

Report on the Sampling of the Benthic Fauna of Surtsey 1970, 1971 and 1974

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All the submarine sampling was carried out by SCUBA-divers, and both in 1970 and 1971 by the crew of m/s "Sæör" as in the previous years.

The sampling of littoral and sublittoral benthic fauna of Surtsey was carried out in the period July 21st to August 4th 1970 on nine traverses. Some quantitative samples were taken by placing a square iron frame on the bottom and collecting, as far as possible, all organisms within it.

Square frames 1x1 and 0.5x0.5 m divided into subsquares (10x10 cm) were also used to estimate the coverage of the animals on the seabed. The SCUBA-divers listed the organisms which could be spotted within the frame, and estimated how many subsquares were covered by each species. Several photographs were taken of the life on the seabed.

The identification of the material is still incomplete. Nevertheless, it is obvious that the sublittoral benthic fauna had increased as expected, but the littoral fauna was still negligible.

Attempts were made to mark large boulders on the seabed by buoys for comparison from one year to another. The buoys, however, had all disappeared the next summer. This was not unexpected as considerable transport of material, including large rocks, is known to take place at the coasts of Surtsey during the winter months. The material originates from the coastline of Surtsey broken down by surf during the winter storms. Obviously this exerts an unfavourable influence on the living conditions of the fauna.

In 1971 sampling was very difficult on account of bad weather. We were only able to work 3 traverses off the east-, south- and westcoast of Surtsey. No sampling was made in the littoral

zone of the island but according to information from other sources the fauna there was very limited.

As in previous years some samples were taken from sheltered places at Heimaey.

Although the identification of the 1971 material is not completed it has been worked further than that of 1970.

A list of animals found at Surtsey in these two years, would be very similar to tables published in previous reports (Sigurðsson 1970 and 1972), but account will be given here of those animals already identified as new for Surtsey.

From the 1970 material only two species of bivalves (*Lamellibranchia*) new for Surtsey have been found. Both are common in the vicinity of the island. In the 1971 material we have found 27 species new for Surtsey, 2 of which are new for Iceland.

Belonging to *Bryozoa* 11 species are new for Surtsey and one of them *Callopora dumerili* (Aud.) is new for Iceland. Of *Amphipoda* 8 species are new for Surtsey and one of them, *Metopa pusilla* G. O. Sars, is new for Iceland. The other new species for Surtsey are two *Isopoda*, one *Prosobranchia*, one *Lamellibranchia*, one *Echinoidea* and one *Ascidiacea*.

In the years 1972 and 1973 the benthic fauna of Surtsey was not sampled.

In July 1974 sampling of the bottom fauna around Surtsey was carried out on the same traverses as in 1971 but under better weather conditions. Furthermore some samples were taken off the northern part of the west coast indicating rich benthos in that area. None of the samples have been worked up. Many underwater photographs were taken.

In August the tidal zone was sampled. Scattered barnacles (*Balanus balanoides* (L.) Bruguère) were found on the rocky coast covered. All of them belonged to the O-group, and as in previous years they are expected to disappear during the coming winter. Other animals were negligible. The coastline is still far too unstable for animal communities usually found in the tidal zone and this will most likely be so for a long time to come.

Prior to the sampling at Surtsey in July 1974 some samples were taken off Dyrhólaey on the central south coast of Iceland. Those samples were taken on hard bottom for comparison with the Surtsey material.

Two Danish biologists, Jean and Hanne Just took part in the sampling at Dyrhólaey and partly worked up the material. They had also

intended to work at Surtsey, but unfortunately, unforeseen delays prevented this.

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References:

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