

MEDDELELSER OM GRØNLAND

UDGIVNE AF

KOMMISSIONEN FOR VIDENSKABELIGE UNDERSØGELSER I GRØNLAND

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THE SCORESBY SOUND COMMITTEE'S 2ND EAST GREENLAND
EXPEDITION IN 1932 TO KING CHRISTIAN IX'S LAND

LEADER: EJNAR MIKKELSEN

MARINE MOLLUSCS

BY

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WITH 1 PLATE

KØBENHAVN

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The marine molluscs collected by the Scoresby Sound Committee's 2d East Greenland Expedition all originate from a number of dredgings taken along the coast stretch between Angmagssalik towards the south (lat. 65°30' N., long. 37°30' W.) and Cape Dalton towards the north (lat. 69°24' N., long. 24°08' W.). By far the greater part of the dredges were taken at Kangerdlugssuak (68°10' N., 32°00' W.), and the whole of the material was collected by M. DEGERBØL, PH. D., who entrusted me with the preparation of the molluscs, for which mark of confidence I beg to express my sincere thanks.

Along the coast stretch mentioned molluscs have already been collected by the Swedish "Sofia" Expedition of 1893 and the Danish East-Greenland Expedition of 1891—92, the material of these expeditions being handled in a treatise by H. J. POSSELT (1896). Finally, the Amdrup-Hartz Expedition in 1900 and the botanist CHR. KRUSE 1901—02 undertook the collection of malacological material within this area. A list of all East-Greenland *Lamellibranchiata* was prepared by AD. S. JENSEN (1905), whereas no later work than that of POSSELT's has been published on the *Gastropoda* from this area. On the other hand, for still more northerly districts (the Franz Joseph Fjord Area and adjacent waters) there are publications on the *Lamellibranchiata* as well as on the *Gastropoda* (HÄGG 1904—05).

The summary of the collections of molluscs from this area are then, briefly, the following: collections have been made in the southern part of the district from the stretch between Angmagssalik (65°30' N., 37°30' W.) and Kangerdlugssuatsiak (66°18' N., 35°28' W.). From this locality a total of 21 species of marine molluscs are known (*Lamellibranchiata* 14 sp., *Placophora* 1 sp., *Prosobranchiata* 5 sp., *Opisthobranchiata* 1 sp.). In the northern part of the district collections are at hand from the stretch between Cape Dalton (69°24' N., 24°08' W.) and Scoresby Sound (70°27' N., 26°12' W.). From this area a total of 42 species of marine molluscs are known (*Lamellibranchiata* 24 sp.; *Prosobranchiata* 12 sp., *Opisthobranchiata* 6 sp.).

From the central part of the coast stretch — a distance of about 190 miles between Kangerdlugssuatsiak and Cape Dalton — only 1

marine mollusc was known, viz. *Modiolaria laevigata* (loc. Solo's Fjord 67°17' N., 33°13' W.). (cf. AD. JENSEN, 1905).

The material brought home by the present expedition comprises, in all, 34 species of marine molluscs, the 29 species being found in the localities Kangerdlugssuak, Ravn's Fjord and Miki's Fjord, all within the area, which had not been investigated before that time. 16 out of the 34 species brought home by the expedition were collected in East Greenland localities situated farther south than those from which they were hitherto recorded. Many of these species could certainly be found farther south, if thorough investigations be made in this area. These 16 species (the most southern finding-place being placed between brackets) are:

- Arca glacialis* GRAY (Kangerdlugssuak).
- Lyonsia arenosa* MØLLER (Kangerdlugssuak).
- Dacrydium vitreum* MØLLER (Kangerdlugssuak).
- Pecten imbrifer* LOVÈN (Kangerdlugssuak).
- Astarte crenata* GRAY (Miki's Fjord).
- Macoma moësta* (DESHAYES) (Kangerdlugssuak off 65°40').
- Siphonodentalium vitreum* (M. SARS) (Kangerdlugssuak).
- Margarita cinerea* COUTHOUY (Kangerdlugssuak).
- Marvillia zonata* GOULD (Miki's Fjord, Kangerdlugssuak).
- Trichotropis conica* MØLLER (Kangerdlugssuak).
- Sipho islandicus* CHEMN. (Kangerdlugssuak).
- Sipho krøyeri* MØLLER (Angmagssalik).
- Sipho turritus* SARS (Kangerdlugssuak).
- Buccinum hydrophanum* HANCOCK (Kangerdlugssuak).
- Bela pyramidalis* STRØM (Kangerdlugssuak).
- Bela bicarinata* (COUTH.) (Angmagssalik).

