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# THE ZOOLOGY OF EAST GREENLAND

## AMPHIPODA

BY

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WITH 18 FIGURES IN THE TEXT

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The present paper contains a list of all localities of Amphipoda known from the waters of East Greenland in depths down to about 400 meters; from the inner parts of the fjords there are, however, some species taken at depths of > 400 meters.

It is based partly on literature (see below) and partly on the collections in the Zoological Museum of Copenhagen, mainly originating from the various Danish expeditions to East Greenland during the last decennium. Especially the great fjord complexes in the Franz Joseph Fjord area and the Scoresbysund area (between 70° and 75° N) and the Lindenows Fjord (61° N) are thoroughly explored, whereas the open coast stretches from 70° to 62° N are deficiently known. In the three northernmost areas (North of about 70° N) 140 species are found, in the Kangerdlugssuaq area (about 70°—67° N) 43 species, and in the southernmost area, the Sydøstkyst, 92 species. At present 153 species (+ 9 uncertain species) are known from East Greenland waters, 0—400 m.

## Remarks on the Literature.

Buchholz 1874 (2nd German North Polar Expedition 1869—1871) is the first paper to record Crustacea from East Greenland. It lists from NE. Greenland waters, at depths down to about 400 m, the following 23 species of Amphipoda:

*Anonyx lagena* Kr. (= *A. nugax* Phipps).
— *littoralis* Kr. (= *Pseudalibrotus l.* (Kr.)).
— *plautus* Kr. (= *Onisimus pl.* (Kr.)).
*Syrrhoë crenulata* Goës.
*Pardalisca cuspidata* Kr. (is *P. abyssi* Boeck).
*Eusirus cuspidatus* Kr.
*Tritropis fragilis* Goës (= *Rozinante fr.* (Goës)).
*Oediceros lynceus* Sars (= *Paroediceros l.* (M. Sars)).
— *borealis* Boeck.
*Pleustes panoplus* Kr.
*Parapleustes gracilis* n. sp.
*Vertumnus serratus* F. (= *Acanthonotozoma s.* (F.)).

*Gammarus locusta* (L.) (is probably *G. wilkitzkii* BIRULA).
*Amathilla sabini* LEACH (= *Gammarellus homari* (FABR.)).
— *pinguis* KR. (= *Weyprechtia p.* (KR.)).
*Atylus carinatus* F.
— *smithi* GOËS (= *Nototropis smitti* (GOËS)).
*Acanthozone hystrix* OWEN (= *Paramphithoë hystrix* (Ross) + *P. buchholzi* STEBBING, *fide* SCHELLENBERG 1935, p. 38).
*Paramphithoë inermis* KR. (= *Pontogeneia i.* (KR.)).
— *fulvocincta* SARS (= *Halirages f.* (M. SARS)).
— *megalops* n. sp. (= *Halirages m.* (BUCHHOLZ)).
*Themisto libellula* MANDT.
*Aegina spinifera* BELL (= *Aeginina longicornis* (KR.)).

The next paper is H. J. HANSEN 1895 (The Danish RYDER-Expedition 1891—92; mainly Scoresbysund and Angmagssalik); it comprises 45 species of Amphipoda, 20 of which are new to East Greenland, 0—400 m. These 20 species are as follows:

*Hyperoche krøyeri* BOVALL. (= *H. medusarum* (KR.)).
*Hoplonyx gulosus* (KR.) (= *Tmetonyx cicada* (FABR.)).
*Orchomenella minuta* (KR.).
*Stegocephalus inflatus* KR.
*Ampelisca macrocephala* LILLJB.
*Haploops tubicola* LILLJB.
*Acanthostepheia malmgreni* (GOËS).
*Aceroides latipes* G. O. SARS.
*Monoculodes latimanus* (GOËS).
*Apherusa megalops* (G. O. SARS) (= *A. sarsi* SHOEMAKER).
*Amphithopsis glacialis* H. J. HANSEN (= *Apherusa glacialis* (H. J. H.)).
*Parapleustes glaber* (BOECK) (= *Sympleustes g.* (BOECK)).
*Rhachotropis helleri* BOECK.
*Ischyrocerus megacheir* BOECK.
— *latipes* KR.
— *brevicornis* (G. O. SARS).
*Ericthonius megalops* (G. O. SARS).
*Aeginella spinosa* BOECK.
*Caprella septentrionalis* KR. var. *spinigera* P. MAYER (= *C. microtuberculata* G. O. SARS).
— *horrida* G. O. SARS.

CLEVE 1900 (Plankton from the Swedish Expedition 1899 to East Greenland) records the following Amphipod as new to East Greenland: *Parathemisto oblivia* (BOECK) (= *Themisto abyssorum* BOECK).

Broch & Koefoed 1909 (the Belgian "Belgica"-Expedition 1905 to the Greenland Sea) have the following three new species:

*Orchomene serrata* Boeck.
*Halice abyssi* Boeck.
*Euthemisto compressa* Guér. (= *Themisto gaudichaudi* Guér.).

Grieg 1909 (benthonic species from the same expedition):

*Epimeria loricata* G. O. Sars.
*Amathillopsis spinigera* Heller.
*Eusirus holmi* H. J. Hansen.

K. Stephensen 1912 (the Danish "Danmark"-Expedition 1906—08 to Northeast Greenland) records 38 species, 10 of which are new to East Greenland:

*Socarnes bidenticulatus* (Bate).
— *vahli* (Kr.).
*Eurythenes gryllus* (Mandt).
*Onisimus edwardsi* (Kr.).
*Orchomenella groenlandica* H. J. Hansen.
*Monoculodes borealis* Boeck.
*Rhachotropis inflata* G. O. Sars.
*Pardalisca cuspidata* Kr. (non Buchholz).
— *tenuipes* G. O. Sars.
*Gammaracanthus loricatus* (Sabine).

K. Stephensen 1923, 1925 and 1931 (the Danish "Ingolf"-Expedition 1895—96 to the seas around Greenland, Iceland and the Faroes, including material from other Danish expeditions to the same area) records the following 28 species as new to East Greenland:

*Hyperia galba* (Mont.).
*Onisimus affinis* H. J. Hansen.
*Pseudalibrotus glacialis* G. O. Sars.
— *nanseni* G. O. Sars.
*Aristias tumidus* Kr.
*Hippomedon holbølli* Kr.
*Stegocephalopsis ampulla* (Phipps).
*Phippsia rømeri* Schellenb.
*Byblis gaimardi* (Kr.).
*Haploops setosa* Boeck.
*Harpinia mucronata* G. O. Sars.

*Harpinia serrata* G. O. SARS.
— *abyssi* G. O. SARS.
?*Amphilochus tenuimanus* BOECK.
*Gitanopsis inermis* G. O. SARS.
*Metopa sinuata* G. O. SARS.
? — *bruzelii* GOËS.
— *clypeata* (KR.).
— *alderi* (BATE).
? — *tenuimana* G. O. SARS.
*Proboloides clypeatus* (STIMPSON) (= *Metopa groenlandica* H. J. H.).
*Metopella carinata* (H. J. HANSEN).
— *longimana* (BOECK).
*Arrhis phyllonyx* (M. SARS).
*Monoculodes longirostris* (GOËS).
— *simplex* H. J. HANSEN.
— *tuberculatus* BOECK.
*Halirages mixtus* n. sp.

K. STEPHENSEN 1933a (Danish Expedition 1932 to Chr. IX's Land (Kangerdlugssuaq area)) records 14 species of Amphipoda, none of them new to East Greenland.

SCHELLENBERG 1935 (material from the Norwegian expeditions 1929—32, mainly to the Franz Joseph Fjord area) has 72 species, 23 out of which are new to East Greenland, viz.,

*Acidostoma laticorne* G. O. SARS.
*Onisimus brevicaudatus* H. J. HANSEN.
— *caricus* H. J. HANSEN.
— *dubius* n. sp.
*Orchomene pectinata* G. O. SARS.
*Schisturella pulchra* (H. J. HANSEN).
*Centromedon pumilus* (LILLJEBORG).
*Tryphosa hørringi* BOECK.
— *spitzbergensis* ? CHEVREUX.
— *groenlandica* n. sp.
*Tmetonyx similis* G. O. SARS.
*Lepidepecreum umbo* GOËS.
*Andaniella pectinata* G. O. SARS.
*Harpinia plumosa* KRØYER.
*Metopa cariana* GURJANOVA.
*Acanthonotozoma cristatum* (ROSS).
— *inflatum* (KRØYER).

*Halirages quadridentatus* G. O. Sars.
*Haliragoides inermis* (G. O. Sars).
*Rhachotropis macropus* ? G. O. Sars.
*Melita dentata* Krøyer.
*Ischyrocerus megalops* G. O. Sars.
*Ericthonius hunteri* (Bate).

E. Bertelsen 1937 (Danish expedition to Southeast Greenland in 1933) has but one new species, viz.,

*Cleippides tricuspis* (Krøyer).

The present paper has 36 species new to East Greenland, viz.,

No. 6. *Scina borealis* G. O. Sars.
- 17. *Paralibrotus setosus* K. Steph.
- 20. *Menigrates obtusifrons* Boeck.
- 21. *Aristias microps* G. O. Sars.
- 29. *Hippomedon propinquus* G. O. Sars.
- 30. *Centromedon productus* (Goës).
- 36. *Chironesimus debruyni* (Hoek).
- 53. *Phoxocephalus holbölli* Krøyer.
- 59. *Leucothoë spinicarpa* (Abildgaard).
- 66. *Odius carinatus* (Bate).
- 73. *Lilljeborgia fissicornis* (M. Sars).
- 74. *Idunella æquicornis* G. O. Sars.
- 75. *Oediceros saginatus* Krøyer.
- 76. — *borealis* Boeck.
- 77. *Paroediceros propinquus* G. O. Sars.
- 80. *Westwoodilla* (*megalops* (G. O. Sars) ?).
- 83. *Bathymedon obtusifrons* (H. J. Hansen).
- 84. *Monoculopsis longicornis* (Boeck).
- 102. *Parapleustes bicuspis* (Krøyer).
- 103. — *monocuspis* (G. O. Sars).
- 105. — *assimilis* (G. O. Sars).
- 107. *Sympleustes pulchellus* (G. O. Sars).
- 117. *Rhachotropis oculata* (H. J. Hansen).
- 125. *Ceradocus torelli* (Goës).
- 126 b. *Gammarus locusta* (L.) *setosus* Dementieva.
- 129. *Photis reinhardti* (Krøyer).
- 131. *Goësia depressa* (Goës).
- 132. *Protomedeia fasciata* Krøyer.
- 133. — *grandimana* Brüggen.

No. 139. *Ischyrocerus brusilovi* GURJANOVA.
- 142. *Neohela monstrosa* (BOECK).
- 144. *Siphonoecetes typicus* KRØYER.
- 145. *Corophium crassicorne* BRUZELIUS.
- 148. *Caprella septentrionalis* KRØYER.
- 152. *Cyamus monodontis* LÜTKEN.
- 153. *Paracyamus nodosus* (LÜTKEN).

Several of these new species were taken in a great number of hauls, for instance *Monoculopsis longicornis* in 14, *Parapleustes assimilis* in 14, *Caprella septentrionalis* in 23, *Parapleustes bicuspis* in 27, and *Gammarus locusta setosus* even in 53 hauls.

## Synopsis of the Species.

### HYPERIIDEA

Fam. **Hyperiidæ** DANA.

Genus **Hyperoche** BOVALLIUS.

1. *Hyperoche medusarum* KRØYER.

*Hyperoche krøyeri* G. O. Sars 1895, p. 9, pl. 4.

East Greenland record:

*Hyperoche krøyeri* BROCH & KOEFOED 1909, p. 143.

Occurrence at East Greenland:

*Nordøstkyst:* 77°31′ N, 18°24′ W, 275 m (BROCH & KOEFOED 1909).

*Sydøstkyst:* 60°47′ N, 42°34′ W, 210 m, "Dana" 13-VIII-1933, 150 m wire out, 1 ovigerous ♀.

Besides it is found several times at greater depths in the waters east of Greenland (K. STEPHENSEN 1912a, p. 83, and 1923, p. 13).

Distribution. Widely distributed in the Atlantic Ocean North of a line from Gulf of St. Lawrence (SHOEMAKER 1930, p. 350) to South of Madeira (PIRLOT 1929, p. 118), with adjacent arctic waters; also found at South Georgia (BARNARD 1932, p. 276), in the Japan Sea (BEHNING, Internat. Revue, vol. 38, 1939, p. 361), and north of Alaska (Point Barrow; SHOEMAKER 1920, p. 24).

Is probably is panboreal species.

Genus **Hyperia** LATREILLE.

2. *Hyperia galba* (MONTAGU).

*Hyperia galba* G. O. SARS 1895, p. 7, pl. 2, pl. 3 fig. 1.

East Greenland record:

*Hyperia galba* K. STEPHENSEN 1923, p. 19.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 74°15′ N, 16°29′ W, closing net 200—75 m (K. STEPHENSEN 1923). Kap Hedlund, Kempes Fjord, 300 m wire out, 20-VIII-1932, 1 specimen.

*Sydøstkyst:* Angmagssalik (K. STEPHENSEN 1923).

Distribution. Very widely distributed in the northern Atlantic, mainly north of 50° N, and arctic seas; probably circumpolar (see K. STEPHENSEN l. c., with map). Possibly also found in the southern hemisphere.

Is a panboreal species.

## Genus **Themisto** GUÉRIN.
(= *Parathemisto* BOECK + *Euthemisto* BOVALLIUS).

### 3. *Themisto abyssorum* BOECK.

*Parathemisto oblivia* G. O. SARS 1895, p. 10, pl. 5 fig. 1.

East Greenland records:

*Parathemisto oblivia* CLEVE 1900, p. 7.
— — BROCH & KOEFOED 1909, pp. 109, 135, 138, 145, 155, 156.
— — K. STEPHENSEN 1913, p. 104 (no new records).
*Themisto abyssorum* K. STEPHENSEN 1923, p. 20 (no new records).
— — SCHELLENBERG 1935, p. 29.

Occurrence at East Greenland:

*Nordøstkyst:* 78°13′ N, 16°31′ W, 50—20 m, 150—55 m, and 475—310 m; 78°13′ N, 14°18′ W (depth 100 m), 90—10 m, and near the bottom; 78°06′ N, 15°06′ W, 50—10 m and 290—44 m; 77°35½′ N, 18°12′ W, 75 m; 77°29′ N, 18°21′ W, 200—70 m, and surface; between 76°49′ N, 18°13′ W, and 76°58′ N, 18°00′ W, 100 m; 76°47′ N, 15°21′ W, 20—0 m and 170—60 m; 76°46′ N, 14°35′ W, 200—5 m; 76°37′ N, 18°22′ W, 5—0 m and 300—5 m; 76°30′ N, 14°47′ W, 10—0 m and 190—15 m; 75°58½′ N, 14°08′ W, 300 m, 0.4°; 75°47′ N, 12°57′ W, 200—5 m; 75°35′ N, 12°00′ W, 200—10 m and 350—250 m (BROCH & KOEFOED 1909).

*Franz Joseph Fjord area:* Franz Joseph Fjord, near Antarctic Sund, 75—0 m; Kong Oscars Fjord, outside Kempes Fjord, 90—0 m, ÷1.72°—6.76° (SCHELLENBERG 1935). 72°28′ N, 21°48′ W, 180 m; 71°30′ N, 21° W, 50 m (CLEVE 1900). 71°21½° N, 18°58′ W, 10—0 m, 100—60 m, and 400—200 m (BROCH & KOEFOED 1909). — Moskusoksefjord, off Vastidalen, 200 m wire out, 10 specimens; Franz Joseph Fjord, off Isfjord, 760 m, clay with stones and gravel, bottom-grab, 1 specimen; inner Franz Joseph Fjord, off Kjerulfs Fjord, 630 m, clay, gravel, bottom-grab, 1 specimen, and 600 m wire out, numerous specimens; Isfjord, between two glaciers, 700 m wire out, 15 specimens; Isfjord, 3 miles from the largest glacier, 430 m, fine clay with sand, bottom-grab, 1 specimen; Isfjord, Renbugt, 210 m, sand and gravel, bottom-grab, 1 specimen; east of Zoologdalen, Ymers Ø, 400 m wire out, a few specimens; Dusénfjord, 200 m wire out, numerous specimens; between Kap Franklin and Broch Øerne, Hensen-net, 100—0 m, a few specimens; ibid., 300 m

wire out, 15 specimens, and 700 m wire out, 10 specimens; between Kap Weber and Ymers Ø, 300 m wire out, 5 specimens, and Hensen-net 100—0 m, a few specimens; the mouth of Dusénfjord west of Kap Graah, 200 m wire out, 2 specimens; Franz Joseph Fjord, NE. of Kap Graah, 400 m wire out, about 25 specimens; between Kap Weber and Ymers Ø, 700 m wire out, about 20 specimens; Franz Joseph Fjord, near Ancher Sund, 300 m wire out, 10 specimens, and 800 m wire out, 15 specimens; Dickson Fjord, 1 mile from the glacier, 100—0 m, Hensen-net, 1 specimen; ibid. 50 m wire out, 10 specimens, and 300 m wire out, about 25 specimens; Dickson Fjord (depth 640 m), 300 m wire out, 4 specimens, 700 m wire out, about 25 specimens, and bottom-grab, 1 specimen; Rhedins Fjord, inner part, Hensen-net, 100—0 m, 8 specimens; NE. of Kap Hedlund, Kempes Fjord, 700 m wire out, 20 specimens; Narhvalsund, off Polhems Dal, 100—0 m, Hensen-net, 10 specimens; ibid., 300 m wire out, 10 specimens, and 700 m wire out, 25 specimens; Sophias Sund, (depth 270 m), 100—0 m, Hensen-net, 15 specimens; ibid., 300 m wire out, 25 specimens, and 400 m wire out, 25 specimens; 5 miles south of Bontekoe Ø, 100—0 m, Hensen-net, 5 specimens; mouth of Vega Sund, 100—0 m, Hensen-net, 1 specimen; between Kap Stimpson and Kap Wardlaw, 100—0 m, Hensen-net, 5 specimens; ibid., 300 m wire out, 25 specimens, and 600 m wire out, 1 specimen; Kong Oscars Fjord, SE. of Ancher Øerne, 100 m wire out, 1 specimen, and 500 m wire out, 5 specimens; Kong Oscars Fjord, off Holms Vig, 300 m wire out, 10 specimens; Kong Oscars Fjord, off Kap Dufva, Hensen-net, 100—0 m, 5 specimens; ibid., 300 m wire out, 20 specimens, and 800 m wire out, 20 specimens; off Solitærbugt, Ella Ø, 100 m wire out, 3 specimens, and 300 m wire out, 20 specimens; between Maria Ø and Ella Ø, 500 m wire out, 1 specimen; Kempes Fjord, Kap Oswald, (depth 410 m), 650 m wire out, 10 specimens; off Kap Elisabeth, Ella Ø, 300 m wire out, 5 specimens, and 500 m wire out, 10 specimens. All these samples were taken by the "Godthaab" from 3-VIII to 25-VIII-1932 with 1 m-stramin net (except the few hauls with Hensen-net or with bottom-grab), 15 minutes.

*Scoresbysund area:* South of Kap Tobin, 700 m wire out, "Godthaab" 1932, 2 specimens.

*Sydøstkyst:* Lindenows Fjord, 425 m, clay, E. Bertelsen leg. 22-VII-1935, 1 ♀ with embryos.

According to the above it is taken in 80 hauls (Nordøstkyst 21 hauls, Franz Joseph Fjord area 57 hauls, Scoresbysund area 1 haul, and Sydøstkyst 1 haul) from 78°—60° N; it is found from the surface down to the greatest depths (630 m), but seems to be most abundant in water layers deeper than about 50—100 m below the surface.

Remarks on the size. A single specimen is about 15 mm, numerous are about 10 mm, but the majority are very small, only a few mm in length.

Distribution. A mainly arctic (arctic-boreal?) species; see K. STEPHENSEN 1923, p. 20, with map.

### 4. *Themisto libellula* (MANDT).

*Euthemisto libellula* G. O. SARS 1895, p. 13, pl. 6 fig. 1.

East Greenland records:

*Themisto libellula* BUCHHOLZ 1874, p. 385.
*Euthemisto* — H. J. HANSEN 1895, p. 126.
— — CLEVE 1900, pp. 7, 8.
— — BROCH & KOEFOED 1909, pp. 135 etc.
— — K. STEPHENSEN 1912, p. 526.
— — — 1913, p. 100 (no new records).
*Themisto* — — 1923, p. 24.
— — — 1933a, p. 8.
— — SCHELLENBERG 1935, p. 29.

Occurrence at East Greenland:

*Nordøstkyst:* 78½° N, 14°10′ W, (depth 400 m), 325—220 m; 4 occurrences near Danmarks Havn, from the surface (3 hauls) and 100 m (1 haul) (K. STEPHENSEN 1912). 76°36′ N, 12° W (K. STEPHENSEN 1923). Between 76°49′ N, 18°13′ W, and 76°58′ N, 14°18′ W, 100—0 m; 76°46′ N, 14°33′ W, 200—5 m; 76°37′ N, 18°22′ W, 5—0 m and 300—5 m; 75°59′ N, 14°12′ W, 300 m; 75°58½′ N, 14°08′ W, 300 m; 75° 47½′ N, 12°59′ W, 350 m and 300—5 m; 75°39′ N, 12°0′ W, (depth 700 m), 20—10 m and 350—250 m (BROCH & KOEFOED 1909). 75°37′ N, 6°40′ W; 74°36′ N, 12°0′ W (H. J. HANSEN 1895). "Verbreitung allenthalben im grönländischen Eismeer an der Oberfläche in erstaunlichen Massen" (BUCHHOLZ 1874).

*Franz Joseph Fjord area:* 73°21′ N, 24°22′ W; 72°28′ N, 21°48′ W, 180 m (CLEVE 1900). Mackenziebugt, surface; Claveringfjord, off Kap Stosch; near Waltershausenbræen, washed ashore (SCHELLENBERG 1935). 72°26′ N, 19°56′ W, surface (K. STEPHENSEN 1923). — Moskusoksefjord, off Vastidal, 200 m wire out, 10 specimens; Nordfjord, off Waltershausenbræen, 120 m, very fine grey clay, bottom-grab, 1 specimen; Nordfjord, between the danish house and Kap Ovibos, 270 m, grey clay, bottom-grab, 1 specimen; Franz Joseph Fjord area, off Kjerulfsfjord, 600 m wire out, 10 specimens; Ymers Ø, off Zoologdal, 400 m wire out, a few specimens; between Kap Franklin and Broch Øer, 100—0 m, Hensen-net, 2 specimens; ibid., 300 m wire out, 5 specimens, and 700 m wire out, 4 specimens; between Kap Weber and Ymers Ø, 100—0 m, Hensen-net, 1 specimen; Dusénfjord, the mouth, west of Kap Graah,

(depth 400 m), 200 m wire out, 10 specimens, 300 m wire out, 2 specimens, and 700 m wire out, 2 specimens; ibid., Sigsbeetrawl, 1 specimen; Antarctic Sund, near Skildvagten, 800 m wire out, 10 specimens; Dickson Fjord, off the glacier, 100—0 m, Hensen-net, 1 specimen; ibid., 300 m wire out, 8 specimens, and 700 m wire out, 3 specimens; Dickson Fjord, 700 m wire out, 2 specimens; Kap Hedlund, Kempes Fjord, 300 m wire out, 10 specimens, and 700 m wire out, 5 specimens; Narhvalsund, off Polhems Dal, 100—0 m, Hensen-net, 1 specimen; ibid., 300 m wire out, 20 specimens, and 700 m wire out, 8 specimens; Sophias Sund, off Botanikerbugt, (270 m), 100—0 m, Hensen-net, 1 specimen; ibid., 150 m wire out, 10 specimens, 300 m wire out, 1 specimen, and 400 m wire out (2 hauls), 16 specimens; between Kap Stimpson and Kap Wardlaw, 300 m wire out, 5 specimens, and 600 m wire out, 10 specimens; 2 miles N. of Kap Wardlaw, 100 m wire out, 15 specimens, 300 m wire out, 10 specimens, and 400 m wire out, 1 specimen; Kong Oscars Fjord, SE. of Archer Øerne, 500 m wire out, 3 specimens; Kong Oscars Fjord, off the great valley in Traill Ø, 100 m wire out, 10 specimens; Kong Oscars Fjord, off Holms Vig, 300 m wire out, 3 specimens; SE. of Kap Dufva, 100—0 m, Hensen-net, 5 specimens; ibid., 300 m wire, 4 specimens, and 800 m wire out, 15 specimens; between Solitærbugt, Ella Ø, and Maria Ø, 50 m wire out, 1 specimen, and 320 m, clay, 4 specimens; Kempes Fjord, Kap Oswald, 650 m wire out, 3 specimens; Kong Oscars Fjord, NE. of Kap Elisabeth, Ella Ø, 200 m wire out, 4 specimens, 300 m wire out, 7 specimens, and 500 m wire out, 25 specimens; between Maria Ø and Ella Ø, 250 m, Sigsbeetrawl, 1 specimen. All these samples were taken by the "Godthaab" from 3-VIII to 25-VIII-1932 with 1 m-stramin-net (except the few hauls with Hensen-net or with bottom-grab), 15 minutes.

