to target these species at some point

Species	Common Name	NBN	2017	2018	2019	2020
Carex nigra	Common Sedge	2183	28	8	4	1
Trichophorum germanicum	Deergrass	2006	22	1	5	-
Eriophorum angustifolium	Common Cottongrass	1983	49	24	23	9
Carex panicea	Carnation Sedge	1657	30	8	6	5
Carex echinata	Star Sedge	1418	20	5	10	-
Eleocharis palustris	Common Spike-rush	1408	10	9	2	4
C.viridula subsp. oedocarpa	Common Yellow Sedge	1386	7	5	10	-
Eleocharis multicaulis	Many-stalked Spike-rush	1218	3	2	8	-
Carex flacca	Glaucous Sedge	1192	3	5	7	-
Carex binervis	Green-ribbed Sedge	1034	11	3	9	-
Carex pulicaris	Flea Sedge	917	7	5	7	-
Schoenus nigricans	Black Bog-rush	898	7	7	7	-
Carex arenaria	Sand Sedge	715	10	10	7	-
Eriophorum vaginatum	Hare's-tail Cottongrass	714	19	5	5	-
Carex rostrata	Bottle Sedge	701	6	2	3	-
Eleogiton fluitans	Floating Club-rush	699	2	5	-	-
Carex pilulifera	Pill Sedge	533	4	1	1	-
Carex leporina	Oval Sedge	531	1	1	5	1
Eleocharis quinqueflora	Few-flowered Spike-rush	502	2	3	1	-
Carex dioica	Dioecious Sedge	438	1	4	-	-
C. viridula subsp. viridula	Small-fruited Yellow Sedge	417	-	-	1	-
Carex hostiana	Tawny Sedge	389	1	-	-	-
Rhynchospora alba	White Beak-sedge	323	1	1	1	1
Carex limosa	Bog-sedge	306	1	-	1	-
Isolepis setacea	Bristle Club-rush	272	-	1	-	-
Blysmus rufus	Saltmarsh Flat-sedge	265	-	1	2	-
Schoenoplectus tabernaemontani	Grey Club-rush	263	-	2	-	-
Eleocharis uniglumis	Slender Spike-rush	220	-	4	1	-
Carex maritima	Curved Sedge	202	-	-	-	-
Carex distans	Distant Sedge	179	1	-	2	-
Carex paniculata	Greater Tussock Sedge	151	-	-	-	-
Bolboschoenus maritimus	Sea Club-rush	150	-	1	-	-
Schoenoplectus lacustris	Common Club-rush	131	-	3	-	-
C.viridula subsp. brachyrrhyncha	Long-stalked Yellow Sedge	125	-	1	1	-
Carex diandra	Lesser Tussock Sedge	123	-	1	-	-
Carex bigelowii	Stiff Sedge	109	-	-	-	-
Carex extensa	Long-bracted Sedge	99	-	-	-	-
Carex pauciflora	Few-flowered Sedge	74	1	-	-	-
Cladium mariscus	Great Fen Sedge	72	-	-	-	-
Carex otrubae	False Fox Sedge	69	-	-	-	-
Carex canescens	White Sedge	53	1	-	-	-
Isolepis cernua	Slender Club-rush	53	-	-	-	-
Carex pallescens	Pale Sedge	38	-	-	-	-
Carex lasiocarpa	Slender Sedge	36	-	-	-	-
Carex disticha	Distant Sedge	29	-	4	-	-
Carex caryophyllea	Spring Sedge	18	-	-	-	-
Eriophorum latifolium	Broad-leaved Cottongrass	18	-	-	-	-
Carex acutiformis	Lesser Pond Sedge	6	-	-	-	-
Carex hirta	Hairy Sedge	6	-	-	-	-
Carex sylvatica	Wood Sedge	6	-	1	1	-
Blysmus compressus	Flat-headed Sedge	4	-	-	-	-
Carex aquatilis	Water Sedge	3	-	-	-	-
Carex pendula	Pendulous Sedge	3	-	-	-	-
Carex vesicaria	Bladder Sedge	2	-	-	-	-
Four recorders in 2020	**Total records**		**248**	**133**	**130**	**21**
	Number of species		**26**	**31**	**26**	**6**

Carex nigra - Common Sedge

Carex panicea - Carnation Sedge

Eleocharis palustris - Common Spike-rush

Family Juncaceae – **Rushes**, another group with far fewer records than in 2020. The reasons are probably similar as for the sedges (family Cyperaceae)

The species recorded are common and frequently in VC110. Once again Sharp-flowered Rush (*Juncus acutiflorus*) and a number of other species seem under-recorded in comparison.

