

Preliminary Report on the Surtsey Investigation in 1967

Terrestrial Invertebrates

by

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The team, consisting of C.H. Lindroth, H. Anderson, H. Bödvarsson and S. Richter, was the same as in 1966.

Surtsey was visited by all four members on August 20 to 21, by Lindroth also on June 26, and Richter stayed on the island from June 24 to August 11, with brief interruptions.

The smaller Westman Islands were visited by helicopter on August 18, but, due to suddenly deteriorating weather conditions, only Geirfuglasker and Súlnasker could be investigated.

The investigators stayed on the main island of the group, Heimaey, during the period August 16 to 22.

Thereafter, exploration were started of the southern coastland of the mainland of Iceland, between Seljaland and Vík, which must be regarded as the most important source area of the Surtsey immigrants. Collecting was performed there August 23 to 30.

The vast material collected is being worked up by many specialists in different countries and the final results are not yet available.

1. Surtsey

The following list is restricted to species of terrestrial invertebrates discovered on Surtsey in 1967 and previously unknown on the island.

New records of Terrestrial Arthropods found on Surtsey in 1967

37 species.

I N S E C T A

D i p t e r a, 19 species.

Fam. Chironomidae (det. D.R. Oliver)

Chironomus sp. 6.VII., ♂ in glue trap.

Nanocladius minor Edw. VII., ♂.

Fam. Tipulidae (det. B. Tjeder)

Prionocera turcica F. 12-14. VII., 3 ♀

Fam. Bibionidae (det. H. Andersson)

Dilophus femoratus Meig. 12.VII., ♀; 13.VII. ♂♂; 12.VIII., 2 ♂, ♀.

Fam. Sciaridae (det. R. Tuomikoski)

Lycorella conspicua Winn. 21.VIII. ♂.

Bradysia sp. (cf. nitidicollis Meig.) 13.VII., ♀.

Fam. Syrphidae (det. H. Andersson)

Platycheirus albimanus F. 13.VII., ♀.

Fam. Heleomyzidae (det. H. Andersson)

Leria serrata L. 5.V. (2); 6.V. (1); 8.V. (80); 9.V. (1); 10.V. (24);
5.VI. (2); 7.VII. (1); 25.VII. (1).

Fam. Sphaeroceridae (det. H. Andersson)

Copromyza ecuina L. 8.V. (1).

C. similis Coll. 21.VIII. 1 ex. in glue trap.

Fam. Scatophagidae (det. H. Andersson)

Scatophaga litorea Fall. 30. VI., ♀.

Fam. Sepsididae (det. H. Andersson)

Themira damfi Beck. 21.VIII., 1 ex. in glue trap.

Fam. Piophilidae (det. H. Andersson)

Piophila vulgaris Fall. 12.VII., ♂ in glue trap.

Fam. Calliphoridae (det. H. Andersson)

Calliphora uralensis Vill. 12. VII., ♂.

Cynomyia mortuorum L. 16.VII., ♀ in glue trap.

Fam. Museidae s.l. (det. L. Lyneborg)

Myospila meditabunda F. 25.VII., 1 ex. in the house.

Spilogona (?) micans Ringd. 12.VII., ♀ in glue trap.

Coenosia pumila Fall. 13.VII., ♀ in glue trap.

Fam. Hippoboscidae (det. H. Andersson)

Ornithomyia chloropus Bergr. 28.VII., ♂♂ in the house; ♂, 2 ♀ on
bird (Sterna).

Hymenoptera, 4 species.

Fam. Ichneumonidae (det. G.J. Kerrich)

Pimpla sodalis Ruthe. 12.VII., ♂; 12.VIII., ♀.

Fam. Braconidae.

Meteorus leviventris Wesm. (det. R.D. Eady). 12.VII., ♀ in the house.Chorebus (?) cytherea Nix. (det. G.C.D. Griffiths). 13.VII., 1 ex.

Fam. Proctotrupidae (det. A. Sundholm).

Platygaster splendidulus Ruthe. 13.VII., ♀.Coleoptera, 2 species.

Fam. Carabidae (det. C.H. Lindroth).

Amara quenseli Schnh. 12.VII., macropterous ♀.Pätrobus septentrionis Dej. 12.VII., ♀ (probably washed ashore dead).Lepidoptera, 5 species (det. P. Douwes).

Fam. Noctuidae.

Rhyacia festiva Schiff. 20. VIII., ♂ (probably washed ashore dead).

Fam. Geometridae.

Cidaria munitata Hb. 1.VIII. (1).

Fam. Pyralidae.

Crambus pascuellus L. 11.VII. (1).Nomophila noctuella Schiff. 20.VIII. (2).

Fam. Tineidae.

Bryotropha similis Stt. 14.VII. (1).Plutella maculipennis Curt. 8.VIII. (2). Already found in 1964 and 1966 but not recorded by us.Hemiptera, 1 species.

Fam. Aphidae (det. F. Ossiannilsson).

Brachycaudus helichrysi Klt. 12.VIII., Winged ♀.Mallotragia, 1 species.

Gen. Sp. 14.VII. (1), from unknown bird.

Collembola, 1 species.

Fam. Isotomidae (det. H. Bödvarsson).

Archisotoma besselsi Pack. 20-21.VIII., 2 ex. under drift-wood.

A R A C H N O I D E A

A r a n e i d a, 2 species (det. Å. Holm).

Fam. Linyphiidae.

Lepthyphantes mengei Kulcz. 21.VII., ♀; 21.VIII., ♀.