*Scoresbysund area:* 71°22½° N, 18°58′ W, 50—20 m and 400—200 m (Broch & Koefoed 1909). 70°22′ N, 22°57′ N, and Danmarks Ø (K. Stephensen 1923). Off Kap Tobin, 300 m wire out, 5 specimens ("Godthaab" 1932); Kap Leslie, 82 m, glittering clay, bottom-grab, 1 specimen ("Godthaab" 1933).

*Kangerdlugssuaq area:* Ravns Fjord, surface, 100 m from the mouth of a river; Kangerdlugssuaq, 125 m, and behind the second dead glacier (K. Stephensen 1933a).

*Sydøstkyst:* 63°30′ N, 39°53′ W, (530 m), 65 m wire out, 1 specimen, and 62°43′ N, 42°04′ W, (355 m), 300 m wire out, 1 specimen ("Dana" 1933); Kutdlek, 30 m, sand and mud, and 38 m, muddy sand, E. Bertelsen leg. 25-VI-1935, bottom-grab, 1 specimen per haul; Nanusek, 4 m, sand, E. Bertelsen leg. 17-VII-1935, bottom-grab, 2 specimens; Lindenows Fjord, 125—150 m, clay, E. Bertelsen leg. 24-VII-1935,

1 specimen; ibid., 60 m wire out, 1936, numerous specimens; 60°47′ N, 42°34′ W, (200 m), 300 m wire out, 1 specimen ("Dana" 1933).

According to the above it is taken in 88 hauls (Nordøstkyst 19 hauls, Franz Joseph Fjord area 52 hauls, Scoresbysund area 6 hauls, Kangerdlugssuaq area 3 hauls, and Sydøstkyst 8 hauls) from 78°—60° N.

Remarks on the size. A single specimen is about 35 mm, a few are about 25—30 mm, but the majority are much smaller or even very small.

Distribution. An arctic (pan-arctic?) species, probably circumpolar.

5 a. *Themisto gaudichaudi* GUÉRIN f. *compressa* (GOËS) K. STEPHENSEN.

*Euthemisto compressa* G. O. SARS 1895, p. 12, pl. 5 fig. 2.
— (*Parathemisto*) *gaudichaudi* (partim) BARNARD 1932, p. 280, lit.

East Greenland records:

*Euthemisto compressa* BROCH & KOEFOED 1909, p. 110.
— — K. STEPHENSEN 1913, p. 102 (no new records).
*Themisto* — f. *compressa* K. STEPHENSEN 1923, p. 27 (no new records).
— *gaudichaudi* f. *compressa* K. STEPHENSEN 1933a, p. 9.

Occurrence at East Greenland:

*Nordøstkyst:* Between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (BROCH & KOEFOED 1909).

*Sydøstkyst:* Angmagssalik, 100 m wire out (K. STEPHENSEN 1933a). 65°04′ N, 35°50′ W, 196 m, 15 m wire out, 15 specimens, 65 m wire out, 10 specimens, 150 m wire out, 10 specimens, and 300 m wire out, 15 specimens; 63°36′ N, 40°10′ W, 230 m, 15 m wire out, 15 specimens, and 65 m wire out, 10 specimens; 63°30′ N, 39°53′ W, 530 m, 65 m wire out, 1 specimen; 60°21′ N, 42°09′ W, 15 m wire out, 1 specimen (all these specimens were taken by the "Dana" 10-VIII to 14-VIII-1933). Lindenows Fjord, 46 m, dark clay, E. BERTELSEN leg. 27-VII-1935, 1 specimen.

Distribution. Rare in arctic waters, but found from Greenland, Iceland, etc., to the Antarctic, etc., see BARNARD l. c.

5 b. *Themisto gaudichaudi* GUÉRIN f. *bispinosa* (BOECK) K. STEPHENSEN.

*Euthemisto bispinosa* G. O. SARS 1895, p. 14, pl. 6 fig. 2.
— (*Parathemisto*) *gaudichaudi* (partim) BARNARD 1932, p. 280, lit.

Occurrence at East Greenland:

*Sydøstkyst:* 65°04′ N, 35°50′ W, 196 m, 15 m wire out, 150 m wire out, and ? 300 m wire out, 1—10 specimens per haul, "Dana" 10-VIII-

1933. 63°30′ N, 39°53′ W, 530 m, 65 m wire out, "Dana" 12-VIII-1933, 1 specimen.

Distribution. Probably as that of f. *bispinosa*, see above.

### Fam. **Scinidæ** Stebbing.

### Genus **Scina** Prestandrea.

6. *Scina borealis* G. O. Sars (= *S. clausi* Bovallius)[1]).

*Scina borealis* G. O. Sars 1895, p. 20, pl. 8.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Franz Joseph Fjord, off Isfjord, 760 m, clay with a few stones and gravel, 6-VIII-1932, bottom-grab, 1 specimen.

It is new to East Greenland, but is known from several places at West Greenland about 61°—63′ N, 300—2500 m wire out, and Nansen-net 450—350 m (K. Stephensen 1916, p. 277, and 1933b, p. 66).

Distribution. Very widely distributed, probably cosmopolitan, but only exceptionally in arctic waters.

## GAMMARIDEA

### Fam. **Lysianassidæ** Dana.

### Genus **Acidostoma** Norman.

7. *Acidostoma laticorne* G. O. Sars.

*Acidostoma laticorne* G. O. Sars 1885, p. 152, pl. 13, figs. 3, 3a (♂).
— — Stebbing 1906, p. 14.
— — Chevreux & Fage 1925, p. 30, figs.
— — Shoemaker 1930, p. 1, figs. (♀).

East Greenland record:

*Acidostoma laticorne* Schellenberg 1935, p. 11.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰; Vega Sund, NW. of Scott Keltie Øerne, 250—190 m, brownred clay (Schellenberg 1935).

*Scoresbysund area:* Kap Leslie, 260 m, clay and gravel, 22-VII-1933, bottom-grab, 1 specimen (♀?) about 6 mm.

Remarks. The specimen from Kap Leslie was not dissected; it seems to agree excellently with Shoemaker's drawing (♀; Sars's type was ♂), and telson has a small apical notch as in Shoemaker's figure.

[1]) Wagler, D. Tiefsee-Exped., vol. 20, 1926, p. 337.

Distribution. Arctic Basin, 1159 m; East of Nova Scotia, 215 m; Skagerrak or Kattegat; Shetland Islands; North of Bretagne; Gulf of Naples. For special localities see K. STEPHENSEN 1935—42, p. 32; the zoogeographical position is rather uncertain.

## Genus **Onisimus** BOECK.

### 8. *Onisimus edwardsi* KRØYER.

*Onesimus edwardsi* G. O. SARS 1895, p. 105, pl. 36 fig. 1.
*Onisimus* — STEBBING 1906, p. 25.

East Greenland records:

*Onisimus edwardsi* K. STEPHENSEN 1912, p. 530.
— — — 1913, p. 122 (no new records).
— — — 1923, p. 44.
— — REMY 1928, p. 234.
— — SCHELLENBERG 1935, p. 12.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 6—12 m, 3 hauls, soft bottom with Laminaria or other Algæ (K. STEPHENSEN 1913). Landingsdalen near Wollastons Forland, 26—20 m, small stones, Algæ (SCHELLENBERG 1935).

*Franz Joseph Fjord area:* Herschelhus, 8—6 m, black mud with brown Algæ (SCHELLENBERG 1935). Kap Borlase Warren (K. STEPHENSEN 1923). Off Zoologdal, Ymers Ø, 55 m, gravelous clay, 8-VIII-1932, 1 specimen.

*Scoresbysund area:* Rosenvinges Bugt, 28—30 m (REMY 1928). Kap Hope, 10—11 m, sand, 29-VI-1933, 1 specimen.

*Sydøstkyst:* Naparsarsuak, 38 m, muddy sand, 1 specimen, and Kutdlek, 30 m, sand, mud, E. BERTELSEN leg. 25-VI-1935, 2 specimens. Lindenows Fjord, 3—25 m, 11 hauls, sand, gravel, Laminaria, several specimens; ibid. 25—30 m, gravel, clay, 6 specimens, and 100 m, clay, 1 specimen, E. BERTELSEN leg. 16—28-VI-1935.

Distribution. A littoral, probably circumpolar species; the southernmost localities in the Atlantic are: Gulf of St. Lawrence, South Greenland (West and East), North Iceland, Jan Mayen, and North Norway about 70° N; but besides it has been taken a few times off West Norway and in the Kattegat. For special localities see K. STEPHENSEN 1923, p. 44 (with chart), and 1935—42, p. 35. Is probably a low-arctic species.

### 9. *Onisimus plautus* KRØYER.

*Onesimus plautus* G. O. SARS 1895, p. 107, pl. 37 fig. 1.
*Onisimus* — STEBBING 1906, p. 26.

East Greenland records:

*Anonyx plautus* BUCHHOLZ 1874, p. 303.

*Onisimus plautus* Broch & Koefoed 1909, p. 110.
— — K. Stephensen 1912, p. 531.
— — — 1913, p. 122 (no new records).
— — — 1923, p. 46 (no new records).

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 10—16 m, Laminaria and Delesseria, hard and soft bottom (K. Stephensen 1912). Between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (Broch & Koefoed 1909). Sabine Ø, 20 m; Germania Havn, 6 m; Kap Wynn, 6 m (Buchholz 1874).

*Franz Joseph Fjord area:* 73°58′ N, 18°23′ W (SE. of Jackson Ø), 400 m, clay with small stones, 12-VII-1932, 1 specimen.

*Scoresbysund area:* Nordbugt, Nordvestfjord, 28 m, soft clay, 24-VII-1933, 1 specimen.

*Sydøstkyst:* Naparsarsuak, 38 m, muddy sand, 2 specimens; Kutdlek, 9—36 m (4 hauls, viz., 9 m, 26 m, 36 m, and 36 m), rocks, sand, gravel, with Algæ, 1—10 specimens per haul; Lindenows Fjord, 15—20 m, 23 m, and 25 m, mud, sand, gravel, Laminaria, 1 specimen per haul; Kekertarsiak, 50 m, sand, Bryozoa, 1 specimen. — All the specimens in this area were taken by E. Bertelsen 13—28-VI-1935.

A few of the East Greenland specimens are 10 mm in length, the majority are much smaller.

Distribution. A probably circumpolar, mainly littoral species, widely distributed mainly in the arctic area. The southernmost localities are: Nova Scotia; 43° N, 51° W, 1100 m; South Greenland; Northeast Iceland; Jan Mayen; and Kola Bay on the Murman Coast; but it has also been recorded from Southwest Norway (Haugesund) and the Skagerrak. For special localities see K. Stephensen 1923, p. 46, with chart, and 1935—42, p. 37. A low-arctic species.

### 10. *Onisimus brevicaudatus* H. J. Hansen.

*Onisimus brevicaudatus* H. J. Hansen 1886, p. 216, pl. 21 fig. 7.
— — Stebbing 1906, p. 97.
— — Brüggen 1909, p. 7, pl. 2 fig. 3.

East Greenland records:

*Onisimus brevicaudatus* Schellenberg 1935, p. 12.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Mackenzie Bugt, 40 m, mud with red Algæ (Schellenberg 1935). Eskimonæs, 50 m, 29-V-1933, 5 specimens; Dusénfjord, the head, near the anchoring-place, 36 m, clay, 11-VIII-1932, 1 small specimen, and 240 m, clay, 1 small specimen; off Vimmelskaftdalen, Fleming Inlet, 27 m, clay, a few stones, 1-VIII-1932, 1 small specimen.

*Scoresbysund area:* Hurry Fjord, western side near Konstabelpynten, 18—22 m, soft clay, 7-VII-1933, 1 small specimen, the determination not certain; Hurry Fjord, near Fame Øerne, 18—25 m, 3 hauls, muddy clay with Algæ, 17-VII—16-VIII-1933, 5 specimens; between Kap Leslie and Jameson Land, 179 m, clay, 21-VIII-1933, 1 specimen; Nordbugt, Nordvestfjord, 25 m, clay, 24-VII-1933, and 56 m, clay, 1933, 2 specimens.

*Kangerdlugssuaq area:* Uttenthal Sund, Kangerdlugssuaq, 30—40 m, clay, E. BERTELSEN leg. 27-VIII-1933, 1 specimen.

A few of these specimens are up to 15 mm in length, the majority are much smaller.

Distribution. Probably circumpolar; for special localities see K. STEPHENSEN 1935—42, p. 40. A high-arctic species?

### 11. *Onisimus caricus* H. J. HANSEN.

*Onisimus caricus* H. J. HANSEN 1886, p. 214, pl. 21 fig. 6.
— — STEBBING 1906, p. 27.
— — BRÜGGEN 1909, p. 6, pl. 2 figs. 1—4.

East Greenland record:

*Onisimus caricus* SCHELLENBERG 1935, p. 12.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Near Waltershausenbræen, Nordfjord, washed ashore (SCHELLENBERG 1935). Nordfjord, off the river, 10—25 m, clay, 7-VIII-1933, 1 specimen.

*Scoresbysund area:* Hurry Fjord, near the mouth, 13—16 m, 6 hauls, sand, and 88 m, sand, 5-VII-1933, a few specimens; Kap Hope, 9—13 m, 2 hauls, 29-VI-1933, 2 specimens; Jameson Land, off Bjørne Øerne, 10 m, clayish sand, 26-VII-1933, 1 specimen; Nordbugt, Nordvestfjord, 59 m, soft clay, 24-VII-1933, 1 specimen.

*Sydøstkyst:* Sermilik, second Østfjord (near Angmagssalik), 12 m, sandy clay, E. BERTELSEN leg. 24-VII-1933, 2 specimens.

Remarks. SCHELLENBERG's specimen was an ovigerous ♀, 31 m; a few of the specimens from the Danish expeditions are 21—23 mm, but the majority are much smaller, up to 10 mm.

Distribution. Icefjord, Spitsbergen, 25—70 m, 0.27°—1.85°, clay; Kara Sea and Siberia, 17—145 m; for special localities see K. STEPHENSEN 1935—42, p. 41. Is probably a high-arctic species.

### 12. *Onisimus affinis* H. J. HANSEN.

*Onisimus affinis* H. J. HANSEN 1886, p. 216, pl. 21 fig. 9.
— — STEBBING 1906, p. 28.

? *Onisimus botkini* Birula, Ann. Mus. Zool. Acad. Sci. St.-Pétersb., vol. 2, 1895, p. 105.
— *affinis* K. Stephensen 1923, p. 47 (with lit.).

East Greenland record:

*Onisimus affinis* K. Stephensen 1923, p. 47.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Borlase Warren, at the anchorage (K. Stephensen 1923).

*Scoresbysund area:* Hurry Fjord, 13—0 m (K. Stephensen 1923).

It is uncorrectly recorded from Sabine Ø, 207 m (K. Stephensen 1923); the two specimens in question are *O. brevicaudatus* H. J. H.

Distribution. Jan Mayen, 162 m; Kara Sea; New Siberian Islands, and North of Alaska, 0—40 m. King William Land (K. Stephensen 1937, p. 18). For special localities see K. Stephensen, l. c., and Gurjanova 1935, p. 67; chart in Gurjanova 1932, p. 158. Is probably a high-arctic species.

### 13. *Onisimus dubius* Schellenberg.

*Onisimus dubius* Schellenberg 1935, p. 12, figs.

East Greenland record:

*Onisimus dubius* Schellenberg 1935, p. 12.

Occurrence at East Greenland:

*Nordøstkyst:* Landingsdalen, Wollaston Forland, 26—20 m, stones, Algæ (Schellenberg 1935).

Distribution. Not found elsewhere.

## Genus **Pseudalibrotus** Della Valle.

### 14. *Pseudalibrotus littoralis* (Krøyer).

*Alibrotus litoralis* G. O. Sars 1895, p. 102, p. 35 fig. 2.
*Pseudalibrotus litoralis* Stebbing 1906, p. 33 (the description, but probably not all the literature cited).

East Greenland records:

*Anonyx littoralis* Buchholz 1874, p. 302 (partim ?)[1].
*Alibrotus* — H. J. Hansen 1895, p. 127.
*Pseudalibrotus littoralis* Cleve 1900, p. 8 (G. O. Sars determ.).
*Alibrotus littoralis* K. Stephensen 1912, p. 530.
— — — 1913, p. 119 (partim).
*Pseudalibrotus littoralis* K. Stephensen 1923, p. 56.

[1]) At all events one of the two localities (Kap Wynn) applies to *P. nanseni*, fide Schellenberg 1924, p. 195.

?*Pseudalibrotus littoralis* REMY 1928, p. 234.
— — SCHELLENBERG 1935, p. 14.
— — MADSEN 1936, pp. 14, 17, 65.
— — BERTELSEN 1937, pp. 15, 18, 21, 22.
— — K. STEPHENSEN 1935—42, p. 46.
non *Pseudalibrotus littoralis* BROCH & KOEFOED 1909.

Occurrence at East Greenland:

*Nordøstkyst:* Near Danmarks Havn, 3 hauls, 0—4 m, soft bottom with sand, mud and stones (K. STEPHENSEN 1912; the specimen from the Danmark-Exped. St. 77 (40—0 m) is *P. glacialis*). ?Germania Havn, 6 m (BUCHHOLZ 1874). Landingsdalen, Wollaston Forland, 26—20 m, stones, Algæ (SCHELLENBERG 1935).

*Franz Joseph Fjord area:* 73°21′ N, 24°22′ W (CLEVE 1900). Myggebugten (=Mackenzie Bugt), tidal zone (K. STEPHENSEN 1935—42). Tyrolerfjord, 1 m, 1930, 2 specimens; Kap Mary, Clavering Ø, shallow water, 9-VII-1930, numerous specimens.

*Scoresbysund area:* Is one of the "most conspicious animals" in gravel and sand strand; also in the clayey tidal belt (MADSEN 1936). ?Scoresbysund, 45 m (REMY 1928). Hurry Fjord 70°50′ N, 22°35′ W, 13—0 m; Jameson Land 70°21′ N, 22°08′ W, depth? (K. STEPHENSEN 1923). Hekla Havn (H. J. HANSEN 1895). Hurry Fjord, near Konstabelpynten, 1 m, sand, 7-VII-1933, 2 specimens, and the anchoring-place at Fame Øerne, the beach, sand, 15-VIII-1933, numerous small specimens; Rosenvinges Bugt, depth?, 26-VII-1925, 7 specimens; Kap Stewart, 1 m, sand, 13-IX-1924, 10 specimens; Noavig, Milne Land, clayey beach, 4-VIII-1933, 4 small specimens; western side of Jameson Land off Kap Leslie, 30 m, clay, 26-VII-1933, 1 specimen.

*Kangerdlugssuaq area:* Mikis Fjord, 3.5—4 m, clay, E. BERTELSEN leg. 17-VIII-1933, 1 specimen; Kangerdlugssuaq, 40 m, soft clay, E. BERTELSEN leg. 2-VIII-1933, 1 specimen.

*Sydøstkyst:* Ødesund 66°10′ N, 10—28 m, stony bottom with Algæ; Tasiusak near Angmagssalik, beach (K. STEPHENSEN 1923). Hekla Havn (H. J. HANSEN 1895). Angmagssalik area (BERTELSEN 1935). Sermilik, second Østfjord, 4 m, clay, and 12 m, sandy clay, E. BERTELSEN leg. 24-VII-1933, numerous specimens. Kap Tordenskjold, 8 m, sandy clay, and 11 m, clay, 6 specimens; Nanusek, 4—6 m (2 hauls), sand, Algæ, about 20 specimens; Lindenows Fjord, 3—12 m (7 hauls), and 27—36 m (2 hauls), gravel, sand, clay, Laminaria, E. BERTELSEN leg. VII-1935, numerous specimens. 60°47′ N, 42°34′ W, 200 m, 150 m wire out, "Dana" 13-VIII-1933, 1 specimen; this specimen is a typical *P. littoralis* (urop. 2!), though it was pelagical.

According to the above it is distributed along the East Greenland coast 77°—60° N, and, with but very few exceptions, taken only in

rather shallow water (0—25 m). It is a burrowing form, living in gravel and sand strand and in the clayey tidal belt (MADSEN 1936); it is rather euryhaline (BERTELSEN 1937). Sometimes it has been recorded as taken pelagical (*i. a.*, the locality 60°47′ N, 42°34′ W, cited above); but no doubt the majority of such records apply to any of the two species to be mentioned below.

Distribution. A mainly littoral species, distributed from Arctic America and Greenland to Novaja Zemlya; but in the eastern part of the arctic area (Kara Sea and Siberia) it is replaced by a closely allied species, *P. birulai* GURJ. (according to GURJANOVA 1929, p. 316). For special localities and references see K. STEPHENSEN 1935—42, p. 45.

It is a low (sub-)arctic species. "The southern boundary of the subarctic region should in my opinion most naturally be drawn at the southern limits of two specially Arctic littoral animals, *Mysis oculata* and *Pseudalibrotus littoralis*. These animals are of great importance in the Arctic littoral region" (H. MADSEN 1936, p. 65, with chart p. 67).

### 15. *Pseudalibrotus nanseni* G. O. SARS.

*Pseudalibrotus nanseni* G. O. SARS 1900, p. 26, pls. 4—5.

East Greenland records:

*Alibrotus littoralis* (partim) BUCHHOLZ 1874, p. 303[1]).
*Pseudalibrotus nanseni* K. STEPHENSEN 1923, p. 58.
— — SCHELLENBERG 1924, p. 195.
— — K. STEPHENSEN 1933a, p. 6.

Occurrence at East Greenland:

*Nordøstkyst:* Hvalrosodden, 0—4 m, 2 hauls, soft bottom (K. STEPHENSEN 1923).

*Franz Joseph Fjord area:* Kap Wynn (BUCHHOLZ 1874, *fide* SCHELLENBERG 1924). Off Solitærbugt, Ella Ø, 100 m wire out, 24-VIII-1932, 1 specimen; Dusénfjord, the mouth, near Kap Graah, 200 m wire out, 12-VIII-1932, a few specimens; 2 miles East of Botanikerbugt, Franz Joseph Fjord, 400 m wire out, 20-VIII-1932, 1 specimen; Kong Oscars Fjord, Southeast of Kap Dufva, 800 m wire out, 23-VIII-1932, 1 specimen; between Kap Simpson and Kap Wardlaw, vertical-net 100—0 m, 22-VIII-1932, 1 specimen; 2 miles Northeast of Kap Wardlaw, 300 m wire out, 22-VIII-1932, 2 specimens.

*Scoresbysund area:* Danmarks Ø (K. STEPHENSEN 1923).

*Kangerdlugssuaq area:* d'Aunay Bugt, surface; Ravns Fjord between Kap Ravn and Kap Johnstrup, 200 m wire out (K. STEPHENSEN 1933a).

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[1]) At all events one of the two localities (viz., Kap Wynn) is *P. nanseni*, *fide* SCHELLENBERG 1924, p. 195.

Distribution. A pelagic, arctic, probably circumpolar species. For special localities and references see K. STEPHENSEN 1935—42, p. 47; chart in GURJANOVA 1932, p. 166.

### 16. *Pseudalibrotus glacialis* G. O. SARS.

*Pseudalibrotus glacialis* G. O. SARS 1900, p. 31, pl. 6.

East Greenland records:

*Pseudalibrotus glacialis* K. STEPHENSEN 1923, p. 58.
— — — 1933a, p. 6.

Occurrence at East Greenland:

*Nordøstkyst:* 77° N, vertical-net 20—0 m (K. STEPHENSEN 1923).

*Franz Joseph Fjord area:* 74°15′ N, 16°29′ W, 200—0 m (K. STEPHENSEN 1923). Eskimonæs, Østhavn, 55—50 m, clayey gravel, 11-VII-1933, 1 small specimen, determination not certain; 5 miles South of Bontekoe Ø, 150 and 400 m wire out, and Hensen-net 100—0 m, 21-VIII-1932, 1 specimen per haul; Gael Hamkes Bugt, Plankton-net, 1 m, 1-VII-1932, 1 specimen; Antarctic-Sund, near the mouth, 800 m wire out, 13-VIII-1932, 1 specimen; between Kap Stimpson and Kap Wardlaw, 300 m wire out, 22-VIII-1932, 2 specimen; off Kap Wardlaw, 100 and 300 m wire out, 22-VIII-1932, 5 specimens.

*Scoresbysund area:* Hurry Fjord, North of Konstabelpynten, 21 m, clay, bottom-grab, 6-VII-1933, 1 specimen.

*Kangerdlugssuaq area:* 10 miles off Kap Stephensen, surface (K. STEPHENSEN 1933a). Kangerdlugssuaq, surface, M. DEGERBØL leg. 11-VIII-1932, 1 specimen.