Species	Common Name	NBN	2017	2018	2019	2020
Juncus acutiflorus	Sharp-flowered Rush	546	-	1	-	-
Juncus ambiguus	Frog Rush	9	-	-	-	-
Juncus articulatus	Jointed Rush	1575	11	5	10	1
J. articulatus x acutiflorus = J. x surrejanus		2	-	-	-	-
Juncus balticus	Baltic Rush	269	-	2	-	-
Juncus bufonius	Toad Rush	642	7	5	6	-
J. bufonius agg.	Toad Rush agg.	414	-	-	-	-
Juncus bulbosus	Bulbous Rush	1997	15	7	13	4
Juncus conglomeratus	Compact Rush	553	4	-	3	1
J. conglomeratus var. subuliflorus		7	-	-	-	-
Juncus effusus	Soft-rush	1565	78	8	22	2
J. effusus var. effusus		132	-	-	-	-
J. effusus var. spiralis		193	-	-	-	-
J. effusus var. subglomeratus		32	-	-	-	-
Juncus filiformis	Thread Rush	19	-	-	-	-
Juncus gerardii	Saltmarsh Rush	664	3	1	4	-
Juncus inflexus	Hard Rush	1	-	-	-	-
Juncus maritimus	Sea Rush	44	1	-	-	-
Juncus squarrosus	Heath Rush	884	6	1	4	-
Juncus tenuis	Slender Rush	5	1	-	-	-
Juncus trifidus	Three-leaved Rush	7	1	-	-	-
Luzula campestris	Field Wood-rush	689	6	3	-	-
Luzula multiflora	Heath Wood-rush	920	2	2	8	-
L. multiflora subsp. congesta		124	2	1	1	-
L. multiflora subsp. multiflora		129	1	-	-	-
Luzula pilosa	Hairy Wood-rush	160	-	1	-	-
Luzula spicata	Spiked Wood-rush	16	-	-	-	-
Luzula sylvatica	Great Wood-rush	532	6	1	3	1
Two recorders in 2020	**Total records**		**144**	**38**	**74**	**9**
	Number of species		**15**	**13**	**10**	**5**

They are a group that is often ignored but a good range of species are known from the Outer Hebrides. In terms of identification the rushes are a more accessible group than are either grasses or sedges. The excellent FSC fold-out key to Rushes (ISBN 9781908819383) provides a handy field guide to the group.

There are some difficulties, separating Sharp-flowered Rush (*Juncus acutiflorus*) from Jointed Rush (*Juncus articulatus*) is not always easy.

A number of varieties of some of the commoner species can also cause an element of confusion. For example, *Juncus effusus var. subglomeratus* can be confused with *Juncus conglomeratus* at first sight but in practice are fairly easy to separate. The trick is to examine closely the size and spacing of ridges on the stems.

Juncus bulbosus - Bulbous Rush

Juncus effusus - Soft-rush

Juncus conglomeratus - Compact Rush

Family Orchidaceae – Orchids, just five records of four species in 2020. One of the delights of the Hebridean Spring is the profusion of orchids of all sorts of species including a baffling array of hybrids. Hopefully more people in 2021 will be able to experience this spectacle.

The only recorded species were Common Spotted-orchid (*Dactylorhiza fuchsii*), Heath Spotted-orchid (*Dactylorhiza maculata*), Northern Marsh-orchid (*Dactylorhiza purpurella*) and Frog Orchid (*Coeloglossum viride*). The real VC110 specialist Hebridean Marsh Orchid (*Dactylorhiza ebudensis*) was missed altogether. Now considered a variety of Narrow-leaved Marsh Orchid perhaps the length of its latest official name puts people off - *Dactylorhiza traunsteinerioides* subsp. *francis-drucei* var. *ebudensis*.