Meioneta nigries Sim. 20.VIII., ♂₊♀.

A c a r i, 1 species.

Fam. Ixodidae.

Gen. sp. 5.V., on bird (Anthus).

Including previously recorded species, the number of terrestrial Arthropods found on Surtsey are divided into taxonomic groups, as follows:

Insecta: 56 spp.

Diptera	36	Neyroptera	1
Siphonaptera	1	Mallophaga	1
Hymenoptera	5	Collembola	1
Coleoptera	3	<u>Arachnoidea: 7 spp.</u>	
Lepidoptera	7	Araneida	3
Hemiptera	1	Acari	4

A total number of 63 species. This means that, through the collecting made in 1967, the terrestrial invertebrates known from Surtsey have more than doubled. It should be realized, however, that the vast majority of them are casual visitors only. Permanent inhabitants of the island are only certain flies breeding in carcasses on the shore, first and foremost Leria modesta Meig., the most abundant of all insects.

2. Coleoptera of the small Westman Islands (Table 1).

A careful investigation of the fauna of all islands of the Westman group is a necessary prerequisite for understanding the development of the Surtsey fauna itself. The fauna of the main island, Heimaey, is now fairly well known but almost all of the smaller

islands were visited also, most of which are situated closer to Surtsey. Coleoptera, the best known order of insects, has been selected, to illustrate the distribution of insects on the small islands; species found on Heimaey only are not considered.

3. As described in the report for 1966, it was planned to release a great number of small (3-4 mm) bright yellow plastic grains into the sea in order to find out how easy hydrochorous transport could take place between Heimaey and Surtsey. On June 22nd, Sigurdur Richter released more than 10 millions of these grains at the mouth of the bay Klauf in the SW part of Heimaey. Exactly one week later, in spite of unfavourable weather (western winds), most of the time, he found more than 1000 of these grains washed ashore on Surtsey. The distance is about 20 km. The result has application to botanists as well: Klauf seems to be the only place on the Westman Islands where *Cakile edentula*, *Elymus arenarius*, *Honckenya peploides*, and *Mertensia maritima*, that is, the first four plants species appearing on Surtsey, grow abundantly together on the shore. Therefore, this is most likely the place from where they emanated.

The plans for the summer of 1968, in the later part of June, include visits to all the small Westman Islands by means of helicopter, continued survey of the fauna of the southern mainland of Iceland and, of course, investigations on Surtsey itself.

After the results of the field-work in 1968 are available, it is intended to publish a detailed report of the entire investigations.

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Distribution of Coleoptera on the small Westman Islands.

	Heimaey	Ellidaey	Bjarnarey	Alfsey	Brandur	Hellissey	Súlna-sker	Geirf.-sker	Surtsey
CARABIDAE									
<i>Amara quenseli</i> Schnh.	+	-	-	-	11	2	1	-	1
<i>Calathus melanocephalus</i> L.	+	14	7	16	34	16	9	-	-
<i>Nebria gyllenhali</i> Schnh.	+	17	13	32	2	2	1	-	-
<i>Notiophilus biguttatus</i> F.	+	4	-	6	-	-	-	-	-
<i>Patrobis septentrionis</i> Dej.	+	3	2	3	1	-	6	-	(1)
DYTISCIDAE									
<i>Hydroporus nigrita</i> F.	+	-	-	1	-	-	-	-	-
STAPHYLINIDAE									
<i>Atheta amicula</i> Steph.	+	-	-	1	-	-	-	-	-
<i>A. atramentaria</i> Gyll.	+	3	1	1	-	-	-	-	4
<i>A. excellens</i> Kr.	+	8	1	-	5	-	4	-	-
<i>A. fungi</i> Gr.	+	1	-	-	-	-	-	-	-
<i>A. islandica</i> Kr.	+	-	-	1	-	-	-	-	-
<i>A. vestita</i> Gr.	+	-	-	4	-	6	15	74	-
<i>Lesteva longelytrata</i> Gze.	+	2	-	-	-	-	1	-	-
<i>Micralymma marinum</i> Ström	+	-	-	-	-	-	-	5	-
<i>Omalius excavatum</i> Steph.	+	3	-	-	1	-	-	-	-
<i>Othius melanocephalus</i> Gr.	+	15	4	2	1	-	-	-	-
<i>Oxypoda islandica</i> Kr.	+	1	-	-	-	-	-	-	-
<i>Philonthus trossulus</i> Nordm.	+	-	-	1	-	-	-	-	-
<i>Quedius mesomelinus</i> Mrsh.	+	-	1	-	-	-	-	-	-
BYRRHIDAE									
<i>Byrrhus fasciatus</i> Forst.	+	2	1	-	-	-	-	-	-
ELATERIDAE									
<i>Hypnoidus riparius</i> F.	+	4	1	4	-	-	-	-	-
LATHRIDIIDAE									
<i>Enicmus minutus</i> L.	+	-	4	-	-	-	-	-	-
CRYPTOPHAGIDAE									
<i>Atomaria analis</i> Er.	+	1	-	-	-	-	-	-	-
CURCULIONIDAE									
<i>Barynotus squamosus</i> Germ.	+	3	1	-	-	-	-	-	-
<i>Otiorrhynchus arcticus</i> O. Fbr.	+	10	2	6	14	21	31	-	-
<i>O. dubius</i> Ström	+	-	-	1	-	-	-	-	-
SCARABAEIDAE									
<i>Aphodius lapponum</i> Gyll.	+	7	1	-	-	-	-	-	-