*Sydøstkyst:* Kungmiut, 10—15 m, clay, Fucus, E. BERTELSEN leg. 28-VII-1933, 1 specimen; 60°47′ N, 42°34′ W, 210 m, 150 m wire out, "Dana" 13-VIII-1933, 1 specimen.

Distribution. A pelagic, arctic, probably circumpolar species. For special localities and references see K. STEPHENSEN 1935—42, p. 48; chart in GURJANOVA 1932, p. 166.

### *Pseudalibrotus nanseni* G. O. SARS or *P. glacialis* G. O. SARS.

East Greenland records:

?*Pseudalibrotus littoralis* BROCH & KOEFOED 1909, pp. 109, 145.

Occurrence at East Greenland:

*Nordøstkyst:* Between 76°49′ N, 18°13′ W, and 76°58′ N, 18°00′ W, 100—0 m; between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300—0 m (BROCH & KOEFOED 1909).

## Genus **Paralibrotus** K. Stephensen.

### 17. *Paralibrotus setosus* K. Stephensen.

*Paralibrotus setosus* K. Stephensen 1923, p. 61, figs.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, 2 miles inside the mouth, 30 m, Algæ, stones, 20-VII-1933, 1 specimen about 8 mm, and near Fame Øerne, 25 m, soft clay with gravel, 14-VII-1933, 1 specimen about 9 mm. It is new to East Greenland.

Distribution. 66°35′ N, 55°54′ W, 166 m, 1.6°; 65°35′ N, 54°31′ W, 128 m, 0.2° (K. Stephensen 1923). 55°00′ N, 56°34′ W, 314 m (K. Stephensen 1933b, p. 11). Is possibly a low-arctic species.

## Genus **Orchomene** Boeck.

### 18. *Orchomene serrata* Boeck.

*Orchomene serratus* G. O. Sars 1895, pp. 62, 682, pl. 23 fig. 1, suppl.-pl. IV fig. 1.
— *serrata* Stebbing 1906, p. 44.

East Greenland records:

*Orchomene serratus* Broch & Koefoed 1909, p. 109.
— — K. Stephensen 1912, p. 528.
— — — 1913, p. 125 (no new records).
— *serrata* — 1923, p. 67 (no new records).

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 20—30 m, Delesseria, soft bottom (K. Stephensen 1912). Between 75°59′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300—0 m (Broch & Koefoed).

Distribution. From East Greenland to Spitsbergen, the Kara Sea and the Skagerrak, down to 660 m; for special localities, see K. Stephensen 1923, p. 66, and 1935—42, p. 53. Is a pan-arctic species.

### 19. *Orchomene pectinata* G. O. Sars.

*Orchomene pectinatus* G. O. Sars 1895, pp. 64, 682, pl. 23 fig. 3.
— *pectinata* Stebbing 1906, p. 43.

East Greenland record:

*Orchomene pectinata* Schellenberg 1935, p. 15.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (Schellenberg 1935).

Distribution. 43° N, 61° W, 1000 m; deep Polar Basin, 640—1200 m; Bergen, 300—400 m; Varangerfjord, 230 m; Barents Sea,

depth?; Kara Sea, depth?. For special localities, see K. STEPHENSEN 1935—42, p. 54. Is a pan-arctic species.

### Genus **Menigrates** BOECK.

#### 20. *Menigrates obtusifrons* BOECK.

*Menigrates obtusifrons* G. O. SARS 1895, p. 111, pl. 38 fig. 1.
— — STEBBING 1906, p. 48.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, the anchoring-place, 20—25 m, black clay with Desmarestia, 10-VIII-1933, 1 specimen.

*Scoresbysund area:* Western side of Hurry Fjord, near Konstabelpynten, 7—10 m, 7-VII-1933, 1 specimen.

It is new to East Greenland.

Distribution. Iceland, 50—75 m (K. STEPHENSEN 1940, p. 9). From NW. France to Spitsbergen and Barents Sea, from a few meters down to about 200 m; for special localities, see K. STEPHENSEN 1935—42, p. 56. Is a pan-boreal species.

### Genus **Aristias** BOECK.

#### 21. *Aristias microps* G. O. SARS.

*Aristias microps* G. O. SARS 1895, p. 675, suppl.-pl. 1 fig. 2.
— — STEBBING 1906, p. 49.

Occurrence at East Greenland:

*Scoresbysund area:* Between Kap Tobin and Kap Brewster, 380 m, clay with gravel and stones, 11-VII-1933, bottom-grab, 2 specimens. It is new to East Greenland.

Distribution. South of New Foundland, 90 m; West Greenland $63^1/_2°$—$66^1/_2°$ N, 600—1100 m, 3°3—3°9; West and Southwest of Iceland 900—1500 m; ?Southwest of the Faroes, 900 m; Norway 64°—70° N, 25—100 m; for special localities, see K. STEPHENSEN 1935—42, p. 59, with references. Is probably a sublittoral-boreal atlantic species.

#### 22. *Aristias tumidus* (KRØYER).

*Aristias tumidus* G. O. SARS 1895, p. 49, pl. 18 fig. 1.
— — STEBBING 1906, p. 49.

East Greenland records:

*Aristias tumidus* K. STEPHENSEN 1923, p. 72.
— — SCHELLENBERG 1935, p. 15.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Herschelhus, 53—43 m and 83—35 m, clay with sand, stones, etc. (SCHELLENBERG 1935).

*Scoresbysund area:* 69¼° N, 23⅓° W, 6 m (K. Stephensen 1923).

*Kangerdlugssuaq area:* Uttenthal Sund, Kangerdlugssuaq, 41 m, soft clay, and Kangerdlugssuaq, 20—25 m and 50—60 m, clay, Bryozoa, E. Bertelsen leg. 21—25-VIII-1933, 4 specimens.

*Sydøstkyst:* Tasiusak near Angmagssalik, 45—55 m, rocky bottom, many Algæ (K. Stephensen 1923).

Distribution. From New Foundland Bank and West Greenland 72½° N to North Norway, Spitsbergen and the Siberian Polar Sea, 6—269(770) m; for special localities, see K. Stephensen 1923, p. 73, with chart, and 1935—42, p. 57. Is a low-arctic species.

## Genus **Ambasiella** Schellenberg.

### 23. *Ambasiella murmanica* (Brüggen).

*Ambasia murmanica* Brüggen 1905, pp. 219, 226, fig. 1.
— — K. Stephensen 1935—42, p. 61, figs.
*Ambasiella* — Schellenberg 1935, p. 16, figs.

East Greenland records:

*Ambasia atlantica*? K. Stephensen 1923, p. 75.
— *murmanica* — 1935—42, p. 63.
*Ambasiella* — Schellenberg 1935, p. 16.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰; Vega Sund, Northwest of Scott Keltie Øerne, 250—190 m, brown red clay (Schellenberg 1935). 72°35′ N, 19°33′ W, 264 m (K. Stephensen 1923 = 1935—42).

Distribution. Southwest of the Faroes, 1026 m, 4.8°; North Norway, 65½°—69° N, 15—40 m; Murman Coast, depth?; for references see K. Stephensen 1935—42, p. 63. Is a pan-arctic species.

## Genus **Schisturella** Norman.

### 24. *Schisturella pulchra* (H. J. Hansen).

*Tryphosa pulchra* H. J. Hansen 1887, p. 78, pl. 2 fig. 6.
*Ambasia* — , *Schisturella pulchra* Stebbing 1906, pp. 52, 719.
*Schisturella pulchra* Shoemaker 1930, p. 231, figs.

East Greenland record:

*Schisturella pulchra* Schellenberg 1935, p. 18, fig.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (Schellenberg 1935).

*Kangerdlugssuaq area:* Uttenthal Sund, Kangerdlugssuaq, 20—25 m,

red Algæ, E. BERTELSEN leg. 28-VIII-1933, 1 specimen about 20 mm in length.

Distribution. Gulf of St. Lawrence, 75 m (SHOEMAKER 1930); West Greenland $65^1/_2°$—70° N, 30—190 m; Northwest of Scotland, 650 m (K. STEPHENSEN 1923, p. 75). Kara Sea (GURJANOVA 1935, p. 537). Is probably a low-arctic species.

## Genus **Anonyx** KRØYER.

### 25. *Anonyx nugax* (PHIPPS).

*Anonyx nugax* G. O. SARS 1895, p. 88, pl. 31.
— — + *A. lagena* STEBBING 1906, p. 54.

East Greenland records:

*Anonyx lagena* BUCHHOLZ 1874, p. 300.
— *nugax* H. J. HANSEN 1895, p. 126.
— — BROCH & KOEFOED 1909, p. 109.
— — K. STEPHENSEN 1912, p. 529.
— — — 1913, p. 115 (no new records).
— — — 1923, p. 79.
— — SCHELLENBERG 1935, p. 18.

Occurrence at East Greenland:

*Nordøstkyst:* In and near Danmarks Havn, 0—60 m, 23 hauls (viz., 0—20 m 18 hauls, 0—60 m 1 haul, 20—30 m 2 hauls, 30—40 m 1 haul, and 40—60 m 1 haul), sand, mud or rocks, usually with Delesseria or other Algæ (K. STEPHENSEN 1912). Between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (BROCH & KOEFOED 1909). Sabine Ø, 10—40 m; Germania Havn, 6 m (BUCHHOLZ 1874). Wollaston Forland, Landingsdalen, 26—20 m, small stones with brown, green and red Algæ (SCHELLENBERG 1935). Sabine Ø, anchoring-place and 200 m (K. STEPHENSEN 1923).

*Franz Joseph Fjord area:* Jackson Ø, 45 m (BUCHHOLZ 1874). 2 miles NE. of Herschelhus, 7 m, mud with green and brown Algæ; Herschelhus, 8—6 m (2 hauls), mud with Algæ; Tyrolerfjord, 125 m, clay and sand, ÷ 1.40°, salinity 33.30 ‰; Clavering Fjord, off Dødemands Øerne, 34 m, clay; East of Bontekoe Ø, 168 m, blue clay with stones, ÷ 1.40°, salinity 34.14 ‰; Franz Joseph Fjord, West of Kap Franklin, 170 m, blue clay with stones, ÷ 1.16°, salinity 34.18 ‰; between Jackson Ø and the mainland, 9 m, sand with brown Algæ; Kap Humboldt, mouth of Sofia Sund, 30—20 m, 2 hauls, clay and calcareous Algæ and stones, and 36—30 m, stones; Kong Oscars Fjord, outside Kempes Fjord, 100—55 m, clay with stones; Vega Sund, North of Scott Keltie Øerne, 30 m, grey clay (SCHELLENBERG 1935). Borlase Warren, the anchoring-ground (K. STEPHENSEN 1923). Eskimo-

næs, 14—10 m, sandy clay, 50 m (4 hauls), and 55—58 m, stones and red Algæ, 1932—33, numerous specimens; Knudshoved, 8—10 m, 6-VIII-1930, 1 specimen; Moskusokse Fjord, 15 m, 18-VIII-1930, 1 specimen, and the same fjord, off Mt. Högbom, 200 m, clay, 30-VIII-1932, 1 specimen; Dusénfjord, the anchoring-place, 20—25 m, and 26 m, clay and Desmarestia, 10(12)-VIII-1933, 1—2 specimens per haul; Ella Ø, 4—16 m, VIII-1933, 1 specimen; Solitærbugt, Ella Ø, 19—56 m, 17 hauls (viz., 19—24 m 6 hauls, 26—41 m 10 hauls, and 53—56 m), stones, gravel, or clay, sometimes with red Algæ, 12-IX—27-IX-1931, 1—2 specimens per haul; Kap Hedlund, Kempes Fjord, 14—10 m, Fucus, red Algæ, 18-VII-1932, 1 specimen; Isfjord off Haredalen, 5—2.5 m, and 15—9 m, Algæ and clay, 7-VIII-1932, about 10 specimens.

*Scoresbysund area:* Scoresbysund, 6—50 m; Hekla Havn, from a seal (H. J. Hansen 1895). $69^3/_4°$ N, $23^1/_3°$ W, 6 m, and 69°32′ N, $23^2/_3$′ W, 38 m, stony bottom (K. Stephensen 1923). Rosenvinges Bugt, 10—12 m, 27-IX-1924, 1 specimen; Hurry Fjord, the mouth, 14 m, 16 m, 55 m, and 57 m, sand, Algæ, or clay, 30-VI-1933, 1—2 specimens per haul; Hurry Fjord, off Konstabelpynten, 23 m, 44 m, 46 m, and 91 m, clay, 6-VII and 7-VII-1933, 1 specimen per haul; Hurry Fjord, near Fame Øerne, 15—25 m, 4 hauls, clay with or without red Algæ, 1933, a few specimens; Kap Hope, 3—13 m, 6 hauls, sand or stones, with or without Algæ, 27-VI—8-VII-1933, 1—3 specimens per haul; Kap Hooker, 140 m, clayey sand, 3-VII-1933, 1 specimen; 8 miles inside Kap Hooker, 14 m, clayey sand, 15-VII-1933, 1 specimen; Bjørne Øerne, 6—13 m and 18—28 m, stones, gravel, red Algæ, 25-VII-1933, 1 specimen per haul; western side of Jameson Land, off Bjørne Øerne, 10 m, 20—30 m, 21 m, and 31 m, glittering sand or sandish clay, 26-VII-1933, 1—3 specimens per haul; off Kap Leslie, 22 and 54 m, glittering clay, VII-1933, 1 specimen per haul; the bay off Røde Ø, Røde Fjord, 13—18 m, clay with gravel, 2-VIII-1933, 6 specimens; Nordbugt, Nordvestfjord, 23 and 30 m, clay, 24-VII-1933, 1 specimen per haul; Solvigen, Nordvestfjord, 37—30 m, clay, 24-VII-1933, 1 specimen.

*Kangerdlugssuaq area:* Mikis Fjord, 7—8 m, clay, E. Bertelsen leg. 17-VIII-1933, 1 specimen; Kangerdlugssuaq, 4—50 m, 6 hauls (viz., 4—5 m, 12—15 m, 14—15 m, 30—40 m, 40—45 m, and 50 m), stones or clay, sometimes with Algæ, E. Bertelsen leg. 18-VIII—28-VIII-1933, 1 specimen per haul.

*Sydøstkyst:* Angmagssalik, Tasiusak, and Kap Dan, 6—60 m, 4 hauls (viz., 6 m, 17—0 m, 19—28 m, and 40—60 m), rocky bottom with Algæ; Tiningniketok, depth? (K. Stephensen 1923). Sermilik, second Østfjord, 12 m, 25 m, and 50 m, clay, 1—2 specimens per haul; Tasiusarsik, 5—6 m, Laminaria, 3 specimens; Tasiusak, 4 m and 10—0 m, Fucus, stones, Laminaria, 1 specimen per haul; Kungmiut, Angmagssalik, 10—15 m,

clay, Fucus, 2 specimens. (All the specimens listed above were taken by E. BERTELSEN 20-VII—10-VIII-1933). 63°30′ N, 41°50′ W, 2.5—20 m, 27-VIII-1931, 1 specimen; Naparsarsuak, 26 m, 31 m, 36 m and 38 m, glittering or muddy sand, gravel, with or without Laminaria, 1—3 specimens per haul; Kutdlik, 30 and 36 m, sand with mud, 1 or 2 specimens per haul; Kap Tordenskjold, 11—17 m, 3 hauls, clay, 1—5 specimens per haul; Lindenows Fjord, 3—150 m, 40 hauls (viz., 3—25 m 34 hauls, 27—50 m 5 hauls, and 100—150 m 1 haul), sand, gravel, clay, sometimes with Algæ, 1—numerous (small) specimens per haul; Kekertarsiak, 60—90 m, 3 hauls, sand, gravel, stones, dead Bryozoa, 1—5 specimens per haul. (All the specimens from Naparsarsuak to Kekertarsiak were taken by E. BERTELSEN 26-VI-28-VII-1935).

After the above it is extremely abundant from 77° N to 60° N, taken in > 181 hauls. It is most frequent at small depths, 0—25 m (115 hauls), but there is a single haul at a depth of 300 m.

On the size of the East Greenland specimens se K. STEPHENSEN 1923, p. 81.

Number of hauls (hauls with depth not noted are omitted)

| Depth in meters | I*) | II | III | IV | V | Total number of hauls |
|---|---|---|---|---|---|---|
| 0— 25 | 22 | 19 | 24 | 4 | 46 | 115 |
| > 25— 50 | 3 | 20 | 7 | 3 | 14 | 47 |
| > 50—100 | 1 | 3 | 4 | — | 3 | 11 |
| > 100—200 | 1 | 4 | 1 | — | 1 | 7 |
| 300 | 1 | — | — | — | — | 1 |
| | 28 | 46 | 36 | 7 | 64 | 181 |

*) I = Nordøstkyst; II = Franz Joseph Fjord area; III = Scoresbysund area; IV = Kangerdlugssuaq area; V = Sydøstkyst.

Distribution. Very widely distributed North of a line from the New England States (U.S.A.), South Greenland, Iceland, Scotland, and the Skagerrak; circumpolar. Usually it lives in the littoral zone, but it may descend to considerable depths, in the Polar Basin even to > 1000 m. For special localities see K. STEPHENSEN 1923, p. 78, with chart, 1935—42, p. 64, and 1940, p. 10 (Iceland). Is a low-arctic species.

## Genus **Socarnes** BOECK.

### 26. *Socarnes bidenticulatus* (BATE).

*Socarnes bidenticulatus* G. O. SARS 1885, pp. 136, 276, pl. 12 fig. 1.
— — STEBBING 1906, p. 56.

East Greenland records:

*Socarnes bidenticulatus* K. STEPHENSEN 1912, p. 527.
— — — 1913, p. 108.
— — — 1923, p. 87.
— — — 1933a, p. 6.
— — SCHELLENBERG 1935, p. 19.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 10—30 m, 5 hauls, and 30—40 m, 1 haul, soft bottom with or without Algæ (K. STEPHENSEN 1912).

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay with sand and brown Algæ, and 83—35 m, clay with stones; Loch Fine, outer part, 14—3 m, stones with Algæ; Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (SCHELLENBERG 1935). Outside Haredalen in Isfjord, 15—9 m, clay, 1932, 1 specimen; Rhedinsfjord, the mouth, 30—25 m, clay, red Algæ, Fucus, 18-VII-1932, 1 specimen.

*Scoresbysund area:* Amdrups Havn, 22—26 m, Laminaria and red Algæ; Hurry Fjord, near the mouth, 14—15 m, Laminaria, 30 m (2 hauls), stones, Algæ, etc.; 30—40 m, sand and Algæ, and 60—75 m, Algæ, stones, clay; Hurry Fjord, near Fame Øerne, 15—18 m, 18—22 m, and 22—24 m, clay, red Algæ, Laminaria; west side of Jameson Land, near Bjørne Øerne, 10 m, sandy clay; Kap Leslie, 58 m, glittering clay. All the specimens from this area were taken in 1933, 1—3 specimens per haul.

*Kangerdlugssuaq area:* 69¼° N, 23⅓° W, 6 m (K. STEPHENSEN 1923). Kangerdlugssuaq, 10—100 m, 7 hauls (viz., 10—25 m 4 hauls, 50 m, 70 m, and 100 m), gravel or stones (K. STEPHENSEN 1933a). Kangerdlugssuaq, 8 m, Fucus and Laminaria; 20—25 m, red Algæ; 30—40 m, clay; 40—45 m, red Algæ, and 50 m, clay and red Algæ; 1933, 1—2 specimens per haul.

*Sydøstkyst:* Tiningniketok 65°54′ N, depth?; Angmagssalik, depth?, and Kap Dan Øerne near Angmagssalik, 13—19 m, rocky bottom (K. STEPHENSEN 1923). Tasiusarsik, 20—30 m, red Algæ, 5 specimens. Lindenows Fjord, 15—20 m, clay, gravel, 20 m, clay, gravel, 25—30 m (2 hauls), Laminariæ, gravel, clay, 32 m, sand, clay, and 30—50 m (2 hauls), gravel; E. BERTELSEN leg. 1935, 1—3 specimens per haul.

After the above it is taken from 77° N to 60° N, in 46 hauls, and mainly at depths 3—25 m.

Size etc. The largest specimens, 26—32 mm, are ovigerous ♀; they were found from 30-VII to 18-VIII, and mainly at rather small depths, 10—30 m.

Number of hauls (hauls with depth not noted are omitted)

| Depth in meters | I*) | II | III | IV | V | I—V |
|---|---|---|---|---|---|---|
| 3— 25 ..... | 6 | 2 | 6 | 7 | 4 | 25 |
| > 25— 50 ..... | 1 | 2 | 3 | 4 | 5 | 15 |
| > 50—100 ..... | — | 1 | 2 | 2 | — | 5 |
| > 100 ..... | — | 1 | — | — | — | 1 |
| | 7 | 6 | 11 | 13 | 9 | 46 |

*) I = Nordøstkyst; II = Franz Joseph Fjord area; III = Scoresbysund area; IV = Kangerdlugssuaq area; V = Sydøstkyst.

Distribution. Widely distributed in arctic waters, probably circumpolar, rarely at greater depths than 100 m. In the Atlantic not found to the south of a line from south of New Foundland, Southern Greenland (but not Iceland), Jan Mayen, to West Finmark. For special localities see K. STEPHENSEN 1923, p. 87 (with chart), and 1935—42, p. 68. Is probably a pan-arctic species.

### 27. *Socarnes vahli* (KRØYER).

*Socarnes vahli* G. O. SARS 1895, p. 44, pl. 16 fig. 2.
— — STEBBING 1906, p. 57.

East Greenland records:

*Socarnes vahli* K. STEPHENSEN 1912, p. 528.
— — — 1913, p. 109, and 1923, p. 88 (no new records).
— — SCHELLENBERG 1935, p. 19.

Occurrence at East Greenland:

*Nordøstkyst:* Sound between Renskær and Maatten (near Danmarks Havn), 50 m, Hydroid region, hard bottom (K. STEPHENSEN 1912).

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay with sand and brown Algæ (SCHELLENBERG 1935).

*Scoresbysund area:* Hurry Fjord, near Fame Øerne, 15—18 m, and 22—24 m, clay, red Algæ and Laminaria, 4 specimens.

*Sydøstkyst:* Lindenows Fjord, 4—60 m, 12 hauls (viz., 4 m, 5 m, 20 m, 20—30 m, 25 m, 30 m, 32 m, 33 m, 35 m, 40 m, 42 m, and 60 m), clay, gravel, Laminaria, E. BERTELSEN leg. 1935, 1—7 specimens per haul. Kekertarsiak, 60 m (2 hauls), 60—70 m, and 75—90 m, sand, gravel, dead Bryozoa, E. BERTELSEN leg. 1935, 2—8 specimens per haul.

Distribution. A mainly littoral species, probably circumpolar; for special localities see K. STEPHENSEN 1923, p. 88, with chart, and 1935—42, p. 69. Is a pan-arctic species.

## Genus **Hippomedon** Boeck.

### 28. *Hippomedon holbølli* (Krøyer).

*Hippomedon holbølli* G. O. Sars 1895, p. 58, pl. 21 fig. 2.
— — Stebbing 1906, p. 58.

East Greenland record:

*Hippomedon holbølli* K. Stephensen 1923, p. 89.

Occurrence at East Greenland:

*Nordøstkyst:* Southeast of Sabine Ø, 207 m (K. Stephensen 1923).

*Scoresbysund area:* Liverpool Kysten off Rathbone Ø, 170 m, 13-VIII-1933, Petersen-grab, 1 specimen.

Distribution. Possibly circumpolar, very eurybathic, 15—2222 m. Found from North of Northwest Canada, West Greenland, and Jan Mayen to Kara Sea; for special localities, see K. Stephensen 1935—42, p. 71, with references. Is probably a high-arctic species.

### 29. *Hippomedon propinquus* G. O. Sars.

*Hippomedon propinquus* G. O. Sars 1895, p. 57, pl. 21 fig. 1.
— — Stebbing 1906, p. 59.

Occurrence at East Greenland:

*Scoresbysund area:* Kap Hope, 250 m, clay, 28-VI-1933, Petersen-grab, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 25—30 m, gravel, clay, E. Bertelsen leg. 23-VII-1935, 1 specimen; Kekertarsiak, 60 m, sand, dead Bryozoa, E. Bertelsen leg. 13-VII-1935, Petersen-grab, 1 specimen. It is new to East Greenland.

Distribution. From New Foundland, Gulf of St. Lawrence and West Greenland to Spitsbergen, Nordenskiöld Sea, and Skagerrak, depths c. 25—200 m (or deeper). For special localities see K. Stephensen 1935—42, p. 74, with references, and 1940, p. 11. Is a pan-arctic species.

## Genus **Centromedon** G. O. Sars.

### 30. *Centromedon productus* (Goës).

*Lysianassa producta* Goës 1866, p. 519, pl. 37 fig. 4.
*Centromedon affinis* G. O. Sars 1895, p. 101 (no fig.).
— *productus* Stebbing 1906, p. 66.
— — K. Stephensen 1935—42, p. 79, with reproduction of Goës's figures.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, eastern side, off Konstabelpynten, 44 m, clay, 7-VII-1933, Petersen-grab, 1 specimen. This specimen,

8 mm in length, has the very characteristic upturned lateral lobes of the head.