Species	Common Name	NBN	2017	2018	2019	2020
Anacamptis pyramidalis	Pyramidal Orchid	71	1	11	-	-
Coeloglossum viride	Frog Orchid	308	1	8	3	1
C. viride x D. fuchsii		20	-	-	-	-
C. viride x D. purpurella		6	-	-	-	-
Dactylorhiza ebudensis	Hebridean Marsh-orchid	21	1	2	-	-
Dactylorhiza fuchsii	Common Spotted-orchid	340	18	20	5	2
D. fuchsii x incarnata		14	-	1	-	-
D. fuchsii x maculata		11	-	-	-	-
D. fuchsii x purpurella		17	-	1	-	-
D. fuchsii x traunsteinerioides		5	-	-	-	-
Dactylorhiza incarnata	Early Marsh-orchid	140	9	5	4	-
D. incarnata subsp. coccinea		142	3	6	2	-
D. incarnata subsp. incarnata		56	-	3	-	-
D. incarnata subsp. pulchella		12	-	-	1	-
D. incarnata x purpurella = D. x latirella		26	-	1	-	-
D. incarnata x traunsteinerioides		2	-	-	-	-
Dactylorhiza maculata	Heath Spotted-orchid	500	28	7	16	1
D. maculata subsp. ericetorum		152	-	2	-	-
D. maculata x occidentalis		1	-	-	-	-
D. maculata x purpurella		62	-	-	-	-
Dactylorhiza purpurella	Northern Marsh-orchid	337	8	15	11	1
D. purpurella x majalis		8	-	-	-	-
Dactylorhiza traunsteinerioides	Narrow-leaved Marsh-orchid	5	-	-	-	-
D. traunsteinerioides subsp. francis-drucei	Lapland Marsh-orchid	23	-	-	-	-
Dactylorhiza x jenensis		3	-	-	-	-
Gymnadenia borealis	Heath Fragrant-orchid	3	-	-	-	-
Gymnadenia conopsea	Fragrant Orchid	13	-	1	-	-
Gymnadenia conopsea subsp. conopsea		3	-	-	-	-
G. conopsea x D. fuchsii		2	-	-	-	-
Gymnadenia densiflora	Marsh Fragrant-orchid	6	-	-	-	-
Hammarbya paludosa	Bog Orchid	173	-	-	-	-
Neottia cordata	Lesser Twayblade	216	7	1	1	-
Neottia ovata	Common Twayblade	135	2	7	1	-
Orchis mascula	Early-purple Orchid	70	-	2	-	-
Platanthera bifolia	Lesser Butterfly-orchid	141	4	6	1	-
Platanthera chlorantha	Greater Butterfly-orchid	21	-	-	-	-
Spiranthes romanzoffiana	Irish Lady's-tresses	144	-	-	-	-
Three recorders in 2020	**Total records**		**82**	**99**	**45**	**5**
	Number of species		**11**	**18**	**10**	**4**

D. fuchsia - Common Spotted-orchid

Coeloglossum viride – Frog Orchid

Dactylorhiza ebudensis - Hebridean Marsh-orchid. Now officially *D. traunsteinerioides* subsp. *francis-drucei* var. *ebudensis*