Owing to the very scanty collections in the Angmagssalik district, these new southern boundaries yield only slight material for the drawing of conclusions. Two of the new southern boundaries (*Sipho krøyeri* and *Bela tenuicostata*) are situated at Angmagssalik itself, and it is very possible that a thorough investigation would move these boundaries still farther south. In spite of this, however, it seems evident that the mollusc fauna along the greater part of the coastal stretch (at least Kangerdlugssuak and all the localities to the north of it) in its composition is closely allied with the fauna in the Scoresby Sound district and the more northerly Franz Joseph Fjord complex, whereas it rather deviates from the mollusc fauna at Angmagssalik. Thus, neither *Littorina rudis* nor *Mytilus edulis* which were both common even in the Angmagssalik district were included in the numerous samples from

Kangerdlugssuak, Ravn's Fjord and Miki's Fjord. Among all the molluscs collected there were no species whatsoever, which were not already known from more northerly localities, whereas "southern species" were entirely lacking.¹⁾

If, on the other hand, we look upon the distribution of the mollusc fauna within the animal communities, these deviate rather much from conditions within the Franz Joseph Fjord area. Thus *Macoma calcaria*, which is otherwise a common type animal within the arctic coast communities (cf. SPÄRCK, 1933, and THORSON, 1933) seems to be entirely lacking in the material collected by the expedition in Kangerdlugssuak. From this fact one dare, however, not conclude that this species does not exist along the part of the coast investigated, as the material at hand, especially from the innermost parts of the fjords (f. i. Kangerdlugssuak) is not sufficiently representative, and as it was more particularly at the heads of the fjords that this species should have had its chief distribution. The absence of *Macoma calcaria* in the material collected is perhaps explained by the fact that a great number of the shallow water samples at hand seem to be taken in algae zones and thus represent epifaunistic animals. This is i. a. indicated by the numerous occurrence of the epifauna-forms, such as the different *Margarita*-species (species of this genus were found in 13 of the 15 dredgings containing molluscs taken at a depth of less than 50 m) and *Modiolaria laevigata* (10 out of 15 dredges at a depth of less than 50 m). Also the existing material of other marine invertebrate-groups show that at great number of the samples derive from epifauna (thus, among the Echinoderms numerous specimens of *Ophiacantha bidentata* and *Ophiura robusta*²⁾). Quite similar results are shown by the collected *Polychaeta* (cf. E. Wesenberg-Lund 1934). It must, however, be borne in mind that there were also a number of level-bottom dredgings (f. i. at stations 16, 17 and 18) containing typical level-bottom animals. But also in these samples the type-animals of the *Macoma-calcaria*-community were entirely lacking. Whereas it is impossible to recognize the *Macoma-calcaria*-community by means of the material at hand (besides *Macoma calcaria* also the other for this community typical animals: *Astarte borealis* and *Mya truncata* were lacking³⁾),

¹⁾ After the completion of this manuscript the seventh Thule-Expedition 1933 from the Kangerdlugssuak-area brought home a few "southern species" of molluscs. This has however not altered the fact that the limit of distribution of "northern and southern" molluscs should on the whole be drawn somewhere between Kangerdlugssuak and Angmagssalik.

²⁾ cf. S. HEDING (1934).

³⁾ Empty shells of *Astarte borealis* and *Mya truncata* are found in the dredge-hauls, but very scanty, possibly originating from subfossil shell-beds.

the *Arca-Astarte-crenata*-community was well developed. Thus, a 175 m dredge-haul, made on August 24, 1932, in the locality of Miki's Fjord contained the following *Mollusca*.

1. *Astarte crenata* ad.
1. *Arca glacialis* juv.
2. *Pecten imbrifer*.
1. *Saxicava arctica* juv.
1. *Siphonodentalium vitreum*.
1. *Marvillia zonata* juv.

A list containing both of the type animals of this community¹).

List of species.

A. Lamellibranchiata.

Leda pernula MÜLLER: Kangerdlugssuak 20—25 m, mudded clay, 1 specimen (St. 11); ca. 50 m, gravel, 3 specimens (St. 2); 80—100 m, stones, 1 specimen (St. 1, 2).