It is new to East Greenland.

Distribution. Spitsbergen, Barents Sea, White Sea; for special localities, see K. STEPHENSEN, l. c. Is probably a high-arctic species.

### 31. *Centromedon pumilus* (LILLJEBORG).

*Centromedon pumilus* G. O. SARS 1895, p. 100, pl. 34 fig. 2.
— — STEBBING 1906, p. 66.

East Greenland record:

*Centromedon pumilus* SCHELLENBERG 1935, p. 19.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Mackenzie Bugt, 40 m, mud with red Algæ (SCHELLENBERG 1935). Solitærbugt, Ella Ø, 5 m, 2 hauls, clay with Algæ, and 33—37 m, 2 hauls, clay with stones, 10—27-IX-1931, bottom-grab, 1—2 specimens per haul.

Distribution. Labrador; not West Greenland; from Skagerrak to West Spitsbergen and Kara Sea; for special localities, see K. STEPHENSEN 1935—42, p. 78. Is probably an arctic boreal species.

## Genus **Tryphosa** BOECK.

### 32. *Tryphosa hørringi* BOECK.

*Tryphosa høringi* (*hørringi*) G. O. SARS 1895, pp. 77, 684, pl. 27 fig. 2.
— — STEBBING 1906, p. 71.

East Greenland record:

*Tryphosa hørringi* SCHELLENBERG 1935, p. 19.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (SCHELLENBERG 1935).

Distribution. Northeast America; West Greenland to 65° N, 791—1096 m; Southwest of the Faroes, 900 m; sparingly from Plymouth to Murman Coast and Spitsbergen, down to 530 m; for special localities, see K. STEPHENSEN 1935—42, p. 83. Also Kara Sea (GURJANOVA 1935, p. 557). Is probably an arctic-boreal species.

### 33 *Tryphosa schneideri* K. STEPHENSEN.

*Tryphosa schneideri* K. STEPHENSEN, Tromsø Mus. Årsb., vol. 43, 1920 (1921), no. 5, figs.
— — (partim) K. STEPHENSEN 1925, p. 104.
— — K. STEPHENSEN 1935—42, p. 84, figs.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Knudshoved, 8—10 m, B. Löppenthin leg. 6-VIII-1930, 1 specimen.

Remarks. The present species was established in 1920 (1921). Since then Chevreux 1926 has instituted a new species, *T. spitzbergensis*, and Schellenberg 1935 another new species, *T. groenlandica*, both of them extremely closely allied to *T. schneideri* (on these species, see below).

The specimen from Knudshoved has the dorsal carina of first urosome segment evenly rounded and apex of uropod 2 not reaching far beyond apex of uropod 3, and is thus to be determined as *T. schneideri*.

Distribution. Some specimens, in K. Stephensen 1925 determined as *T. schneideri*, are *T. spitzbergensis* (see under this species). The Zoological Museum, Copenhagen, has specimens of *T. schneideri* (with the dorsal carina of urosome segment 1 evenly rounded) from the following localities: "Greenland", numerous specimens; Upernivik, the harbour, 20 m; Sukkertoppen, 4—6 m, and Bredefjord (Southwest Greenland), 35—37 m. North Norway, White Sea, and Spitsbergen, see K. Stephensen 1935—42, p. 85. Is possibly a pan-arctic species.

### 34. *Tryphosa groenlandica* Schellenberg (Fig. 1).

*Tryphosa schneideri* (partim) K. Stephensen 1925, p. 104, fig. 25.
— *groenlandica* Schellenberg 1935, p. 20 (no fig.).

East Greenland records:

*Tryphosa schneideri* (partim) K. Stephensen 1925, p. 105.
— *groenlandica* Schellenberg 1935, p. 20.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Herschelhus, 8—6 m, black mud with brown Algæ; Kap Stosch, Clavering Fjord, 12 m, brown grey clay (Schellenberg 1935). Borlase Warren (K. Stephensen 1925).

*Scoresbysund area:* Off Kap Hope, 7 m, sand, 27-VI-1933, 1 ovigerous ♀.

Remarks. In my paper on the Amphipods from the "Ingolf"-Expedition (1925, p. 105) I have described some specimens from Borlase Warren, differing from the typical *T. schneideri* i. a. in the rather long uropod 2, reaching to or even beyond apex of uropod 3; a revision of the material has shown that apex of uropod 2 sometimes reaches to apex of first joint of outer ramus of uropod 3 (Fig. 1). For these specimens Schellenberg 1935 has established a new species, *T. groenlandica*, and records two new occurrences.

The very long uropods 2 do not represent a sexual character, though the length may vary to a certain degree; at all events the peduncle reaches to the middle of first joint of outer ramus of uropod 3 (as in my fig. 25, ♀, *up. 2—3* (1925)), and there is no marked difference in uropod 3 in the two sexes (1925, fig. 25, *up. 3* ♂ and ♀). In both sexes pereiopod 1 has metacarpus as long as or a trifle shorter than carpus, and in all my specimens chela of pereiopod 2 is rather acute (as in my

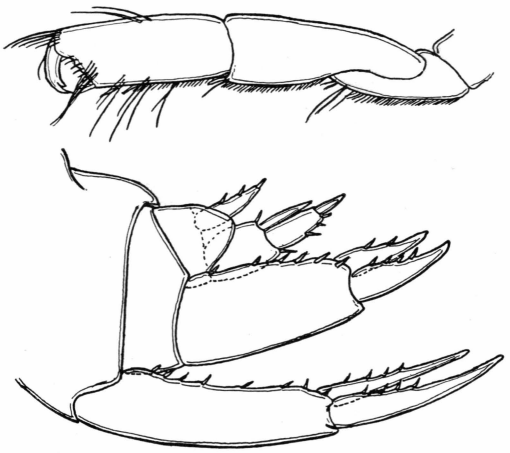

Fig. 1. *Tryphosa groenlandica*, ovigerous ♀, Kap Hope. Pereiopod 1 and urosome.

fig. 25, *p. 2* (1925)); SCHELLENBERG describes it as "nicht so spitz zulaufend, wie von STEPHENSEN abgebildet". Length of both sexes up to about 10 mm.

Distribution. Not found outside East Greenland.

### 35. *Tryphosa spitzbergensis* CHEVREUX.

*Tryphosa spitzbergensis* CHEVREUX, Bull. Inst. Océan. Monaco, no. 475, 1926, p. 5, fig. 3.
— — (*partim*) K. STEPHENSEN 1925, p. 105, fig. 26.
— — K. STEPHENSEN 1935—42, p. 86, figs. (with reproduction of CHEVREUX's figs.).
— — ? SCHELLENBERG 1935, p. 19.
— — CHEVREUX 1935, p. 48, pl. 11 fig. 9 (= CHEVREUX 1926).

East Greenland records:

*Tryphosa schneideri* (*partim*) K. STEPHENSEN 1925, p. 104.
— *spitzbergensis* ? SCHELLENBERG 1935, p. 19.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Herschelhus, 10—8 m, sand with mud and Algæ; Nathorst Fjord, near the mouth, 137 m, brownred clay, ÷ 1.76°, salinity 33.71 ‰ (SCHELLENBERG 1935).

*Kangerdlugssuaq area:* Uttenthal Sund, Kangerdlugssuaq, 15—18 m, Laminaria, 1 specimen, determination not certain, and 50 m, clay, red Algæ, E. BERTELSEN leg. 18-VIII-1933, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 20—25 m, Laminaria, and 30 m, Laminaria; Kekertatsiak, 75—80 m, gravel, sand, and 80 m, sand, dead Bryozoa; E. BERTELSEN leg. 13—25-VII-1935, 1—3 specimens per haul.

Remarks. CHEVREUX in 1926 has established this species which, in a summary, he characterises as follows: "Assez voisine de *Tryphosa Schneideri* STEPHENSEN, cette nouvelle espèce en diffère surtout par la forme anguleuse de la carène des segment I de l'urosome, par la forme du propode des gnathopodes I, dont le bord palmaire est presque transverse, et par la longueur de la branche interne des uropodes III, qui dépasse nettement, dans les deux sexes, le premier article de la branche externe."

But one of these characters is in contrast to CHEVREUX's own figure, viz., the palm of pereiopod 1 (CHEVR.: gnathopode I) which is shown rather oblique, and, in the figures, the inner ramus of uropod 3 is drawn but very little longer than first joint of outer ramus. Thus the most important character seems to be the angular dorsal carina of urosome segment 1.

SCHELLENBERG (1935) has shown that some specimens from Jan Mayen, described by the present author (1925, p. 105, fig. 26) as *T. schneideri*, belong probably to *T. spitzbergensis.*

Because of the earlier confusion with *T. schneideri* I have revised the whole of the material of this species in the Zoological Museum of Copenhagen and have found, that several specimens have the dorsal carina of urosome segment 1 angular and are thus to determine as *T. spitzbergensis.*

Distribution. In the Zoological Museum of Copenhagen there are specimens from the following localities, hitherto determined as *T. schneideri*: "Greenland", a few specimens; 65°17′ N, 54°17′ W, 100 m ("Ingolf" St. 34), 1 specimen; Upernivik, the harbour, 20 m, stones with Algæ, 1 specimen (but the other specimens in the same sample are *T. schneideri*). Jan Mayen, different depths, 26-VI-1900. CHEVREUX's type specimens were from Treurenberg Bay, North Spitsbergen, 22 m. Is probably a low-arctic species.

## Genus **Chironesimus** G. O. SARS.

### 36. *Chironesimus debruyni* (HOEK).

*Chironesimus debruyni* G. O. SARS 1895, pp. 109, 687, pl. 37 fig. 1.
— — STEBBING 1906, p. 72.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, off Konstabelpynten, 24 m, clay, and Kap Leslie, 62 m, glittering clay, 6. and 22-VII-1933, Petersen-grab, 1 specimen per haul.

It is new to Greenland.

Distribution. South East of Nova Scotia, 250 m, and Bay of Fundy; from West Norway to Kara Sea, 40—250 m; for special localities, see K. STEPHENSEN 1935—42, p. 90. Is probably a low-arctic species.

## Genus **Tmetonyx** STEBBING (= **Hoplonyx** G. O. SARS).

### 37. *Tmetonyx cicada* (J. C. FABRICIUS).

*Hoplonyx cicada* G. O. SARS 1895, p. 92, pl. 32 fig. 2.
*Tmetonyx* — STEBBING 1906, p. 74.

East Greenland records:

*Hoplonyx gulosus* H. J. HANSEN 1895, p. 127.
— *cicada* BROCH & KOEFOED 1909, p. 110.
— — K. STEPHENSEN 1913, p. 118 (no new records).
*Tmetonyx* — — 1925, p. 111.

Occurrence at East Greenland:

*Nordøstkyst:* Between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300—0 m (BROCH & KOEFOED 1909).

*Franz Joseph Fjord area:* Borlase Warren, the anchoring-place (K. STEPHENSEN 1925). 72°53′ N, 20°36′ W, 181 m, stones (H. J. HANSEN 1895).

*Scoresbysund area:* Hekla Havn (H. J. HANSEN 1895).

*Kangerdlugssuaq area:* 67°03′ N, 27°08′ W, 376 m (K. STEPHENSEN 1925).

*Sydøstkyst:* Kap Dan, Angmagssalik, 20—30 m, rocky bottom with Algæ; Tasiusak, 50—60 m, rocky bottom with Algæ, and 40—60 m (K. STEPHENSEN 1925).

Distribution. Probably circumpolar and very eurybathic; widely distributed in the Arctic with adjacent boreal waters. For special localities see K. STEPHENSEN 1935—42, p. 95, with references. A panarctic species.

### 38. *Tmetonyx similis* (G. O. SARS)

*Hoplonyx similis* G. O. SARS 1895, p. 93, pl. 33 fig. 1.
*Tmetonyx* — STEBBING 1906, p. 76.

East Greenland record:

*Tmetonyx similis* SCHELLENBERG 1935, p. 21.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (SCHELLENBERG 1935).

Distribution. From East Greenland and South of Iceland to the Mediterranean and Franz Joseph Land, 8—1200 m; for special localities, see K. STEPHENSEN 1935—42, p. 96, with references. Is a pan-boreal species.

Genus **Lepidepecreum** BATE & WESTWOOD.

39. *Lepidepecreum umbo* (GOËS).

*Lepidepecreum umbo* G. O. SARS 1895, p. 115, pl. 39 fig. 2.
— — STEBBING 1906, p. 80.

East Greenland records:

*Lepidepecreum umbo* SCHELLENBERG 1935, p. 21.
— — K. STEPHENSEN 1935—42, p. 100.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (SCHELLENBERG 1935). Dusénfjord, in the western end of the broad part of the fjord, 240 m, clay, 11-VIII-1932, 1 specimen; North of Kap Biot, 115 m, clay, stones, Petersen-grab, 1-VIII-1932, 1 specimen.

*Franz Joseph Fjord area* or *Scoresbysund area:* "Greenland", KOLTHOFF leg. 1900 (K. STEPHENSEN 1935—42). The sample has no special locality, but KOLTHOFF collected in these two areas.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 41 m, soft clay, E. BERTELSEN leg. 21-VIII-1933, 2 specimens.

*Sydøstkyst:* Kutdlek, 38 m, muddy sand, E. BERTELSEN leg. 25-VI-1935, Petersen-grab, 1 specimen.

Distribution. Probably circumpolar, depths 25—630 m. For special localities, see K. STEPHENSEN 1925, p. 117 (with chart), 1935—42, p. 100, with references, and 1940, p. 14 (Iceland). Is an arctic-boreal species.

Genus **Orchomenella** G. O. SARS.

40. *Orchomenella minuta* (KRØYER).

*Orchomenella minuta* G. O. SARS 1895, pp. 66, 683, pl. 24 fig. 1.
— — STEBBING 1906, p. 82.

East Greenland records:

*Orchomenella minuta* H. J. HANSEN 1895, p. 126.
— — K. STEPHENSEN 1913, p. 124 (no new records).
— — — 1925, p. 123 (no new records).
— — SCHELLENBERG 1935, p. 21.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 2 miles Northeast of Herschelhus, 7 m, mud and Algæ, ÷ 0.73°, salinity 32.47 ‰ (SCHELLENBERG 1935). Carl Jacobsens Bugt, Ymer Ø, 25 m, clay, 2-VIII-1931, 1 specimen.

*Scoresbysund area:* Hurry Fjord, near the mouth, 15 m, 2 hauls, sand, 5-VII-1933, 1 specimen per haul; Kap Hope, 9—13 m, 3 hauls, sand, Algæ, 21—29-VI-1933, 1—2 specimens per haul.

*Kangerdlugssuaq area:* Uttenthal Sund, Kangerdlugssuaq, 50—60 m, clay, E. BERTELSEN leg. 23-VIII-1933, 1 specimen, determination not certain.

*Sydøstkyst:* Naparsarsuaq, 38 m, muddy sand; Kutdlek, 30 and 36 m, sand and mud; Lindenows Fjord, 7—20 m, 8 hauls, clay, sand, gravel, Laminaria; Kekertarsiak, 80 m, sand, dead Bryozoa. All the specimens in this area, 1—2 per haul, were taken by E. BERTELSEN 25-VI—28-VII-1935.

Distribution. A circumpolar, mainly littoral species; for special localities see K. STEPHENSEN 1925, p. 123, 1935—42, p. 107, and 1940, p. 14 (Iceland). Is an arctic-boreal species.

41. *Orchomenella groenlandica* (H. J. HANSEN).

*Orchomenella groenlandica* G. O. SARS 1895, p. 70, pl. 20 fig. 1.
— — STEBBING 1906, p. 83.

East Greenland records:

*Orchomenella groenlandica* K. STEPHENSEN 1912, p. 528.
— — — 1913, p. 124 (no new records).
— — — 1925, p. 122 (no new records).
— — SCHELLENBERG 1935, p. 21.
— — K. STEPHENSEN 1935—42, p. 109.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay, sand and brown Algæ (SCHELLENBERG 1935).

*Franz Joseph Fjord area* or *Scoresbysund area:* "Greenland", KOLTHOFF leg. 1900 (K. STEPHENSEN 1935—42). The sample has no special locality, but KOLTHOFF collected in these two areas.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 50 m, clay, red Algæ, E. BERTELSEN leg. 18-VIII-1933, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 25—30 m, Laminaria, gravel, E. BERTELSEN leg. 24-VII-1935, several specimens.

Distribution. From Bay of Fundy and South of New Foundland, 140 m, to West and East Greenland; from Tromsø to White Sea, down to 100 m. For special localities see K. STEPHENSEN 1935—42, p. 109. Is a pan-arctic species.

## Fam. **Stegocephalidæ** Dana.

### Genus **Stegocephalopsis** Schellenberg.

#### 42. *Stegocephalopsis ampulla* (Phipps).

*Phippsia ampulla* Stebbing 1906, p. 89.
*Stegocephalus ampulla* Brüggen 1909, p. 14, pl. 1 fig. 1, pl. 3 figs. 11—19.

East Greenland records:

*Stegocephalopsis ampulla* K. Stephensen 1925, p. 132.
— — Schellenberg 1935, p. 22.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Vega Sund, NW. of Scott Keltie Øerne, 250—190 m, brown red clay (Schellenberg 1935).

*Scoresbysund area:* Turner Sund, 225 m, stones (K. Stephensen 1925).

Distribution. In the arctic area, possibly circumpolar; off West Greenland it is found three times in Baffin Bay 73½°—78° N, 165—672 m (K. Stephensen 1933b, p. 21), and once at West Greenland without special locality (H. J. Hansen 1887, p. 88). For special localities see K. Stephensen 1925, p. 132, 1933b, p. 21 (with chart), and 1935—42, p. 112. The depths vary from 18 m to 672 m; the temperatures are probably always negative. Is a high-arctic species.

### Genus **Phippsia** Stebbing.

#### 43. *Phippsia römeri* Schellenberg.

*Phippsia römeri* Schellenberg 1924, p. 197, figs.
— — K. Stephensen 1925, p. 133, figs.

East Greenland record:

*Phippsia römeri* K. Stephensen 1925, p. 133.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 72°40′ N, 20°10′ W, 190 m (K. Stephensen 1925).

Distribution. North of Spitsbergen 81°20′ N, 19° E, 1000 m (Schellenberg 1924; type-locality). Is a high-arctic species.

### Genus **Stegocephalus** Krøyer.

#### 44. *Stegocephalus inflatus* Krøyer (Fig. 2).

*Stegocephalus inflatus* G. O. Sars 1895, p. 198, pl. 69.
— — Stebbing 1906, p. 91.
— — K. Stephensen 1925, p. 129.

East Greenland records:

*Stegocephalus inflatus* H. J. HANSEN 1895, p. 127.
— — BROCH & KOEFOED 1909, pp. 110, 134, 143.
— — K. STEPHENSEN 1912, p. 532.
— — — 1913, p. 133 (no new records).
— — — 1925, p. 129.
— — — 1933a, p. 7.
— — SCHELLENBERG 1935, p. 22.
— — BERTELSEN 1937, pp. 38, 40—42, 44, 46, 56.

Occurrence at East Greenland (Fig. 2):

*Nordøstkyst:* 78°09′ N, 14°01′ W, 75 m; 77°31′ N, 18°24′ W, 275 m; 75°58′(—59′) N, 14°08′(—12′) W, 300 m (BROCH & KOEFOED 1909). Round Danmarks Havn, 10—40 m, 9 hauls, varying bottom (K. STEPHENSEN 1912). Sabine Ø, Germania Havn, 10 m, mud with Laminariæ etc. (SCHELLENBERG 1935).

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, 80—78 m, and 83—35 m, clay etc.; Loch Fine, 51—41 m; 4 miles south of Hold with Hope, 310—260 m, clay with stones, 0.21°, salinity 35.38 ‰; east of Bontekoe Ø, 168 m, clay with stones, ÷ 1.4°, salinity 34.14 ‰; between Kap Bennett and Bontekoe Ø, 290 m, clay; between Kap Franklin and Bontekoe Ø, 270 m, 0.06°, salinity 34.54 ‰; west of Kap Franklin, 170 m, clay with stones, ÷ 1.16°, salinity 34.18 ‰; Kong Oscars Fjord off Kempes Fjord, 100—55 m, clay with stones; Dusénfjord, 25 miles from the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰; Vegasund, 25 miles east of Kong Oscars Fjord, 250 m, brown red clay; Vegasund, northwest of Scott Keltie Øerne, 120 m, red clay, and 250—190 m, red clay; Nathorst Fjord, 137 m, brown red clay, ÷ 1.76°, salinity 33.71 ‰ (SCHELLENBERG 1935). Eskimonæs, 50 m, 1 ovigerous ♀ 37 mm (31-V); 5 miles south of Bontekoe Ø, 245 m, clay, a few stones, 1 ovigerous ♀ 26 mm (2-VIII); Isfjord, off Haredalen, 15—9 m, clay, numerous specimens incl. several ovigerous ♀ 23 mm (7-VIII), and 30—35 m, clay, 3 specimens incl. 1 ovigerous ♀ 26 mm (7-VIII); Dusénfjord, the mouth off Kap Graah, 40—26 m, clay with stones and Desmarestia, 1 specimen; Dusénfjord, western end of the broad portion, 240 m, clay, 1 ♀ with empty marsupium, 30 mm (11-VIII); Dusénfjord, the head, 19—15 m, clay with Desmarestia, 1 specimen; between Maria Ø and Ella Ø, 250 m, clay with gravel and stones, 2 ovigerous ♀ 27—28 mm (25-VIII); Solitærbugt, Ella Ø, off Kap Oswald, 30—35 m, clay, Fucus, etc., 5 specimens; ibid., 35—41 m, clay, gravel, 1 ovigerous ♀ 20 mm (20-IX); ibid., 38—44 m, many Algæ, about 15 specimens incl. 1 ovigerous ♀ 28 mm (25-IX); ibid., 40—50 m, clay and stones, 2 specimens incl. 1 ♀ with embryos 25 mm (26-IX); ibid., 46—50 m, 48—52 m, and 51 m, clay, stones, etc., 6 specimens; ibid., 54—52 m, clay and stones, 1

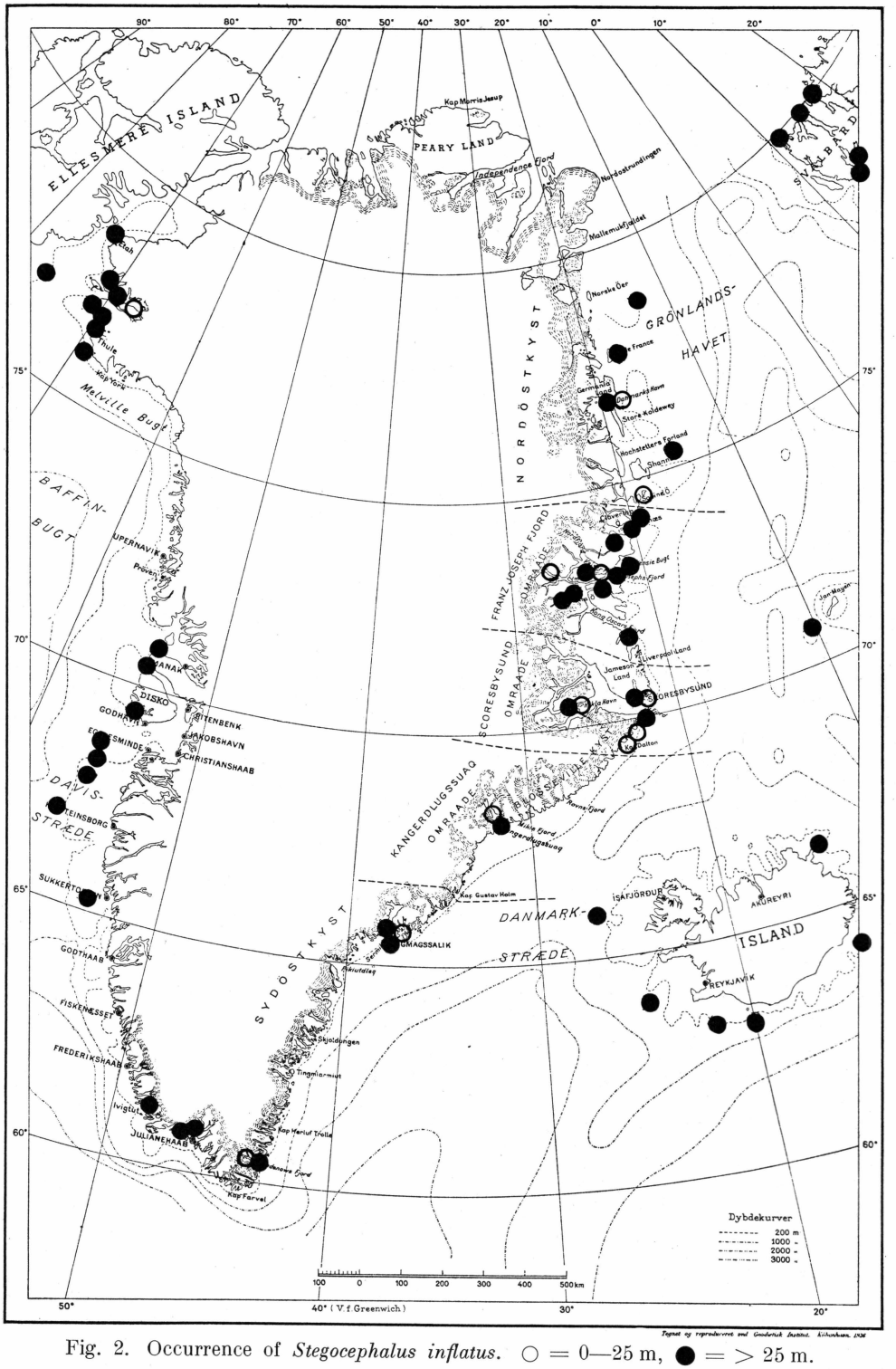


Fig. 2. Occurrence of *Stegocephalus inflatus*. ○ = 0—25 m, ● = > 25 m.

ovigerous ♀ 27 mm (27-IX), and 85 m, stones and clay, 1 ♀ with empty marsupium 34 mm (1-VII). Kap Hedlund, Kempes Fjord, off Rhedinfjord, 31—37 m, Desmarestia and red Algæ, 1 specimen; ibid., 50 m, clay, 1 ovigerous ♀ 25 mm (15-VII), and 85—85 m, clay, 1 ovigerous ♀ 23 mm (15-VII); off the mouth of Rhedinfjord, 30—25 m, clay, red Algæ, 1 specimen.