Family Poales - Grasses

Species	Common Name	NBN	2017	2018	2019	2020
Agrostis stolonifera	Creeping Bent	1985	5	3	3	-
Holcus lanatus	Yorkshire-fog	1525	36	8	24	-
Festuca rubra agg.	Red Fescue	1448	5	2	16	-
Molinia caerulea	Purple Moor-grass	1387	25	6	11	5
Anthoxanthum odoratum	Sweet Vernal-grass	1188	11	2	16	-
Nardus stricta	Mat-grass	917	7	-	7	-
Aira praecox	Early Hair-grass	843	7	2	11	-
Festuca vivipara	Viviparous Sheep's-fescue	767	15	8	11	-
Poa annua	Annual Meadow-grass	751	5	-	8	-
Cynosurus cristatus	Crested Dog's-tail	746	17	5	13	-
Agrostis capillaris	Common Bent	709	4	-	13	-
Glyceria fluitans	Floating Sweet-grass	690	2	3	3	-
Danthonia decumbens	Heath-grass	648	3	5	3	-
Deschampsia flexuosa	Wavy Hair-grass	635	7	-	4	-
Lolium perenne	Perennial Rye-grass	617	1	1	17	-
Poa trivialis	Rough Meadow-grass	563	-	1	8	-
Ammophila arenaria	Marram	529	7	7	9	-
Phragmites australis	Common Reed	487	6	7	6	2
Poa humilis	Spreading Meadow-grass	434	3	3	6	-
Alopecurus geniculatus	Marsh Foxtail	432	-	2	1	-
Arrhenatherum elatius	False Oat-grass	406	1	1	14	-
Dactylis glomerata	Cock's-foot	387	14	3	5	-
Agrostis canina	Velvet Bent	370	6	-	3	-
Puccinellia maritima	Common Saltmarsh-grass	361	-	-	-	-
Elytrigia juncea	Sand Couch	266	-	1	-	-
Elytrigia repens	Common Couch	258	-	-	-	-
Bromus hordeaceus	Soft-brome	241	-	2	2	-
Deschampsia setacea	Bog Hair-grass	210	1	-	-	-
Deschampsia cespitosa	Tufted Hair-grass	207	-	-	3	-
Holcus mollis	Creeping Soft-grass	204	-	-	4	-
Koeleria macrantha	Crested Hair-grass	166	-	6	-	-
Agrostis vinealis	Brown Bent	162	-	-	-	-
Festuca ovina agg.	Sheep's Fescue agg.	157	1	-	-	-
Catabrosa aquatica	Whorl-grass	154	-	1	-	-
Helictotrichon pubescens	Downy Oat-grass	151	-	5	-	-
Phleum pratense	Timothy	115	-	-	-	-
Aira caryophyllea	Silver Hair-grass	104	-	-	1	-
Bromus hordeaceus	Common Soft-brome	95	-	-	-	-
Avena strigosa	Bristle Oat	90	-	2	-	-
Catapodium marinum	Sea Fern-grass	84	-	-	-	-
Poa pratensis	Smooth Meadow-grass	77	-	1	6	-
Alopecurus pratensis	Meadow Foxtail	69	-	1	1	-
Brachypodium sylvaticum	False-brome	60	-	-	-	-
Leymus arenarius	Lyme-grass	53	2	1	1	-
Phalaris arundinacea	Reed Canary-grass	49	-	-	1	-
Festuca arundinacea	Tall Fescue	41	-	1	-	-
Hierochloe odorata	Holy-grass	40	-	3	-	-
Glyceria declinata	Small Sweet-grass	38	-	-	-	-
Vulpia bromoides	Squirreltail Fescue	37	-	-	-	-
Phleum bertolonii	Smaller Cat's-tail	36	-	-	-	-
Cortaderia richardii	Early Pampas-grass	32	-	-	-	-
Festuca pratensis	Meadow Fescue	32	-	-	-	-
Poa palustris	Swamp Meadow-grass	27	-	-	-	-
Agrostis gigantea	Black Bent	25	-	-	-	-
Briza media	Quaking-grass	24	-	-	-	-
Lolium multiflorum	Italian Rye-grass	17	-	-	-	-
Festuca arenaria	Rush-leaved Fescue	13	-	-	-	-
Avena fatua	Wild-oat	11	-	-	-	-
Cortaderia selloana	Pampas-grass	11	-	1	-	-
Catapodium rigidum	Fern-grass	10	-	-	-	-
Hordeum distichon	Two-rowed Barley	10	-	-	-	-
Poa nemoralis	Wood Meadow-grass	8	-	-	-	-
Secale cereale	Rye	7	-	1	-	-
Spartina anglica	Common Cord-grass	7	-	-	-	-

Just seven records of two of the commonest species of grass *Molinia caerulea* (Purple Moor-grass) and *Phragmites australis* (Common Reed) were recorded in 2020.