Arca glacialis GRAY: Kangerdlugssuak 40—50 m, 1 large specimen (length of valves 26 mm); 80—100 m, stones, 3 specimens (St. 12); 175 m, 1 specimen. Mikisfjord 175 m, mudded clay, 4 specimens.

Dacrydium vitreum MØLLER: Kangerdlugssuak, depth?, 1 specimen.

Modiolaria laevigata GRAY: Kangerdlugssuak, living at all depths from 5 to ca. 50 m. Greatest living individual 28 mm length of valves (1 dead valve measured 36 mm in length).

Angmagssalik 20 m, sand, 1 specimen and 2 valves.

Modiolaria nigra GRAY: Cape Dalton 30 m, clay with stones, 1 specimen.

Pecten groenlandicus CHEMN: Kangerdlugssuak 10 m, sand, 1 specimen (St. 18); 10—20 m, 3 specimens ad. (St. 12), 50 m, 14 specimens (St. 14); 80—100 m, stones, 7 specimens (St. 12).

Ravn's Fjord ca 50 m, mud, 1 specimen.

Pecten imbrifer LOVÉN: Miki's Fjord 175 m, 2 specimens.

Astarte banksi LEACH: Kangerdlugssuak 5 m, 1 specimen dead (St. 22); 11—15 m, 1 specimen dead (St. 26); 25 m, 1 specimen (♀ 18 mm. Ovaries filled with large eggs. 18—8—32, St. 27).

Cape Dalton 30 m, clay with stones, 1 specimen, 2 valves.

Angmagssalik 20 m, sand, 1 specimen.

Astarte borealis CHEMN: Kangerdlugssuak ca. 50 m, gravel, 1 very great valve (length 39 mm), no living specimens.

Astarte crenata GRAY: Mikis' Fjord 175 m, mud, 1 specimen. ad.

¹) *Axinus flexuosus* which in Franz Joseph Fjord is common in this community must be supposed to have escaped through the meshes of the net, while hauling in the dredge.

Astarte elliptica BROWN: Kangerdlugssuak 8 m, stones, 1 specimen (St. 4); 11—15 m, 1 specimen (St. 26); 10—25 m, stones, 2 specimens (St. 13); 20—25 m, mudded clay, 2 specimens (1 ♀ length 28 mm. Ovaries filled with large, mature eggs. 12—8—32), 2 valves (St. 11 and 27).

Macoma moësta (DESHAYES): Kangerdlugssuak 50 m, 1 specimen, dead, (St. 5); depth?, 3 specimens and 3 empty shells (St. 1).

Mya truncata LINNÉ: Kangerdlugssuak 10 m, sand, 1 valve (St. 18); ca. 50 m, gravel, 1 fragment (St. 2).

Angmagssalik 20 m, sand, 1 specimen. juv.

Saxicava arctica LINNÉ: Kangerdlugssuak 25 m, 2 specimens (St. 6 and 15); 50 m, 1 specimen (St. 5); ca. 50 m, gravel, 2 specimens (St. 2); 70 m, stones, 2 very large specimens (length of valves 35—35 mm); 80—100 m, stones, 2 empty specimens (St. 12).

Miki's Fjord 175 m, 1 specimen. juv.

Lyonsia arenosa MÖLLER: Kangerdlugssuak ca. 50 m, gravel, 1 specimen (28 mm length of valves), 1 specimen, dead.

Cape Dalton 30 m, clay with stones, 1 specimen, dead.

B. Scaphopoda.

Siphonodentalium vitreum (M. SARS): Kangerdlugssuak 175 m, mudded clay, 2 specimens; ca. 225 m? (450 m wire) 1 specimen. Miki's Fjord 175 m, 1 specimen, dead.

C. Prosobranchiata.

Margarita helicina (PHIPPS): Kangerdlugssuak 8 m, stones, 3 specimens (1 dead). (St. 4).

Margarita groenlandica (CHEMN.): Kangerdlugssuak 8 m, stones, 3 specimens (St. 4); 10 m, 8 specimens (St. 8); 5 m, 1 specimen (St. 22); 10—25 m, 1 specimen (St. 15 and 27); 40—50 m, 1 specimen (St. 21); 50 m, 5 specimens (St. 5 and 14); 70 m, stones, 2 specimens (1 sp. empty) (St. 3); 125 m, 2 specimens (St. ?); depth?; 6 specimens (4 empty) (St. 1).

Angmagssalik 20 m, 1 specimen, dead.