*Scoresbysund area:* Turner Sund, 6 m; Ryders Sund, 6 m; Kap Hope, 228 m, clay with stones; Danmarks Ø, depth?, and 19 m, stony bottom with Algæ; Danmarks Næs, 13—33 m (K. STEPHENSEN 1925). Hekla Havn, 14—34 m (H. J. HANSEN 1895). Rosenvinges Bugt, 8—10 m, stones and Algæ, 2 specimens; Amdrups Havn, 22—26 m and 33—35 m, Laminariæ and red Algæ, 1 ovigerous ♀ 23 mm and 1 ♀ with embryos 26 mm (28-VII); Hurry Fjord, near the mouth, 12—13 m, sand, many stones, 2 specimens incl. 1 ovigerous ♀ 29 mm (4-VII); ibid., 30 m, stones etc., 4 specimens incl. 2 ovigerous ♀ 23 and 28 mm; ibid., 28—25 m, sand, many Algæ, 1 specimen, and 30 m, Algæ, stones, 7 specimens incl. 1 ovigerous ♀ 23 mm (20-VII); ibid., 35—38 m, stones, sand, Algæ, about 10 specimens incl. several ovigerous ♀ 24—28 mm (4-VII), and 60—75 m, Algæ, stones, a little clay, 2 specimens; Hurry Fjord, near Fame Øerne, 15—18 m, soft clay, red Algæ, Laminariæ, 1 ovigerous ♀ 28 mm (15-VIII), and 18—22 m, the same bottom, 4 specimens incl. 1 ovigerous ♀ 28 mm (17-VII); western side of Danmarks Ø, 29—30 m, soft clay and gravel, 1 ♀ with embryos 25 mm (23-VIII).

*Kangerdlugssuaq area:* Kangerdlugssuaq, 100 m wire out, and 70 m, stony bottom (K. STEPHENSEN 1933a). 0—100 m, 19 hauls, viz., 10—0 m, Fucus, Desmarestia, 1 specimen; 8—10 m, clay, Algæ, about 10 specimens; 10—14 m, clay, 1 specimen; 10—15 m, clay, 12 specimens; 15 m, clay, red Algæ, 1 specimen; 15—18 m, Laminariæ, 1 specimen; 20—25 m, 4 hauls, clay, red Algæ, Bryozoa, numerous specimens; 30—40 m, 2 hauls, clay, red Algæ, 2 specimens; 40 m, soft clay, 4 specimens; 40—45 m, red Algæ, about 10 specimens; 41 m, soft clay, about 10 specimens; 50 m, clay, red Algæ, numerous specimens; 50—60 m, clay, 1 specimen. The material from Kangerdlugssuaq contains numerous ovigerous ♀, see below.

*Sydøstkyst:* "By far the commonest [Crustacean species] in depths exceeding 15 m. In the Angmagssalik area it was found at depths of from 15—25 m down to 125 m on stony bottom partly without vegetation partly with red algæ or Laminaria. It was especially frequent in Uttenthal Sound, where it was represented in the greater number of the dredge hauls from 8 m down to 75—100 m, being most numerous between 20 and 50 m. The main part of this material is derived form the hard clay bottom whose content of pebbles and shells form a substatum for the epifauna to attach it self to" (BERTELSEN 1937, pp. 41—42).

Tiningniketok; Angmagssalik; Tasiusak, 10—37 m, stony bottom with Algæ; Kap Dan, 19 m, rocky bottom almost without Algæ (K. STEPHENSEN 1925). Angmagssalik, about 50 m, 1 ♀ with embryos 26 mm (14-VII). Tasiusak near Angmagssalik, 15—20 m, Lithothamnion crusts, about 10 specimens incl. several ovigerous ♀ (23—26 mm); ibid., 20 m, Laminaria, Alaria, 1 specimen; 45—50 m, red Algæ, Laminariæ, about 20 specimens incl. ♀ with embryos 25 mm (8-VIII); ibid., 50 m and 50—80 m, stones, 3 specimens. Sermilik (near Angmagssalik), Ikertoq, 44 m, Laminaria, and 125 m, stones, Laminaria, 8 specimens incl. 1 ♀ with embryos 27 mm (27-VII). Lindenows Fjord, 10—150 m, 14 hauls, viz., 10—75 m, 2 ovigerous ♀ 26 and 33 mm (30-VIII); 15—30 m, clay, gravel, 6 specimens incl. ovigerous ♀ 23 mm (21-VII); 20 m, clay, gravel, and 25 m, sand, a few Algæ, 2 specimens; 25—30 m and 28 m, Laminaria, gravel, 7 specimens; 30—50 m, gravel, 2 hauls, 6 specimens; 33 m, gravel, Laminaria, 1 specimen; 40—50 m, gravel, 2 hauls, 3 specimens incl. 1 ovigerous ♀ 25 mm (23-VII); 40—50 m and 60—70 m, clay, 2 specimens; and 125—150 m, gravel, clay, 1 ovigerous ♀ 29 mm (28-VII).

Depths of the hauls*)

| Depths in m | Nordøst-kyst | Fr.Jos.Fj. area | Scoresbys. area | Kangerdl. area | Sydøst-kyst | Total number |
|---|---|---|---|---|---|---|
| 0— 10 ..... | 2 | — | 3 | 1 | — | 6 |
| 11— 25 ..... | 3 | 2 | 6 | 8 | 7 | 26 |
| > 25— 50 ..... | 5 | 13 | 7 | 5 | 13 | 43 |
| > 50—100 ..... | 1 | 9 | 1 | 4 | 2 | 17 |
| > 100—200 ..... | — | 14 | — | — | 2 | 16 |
| > 200 ..... | 2 | 8 | 1 | — | — | 11 |
| | 13 | 46 | 18 | 18 | 24 | 119 |

*) The hauls with the depths not noted are omitted.

According to the above it is found at 119 localities. It appears, that the depths are from 0 m to > 200 m, but the majority of the hauls have depths of > 10—50(100) m. The bottom is usually clay, with or without Algæ.

Length etc. The measurements given below are based on the material in the Zoological Museum, Copenhagen, and SCHELLENBERG 1935.

In the material in the individual hauls the ovigerous ♀ are larger than any other specimen. Ovigerous ♀ are 21—44 mm, usually about 25—30 mm; very few are > 30 mm, viz., 31—34 mm (4 specimens), 37—38 mm (2 specimens), and 40—44 mm (6 specimens), + "zahlreiche ♀ ovig. 25—44 mm" (SCHELLENBERG 1935, p. 22, 1930 Stat. 119).

Ovigerous ♀ were found from 30-VI to 27-IX in 46 hauls, especially in August (27 hauls).

The dates, lengths etc. of the ovigerous ♀ were as follows:

30-VI: 23 and 28 mm Herschelhus 30 m
4-VII: 24—28 mm, several spec. Herschelhus 35—38 m
— 29 m Herschelhus 12—13 m
15-VII: 23 mm Kap Hedlund 85 m
— 25 mm Kap Hedlund 50 m
17-VII: 28 mm Hurry Fjord 18—22 m
19-VII: 38 mm Herschelhus 53—43 m
— 25 and 32 mm Herschelhus 83—35 m
20-VII: 23 mm Hurry Fjord 30 m
21-VII: 23 mm Lindenows Fjord 15—30 m
23-VII: 25 mm Lindenows Fjord 40—50 m
26-VII: 30 mm Loch Fine 51—41 m
27-VII: 28 mm Turner Sund 6 m
28-VII: 23 mm Amdrups Havn 22—26 m
— 29 mm Lindenows Fjord 125—150 m
2-VIII: 26 mm Bontekoe Ø 245 m
3-VIII: 40 mm Between Kap Franklin and Bontekoe Ø, 270 m
4-VIII: 27 mm Nathorst Fjord 137 m
7-VIII: 23 and 26 mm Isfjord 15—9 m and 30—35 m
9-VIII: 37 mm Bontekoe Ø 168 m
11-VIII: 23—26 m, several spec. Tasiusak 15—20 m
— 24 mm Kangerdlugssuaq 70 m
12-VIII: 40 mm Kempes Fjord 100—55 m
14-VIII: 43 mm Hold with Hope 310—260 m
15-VIII: 28 mm Hurry Fjord 15—18 m
— 43 mm Vegasund 250 m
16-VIII: 30 mm Vegasund 120 m
17-VIII: 25—44 mm, numerous spec. Vegasund 250—190 m
18-VIII: 32 mm Kangerdlugssuaq 100 m wire out
20-VIII: 27 mm Danmarks Havn 20—40 m
21-VIII: 20—25 mm, 5 spec. Kangerdlugssuaq 40—41 m
— 44 mm Kape Hope 28 m
23-VIII: 22, 28 and 30 mm Kangerdlugssuaq 25 and 30—40 m
— 29 and 31 mm Kangerdlugssuaq 15—18 and 70—100 m
25-VIII: 27 and 28 mm Ella Ø 250 m
26-VIII: 27 mm Kangerdlugssuaq 10—0 m
28-VIII: 23 mm Kangerdlugssuaq 40—45 m
29-VIII: 25 and 30 mm Kangerdlugssuaq 10—15 m
30-VIII: 26 and 33 mm Lindenows Fjord 10—75 m

2-IX: 24 mm, several spec. Danmarks Havn 20—30 m
4-IX: 21—26 mm, several spec. Danmarks Havn 30—40 m
9-IX: 22 mm Danmarks Havn 20—40 m
25 and 26-IX: 25 and 28 mm Ella Ø 38—50 m
27-IX: 27 mm Ella Ø 54—52 m

According to this list ovigerous ♀ are found from 0 to 310 m, especially 11—50 m, see also the table below:

Ovigerous ♀, number of hauls

| Depth in m | I—III*) | IV | V | I—V |
|---|---|---|---|---|
| 0— 10 | 1 | 1 | — | 2 |
| 11— 25 | 6 | 3 | 2 | 11 |
| > 25— 50 | 12 | 3 | 2 | 17 |
| > 50—100 | 4 | 3 | — | 7 |
| > 100—310 | 9 | — | — | 9 |
| | 32 | 10 | 4 | 46 |

*) I = Nordøstkyst; II = Franz Joseph Fjord area; III = Scoresbysund area; IV = Kangerdlugssuaq area; V = Sydøstkyst.

A ♀, 26 mm (Tasiusak, 11-VIII) had in the marsupium 41 eggs, 1 × 1.25 mm; another, 41 mm (Kap Hope, 21-VIII) had no less than 101 eggs, 1 mm in diameter.

♀ with embryos are 22—32 mm in length and were found from 14-VII to 7-X, mainly in August. The dates, lengths, etc., were as follows:

14-VII: 26 mm Angmagssalik 50 m
22-VII: 29 mm Danmarks Havn 10 m
25-VII: 29 mm Turner Sund 6 m
27-VII: 27 mm, 2 spec. Sermilik 125 and 175 m
28-VII: 26 mm Amdrups Havn 33—35 m
8-VIII: 25 mm Tasiusak 45—50 m
18-VIII: 30 mm, several spec. Kangerdlugssuaq 50 m
20-VIII: 25 mm Danmarks Havn 10—20 m
— 30 mm Dusénfjord 185—75 m
25-VIII: 27 mm Kangerdlugssuaq 20—25 m
28-VIII: 25 mm Danmarks Ø 29—30 m
— 28 and 32 mm Kangerdlugssuaq 20—25 and 40—45 m
26-IX: 25 mm Ella Ø 40—50 m
7-X: 22 mm Danmarks Havn 30—12 m

A ♀ 27 mm (Kangerdlugssuaq, 28-VIII) had 15 embryos, 3 mm in length; another ♀ 27 mm (Sermilik, 27-VII) had 11 embryos, 3.5 mm in length and already with the colour patterns entirely as in the adult; a ♀ 30 mm (Dusénfjord, 20-VIII) had embryos 6 mm, ready to escape the marsupium.

♀ with small marsupial plates are 20—25 mm and were found from 20—28-VIII.

♀ with well developed but empty marsupium are 27—40 mm and were found from 1-VII to 25-VIII. The lengths, dates, etc., were as follows:

| | | |
|---|---|---|
| 1-VII: | 34 mm | Ella Ø 85 m |
| 22-VII: | 28 mm | Sabine Ø 10 m |
| 11-VIII: | 30 mm | Dusénfjord 240 m |
| 20-VIII: | 32 mm | Between Kap Bennett and Bontekoe Ø 290 m |
| — | 40 mm | Dusénfjord 185—75 m |
| 23 and 25-VIII: | 27 and 32 mm | Kangerdlugssuaq, 50—60 and 60—70 m |

From the above the spawning season seems to be during the summer months, especially July and August, and the hatching season the last half of August.

Distribution (see chart in K. STEPHENSEN 1925, p. 129). Widely distributed in the northern Atlantic with adjacent seas, probably circumterrestrial, from 0 m down to 1000 m. An arctic-boreal species. For special localities see K. STEPHENSEN 1935—42, p. 113, and 1940, p. 15.

## **Andaniella** G. O. SARS.

### 45. *Andaniella pectinata* G. O. SARS.

*Andaniella pectinata* G. O. SARS 1895, p. 211, pl. 72 fig. 3.
— — STEBBING 1906, p. 93.

East Greenland record:

*Andaniella pectinata* SCHELLENBERG 1935, p. 22.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (SCHELLENBERG 1935).

Distribution. From South of Newfoundland 45°29′ N, 55°24′ W, 125 m, corals (SHOEMAKER, Proc. U. S. Nat. Mus., vol. 79, art. 22, 1931, p. 5, with figs.) and West Greenland c. 70° N to West Norway (Trondheimfjord), White Sea, and Spitsbergen. For special localities see K. STEPHENSEN 1925, p. 137, and 1935—42, p. 118. The depths vary from 6—20 m (Trondheimfjord) to 700 m (South of Jan Mayen). Is probably an arctic-boreal species.

## Fam. **Ampeliscidæ** Boeck.

### Genus **Ampelisca** Krøyer.

### 46. *Ampelisca eschrichti* Krøyer.

*Ampelisca eschrichti* G. O. Sars 1895, p. 174, pl. 61 fig. 1.
— — Stebbing 1906, pp. 100, 721.

East Greenland records:

*Ampelisca eschrichti* Buchholz 1874, p. 375, figs.
— — K. Stephensen 1913, p. 201 (no new records).
— — — 1925, p. 140.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, 20 m; Germania Havn (Buchholz 1874).

*Franz Joseph Fjord area:* Borlase Warren (Ø. Grønl.-Exped. 1900, St. I), 200 m (K. Stephensen 1925). Dusénfjord, anchoring-place, 25 m, 27 m, and 51 m, clay, 12-VIII-1933, 3 specimens.

*Franz Joseph Fjord area* or *Scoresbysund area:* Kolthoff leg. 1900, 1 specimen (in Tromsø Museum, determined by K. St.).

*Scoresbysund area:* Hurry Fjord, 1 mile inside the mouth, 14 m, sand, clay, 5-VII-1933, 1 specimen, and in the central part of the fjord, off Konstabelpynten, 91 m, clay, 7-VII-1933, 1 specimen.

*Sydøstkyst:* Ødesund (66°10′ N), 10—30 m, stony bottom with Algæ (K. Stephensen 1925). Naparsarsuak, 38 m, muddy sand, E. Bertelsen leg. 25-VI-1935, 350 specimens ($2 \times {}^{1}/_{10}$ m²). Kutdlek, 13—38 m, 6 hauls (viz., 13 m, 26 m, 30 m, 32 m (2 hauls), and 38 m), sand, gravel, Algæ, E. Bertelsen leg. 25-VI-1932, numerous specimens. Lindenows Fjord, 25—42 m, 9 hauls (viz., 25 m, 25—30 m (3 hauls), 25—50 m, 32 m, 42 m, 48 m, and 58 m), gravel, sand, clay, E. Bertelsen leg. 22—28-VII-1935, a few specimens. Kekertarsiak, 60 m and 60—70 m, sand, gravel, dead Bryozoa, E. Bertelsen leg. 13-VII-1935, 2 specimens.

According to the above it is found from 75° N to 60° N, but seems to be most abundant to the South, about 62°—60° N (17 hauls). It is found at depths of 14—200 m (26 hauls), but most frequent at > 25—50 m (14 hauls), gravel and sand.

The largest East Greenland specimen is 32 mm.

Distribution. A circumpolar species, widely distributed; in the Atlantic with adjacent arctic waters north of a line from northeastern U.S.A., southern Greenland, southern Iceland and Faroe Channel to West Norway (Bergen); also two hauls South and Southwest of Ireland. For special localities see K. Stephensen 1925, p. 140 (with chart), 1935—42, p. 121, and 1940, p. 15 (Iceland). Is an arctic-boreal species.

### 47. *Ampelisca macrocephala* LILLJEBORG.

*Ampelisca macrocephala* G. O. SARS 1895, p. 172, pl. 60 fig. 1.
— — STEBBING 1906, p. 101.

East Greenland records:

*Ampelisca macrocephala* H. J. HANSEN 1895, p. 127.
— — K. STEPHENSEN 1912, p. 531.
— — — 1913, p. 202, and 1925, p. 141 (no new records).
— — SCHELLENBERG 1935, p. 22.

Occurrence at East Greenland:

*Nordøstkyst:* Stormbugt, 10—20 m, Laminaria, soft bottom (K. STEPHENSEN 1912).

*Franz Joseph Fjord area:* 72°53′ N, 20°36′ W, 180 m, large stones (H. J. HANSEN 1895). 2 miles NE. of Herschelhus, 7 m, mud with Algæ, ÷ 0.73°, salinity 32.47 ‰; Herschelhus, 8—6 m, black mud with brown Algæ; Kap Humboldt (Sofia Sund), 36—30 m, stones (SCHELLENBERG 1935).

*Scoresbysund area:* Hurry Fjord, near the mouth, 6—16 m (10 hauls), sand, VII-1933, a couple of specimens per haul, and 88 m, sand, a few specimens. Kap Hope, 9—12 m and 10—11 m, sand, Algæ, 26—29-VI-1933, 3 specimens. Kap Hooker, 142 m, sabulous clay, 3-VII-1933, 1 specimen.

*Sydøstkyst:* Naparsarsuak, 35 and 38 m, sand and mud, 25—26-VI-1935, numerous specimens; Kutdlek, 26—36 m, 5 hauls (viz., 26 m (2 hauls), 30 m, and 36 m (2 hauls)), sand, gravel, mud, numerous specimens. Kap Tordenskjold, 26 m, clay, 1-VII-1935, 1 specimen. Lindenows Fjord, 50—75 m, mud, Algæ, 28-VII-1935, 1 specimen. Kekertarsiak, 50 m, sand, dead Bryozoa, 13-VII-1935, 1 specimen. All the specimens from the Sydøstkyst were taken by E. BERTELSEN.

According to the above at was taken from 77° N to 60° N, in 29 hauls, at depths from 9 to 180 m. 15 hauls have depths 9—25 m, 9 hauls > 25—50 m, 4 hauls > 50—180 m.

Distribution. Widely distributed, circumpolar; in the Atlantic to New York, southern Greenland, northern Iceland (K. STEPHENSEN 1940, p. 16), and the Danish waters. For special localities see K. STEPHENSEN 1925, p. 141 (with chart) and 1935—42, p. 123. Is probably an arctic-boreal species.

## Genus **Byblis** BOECK.

### 48. *Byblis gaimardi* (KRØYER).

*Byblis gaimardi* G. O. SARS 1895, p. 183, pl. 64.
— — STEBBING 1906, p. 113.

East Greenland records:

*Byblis gaimardi* K. Stephensen 1925, p. 148.
— — Schellenberg 1935, p. 22.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Borlase Warren (74°17′ N (East Greenland-Exped. 1900, St. I; not 70° N)), 200 m (K. Stephensen 1925). Herschelhus, 80—78 m, clay, red Algæ; Mackenzie Bugt, 15 and 40 m, mud with Algæ; East of Bontekoe Ø, 168 m, grey blue clay with stones, ÷ 1.40°, salinity 34.14 ‰; Kong Oscars Fjord, off Kempes Fjord, 110—55 m, clay with stones; Vega Sund, in the bay north of Scott Keltie Øerne, 30 m, grey clay (Schellenberg 1935). East of Jackson Ø, 73°50′ N, 18°38′ W, 170 m, clay with gravel and stones, 14-VII-1932, 2 specimens.

*Scoresbysund area:* Hurry Fjord, 20 m (K. Stephensen 1925). Hurry Fjord, the mouth, 150 m, clay, 1-VII-1933, 1 specimen; Kap Hooker, 65 m, sand, 3-VII-1933, 1 specimen; between Kap Leslie and Jameson Land, 180 m, clay, 21-VIII-1933, 1 specimen.

Distribution. Widely distributed in the northern Atlantic north of a line from U.S.A. about 45° N (Bay of Fundy) and West Greenland about 64° N to South Iceland and British and Danish waters; probably circumpolar (found at California and Japan). For special localities see K. Stephensen 1925, p. 147 (with chart), 1935—42, p. 132, and 1940, p. 17 (Iceland). Is probably an arctic-boreal species.

## Genus **Haploops** Lilljeborg.

### 49. *Haploops tubicola* Krøyer.

*Haploops tubicola* G. O. Sars 1895, p. 192, pl. 67.
— — Stebbing 1906, p. 117.

East Greenland records:

*Haploops tubicola* H. J. Hansen 1895, p. 127.
— — K. Stephensen 1913, p. 203 (no new records).
— — — 1925, p. 150.
— — Schellenberg 1935, p. 23.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 74°17′ N, 15°20′ W, 235 m, clay with small stones (H. J. Hansen 1895). Clavering Fjord, near Dødemands Øerne, 34 m, clay; Loch Fine, in stomach of *Salmo alpinus*; Mackenzie Bugt, 40 m, clay with red Algæ; East of Bontekoe Ø, 168 m, clay with stones, ÷ 1.40°, salinity 34.14 ‰ (Schellenberg 1935).

*Scoresbysund area:* 69°25′ N, 20°01′ W, 300 m, clay and big stones (H. J. Hansen 1895). Kap Dalton, 16—20 m (K. Stephensen 1925).

Hurry Fjord, in the central part of the fjord, off Konstabelpynten, 92 m, clay, 7-VII-1933, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 18—600 m, 6 hauls (viz., 18 m, 77 m, 117 m, 125—150 m, 150—175 m, and 400—600 m), clay or clayish sand, E. BERTELSEN leg. 23—28-VII-1935, a few specimens.

Distribution about as *Byblis gaimardi* (see above), but along Europe to Adriatic. For special localities see K. STEPHENSEN 1925, p. 150 (with chart), 1935—42, p. 135, and 1940, p. 17 (Iceland). Is probably an arctic-boreal species.

### 50. *Haploops setosa* BOECK.

*Haploops setosa* G. O. SARS 1895, p. 194, pl. 68 fig. 1.
— — STEBBING 1906, p. 117.

East Greenland records:

*Haploops setosa* K. STEPHENSEN 1925, p. 152.
— — SCHELLENBERG 1935, p. 23.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Borlase Warren (74° N, not 70° N), 200 m (K. STEPHENSEN 1925). Mackenzie Bugt, 83—63 m, mud (SCHELLENBERG 1935).

*Scoresbysund area:* Hurry Fjord, 19 m (K. STEPHENSEN 1925).

*Sydøstkyst:* Kekertarsiak, 60—70 m and 120 m, sand, gravel, dead Bryozoa, E. BERTELSEN leg. 13-VII-1935, 2 specimens.