Phragmites australis - Common Reed

Phragmites australis - Common Reed

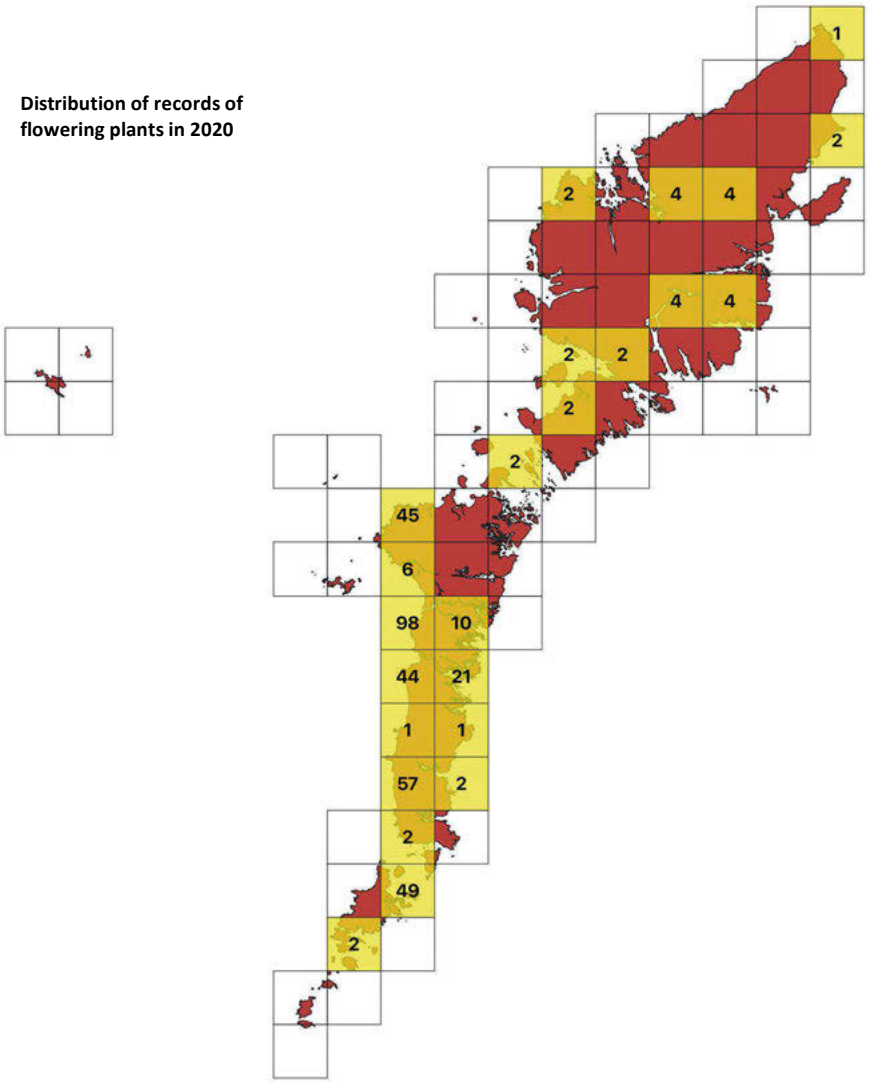
The level of recording of grasses depends very much on who's visiting the islands. As with sedges and rushes there is little recording by resident naturalists.

Plants, seaweeds, other algae etc.

Species	Common Name	NBN	2017	2018	2019	2020
Avena sativa	Oat	6	-	-	1	-
Poa chaixii	Br'd-leaved Meadow-grass	6	-	-	-	-
Hordeum vulgare	Six-rowed Barley	5	-	-	-	-
Phalaris canariensis	Canary-grass	5	-	-	-	-
Bromus lepidus	Slender Soft-brome	4	-	-	-	-
Catabrosa aquatica var. uniflora	Whorl-grass	4	-	-	-	-
Bromus sterilis	Barren Brome	3	-	-	-	-
Festuca brevipila	Hard Fescue	3	-	-	-	-
Trisetum flavescens	Yellow Oat-grass	3	-	3	-	-
Triticum aestivum	Bread Wheat	3	-	-	-	-
Avena sterilis	Winter Wild-oat	2	-	-	-	-
Bromus racemosus	Smooth Brome	2	-	-	-	-
Festuca gigantea	Giant Fescue	2	-	-	-	-
Hordeum secalinum	Meadow Barley	2	-	-	-	-
Puccinellia distans	Reflexed Saltmarsh-grass	2	-	-	-	-
Vulpia myuros	Rat's-tail Fescue	2	-	-	-	-
Alopecurus myosuroides	Black-grass	1	-	-	-	-
Festuca filiformis	Fine-leaved Sheep's-fescue	1	-	-	-	-
Spartina townsendii	Townsend's Cord-grass	1	-	-	-	-
Three recorders in 2020	**Records**		**191**	**98**	**232**	**7**
	Number of species		**24**	**32**	**32**	**2**

Polyommatus icarus – Common Blue, much more likely to be recorded than the *Deschampsia cespitosa* (Tufted Hair-grass) it's resting on.