Margarita cinerea (COUTHOUY): Kangerdlugssuak 10 m, sand, 1 specimen (St. 8); ca. 50 m, gravel, 5 specimens (1 sp. empty) (St. 2).

Lepeta coeca (MÜLLER): Kangerdlugssuak ca. 225 m? (450 m wire), 1 specimen.

Marvillia undata (BROWN) var. *expansa* G. O. SARS: Kangerdlugssuak 70 m, stones, 2 specimens (1 empty) (St. 3).

Miki's Fjord 175 m, 1 juv.

Trichotropis borealis BROD. & SOWB: Kangerdlugssuak 10 m, sand, 1 specimen (St. 18); 40—50 m, 1 specimen (St. 21); 70 m, stones, 1 specimen (St. 3).

- Trichotropis conica* MØLLER: Kangerdlugssuak 50 m, 5 specimens (egg capsules found); ca. 50 m (100 m wire), gravel, 2 specimens (St. 2); depth ?, 1 specimen, dead (St. 1).
- Sipho turritus* SARS var. *distincta* POSSELT: Kangerdlugssuak 11—15 m, 1 specimen (St. 26).
- Sipho krøyeri* MØLLER: Angmagssalik 20 m, sand, 1 specimen.
- Sipho islandicus* (CHEMN.): Kangerdlugssuak, ca. 50 m (100 m wire), gravel, 1 specimen (St. 2); 70 m, stones, 1 fragment (St. 3); 50—50 m. 1 specimen, dead (St. 21).
- Buccinum belcheri* REEVE: Kangerdlugssuak 5 m, 2 specimens (St. 22), 8 m, stones, 2 specimens; 50 m, 1 specimen (St. 14). Angmagssalik 20 m, sand, 2 specimens.
- Buccinum sericatum* HANCOCK: Kangerdlugssuak 11—15 m, 1 specimen (St. 26).
- Buccinum hydrophanum* HANCOCK: Kangerdlugssuak 40—50 m, 1 specimen (St. 21).
- Bela pyramidalis* (STRØM): Kangerdlugssuak 5 m, 1 specimen (St. 22).
- Bela bicarinata* (COUTH.): Angmagssalik 20 m, sand, 1 specimen.

D. *Opisthobranchiata*.

- Cylichna reinhardti* (MØLLER): Angmagssalik 20 m, sand, 1 specimen.
- Cylichna* sp.: Kangerdlugssuak, depth?, 1 specimen, dead.

Literature:

1934. HEDING, S.: Echinoderms (*Echinodermata*). The Scoresby Sound Committee's 2nd East Greenland Exp. to King Christian IX's Land. Medd. om Grønland, Bd. 104, Nr. 13.
- 1904—05. HÄGG, R.: Mollusca und Brochiopoda gesammelt von der Schwedischen Zoologischen Polarexpedition nach Spitzbergen, dem nördöstlichen Grønland und Jan Mayn im J. 1900. Arkiv för Zoologi, uttg. af K. Sv. Vetensk Akad., Vol. 2, No. 2. (*Lamellibranchiata*) and ibid. Vol. 2, No. 13 (*Scaphopoda*, *Gastropoda*, *Placophora* und zwei vorher nicht erwähnte *Lamellibranchiata*).
1905. JENSEN, AD. S.: On the Mollusca of East-Greenland. I. *Lamellibranchiata*. Medd. om Grønland. Vol. XXIX.
1895. POSSELT, H. J.: Østgrønlandske Mollusker. Medd. om Grønland. Vol. XIX.
1898. — Grønlands Brochiopoder og Bløddyr. Medd. om Grønland, Vol. XXIII.
1933. SPÄRCK, R.: Contributions to the Animal Ecology of the Franz Joseph Fjord and Adjacent Waters I—II. Medd. om Grønland, Bd. 100. No. 1. Copenhagen.
1933. THORSON, G.: Investigations on Shallow Water Animal Communities in the Franz Joseph Fjord (East Greenland) and Adjacent Waters. Medd. om Grønland, Vol. 100, Nr. 2. Copenhagen.
1934. — Contributions to the Animal Ecology of the Scoresby Sound Fjord Complex (East Greenland). Hydrography by H. Ussing. Medd. om Grønland, Vol. 100, Nr. 3. Copenhagen.
1934. WESENBERG-LUND, E.: Gephyreans and Annelids. The Scoresby Sound Committee's 2nd East Greenland Exp. to King Christian IX's Land. Medd. om Grønland, Bd. 104, Nr. 14.