Distribution. From America 40° N and Greenland to Skagerrak and Kara Sea, usually in deep water, >100—>1400 m. For special localities see K. STEPHENSEN 1925, p. 152 (with chart), 1935—42, p. 138, and 1940, p. 18 (Iceland). Is probably a pan-arctic species.

## Fam. **Haustoriidæ** STEBBING.
(= *Pontoporeiidæ* G. O. SARS).

### Genus **Pontoporeia** KRØYER.

### 51. *Pontoporeia femorata* KRØYER.

*Pontoporeia femorata* G. O. SARS 1895, p. 123, pl. 41 fig. 1.
— — STEBBING 1906, p. 128.

East Greenland records:

*Pontoporeia femorata* K. STEPHENSEN 1912, p. 531.
— — — 1913, p. 128 (no new records).
— — — 1925, p. 157.
— — SCHELLENBERG 1935, p. 23.
— — BERTELSEN 1937, p. 18.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn and Hvalrosodden, 0—20 m, 4 hauls, Laminaria (K. Stephensen 1912).

*Franz Joseph Fjord area:* Mackenzie Bugt, 15 m, 30 m, and 40 m, clay with Algæ. Kap Stosch, Clavering Fjord, 12 m, clay; Kap Humboldt, 36—30 m, stones (Schellenberg 1935). Eskimonæs, 14—10 m, sabulous clay, 18-VIII-1932, 2 specimens; Nordfjord, off the Danish house, 8 m, very fine grey clay, 4-VIII-1932, 1 specimen; Dusénfjord, 1—15 m (5 hauls), and 47 m (1 haul), clay and Algæ, several specimens; Carl Jacobsens Bugt, Ymers Ø, 2.5—9 m (8 hauls), 14—24 m (4 hauls), clay, several specimens; Solitærbugt, Ella Ø, 4—13 m (8 hauls) and 19—30 m (3 hauls), clay and Algæ, several specimens.

*Scoresbysund area:* Danmarks Ø, 6—10 m and 16—18 m, clay; Kap Dalton, 18—21 m (K. Stephensen 1925). Amdrups Havn, 6—10 m, Laminaria, brown Algæ, 28-VII-1933, 1 specimen; Hurry Fjord, near Fame Øerne, 18—22 m, clay, 17-VII-1933, 1 specimen, and 22—24 m, Laminaria, red Algæ, soft clay, 16-VIII-1933, 1 specimen; near Danmarks Ø, 20—30 m (3 hauls), 21(23)-VIII-1933, a few specimens; the bay near Røde Ø in Røde Fjord, 7—10 and 39 m, clay with Fucus, sand and stones, 22-VIII-1933, about 10 specimens; Solvigen, Nordvestfjord, 2—3 m, Fucus etc., clay, 24-VII-1933, numerous specimens.

*Kangerdlugssuaq area:* Mikis Fjord, 3.5—4 m, clay, 17-VIII-1933, E. Bertelsen leg., 1 specimen.

*Sydøstkyst:* Angmagssalik area (Bertelsen 1937). Tiningniketok, clay and brown Algæ, and 10—20 m (K. Stephensen 1925). Tasiusak, 10—12 m, clay, sand, 8-VIII-1933, 1 specimen; Sermilik, second Østfjord, 4 m, sabulous clay, 24-IX-1933, 1 specimen, and Epitalak, 7—5 m, clay, Fucus, 26-VII-1933, 1 specimen; Kap Tordenskjold, 4—22 m (5 hauls), clay, mud, fragments of Algæ, 1-VII-1935, numerous specimens; Lindenows Fjord, 4—20 m (7 hauls), clay, sand, gravel, Laminaria, 17—29-VII-1935, a few specimens.

According to the above it is distributed along the East Greenland coasts from 77° N to 60° N, and mainly at depths of 0—25 m (56 hauls); 8 hauls are deeper (> 25—47 m).

Distribution. Widely distributed in arctic seas, probably circumpolar; is a shallow-water form, bound to muddy bottom. For special localities see K. Stephensen 1925, p. 157, with chart, 1935—42, p. 144, and 1940, p. 18 (Iceland). As a glacial relict it is found in Kattegat and the Baltic to the Åland Islands and Bay of Finland, see Sven Ekman, Tierwelt d. Nord- und Ostsee, vl. 1, b, 1933, p. 19, with chart, and S. Segerstråle, Soc. Sci. Fennica, Commentat. Biol., vol. V, no. 5, 1938, p. 12, with chart. Is a low-arctic-boreal species.

## Fam. **Argissidæ** WALKER.

*Argissidæ* WALKER, Report Pearl Oyster Fish. Gulf of Manaar, part 2, 1904, p. 246.

### Genus **Argissa** BOECK.

#### 52. *Argissa hamatipes* (NORMAN).

*Argissa typica* G. O. SARS 1895, p. 141, pl. 48.
— *hamatipes* STEBBING 1906, p. 277.

Occurrence at East Greenland:

*Sydøstkyst:* Kekertarsiak, 60—70 m, sand, gravel, E. BERTELSEN leg. 13-VII-1935, 1 specimen.

It is new to East Greenland.

Distribution. West Greenland $63^1/_2°$ N, 1100 m, northeastern coasts of U.S.A., 30—90 m, and SW. Iceland, 150 m; European coasts from Murman Coast to Danish waters and Scotland, 20—200 m. For special localities see K. STEPHENSEN 1931, p. 261, and 1935—42, p. 140. Is a boreal-arctolittoral (= panboreal) species.

## Fam. **Phoxocephalidæ** G. O. SARS.

### Genus **Phoxocephalus** STEBBING.

#### 53. *Phoxocephalus holbølli* (KRØYER).

*Phoxocephalus holbølli* G. O. SARS 1895, p. 144, pl. 49.
— — STEBBING 1906, p. 134.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Karl Jacobsens Bugt, Ymer Ø, 13 m, clay, 2-VIII-1931, 1 specimen, determination not certain.

*Sydøstkyst:* Kekertarsiak, 50 m, 60 m, and 60—70 m, sand, gravel, dead Bryozoa, E. BERTELSEN leg. 13-VII-1935, 4 specimens.

It is new to East Greenland.

Distribution. From West Greenland and northeast coasts of U.S.A. to the White Sea, Great Britain to Plymouth, and the Baltic to the island of Bornholm; depths from a few meters down to 375 m. For special localities see K. STEPHENSEN 1925, p. 159 (with chart), 1935—42, p. 148, and 1940, p. 19 (Iceland). Is a boreal-arctolittoral (= panboreal) species.

### Genus **Harpinia** BOECK.

#### 54. *Harpinia mucronata* G. O. SARS.

*Harpinia mucronata* G. O. SARS 1895, p. 157, pl. 54 fig. 3.
— — STEBBING 1906, p. 141.

East Greenlands records:

*Harpinia mucronata* K. Stephensen 1925, p. 163.
— — Schellenberg 1935, p. 23.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Forsblads Fjord, 95—170 m (K. Stephensen 1925). Tyrolerfjord, near Young Sund, 320 m, clay with sand, ÷ 1.73°, salinity 33.54 ‰; Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (Schellenberg 1935).

*Scoresbysund area:* Hurry Fjord, 95 m (K. Stephensen 1925). Hurry Fjord, the mouth, 150 m, clay, 1-VII-1933, 1 specimen; Kap Leslie, 54 m (2 hauls), glittering clay, 22-VII-1933, 2 specimens.

Distribution. The deep Polar Basin with adjacent arctic waters, from East Greenland to Bay of Taimyr; also Great fishing-bank in the North Sea; depths 28 m (Bay of Taimyr) to > 1100 m (Polar Basin). Is probably a high-arctic species. For special localities see K. Stephensen 1925, p. 163, and 1935—42, p. 152.

### 55. *Harpinia serrata* G. O. Sars.

*Harpinia serrata* G. O. Sars 1895, p. 155, pl. 54 fig. 1.
— — Stebbing 1906, p. 142.

East Greenland record:

*Harpinia serrata* K. Stephensen 1925, p. 166.

Occurrence at East Greenland:

*Scoresbysund area:* Kap Dalton, 17—21 m (K. Stephensen 1925). Hurry Fjord, near the mouth, 55 m and 57 m, sabulous clay, 30-VI-1933, 2 specimens.

*Sydøstkyst:* Kutdlek, 38 m, muddy sand, 25-VI-1935, 3 specimens; Kekertarsiak, 60—70 m, sand, gravel, 13-VII-1935, 1 specimen.

Distribution. Gulf of St. Lawrence, 90 m; East Greenland, see above; Jan Mayen, 174 m; occurrence at Norway possibly not entirely certain; Blyth (N. of Newcastle). Is possibly a pan-arctic species.

### 56. *Harpinia plumosa* (Krøyer).

*Harpinia plumosa* G. O. Sars 1895, p. 157, pl. 52.
— — Stebbing 1906, p. 144.

East Greenland record:

*Harpinia plumosa* Schellenberg 1935, p. 23.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (Schellenberg 1935).

Distribution. West Greenland; other localities possibly uncertain (see K. STEPHENSEN 1935—42, p. 156). Is possibly a low-arctic species.

57. *Harpinia abyssi* G. O. SARS.

*Harpinia abyssi* G. O. SARS 1895, p. 160, pl. 56 fig. 1.
— — STEBBING 1906, p. 144.

East Greenland record:

*Harpinia abyssi* K. STEPHENSEN 1925, p. 169.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 69°25′ N, 20°01′ W, 300 m, stones and clay (K. STEPHENSEN 1925).

Distribution. The deep Polar Basin, 552—2200 m, and adjacent waters to the South, 400—2700 m. For special localities see K. STEPHENSEN 1925, p. 169, with chart, and 1935—42, p. 157. Is probably a bathy-arctic species.

Fam. **Amphilochidæ** G. O. SARS.

Genus **Amphilochus** BATE.

?*Amphilochus tenuimanus* BOECK.

*Amphilochus tenuimanus* G. O. SARS 1895, p. 218, pl. 75 fig. 1.
— — STEBBING 1906, p. 150.

East Greenland record:

*Amphilochus tenuimanus* K. STEPHENSEN 1925, p. 173.

Occurrence at East Greenland:

*Scoresbysund area:* NE. of Stewart Land, 300 m, 1 very little specimen, determination not certain (K. STEPHENSEN 1925).

Distribution. From West Greenland 65°—66½° N to North Norway and Scotland; for special localities see K. STEPHENSEN 1925, p. 173, with chart, and 1935—42, p. 159. Is a low-arctic-boreal species.

Genus **Gitanopsis** G. O. SARS.

58. *Gitanopsis inermis* G. O. SARS.

*Gitanopsis inermis* G. O. SARS 1895, p. 225, pl. 77 fig. 1.
— — STEBBING 1906, p. 154.

East Greenland record:

*Gitanopsis inermis* K. STEPHENSEN 1925, p. 175.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, 38 m (K. STEPHENSEN 1925).

*Sydøstkyst:* Kutdlek, 35 m, muddy sand and Algæ, E. BERTELSEN 26-VI-1935, 1 specimen.

Distribution. From West Greenland to Spitsbergen, Franz Joseph Land, North Norway and Northumberland; for special localities see K. STEPHENSEN 1925, p. 175, with chart, and 1935—42, p. 161. Is an arctic-boreal species.

## Fam. **Leucothoidæ** (DANA) G. O. SARS.

### Genus **Leucothoë** LEACH.

#### 59. *Leucothoë spinicarpa* (ABILDGAARD).

*Leucothoë spinicarpa*, *L. articulosa* G. O. SARS 1895, p. 283, pl. 101 fig. 1.
— — STEBBING 1906, p. 478.

Occurrence at East Greenland:

*Sydøstkyst:* Lindenows Fjord, 400—600 m, clay, E. BERTELSEN leg. 28-VII-1935, 1 specimen.

It is new to East Greenland.

Distribution. Almost cosmopolitan, but not found in arctic waters. For special localities see K. STEPHENSEN 1925, p. 177, with chart, and 1935—42, p. 164.

## Fam. **Stenothoidæ** (BOECK) STEBBING
(inclusive of fam. *Metopidæ* STEBBING).

*Stenothoidæ* (incl. *Metopidæ*) K. STEPHENSEN 1931, p. 179.
— GURJANOVA 1938, p. 275 (in Russian), p. 387 (in English), with revision of all the genera, and key of genera pp. 281, 390.

### Genus **Metopa** BOECK.

*Metopa* GURJANOVA 1938, pp. 279, 388.

#### 60. *Metopa sinuata* G. O. SARS.

*Metopa sinuata* G. O. SARS 1895, p. 263, pl. 92 fig. 2.
— — STEBBING 1906, p. 174.

East Greenland record:

*Metopa sinuata* K. STEPHENSEN 1931, p. 180.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, 40 m; Kap Tobin, 108 m (K. STEPHENSEN 1931).

Distribution. From West and East Greenland to Spitsbergen, Franz Joseph Land, North Norway and West of the Faroes; usually littoral-sublittoral. For special localities see K. STEPHENSEN 1931, p. 180, and 1935—42, p. 169. A low-arctic species.

*Metopa* (*bruzelii* GOËS?).

*Metopa bruzelii* G. O. SARS 1895, p. 261, pl. 92 fig. 1.
*Proboloides bruzelii* STEBBING 1906, p. 188.

East Greenland record:

*Metopa bruzelii* K. STEPHENSEN 1931, p. 181.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, 40 m, and Danmarks Ø; the determination of the specimens from these localities is not certain (K. STEPHENSEN 1931).

Distribution. From Gulf of St. Lawrence and Arctic America to Spitsbergen, North Norway (Vardø), Kattegat and Great Britain. For special localities see K. STEPHENSEN 1931, p. 181, with chart, 1935—42, p. 169, and 1940, p. 29 (Iceland). Is probably a boreal-arctolittoral (= panboreal) species.

61. *Metopa cariana* GURJANOVA.

*Metopa cariana* GURJANOVA, Zool. Anzeiger, vol. 81, 1929, p. 313, fig.
— — SCHELLENBERG 1935, p. 23.

East Greenland record:

*Metopa cariana* SCHELLENBERG 1935, p. 23.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay with sand and brown Algæ (SCHELLENBERG 1935).

*Sydøstkyst:* Kutdlek, 13 m, rocks, Laminaria, red Algæ, 1 specimen; Kap Tordenskjold, 11 m, rocks, Laminaria; Kekertarsiak, 60 m, sand, dead Bryozoa, 1 specimen. These specimens were taken by E. BERTELSEN 25-VI—13-VII-1935.

Remarks. The most important difference between the present species and *Proboloides glacialis* (KRØYER) is, as SCHELLENBERG (1935, p. 24) has pointed out, the 1-articulate palp in maxilla 1 (*Prob. glacialis* has 2 joints). I have dissected maxilla 1 out of the specimen from Kutdlek, and the palp has 1 joint.

The specimens from the Danish expeditions are small, 4—6 mm; SCHELLENBERG's specimens are 6—8.5 mm (GURJANOVA has no measurements).

Distribution. Klokov Bay (east coast of Novaja Zemlya; type-locality; GURJANOVA l. c.). Is probably a high-arctic species.

62. *Metopa groenlandica* H. J. HANSEN.

*Metopa groenlandica* H. J. HANSEN 1887, p. 94, pl. 3 fig. 7.
*Proboloides* — STEBBING 1906, p. 190.

*Metopa groenlandica* K. Stephensen 1936, with lit. and figs.
— — K. Stephensen & G. Thorson 1936, with fig.

East Greenland records:

*Proboloides clypeatus* K. Stephensen 1931, p. 195.
*Metopa groenlandica* K. Stephensen & G. Thorson 1936, p. 5.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, depth? (K. Stephensen & G. Thorson 1936).

*Franz Joseph Fjord area:* Kap Stosch 74°10′ N, 21°40′ W, 15 m, sand (K. Stephensen & G. Thorson 1936).

*Scoresbysund area:* Hurry Fjord, near the mouth, 6—9 m, sand, and near Fame Øerne, 12 m, clay; Kap Hooker, 13 m, sandy clay (K. Stephensen & G. Thorson 1936). Turner Sund $69^3/_4°$ N, 6 m (K. Stephensen 1931).

All the East Greenland specimens, with exception of those from Turner Sund, were found in the Lamellibranchiate *Pandora glacialis*.

Distribution. Eastern U.S.A. 42°—44° N, 170—300 m; West Greenland 62°—76° N, 6—50 m; East Greenland 70°—$74^1/_2°$ N, 6—15 m. H. J. Hansen's type-specimens were from "West Greenland" and from West Greenland 64°—70° N. For special localities see K. Stephensen 1931, p. 195, and 1936, p. 8. Is a boreal-arctolittoral species.

### 63. *Metopa clypeata* (Krøyer).

*Metopa clypeata* H. J. Hansen 1887, p. 90, pl. 3 fig. 3.
— — Stebbing 1906, p. 175.

East Greenland record:

*Metopa clypeata* K. Stephensen 1931, p. 183.

Occurrence at East Greenland:

*Scoresbysund area:* North of Stewart Land $70^1/_2°$ N, 300 m; Kap Tobin, 108 m, stones (K. Stephensen 1931).

Distribution. Gulf of St. Lawrence, 40—45 m, sand; West Greenland 60°—67° N, 50—300 m; East Greenland 70° N, 108—300 m. For special localities see K. Stephensen 1931, p. 183, and 1933b, p. 26. Is possibly a low-arctic species.

### ?*Metopa alderi* (Spence Bate).

*Metopa alderi* G. O. Sars 1895, p. 250, pl. 86.
— — Stebbing 1906, p. 175.

East Greenland record:

*Metopa alderi* K. Stephensen 1931, p. 183.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, 40 m; the determination not certain (K. STEPHENSEN 1931).

Distribution. From (?)East Greenland to Spitsbergen, Kara Sea, W. Sweden (Bohuslän), and Wales, usually in the littoral zone, rarely deeper down. For special localities see K. STEPHENSEN 1931, p. 183, 1935—42, p. 170, and 1940, p. 29 (Iceland). Is possibly a boreal-arctolittoral species.

?*Metopa tenuimana* G. O. SARS.

*Metopa tenuimana* G. O. SARS 1895, p. 259, pl. 91 fig. 1.
— — STEBBING 1906, p. 181.

East Greenland record:

?*Metopa tenuimana* K. STEPHENSEN 1931, p. 190, fig.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, 40 m; 1 specimen, the determination not certain (K. STEPHENSEN 1931).

Distribution. West Norway, exact locality not stated (type-locality; G. O. SARS). Shetland (NORMAN, Ann. Mag. Nat. Hist., (7) vol. 11, 1900, p. 44). Is probably a boreal-arctolittoral species.

## Genus **Metopella** G. O. SARS.

*Metopella* GURJANOVA 1938, pp. 280, 389.

### 64. *Metopella carinata* (H. J. HANSEN).

*Metopa carinata* H. J. HANSEN 1887, p. 99, pl. 4 fig. 3.
*Metopella* — STEBBING 1906, p. 184.

East Greenland record:

*Metopella carinata* K. STEPHENSEN 1931, p. 193.

Occurrence at East Greenland:

*Sydøstkyst:* 7 hauls in the Angmagssalik area, viz., Ingolfs Fjord, rocky bottom with Algæ; Tiningniketok, 2 m; Kap Dan, 20—30 m, rocks with Laminaria; Tasiusak, 3 hauls, in one of them the depth was 6—10 m and the bottom rocks with Algæ; Angmagssalik, 0—18 m (K. STEPHENSEN 1931). It is not taken by the expeditions during the last decennium.

Distribution. Gulf of St. Lawrence, 30—40 m; West Greenland from 60°—72½° N (about 35 hauls), < 30 m, but in one case 113 m; Ren Bay, Ellesmere Land; East Greenland, see above. For literature see K. STEPHENSEN l. c., with chart. Is probably a low-arctic species.

65. *Metopella longimana* (Boeck).

*Metopa longimana* G. O. Sars 1895, p. 273, pl. 97 fig. 1.
*Metopella* — Stebbing 1906, p. 185.

East Greenland record:

*Metopella longimana* K. Stephensen 1931, p. 193.

Occurrence at East Greenland:

*Sydøstkyst:* Tasiusak near Angmagssalik, 40—60 m, stony bottom with many Algæ (K. Stephensen 1931). Kekertarsiak, 75—90 m, gravel, sand, E. Bertelsen leg. 17-VII-1935, 1 specimen.

Distribution. West Greenland, 60°—70° N, 12—115 m; East Greenland, see above; East Iceland, 70 m; southern Norway, depth? (type-localities). For special localities see K. Stephensen 1931, p. 193, and 1940, p. 30 (Iceland). Is possibly an arctic-boreal species.

## Fam. **Acanthonotozomatidæ** Stebbing.

### Genus **Odius** Lilljeborg.

66. *Odius carinatus* (Spence Bate).

*Odius carinatus* G. O. Sars 1895, p. 381, pl. 133 fig. 2.
— — Stebbing 1906, p. 211.

Occurrence at East Greenland:

*Sydøstkyst:* Lindenows Fjord, 28 m, 1 specimen, and Kekertarsiak, 15 m, rocks and Laminaria, 1 specimen; E. Bertelsen leg. VII-1935. New to East Greenland.

Distribution. From Arctic America(?) and West Greenland to Spitsbergen, White Sea, Skagerrak and Northumberland; also Bering Sea. For special localities see K. Stephensen 1931, p. 210 (with chart), 1935—42, p. 184, and 1940, p. 32. Is an arctic-boreal species.

### Genus **Acanthonotozoma** Boeck.

67. *Acanthonotozoma serratum* (O. Fabricius).

*Acanthonotosoma serratum* G. O. Sars 1895, p. 374, pl. 131 fig. 1.
*Acanthonotozoma* — Stebbing 1906, p. 218.

East Greenland records:

*Vertumnus serratus* Buchholz 1874, p. 342.
*Acanthonotozoma serratum* K. Stephensen 1913, p. 167 (no new records).
— — — 1931, p. 210.
— — Schellenberg 1935, p. 24.

Occurrence at East Greenland:

*Nordøstkyst:* North Shannon, 60 m (Buchholz 1874).

*Franz Joseph Fjord area:* Loch Fine, 14—3 m, stones with Algæ, and 15 m, small stones with Lithothamnion; Dusénfjord, 25 miles from the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (SCHELLENBERG 1935).

*Scoresbysund area:* Off the mouth of Hurry Fjord, 72 m, clay with stones, 3 specimens; Kap Tobin, 17—31 m, Laminaria, Desmarestia, 1 specimen.

*Kangerdlugssuaq area:* Solos Fjord, 19—28 m, rocky bottom with Algæ (K. STEPHENSEN 1931).

*Sydøstkyst:* Angmagssalik, sublittoral; Tasiusak, 10—36 m and 39—57 m, stony bottom with Algæ (K. STEPHENSEN 1935). Angmagssalik: Ikatek in Sermilik, 44 m, Laminaria, 1 specimen, E. BERTELSEN leg. 1935. Lindenows Fjord, 30 m, Laminaria and dead Bryozoa, 1 specimen; 30—50 m (2 hauls), gravel, about 30 specimens; 40—45 m, clay, 2 specimens, and 60—80 m, clay, 1 specimen; E. BERTELSEN leg. 1935.

Distribution. Widely distributed, mainly in the arctic area, from Baffin Bay and Bay of Fundy, to Spitsbergen, Kara Sea, and Bohuslän, rarely deeper than 100 m. For special localities see K. STEPHENSEN 1931, p. 210 (with chart), 1935—42, p. 187, and 1940, p. 32 (Iceland). Is probably an arctic-boreal species.

### 68. *Acanthonotozoma cristatum* (Ross).

*Acanthonotosoma cristatum* G. O. SARS 1895, p. 375, pl. 131 fig. 2.
*Acanthonotozoma* — STEBBING 1906, p. 219.

East Greenland record:

*Acanthonotozoma cristatum* SCHELLENBERG 1935, p. 24.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Mackenzie Bugt, 83—63 m, mud; Dusénfjord, 25 miles inside the mouth, 185—75 m, clay, ÷ 1.2°, salinity 33.32 ‰; Vegasund, NW. of Scott Keltie Øerne, 250—190 m, clay (SCHELLENBERG 1935). Solitærbugt, Ella Ø, 35—41 m, clay, gravel, 1 specimen, and 54—52 m, clay, stones, 1 specimen.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 8—10 m, clay, Algæ; 10—15 m, clay; 20—25 m, clay, red Algæ; 41 m, soft clay, and 40—45 m, red Algæ; 1—3 specimens per haul, E. BERTELSEN leg. 1933.

*Sydøstkyst:* Kekertarsiak, 60—70 m (2 hauls), sand, gravel, dead Bryozoa, 2 specimens, and Lindenows Fjord, 50 m, clay, 1 specimen, E. BERTELSEN leg. 1935.

Distribution. About as the preceding species, but besides possibly circumpolar. For special localities see K. STEPHENSEN 1931, p. 211 (with chart), 1935—42, p. 187, and 1940, p. 32 (Iceland). Additional

localities: Barents Sea 72°37′ N, 20°00′15″ E, 394 m, mud and gravel (Chevreux 1935, p. 85). Southern Kara Sea (Gurjanova, Explor. mers U.R.S.S., vol. 21, 1935, p. 74). Laptew (Nordenskiöld) Sea, 3 hauls, about 76°—77° N, 117°—129° E, 40—70 m (Gurjanova, Zoogeographica, vol. 2, 1935, p. 558). Is possibly an arctic-boreal species.