Distribution of records of flowering plants in 2020



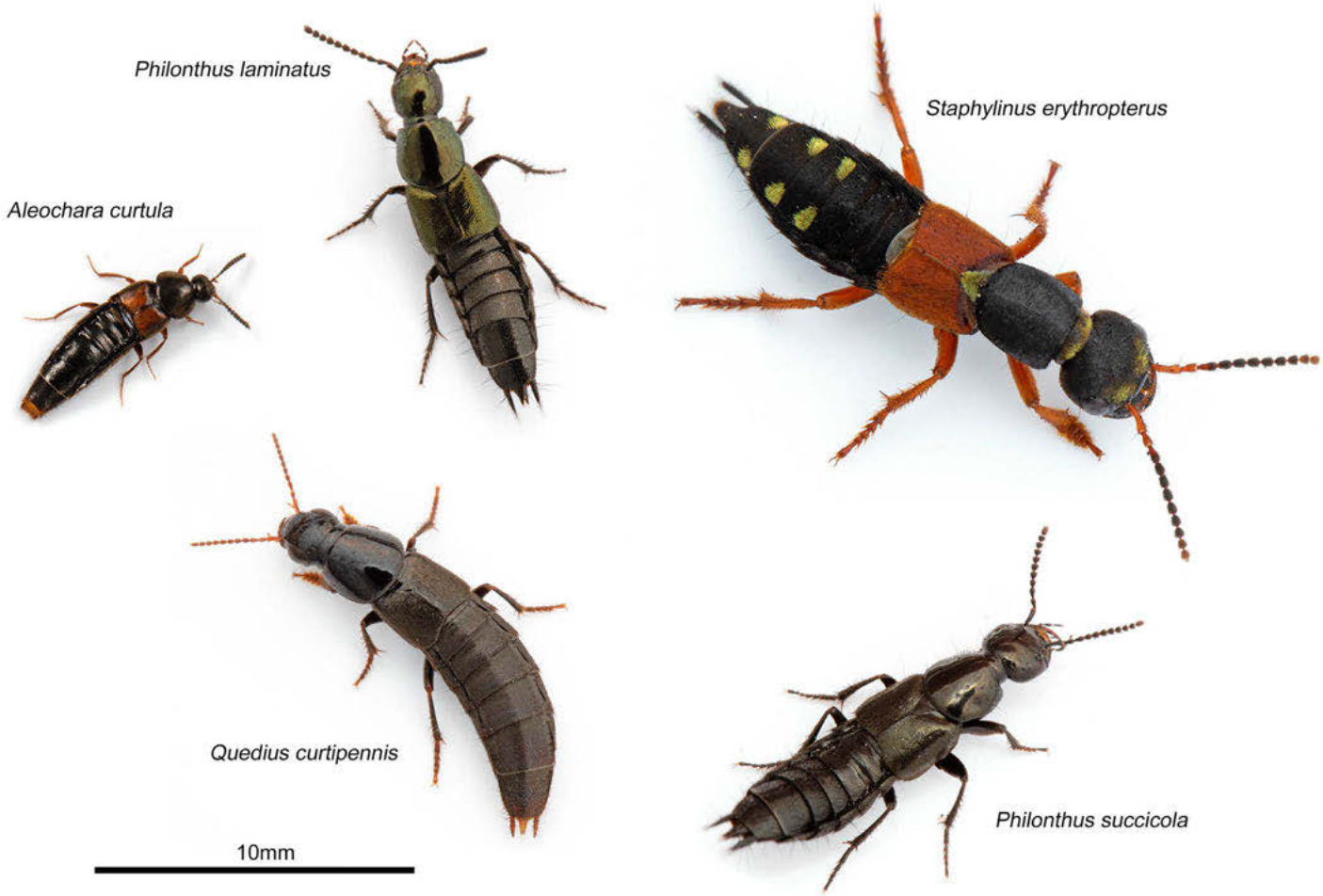
Invasive Non-native Species

Twenty-four records of INNS (Invasive Non-native Species) were sent to OHBR in 2020. The majority (18) were of Hedgehogs, these have already been considered in the mammal section. The remaining records included three of Wireweed (*Sargassum muticum*), found on beaches on North Uist, South Uist and Eriskay. The three remaining records were of; the garden variety of Lady's Mantle (*Alchemilla mollis*) recorded from Uig on Lewis and two of Monkeyflower (*Mimulus* sp.) one on Benbecula and one on Lewis.

Kingdom - Phylum	**Type**	**Species**	**Common name**	**Total**
Animalia - Chordata	Mammal	*Erinaceus europaeus*	West European Hedgehog	18
Chromista - Ochrophyta	Brown seaweed	*Sargassum muticum*	Wireweed	3
Plantae - Tracheophyta	Flowering plant	*Alchemilla mollis*	Garden Lady's-mantle	1
		Mimulus	Monkeyflower Species	1
		Mimulus luteus agg.	Mimulus luteus agg.	1
Grand Total				**24**

The number of records of these species does not reflect the current distribution of these species in the Outer Hebrides. Anyone who drives along the roads on Harris, for example, in the summer can't help but notice bright green swathes of escaped garden Lady's Mantle. OHBR currently holds 461 records for thirty-three species classified as INNS. These include five seaweeds and a barnacle which feature on a Marine Non-native Species leaflet produced by OHBR. Wireweed (*Sargassum muticum*) is thought to be the species most likely to be a problem around the coasts of the Outer Hebrides. The others are not yet considered to be a problem though this may require monitoring and a re-appraisal in the future.