### 69. *Acanthonotozoma inflatum* (Krøyer).

*Acanthonotozoma inflatum* Stebbing, Bijdr. Dierkunde, vol. 17, 1894, p. 32, pl. 6.
— — — 1906, p. 219.
— — Chevreux 1935, p. 86, with a col. fig.

East Greenland record:

*Acanthonotozoma inflatum* Schellenberg 1935, p. 24.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles from the mouth, 185—75 m, clay, ÷ 1.2°, salinity 33.32 ‰ (Schellenberg 1935). Dusénfjord, 56 m, clay, 1 specimen about 10 mm, 12-VIII-1933; inner Franz Joseph Fjord, off Zoologdalen, 34—27 m, brown clay, 1 specimen about 15 mm, 7-VIII-1932; Solitærbugt, Ella Ø, 34 m, shells, stones, 14-IX-1931, 1 specimen, medium size.

Distribution. From Baffin Bay (with West Greenland) and Gulf of St. Lawrence (but not Iceland) to the Siberian Polar Sea; also Alaska and probably Korea. For special localities see K. Stephensen 1931, p. 211 (with chart), 1933b, p. 27 (with chart), and 1935—42, p. 188. Additional localities: Barents Sea 76°30′ N, 25°27′15″ E, 48 m, gravel, shells (Chevreux 1935, p. 86). Southern Kara Sea (Gurjanova, Explor. mers U.R.S.S., vol. 21, 1935, p. 74). Is probably a high-arctic species.

## Fam. **Pardaliscidæ** (Boeck) G. O. Sars.

### Genus **Pardalisca** Krøyer.

### 70. *Pardalisca abyssi* Boeck.

*Pardalisca abyssi* G. O. Sars 1895, p. 406, pl. 143 fig. 1.
— — Stebbing 1906, p. 222.

East Greenland records:

*Pardalisca cuspidata* Buchholz 1874, p. 306, figs.
— *abyssi* K. Stephensen 1931, p. 215.
— — — 1933a, p. 7.
— — Schellenberg 1935, p. 25.

Occurrence at East Greenland:

*Nordøstkyst:* Nord-Shannon, 60 m (Buchholz 1874). Stormbugt (76¾° N) (K. Stephensen 1931).

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, clay, ÷ 1.2°, salinity 33.32 ‰; Vega Sund, NW. of Scott Keltie Øerne, 250—190 m, clay (SCHELLENBERG 1935).

*Kangerdlugssuaq area:* Kangerdlugssuaq, 100 m wire out, and 70 m, stony bottom (K. STEPHENSEN 1933a).

Distribution. From South of Halifax, 160 m, and West Greenland 63½° N, 1100 m, to Spitsbergen and the Skagerrak, depths > 100—1500 m. For special localities see K. STEPHENSEN 1931, p. 214, and 1935—42, p. 190. Additional localities: Kara Sea 73½°—80¾° N, 62½°—90° E, 42—120 m, and Laptew (Nordenskiöld) Sea 77½° N, 103° E, 200 m (GURJANOVA, Zoogeographica, vol. 2, 1935, pp. 557 and 559). Is an arctic-boreal species.

### 71. *Pardalisca cuspidata* KRØYER.

*Pardalisca cuspidata* G. O. SARS 1895, p. 403, pl. 142 fig. 1.
— — STEBBING 1906, p. 223.

East Greenland records:

*Pardalisca cuspidata* K. STEPHENSEN 1912, p. 536.
— — — 1913, p. 190 (no new records).
— — SCHELLENBERG 1935, p. 25.
non *Pardalisca cuspidata* BUCHHOLZ 1874, p. 306 (is *P. abyssi*).

Occurrence at East Greenland:

*Nordøstkyst:* Stormbugt (76¾° N), 10—40 m (2 hauls), Algæ, soft and hard bottom (K. STEPHENSEN 1912).

*Franz Joseph Fjord area:* Herschelhus, 83—85 m, clay with stones (SCHELLENBERG 1935). Off the mouth of Rhedins Fjord, 30—25 m, clay, red Algæ, Fucus, 18-VII-1932, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 25—30 m, Laminaria, gravel, E. BERTELSEN leg. 24-VII-1935, 1 specimen.

Distribution. From Gulf of St. Lawrence and West Greenland to Spitsbergen, Franz Joseph Land, Novaja Zemlya and Skagerrak, depths 10—200(> 700) m. For special localities see K. STEPHENSEN 1931, p. 213 (with chart), 1935—42, p. 191, and 1940, p. 32 (Iceland). Is an arctic-boreal species.

### *Pardalisca* (*tenuipes* G. O. SARS?).

*Pardalisca tenuipes* G. O. SARS 1895, p. 404, pl. 154 fig. 2.
— — STEBBING 1906, p. 223.

East Greenland records:

*Pardalisca tenuipes* K. STEPHENSEN 1912, p. 536.
— — — 1931, p. 213 (no new record).

Occurrence at East Greenland:

*Nordøstkyst:* Stormbugt (76$^3/_4$° N), 40 m, Delesseria, hard bottom (K. Stephensen 1912).

*Sydøstkyst:* Lindenows Fjord, 32 m, sand, clay, E. Bertelsen leg. 22-VII-1935, 1 specimen.

Remarks. The determination of these specimens is possibly not intirely certain. In the specimen from Stormbugt (ovigerous ♀, 13 mm) the dactyli of pereiopods 1—2 agree with Sars's figure, but prp. 3—4 and especially prp. 5—7 take intermediate position of Sars's figures of *P. cuspidata* and *P. tenuipes*. Metasome segment 3 has no subdorsal lobes, and lower hind corner is nearly rectangular as in *P. cuspidata*, not acute-angled as in *P. tenuipes*.

The specimen from Lindenows Fjord is smaller, about 7 mm; pereiopods 6—7 are lost. Prp. 1—4 and lower hind corner of metasome segment 3 agree with the specimen from Stormbugt; prp. 5 is more close to *P. tenuipes* than to *P. cuspidata*, and metasome segment 3 has the slight and rounded subdorsal lobes characteristic of *P. tenuipes*.

Distribution. From Gulf of St. Lawrence, ?East Greenland and SW. of the Faroes to Spitzbergen, Kola Fjord and the Skagerrak, depths about 100—1000 m; for special localities see K. Stephensen 1931, p. 213 (with chart), and 1935—42, p. 191. Is probably an arctic-boreal species.

## Genus **Halice** Boeck.

### 72. *Halice abyssi* Boeck.

*Halice abyssi* G. O. Sars 1895, p. 412, pl. 145 fig. 2.
— — Stebbing 1906, p. 229.

East Greenlands records:

*Halice abyssi* Broch & Koefoed 1909, p. 110.
— — K. Stephensen 1912, p. 536.
— — — 1931, p. 216 (no new record).

Occurrence at East Greenland:

*Nordøstkyst:* Between 75°58′ N, 14°08′ W and 75°59′ N, 14°59′ W, 300 m (Broch & Koefoed 1909). 76°06′ N, 13°26′ W, 180—235 m (K. Stephensen 1912).

Distribution. West Greenland 600 m, East Greenland (see above), the deep Polar Basin with bordering waters, including the Norwegian depression; depths down to > 2000 m. For special localities see K. Stephensen 1931, p. 216 (with chart), 1935—42, p. 193, and 1940, p. 33 (Iceland). Is possibly a boreal-sublittoral atlantic species.

Fam. **Lilljeborgiidæ** STEBBING.

Genus **Lilljeborgia** SPENCE BATE.

73. *Lilljeborgia fissicornis* (M. SARS).

*Lilljeborgia fissicornis* G. O. SARS 1895, p. 534, pl. 189.
— — STEBBING 1906, p. 231.

Occurrence at East Greenland:

*Sydøstkyst:* Lindenows Fjord, 400—600 m, clay, E. BERTELSEN leg. 28-VII-1935, 1 ♀. It has no dorsal tooth on metasome segment 3. It is new to East Greenland.

Distribution. Very widely distributed, from West Greenland to the New Siberian Islands, and from Spitsbergen to Bay of Biscay and West of the Azores; depths most varying, from (40)100 m down to about 3000 m. For special localities see K. STEPHENSEN 1931, p. 222 (with chart) and 1935—42, p. 196.

It seems to be mainly arctic, but its zoogographical position is uncertain.

Genus **Idunella** G. O. SARS.

74. *Idunella æquicornis* G. O. SARS.

*Idunella æquicornis* G. O. SARS 1895, p. 537, pl. 190.
— — STEBBING 1906, p. 234.

Occurrence at East Greenland:

*Scoresbysund area:* Kap Hooker, 67 m, sandy clay, 3-VII-1933, bottom-grab, 1 ovigerous ♀.

It is new to East Greenland.

Distribution. The deep Polar Basin with bordering areas, depths 67—763 m. For special localities see K. STEPHENSEN 1931, p. 225, and 1935—42, p. 34. Is a high-arctic species.

Fam. **Oedicerotidæ** (BOECK) SPARRE SCHNEIDER.

Genus **Oediceros** KRØYER.

75. *Oediceros saginatus* KRØYER.

*Oediceros saginatus* G. O. SARS 1895, p. 288, pl. 102.
— — STEBBING 1906, p. 244.

Occurrence at East Greenland:

*Sydøstkyst:* Lindenows Fjord, 8 m, 12 m, and 90 m, sand, or mud, sand, Laminaria, bottom-grab, E. BERTELSEN leg. 16-VII-1935, 1—2 specimens per haul.

It is new to East Greenland.

Distribution. From Hudson Bay, Baffin Bay and West Greenland to Iceland, Spitsbergen, West and North Norway and Jugor Strait, and Siberia 172° E, depths from a few meters down to about 150 m. For special localities see K. STEPHENSEN 1931, p. 226, with chart, 1935—42, p. 203, and 1940, p. 34 (Iceland). Is probably a pan-arctic species.

### 76. *Oediceros borealis* BOECK.

*Oediceros borealis* G. O. SARS 1895, p. 290, pl. 103 fig. 1.
— — STEBBING 1906, p. 244.

?East Greenland record:

*Oediceros borealis* BUCHHOLZ 1874, p. 325, pl. 5 (is probably *Monoculodes borealis* BOECK).

Occurrence at East Greenland:

*Nordøstkyst:* Germania Havn; Sabine Ø, 20 m (BUCHHOLZ 1874, see above).

*Scoresbysund area:* Hurry Fjord, near the mouth, 14 m, 15 m, 16 m, and 88 m, sand and Algæ, 30-VI—5-VII-1933, 1 or a few specimens per haul. Kap Hope, 9 m, 9—12 m, 12 m, and 15 m, 21-VI—29-VI-1933, 1—3 specimens per haul.

*Sydøstkyst:* Kekertarsiak, 50 m, 60—70 m, and 80 m, sand with gravel or dead Bryozoa, E. BERTELSEN leg. 13-VII-1935, 2—3 specimens per haul.

Is probably new to East Greenland.

Distribution. West Greenland, East Greenland, Iceland, Spitsbergen, southwestern Kara Sea, White Sea; not known with certainty from Norway; a littoral species. For special localities see K. STEPHENSEN 1931, p. 228, with chart, and 1935—42, p. 204. Is a low-arctic species.

## Genus **Paroediceros** G. O. SARS.

### 77. *Paroediceros propinquus* (GOËS?) G. O. SARS.

*Paroediceros propinquus* G. O. SARS 1895, p. 295, pl. 104 fig. 2.
— — STEBBING 1906, p. 246.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Solitærbugt, Ella Ø, 20 m and 31 m, clay, 13-IX-1931, 1 specimen per haul.

*Scoresbysund area:* Hurry Fjord, the eastern side near the mouth, 20—25 m, sand, many Algæ, 12-VII-1933, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 8 m, gravel, sand, E. BERTELSEN leg. 21-VII-1935, numerous small specimens, and 20 m, grey clay, E. BERTELSEN leg. 27-VII-1935, 1 specimen.

Remarks. All these specimens are small, the largest 7 mm, the majority much smaller (SARS: 10—11 mm). Nevertheless the determination is probably entirely certain, for first side plate has the characteristic shape, and there are no traces of pigments markings on the back.

Distribution. West of Greenland 682 m and possibly North of the Faroes 1322 m; North Norway from 65½° N; White Sea; depths usually 40—150 m. For special localities see K. STEPHENSEN 1931, p. 229, with chart, and 1935—42, p. 207. Is probably a pan-arctic species.

### 78. *Paroediceros lynceus* (M. SARS).

*Paroediceros lynceus* G. O. SARS 1895, p. 292, pl. 103 fig. 2, pl. 104 fig. 1.
— — STEBBING 1906, p. 246.

East Greenland records:

*Oediceros lynceus* BUCHHOLZ 1874, p. 331, fig.
*Paroediceros* — H. J. HANSEN 1895, p. 128.
— — BROCH & KOEFOED 1909, p. 110.
— — K. STEPHENSEN 1912, p. 532.
— — — 1913, p. 150 (no new records).
— — — 1931, p. 230.
— — — 1933a, p. 7.
— — SCHELLENBERG 1935, p. 25.
— — MADSEN 1936, p. 11.
— — BERTELSEN 1937, pp. 15, 18, 21.

Occurrence at East Greenland:

*Nordøstkyst:* In and near Danmarks Havn, 0—12 m, 8 hauls, sand, mud, etc. (K. STEPHENSEN 1912). Between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (BROCH & KOEFOED 1909). Germaniahavn, 6 m; Sabine Ø, 20 m (BUCHHOLZ 1874). Sabine Ø, 6—10 m, Laminaria (K. STEPHENSEN 1931). Landingsdalen off Wollaston Forland, 26—30 m, small stones with Algæ (SCHELLENBERG 1935).

*Franz Joseph Fjord area:* Herschelhus, 8—6 m, mud with dead brown Algæ, and 53—43 m, clay with sand and brown Algæ, and 83—35 m, clay with stones; between Jackson Ø and the coast, 9 m, sand with brown Algæ (SCHELLENBERG 1935). Carl Jacobsens Bugt, Ymer Ø, 20 m and 21 m, clay, 2-VIII-1931, 1 specimen per haul. Eleonora Bugt, 27—15 m, clay with Laminaria and other Algæ, 5-VIII-1932, 1 specimen. Ella Ø, 4—16 m, 1933, 1 specimen. Solitærbugt, Ella Ø, 11—41 m, 17 hauls (viz. 11—25 m 12 hauls, 26—41 m 5 hauls), clay, sometimes with gravel or stones, 12-IX—20-IX-1931 and 25-VI-1932, 1—3 specimens per haul.

*Scoresbysund area:* Hekla Havn, 2—10 m, mud and stones with Algæ (H. J. HANSEN 1895). Amdrup Havn and Hvalros Bugt, 8—35 m;

Rosenvinges Bugt; Danmarks Ø, 2—10 m 2 hauls, mud and stones with Laminaria and Desmarestia (K. Stephensen 1931). Hurry Fjord, near the mouth, 6—88 m, 8 hauls (viz., 6—21 m 6 hauls, and 31 m and 88 m), sand with or without Algæ, 30-VI—5-VII-1933, 1—15 specimens per haul. Hurry Fjord, near Konstabelpynten, 7—10 m, sand, and 18—22 m, soft clay, 7-VII-1933, 1—5 specimens per haul. Kap Hope, 3.5—20 m, 7 hauls, sand, 27-VI—30-VI-1933, 1—10 specimens her haul. Kap Hooker, 20 m and 65 m, 29-VI and 3-VII-1933, 1—2 specimens per haul. 8 miles inside Kap Hooker, 1 m, clayish sand, 15-VII-1933, 1 specimen.

*Kangerdlugssuaq area:* "The lower euryhaline littoral fauna is characterised by the amphipods *Atylus carinatus*, *Gammaracanthus loricatus* and *Paroediceros*" and some other forms (Bertelsen 1937, p. 21). Ravns Fjord, between Kap Ravn and Kap Johnstrup, 10 m (K. Stephensen 1933a). Mikis Fjord, 7—8 m, clay, E. Bertelsen leg. 7-VIII-1933, 1 specimen. Kangerdlugssuaq, 4—5 m, clay, Fucus, E. Bertelsen leg. 18-VIII-1933, 1 specimen.

*Sydøstkyst:* Kap Dan near Angmagssalik, 20—30 m, rocky bottom with a few Algæ (K. Stephensen 1931). Sermilik, second Østfjord, 12 m, sand and clay, E. Bertelsen leg. 24-VII-1933, 4 specimens. Tasiusak, 5—7 m, Fucus, Laminaria, and 10—12 m, clay, sand, E. Bertelsen leg. 8-VIII-1933, 7—8 specimens per haul. Naparsarsuak, 26 m, glittering sand and gravel, a few Laminaria, E. Bertelsen leg. 25-VI 1935, 3 specimens, and 35 m, muddy glittering sand with a few red Algæ and Laminaria, E. Bertelsen leg. 26-VI-1935, numerous specimens. Kutdlek, 30—38 m, 4 hauls, sand with or without mud, E. Bertelsen leg. 25-VI-1935, 1—10 specimens per haul. Kap Tordenskjold, 8 m, 17 m, 20 m, 25 m, 26 m, and 36 m, clay with or without sand, E. Bertelsen leg. 30-VI—1-VII-1935, 1 or a few specimens per haul. Lindenows Fjord, 4—75 m, 29 hauls (viz., 4—25 m 23 hauls, 27—50 m 4 hauls, and 52 m (1 haul) and 50—75 m (1 haul)), sand, gravel, mud, sometimes with

Number of hauls (hauls with depth not noted are omitted)

| Depths in meters | I*) | II | III | IV | V | Total number of hauls |
|---|---|---|---|---|---|---|
| 0— 25 | 11 | 17 | 22 | 3 | 31 | 84 |
| > 25— 50 | 1 | 6 | 1 | — | 12 | 20 |
| > 50—100 | — | 1 | 2 | — | 3 | 6 |
| > 100—200 | — | — | — | — | — | — |
| 200—300 | 1 | — | — | — | — | 1 |
| | 13 | 24 | 25 | 3 | 46 | 111 |

*) I = Nordøstkyst. II = Franz Joseph Fjord area. III = Scoresbysund area. IV = Kangerdlugssuaq area. V = Sydøstkyst.

Algæ, E. BERTELSEN leg. 16-VII—28-VII-1935, 1 to numerous specimens per haul. Kekertarsiak, 80 m, sand, dead Bryozoa, E. BERTELSEN leg. 13-VII-1935, 1 specimen.

The majority of the East Greenland specimens were taken with bottom-grab.

The largest East Greenland specimens are about 25 mm in length.

After the above it is very frequent from 77° N to 60° N.

It occurs mainly at depths of 0—25 m, rarely deeper. Usually the bottom is sand or clay.

Distribution. Probably circumpolar; widely distributed in the arctic zone and the northernmost part of the boreal zone. For special localities see K. STEPHENSEN 1931, p. 230, with chart, 1935—42, p. 205 and 1940, p. 36. Is a low-arctic species.

## Genus **Arrhis** STEBBING (= **Aceros** G. O. SARS).

### 79. *Arrhis phyllonyx* (M. SARS).

*Aceros phyllonyx* G. O. SARS 1895, p. 338, pl. 119, pl. 120 fig. 1.
*Arrhis* — STEBBING 1906, p. 248.

East Greenland records:

*Arrhis phyllonyx* K. STEPHENSEN 1931, p. 232.
— — SCHELLENBERG 1935, p. 25.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Tyrolerfjord, 125 m, clay and sand, ÷ 1.40°, salinity 33.30 ‰; Mackenzie Bugt, 15 m, 2 hauls, mud and brown Algæ; Vega Sund North of Scott Keltie Øerne, 30 m, grey clay (SCHELLENBERG 1935). Moskusokse Fjord, off Ancherdalen, 35 m, red clay with sand and a little gravel, 3-VII-1932, 1 specimen; Dusénfjord, near the anchoring-place, 10 m and 36 m, clay, Desmarestia, 10—11-VIII-1932, 2 specimens, and at the western end of the broad portion of the fjord, 240 m, clay, 11-VIII-1932, 1 specimen; Solitærbugt, Ella Ø, 19—240 m, 11 hauls (viz., 19—23 m 3 hauls, 26—37 m 7 hauls, and 240 m 1 haul), clay, sometimes with gravel and stones, 1931—32, 1—3 specimens per haul.

*Scoresbysund area:* Hurry Fjord, 13—0 m (K. STEPHENSEN 1931). Hurry Fjord, the westside off Konstabelpynten, 18—22 m, clay, 7-VII-1933, 1 specimen; Jameson Land, the western side off Kap Leslie, 30 m, clay, and off Bjørne Øerne, 30 m and 31 m, clay, 26-VII-1933, 1 specimen per haul; Nordbugten near Nordvestfjord, 29 m, clay, 24-VII-1933, 1 specimen.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 30—40 m, clay, E. BERTELSEN leg. 22-IX-1933, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 200—350 m, clay, and 400—600 m, E. Bertelsen leg. 21—28-VII-1935, 1 specimen per haul.

After the above it is taken from $74^1/_2°$ to 60° N, in 26 hauls, at depths from a few meters down to 600 m (in Lindenows Fjord), but mainly at depths > 25—50 m (15 hauls). The majority of the specimens were taken with bottom-grab.

A few specimens are up to about 15 mm, but the majority are much smaller.

Distribution. Probably circumpolar; widely distributed in the northern Atlantic and adjacent arctic seas north of a line from Gulf of St. Lawrence and southern Greenland to North and East Iceland, Northeast Scotland, and the Skagerrak and Kattegat; depths from a few meters down to > 2200 m. For special localities see K. Stephensen 1931, p. 232, with chart, 1935—42, p. 208, and 1940, p. 36 (Iceland). Is an arctic-boreal species.

## Genus **Westwoodilla** Spence Bate.

### 80. *Westwoodilla (megalops* (G. O. Sars)?).

*Halimedon megalops* G. O. Sars 1895, p. 330, pl. 116 fig. 2.
*Westwoodilla megalops* Stebbing 1906, p. 250.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Eskimonæs, 55 m, clayish gravel with large Laminaria, 12-IX-1932, 2 ovigerous ♀. Solitærbugt, Ella Ø, 37 m, 19-IX-1931, 1 specimen.

*Sydøstkyst:* Kap Tordenskjold, 12 m, 26 m, and 32 m, clay, E. Bertelsen leg. 1-VII-1935, 3 specimens. Nanusek, 30 m, gravel, clay, E. Bertelsen leg. 19-VII-1935, 1 specimen. Lindenows Fjord, 17 m, 20 m, 27 m, and 33 m, clay or sand, with or without Algæ, E. Bertelsen leg. 26-VII-1935, 1—4 specimens per haul.

The genus is new to East Greenland.

Remarks. The determination of these specimens is not entirely certain, for the frontal part of the head with the eyes takes an intermediate position of *W. megalops* and *W. caecula* (Bate) (= *Halimedon mülleri* (Boeck)).

Distribution. From West Greenland and Gulf of St. Lawrence to Iceland, northern West and North Norway, and Novaja Zemlya. For special localities see K. Stephensen 1931, p. 235, with chart, and 1935—42, p. 215. Is probably a low-arctic species.

## Genus **Acanthostepheia** BOECK.

### 81. *Acanthostepheia malmgreni* (GOËS).

*Amphinotus malmgreni* GOËS 1866, p. 526, pl. 39 fig. 17.
*Acanthostepheia* — STEBBING 1906, p. 254.
— — K. STEPHENSEN 1935—42, p. 217, with reproduction of GOËS's figures.

East Greenland records:

*Acanthostepheia malmgreni* H. J. HANSEN 1895, p. 127.
— — BROCH & KOEFOED 1909, p. 110.
— — K. STEPHENSEN 1913, p. 147 (no new records).
— — — 1931, p. 238.
— — — 1933a, p. 7.
— — SCHELLENBERG 1935, p. 25.

Occurrence at East Greenland:

*Nordøstkyst:* 77°31′ N, 18°24′ W, 275 m; between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (BROCH & KOEFOED 1909).

*Franz Joseph Fjord area:* Clavering Fjord, off Grants Fjord, 115 m, clay, ÷ 1.46°, salinity 34.01 ‰; Mackenzie Bugt, 15 m, mud and brown Algæ, and 30 m; off Moskusokse Fjord, 150 m, clay, ÷ 1.3°; Sofia Sund, central part, 200 m, clay, and east end, 250 m, clay; Vega Sund, NW. of Scott Keltie Øerne, 250—190 m (SCHELLENBERG 1935). Borlase Warren, 210 m; Forsblads Fjord, 100 m; off Canning Ø, 375 m (K. STEPHENSEN 1931). Dusénfjord, 240 m, clay, 1932, 2 specimens.

*Scoresbysund area:* Turner Sund, 6 m; Ryders Sund, 6 m (K. STEPHENSEN 1931).