Kingdom	**Phylum**	**Class**	**Species**	**Common name**	**Total**
Animalia	Arthropoda	Maxillopoda	*Austrominius modestus*	a barnacle	1
	Chordata	Mammalia	*Erinaceus europaeus*	Hedgehog	166
			Mustela putorius subsp. furo	Feral Ferret	31
			Neovison vison	American Mink	1
	Platyhelminthes	Rhabditophora	*Arthurdendyus triangulatus*	New Zealand Flatworm	16
Chromista	Ochrophyta	Phaeophyceae	*Colpomenia peregrina*	Oyster Thief	2
			Sargassum muticum	Wireweed	6
Plantae	Chlorophyta	Ulvophyceae	*Codium fragile atlanticum*	a green seaweed	5
			Codium fragile fragile	a green seaweed	2
	Rhodophyta	Florideophyceae	*Asparagopsis armata*	Harpoon Weed	7
			Bonnemaisonia hamifera	Bonnemaison's Hook Weed	2
	Tracheophyta	Magnoliopsida	*Acaena novae-zelandiae*	Pirri-pirri-bur	2
			Alchemilla mollis	Garden Lady's-mantle	1
			Buddleja	Buddleja	1
			Cortaderia sp.	Pampas-grass	21
			Cortaderia richardii	Early Pampas-grass	1
			Cortaderia selloana	Pampas-grass	8
			Crocosmia	Montbretia	67
			Elodea canadensis	Canadian Waterweed	4
			Elodea nuttallii	Nuttall's Waterweed	1
			Fallopia japonica	Japanese Knotweed	8
			Gunnera	Giant-rhubarb	76
			Impatiens glandulifera	Himalayan Balsam	1
			Mimulus	Monkeyflower Species	1
			Mimulus guttatus	Monkeyflower	1
			Mimulus guttatus x luteus = M. x robertsii	Hybrid Monkeyflower	2
			Petasites albus	White Butterbur	1
			Petasites fragrans	Winter Heliotrope	3
			Prunus laurocerasus	Cherry Laurel	1
			Rhododendron	Rhododendron	1
			Rhododendron ponticum	Rhododendron	15
			Rosa rugosa	Japanese Rose	5
			Rubus spectabilis	Salmonberry	1
Total records					**461**



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