*Kangerdlugssuaq area:* Kangerdlugssuaq, 10 m, sandy bottom (K. STEPHENSEN 1933a). Kangerdlugssuaq, 30—40 m, clay, 1933, 1 ♀, and 41 m, clay, 1933, 15 specimens.

*Sydøstkyst:* Lindenows Fjord, 15—30 m, clay and gravel, 1 specimen, and 75—100 m, clay, E. BERTELSEN leg. 1935, 10 specimens.

Distribution. Widely distributed in the arctic area, probably circumpolar, found from Arctic America 68° N, 116° W (Stapylton Bay in the Dolphin and Union Strait) and Greenland, Spitsbergen and Franz Joseph Land etc. to the New Siberian Islands; also Bering or Okhotsk Sea. Usually it lives on clay bottom, at depths from a few meters down to 550 m. Usually found at temperatures below 3° (OLDEVIG 1917, p. 51). For special localities see K. STEPHENSEN 1931, p. 238, with chart, and 1935—42, p. 217. Is probably a high-arctic species.

## Genus **Aceroides** G. O. SARS.

### 82. *Aceroides latipes* G. O. SARS.

*Aceropsis latipes*, *Aceroides latipes* G. O. SARS 1895, p. 341, pl. 120 fig. 2.
*Aceroides* — STEBBING 1906, p. 255.

East Greenland records:

*Aceroides latipes* H. J. Hansen 1895, p. 128.
— — K. Stephensen 1931, p. 240.
— — Schellenberg 1935, p. 25.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Tyrolerfjord, near the head, 125 m, clay and sand, $\div 1.40°$, salinity 33.30 ‰; Mackenzie Bugt, 15 m, mud and brown Algæ (Schellenberg 1935).

*Scoresbysund area:* Hekla Havn, Danmarks Ø, clay (H. J. Hansen 1895, K. Stephensen 1931). West coast of Jameson Land off Bjørne Øerne, 123 m, stones, 26-VII-1933, 1 specimen. Nordbugt near Nordvestfjord, 25 m, clay, 24-VII-1933, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 17 m, grey clay, E. Bertelsen leg. 27-VII-1935, 1 specimen.

Distribution. From West Greenland, Spitsbergen and North Norway to Kara Sea, New Siberian Islands and Alaska, probably circumpolar; depths 6 m (Alaska) to 660 m (Jacobshavn, West Greenland). Is probably a low-arctic species.

## Genus **Bathymedon** G. O. Sars.

### 83. *Bathymedon obtusifrons* (H. J. Hansen).

*Bathymedon obtusifrons* G. O. Sars 1895, p. 336, pl. 118 fig. 2.
— — Stebbing 1906, p. 256.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Carl Jacobsens Bugt, Ymer Ø, 18 m, clay, 2-VIII-1931, 1 specimen. Solitærbugt, Ella Ø, 31 m and 37 m, clay, 14-IX-1931, 1 specimen per haul.

*Scoresbysund area:* Off Hurry Fjord, 57 m, clay, 30-VI-1933, 1 specimen.

It is new to East Greenland.

Distribution. Gulf of St. Lawrence, West and East Greenland, North Norway, Novaja Zemlya, Franz Joseph Land, Skagerrak, Japan; depths 18—about 800 m. For special localities see K. Stephensen 1931, p. 240, and 1935—42, p. 220. Is an arctic-boreal species.

## Genus **Monoculopsis** G. O. Sars.

### 84. *Monoculopsis longicornis* (Boeck).

*Monoculopsis longicornis* G. O. Sars 1895, p. 311, pl. 110 fig. 1.
— — Stebbing 1905, p. 258.

Occurrence at East Greenland:

*Sydøstkyst:* Kap Tordenskjold, 8 m, sabulous clay, and 28 m, clay, E. BERTELSEN leg. 1-VII-1935, 2—5 specimens per haul. Lindenows Fjord, 4—37 m, 10 hauls (viz., 4—22 m 7 hauls, and 27 m, 35 m, and 37 m), sand with gravel or Laminaria, E. BERTELSEN leg. 26-VII-1935, 1—7 specimens per haul. Kekertarsiak, 50 m, sand, and 60—70 m, sand and gravel, E. BERTELSEN leg. 13-VII-1935, 1 specimen per haul.

It is new to East Greenland.

Distribution. From Gulf of St. Lawrence and Arctic Canada to North Norway and Franz Joseph Land; mainly littoral. For special localities see K. STEPHENSEN 1931, p. 241, and 1935—42, p.221. Additional locality: Kara Bay (BIRULA, Trav. Inst. Zool. Acad. Sci. U.R.S.S., 1937, p. 720, fig.). Is a low-arctic species.

## Genus **Monoculodes** STIMPSON.

### 85. *Monoculodes longirostris* (GOËS).

*Monoculodes longirostris* G. O. SARS 1895, p. 306, pl. 108 fig. 3.
— — STEBBING 1906, p. 260.

East Greenland record:

*Monoculodes longirostris* K. STEPHENSEN 1931, p. 242.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Solitærbugt, Ella Ø, 10—34 m, 10 hauls (viz., 18—10 m (1 haul), 20 m, 21 m (2 hauls), 22 m, 23 m (2 hauls), 25 m, 26 m, and 34 m), clay, 12-IX—19-IX-1931 and 25-VI-1932, 1—2 specimens per haul.

*Scoresbysund area:* Hurry Fjord, 140 m (K. STEPHENSEN 1931). Hurry Fjord, western side near Konstabelpynten, 7—10 m, sand, and 18—22 m, soft clay, 7-VII-1933, 1—2 specimens per haul.

*Sydøstkyst:* Kutdlek, 36 m, muddy sand, E. BERTELSEN leg. 25-VI-1935, 2 specimens.

Distribution. Widely distributed, from Arctic America to Spitsbergen, northern Norway and Barents Sea; also Siberian Polar Sea 117° E, 40 m (GURJANOVA, Zoogeographica, vol. 2, 1935, p. 558). For special localities see K. STEPHENSEN 1931, p. 242, with chart, and 1935—42, p. 223; also GURJANOVA l. c., pp. 557—558, and Explor. mers U.R.S.S., vol. 21, 1935, p. 75. Is a pan-arctic species.

### 86. *Monoculodes borealis* BOECK.

*Monoculodes borealis* G. O. SARS 1895, p. 298, pl. 106 fig. 2.
— — STEBBING 1906, p. 262.

East Greenland records:

*Oediceros borealis* Buchholz 1874, p. 325, pl. 5.
*Monoculodes borealis* K. Stephensen 1912, p. 533.
— — — 1931, p. 243.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, 20 m; Germania Havn (Buchholz 1874). Danmarks Havn, 12 m, Delesseria, sand and mud with stones and red Algæ; Hvalrosodden, 0—8 m, Laminaria, soft bottom (K. Stephensen 1912).

*Franz Joseph Fjord area:* Carl Jacobsens Bugt, Ymer Ø, 20 m, clay, 2-VIII-1931, 1 specimen. Solitærbugt, Ella Ø, 19—37 m, 13 hauls (viz., 19—25 m 9 hauls, and 31—37 m 4 hauls), clay or gravel, 12-IX—14-IX-1931, 1—2 specimens per haul.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 4—5 m, mud, Fucus, E. Bertelsen leg. 18-VIII-1933, 2 specimens.

*Sydøstkyst:* Kap Dan near Angmagssalik, 20—30 m, rocky bottom, a few Algæ (K. Stephensen 1931). Kutdlek, 26 m, sand, gravel, a few Algæ, and 30 m, sand with mud, E. Bertelsen leg. 25-VI-1935, 1 specimen per haul. Lindenows Fjord, 9—37 m, 17 hauls (viz., 9—25 m 12 hauls, 25—50 m 1 haul, and 28—37 m 4 hauls), sand, gravel, sometimes with Algæ, E. Bertelsen leg. 22-VII—27-VII-1935, 1—about 15 specimens per haul.

Distribution: From West Greenland and Gulf of St. Lawrence to Siberia, Trondheimfjord and Scotland; a littoral form. For special localities see K. Stephensen 1931, p. 243, 1935—42, p. 225, and 1940, p. 39 (Iceland). Additional localities: Siberia 74°53′ N, 122°20′ E, 20 m (Gurjanova, Zoogeographica, vol. 2, 1935, p. 559), and Barents Sea 73°55′ N, 72°46′ E, 23 m (Gurjanova, Explor. mers U.R.S.S., vol. 21, 1935, p. 76). Is an arctic-boreal species.

### 87. *Monoculodes latimanus* (Goës).

*Monoculodes latimanus* G. O. Sars 1895, p. 304, pl. 108 fig. 1.
— — Stebbing 1906, p. 264.

East Greenland records:

*Monoculodes latimanus* H. J. Hansen 1895, p. 128.
— — K. Stephensen 1912, p. 534.
— — — 1913, p. 152 (no new records).
— — — 1931, p. 244.
— — Schellenberg 1935, p. 25.

Occurrence at East Greenland:

*Nordøstkyst:* Near Danmarks Havn, 0—10 m, 2 hauls, soft and hard bottom, Laminaria (K. Stephensen 1912). Landingsdalen off Wollaston

Forland, 26—20 m (SCHELLENBERG 1935). Sabine Ø, 6—10 m (K. STEPHENSEN 1931).

*Franz Joseph Fjord area:* Eskimonæs, 6—14 m, 4 hauls, clay, sand, Algæ, 1932—1933, 5 specimens, and 33—32 m, sand, gravel, many Algæ, 8-VIII-1932, 1 specimen; Carl Jacobsens Bugt, Ymer Ø, 19 and 21 m, clay, 2-VIII-1931, 5 specimens; Solitærbugt, Ella Ø, 13—31 m, 11 hauls (viz., 13—25 m, 7 hauls, and 30—31 m, 4 hauls), clay with Algæ or shells, 10-IX—19-IX-1931, 1—4 specimens per haul.

*Scoresbysund area:* Rosenvinges Bugt, 10—12 m; Danmarks Ø, 10—12 m, 2 hauls, mud and stones (H. J. HANSEN 1895; K. STEPHENSEN 1931). Hurry Fjord, the mouth, 14—25 m, 3 hauls, sand, Algæ, detritus, 30-VI—12-VII-1933, 3 specimens; Kap Hope, 3.5—11 m, 2 hauls, stones, clay, sand, 27—29-VI-1933, 6 specimens.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 10—15 m, 2 hauls, clay and Fucus, E. BERTELSEN leg. 1933, 2 specimens.

*Sydøstkyst:* Kutdlek, 13—15 m, 2 hauls, rocks, Laminaria, red Algæ, 2 specimens; Nanusek, 8 m, 30 m, and 40 m, sand, gravel, clay, Algæ, 5 specimens; Lindenows Fjord, 4—120 m, 38 hauls (viz., 4—25 m 18 hauls, > 25—50 m 12 hauls, 52—90 m 7 hauls, and 120 m 1 haul), gravel, sand, clay, sometimes with Laminaria, 1—10 specimens per haul. All the specimens from the Sydøstkyst area were taken by E. BERTELSEN 13—27-VII-1935.

The majority of the East Greenland specimens were taken with bottom-grab.

| | Number of hauls | | | | | |
|---|---|---|---|---|---|---|
| Depth in meters | I*) | II | III | IV | V | I—V |
| 0— 25 ..... | 4 | 13 | 8 | 2 | 21 | 48 |
| > 25— 50 ..... | — | 4 | — | — | 14 | 18 |
| > 50—120 ..... | — | — | — | — | 8 | 8 |
| | 4 | 17 | 8 | 2 | 43 | 74 |

*) I = Nordøstkyst; II = Franz Joseph Fjord area; III = Scoresbysund area; IV = Kangerdlugssuaq area; V = Sydøstkyst.

After the above it was taken in 74 hauls, from 77° to 60° N, at depths from 0 to 120 m, but mainly at 0—25 m.

Distribution. Very widely distributed, from Gulf of St. Lawrence, 30—93 m, West Greenland 60°—71° N, 4—135 m, and East Iceland, 10—100 m, to North Norway, down to 400 m, Spitsbergen, 85 m, Franz Josehp Land, and Kara Strait, 60 m; also Japan. For special localities

see K. Stephensen 1931, p. 244, 1935—42, p. 226, and 1940, p. 39 (Iceland), and Gurjanova 1938, p. 301 (Japan Sea, 76—77 m). Is a low-arctic species.

### 88. *Monoculodes simplex* H. J. Hansen.

*Monoculodes simplex* H. J. Hansen 1887, p. 114, pl. 4 fig. 6.
— — Stebbing 1906, p. 264.

East Greenland records:

*Monoculodes simplex* K. Stephensen 1931, p. 246.
— — Schellenberg 1935, p. 25.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø (K. Stephensen 1931).

*Franz Joseph Fjord area:* 2 miles NE. of Herschelhus, 7 m, mud with Algæ, $\div 0.73°$, salinity 32.47 ‰ (Schellenberg 1935). Carl Jacobsens Bugt, Ymer Ø, 24 m, clay, 2-VIII-1933, 3 specimens.

*Sydøstkyst:* Tasiusak near Angmagssalik, depth?, two hauls (K. Stephensen 1931). Lindenows Fjord, 5 m, gravel, Laminaria, and 25 m, sand, a few Algæ, E. Bertelsen leg. VII-1935, 1—3 specimens per haul.

Distribution. West Greenland, 3 occurrences 62°—69° N (type-localities), 20—50 m. Found nowhere out of Greenland. Is a low-arctic species.

### 89. *Monoculodes tuberculatus* Boeck.

*Monoculodes tuberculatus* G. O. Sars 1895, p. 303, pl. 107 fig. 3.
— — Stebbing 1906, p. 265.

East Greenland records:

*Monoculodes tuberculatus* K. Stephensen 1912, p. 533.
— — — 1931, p. 246.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 10—20 m (K. Stephensen 1912).

*Franz Joseph Fjord area:* Carl Jacobsens Bugt, Ymer Ø, 21 m, clay, 2-VIII-1931, 1 specimen. Solitærbugt, Ella Ø, 5—17 m, 6 hauls, clay with Algæ, 10-IX—12-IX-1931, 1—2 specimens per haul. Åkerbloms Ø, Kong Oscars Fjord, 20 m, stones, 23-VIII-1929, a few specimens.

*Scoresbysund area:* Danmarks Ø, 10—21 m, 3 hauls (K. Stephensen 1931).

*Sydøstkyst:* Lindenows Fjord, 4—70 m, 8 hauls (viz., 4 m, 20 m, 30 m, 35 m (2 hauls), 40 m, 55 m, and 60—70 m), gravel, sand, or clay, 13-VII—27-VII-1935, 1—3 specimens per haul.

Distribution. Gulf of St. Lawrence, 30—93 m; West Greenland 70° N, 115—135 m; West and North Norway, down to 200 m; West and North Spitsbergen, 27—29 m; Barents Sea, 53 m; Novaja Zemlya,

southern coast, 60—90 m; Firth of Clyde. For special localities see K. STEPHENSEN 1931, p. 246, and 1935—42, p. 228. Additional locality: Kara Sea, 92 m (GURJANOVA, Zool. Anz., vol. 113, 1936, p. 251). Is possibly an arctic-boreal species.

## Fam. **Tironidæ** STEBBING
(= *Syrrhoidæ* G. O. SARS).

### Genus **Tiron** LILLJEBORG.

#### 90. *Tiron acanthurus* LILLJEBORG.

*Tiron acanthurus* G. O. SARS 1895, p. 399, pl. 140.
— — STEBBING 1906, p. 276.

East Greenland record:

*Tiron acanthurus* K. STEPHENSEN 1935—42, p. 231.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Exact locality not noted, KOLTHOFF leg. 1900 (K. STEPHENSEN 1935—42).

*Scoresbysund area:* Hurry Fjord, the mouth, 57 m, sandy clay, 30-VI-1933, 1 specimen.

*Sydøstkyst:* Kekertarsiak, 120 m, sand, dead Bryozoa, E. BERTELSEN leg. 13-VII-1935, 1 specimen.

Distribution. Widely distributed in the northernmost parts of the Atlantic, from Nova Scotia and Gulf of St. Lawrence to the Skagerrak, with adjacent seas to the North; depths 30—700 m. For special localities see K. STEPHENSEN 1931, p. 255, with chart, 1933b, p. 38, and 1940, p. 231. Is probably an arctic-boreal species.

### Genus **Syrrhoë** GOËS.

#### 91. *Syrrhoë crenulata* GOËS.

*Syrrhoë crenulata* G. O. SARS 1895, p. 390, pl. 136.
— — STEBBING 1906, p. 282.

East Greenland records:

*Syrrhoë crenulata* BUCHHOLZ 1874, p. 304.
— — H. J. HANSEN 1895, p. 128.
— — BROCH & KOEFOED 1909, p. 110.
— — K. STEPHENSEN 1912, p. 534.
— — — 1931, p. 257.
— — — 1933a, p. 7.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 10—20 m (K. STEPHENSEN 1912). Between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (BROCH & KOEFOED 1909). Sabine Ø, 10—20 m (BUCHHOLZ 1874).

*Franz Joseph Fjord area:* Moskusokse Fjord, 15 m, LÖPPENTHIN leg. 18-VIII-1930, 1 specimen.

*Scoresbysund area:* Danmarks Ø, 10—12 m, mud and stones, and 16—18 m (H. J. HANSEN 1895).

*Kangerdlugssuaq area:* Ravns Fjord, 10 m (K. STEPHENSEN 1933a). Kangerdlugssuaq, 30—40 m and 50—60 m, clay, E. BERTELSEN leg. 1933, 2 specimens.

*Sydøstkyst:* Tasiusak, Angmagssalik, 30—40 m and 40—60 m, rocks, Algæ (K. STEPHENSEN 1931). Lindenows Fjord, 20—60 m (10 hauls), clay, sand, gravel, and 110 m, clay, E. BERTELSEN leg. 1935, a few specimens; Kekertarsiak, 75—90 m and 120 m, gravel, sand, dead Bryozoa, E. BERTELSEN leg. 1935, 2 specimens.

Distribution. A mainly sublittoral species, widely distributed from America and Greenland to Spitsbergen, Franz Joseph Land and the Skagerrak. For special localities see K. STEPHENSEN 1931, p. 257 (with chart), 1935—42, p. 234, and 1940, p. 41 (Iceland). Additional localities: New Foundland (N. FROST, New Foundland, Dept. Nat. Resources, Divis. Fish. Research, Reports: Faunist. Ser., no. 1, 1936, p. 5). Japan Sea, 45—47 m (GURJANOVA, Rep. Japan Sea Hydrobiol. Exped. of the Zool. Inst. Acad. Sci. U.S.S.R. in 1934, pt. 1, 1938, p. 309). Is an arctic-boreal species.

## Fam. **Calliopiidæ** G. O. SARS.

### Genus **Halirages** BOECK.

#### 92. *Halirages fulvocinctus* (M. SARS).

*Halirages fulvocinctus* G. O. SARS 1895, p. 436, pl. 154.
— — STEBBING 1906, p. 291.

East Greenlands records:

*Paramphithoë fulvocincta* BUCHHOLZ 1874, p. 367.
*Halirages fulvocinctus* H. J. HANSEN 1895, p. 128.
— — BROCH & KOEFOED 1909, p. 144.
— — K. STEPHENSEN 1912, p. 538.
— — — 1913, p. 178 (no new records).
— — — 1931, p. 264.
— — — 1933a, p. 7.
— — SCHELLENBERG 1935, p. 26.

Occurrence at East Greenland:

*Nordøstkyst:* 77°31′ N, 18°24′ W (BROCH & KOEFOED 1909). 76°35′ N, 18°26′ W, 150 m, stones with red Algæ; round Danmarks Havn, 0—20 m (9 hauls), Laminaria and Delesseria, soft bottom (K. STEPHENSEN 1912). Shannon; Kap Wynn, 6 m; Germania Havn; Sabine Ø, 8—200 m

(BUCHHOLZ 1874). Germania Havn, Sabine Ø, 10 m, mud with Algæ (SCHELLENBERG 1935). Sabine Ø, 6—10 m (K. STEPHENSEN 1931).

*Franz Joseph Fjord area:* Mackenzie Bugt, 15 m, mud with brown Algæ (SCHELLENBERG 1935). 73°07′ N, 16°24′ W (BUCHHOLZ 1874). Eskimonæs, Østhavn, 6—10 m (2 hauls), clayish sand with Algæ, 22-VII-1933, about 10 specimens, and Eskimonæs, Inderhavn, 12.5—10 m, sand with Algæ, 8-VIII-1932, 3 specimens.

*Scoresbysund area:* Danmarks Ø, Hekla Havn (H. J. HANSEN 1895). 70°10′ N, 22°21′ W, 25 m; Ryders Sund, 6 m (K. STEPHENSEN 1931). Kap Tobin, 17—31 m, Laminaria, Desmarestia, 14-VIII-1933, about 10 specimens; Kap Hope, 6—13 m (5 hauls), stones, sand, Algæ, 27-VI—8-VII-1933, a few specimens; Hurry Fjord, 15 m, 21 m, 30 m (2 hauls), 35—38 m, 55 m, and 57 m, sand, Algæ, clay, 30-VI—20-VII-1933, several specimens.

*Kangerdlugssuaq area:* Solos Fjord (67°14′ N), rocky bottom with very few Algæ (K. STEPHENSEN 1931). Kangerdlugssuaq, 10—20 m and 30 m (K. STEPHENSEN 1933a).

*Sydøstkyst:* Round Angmagssalik, 6 hauls, depths: 10—30 m, 12—20 m, 10—38 m, 20—30 m, 40—60 m, and one haul with depth not noted, stony bottom with Algæ (K. STEPHENSEN 1931). Ikatek, Sermilik Fjord, 44 m, Laminaria, E. BERTELSEN leg. 27-VII-1933, about 10 specimens; fjord behind Kungmiut, 7—10 m, mud, E. BERTELSEN leg. 28-VII-1933, 3 specimens; Tasiusak, 25—30 m, rocks, E. BERTELSEN leg. 11-VIII-1933, 1 specimen; Kutdlek, 36 m, mud and sand, E. BERTELSEN leg. 25-VI-1935, 2 specimens. Lindenows Fjord, 10—75 m, 8 hauls (viz., 10—25 m, 15—25 m, 20—30 m, 25—30 m, 25—35 m, 35 m, 36 m, and 50—75 m), gravel, sand, Laminaria, a few specimens; all the specimens from Lindenows Fjord (except one haul) were taken by E. BERTELSEN 21—28-VII-1935.

Numbers of hauls (hauls with depths not noted are omitted)

| Depths in meters | Nordøstkyst to Scoresbysund area | Kangerdlugss. area | Sydøstkyst | Total no. of hauls |
|---|---|---|---|---|
| 0— 25 ..... | 26 | 1 | 8 | 35 |
| > 25— 50 ..... | 3 | 1 | 9 | 13 |
| > 50—150 ..... | 4 | — | 1 | 5 |
| | 33 | 2 | 18 | 53 |

According to the above it is widely distributed along the East Greenland coasts from 78° N to 60° N, but only rather few specimens

are taken per haul. Usually it lives at rather small depths, 0—25 m, among Algæ; very few specimens (4 hauls) are from greater depths than 50 m.

The East Greenland specimens can attain lengths of up to 23 mm, but the majority are smaller.

Distribution. Widely distributed in the northernmost boreal and arctic seas, probably circumpolar. In the Atlantic the southernmost occurrences are in the New England States (U.S.A.), southern Greenland, Iceland (but not the Faroes or Great Britain), and the Skagerrak. For special localities see K. Stephensen 1931, p. 262 (with chart), 1935—42, p. 238, and 1940, p. 42 (Iceland). Additional localities: Laptew (Nordenskiöld) Sea, 74°—76° N, 117°—128° E, 25—40 m (Gurjanova, Zoogeographica, vol. 2, 1935, p. 559). Is an arctic-boreal species.

### 93. *Halirages mixtus* K. Stephensen.

*Halirages mixtus* K. Stephensen 1931, p. 266, figs.

East Greenland record:

*Halirages mixtus* K. Stephensen 1931, p. 266.

Occurrence at East Greenland:

*Sydøstkyst:* Ingolfs Fjord (66°15′ N), depth?, rocky bottom with Algæ (type-locality; K. Stephensen l. c.). Not found out of this locality.

### 94. *Halirages quadridentatus* G. O. Sars.

*Halirages quadridentatus* G. O. Sars 1885, p. 176, pl. 14 fig. 4 bis.
— — (in parte ?) Stebbing 1906, p. 292.
— — K. Stephensen 1931, p. 269, figs., chart.

East Greenland record:

*Halirages quadridentatus* Schellenberg 1935, p. 26.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Tyrolerfjord, near Young Sund, 320 m, clay with sand, ÷ 1.73°, salinity 33.54 ‰ (Schellenberg 1935).

Distribution. Found only in the deep basin in Baffin Bay and in the deep Polar Basin with adjacent arctic waters, depths (230)640—1435 m. For special localities see K. Stephensen 1931, p. 268, with chart (p. 265), and 1935—42, p. 240. Additional localities: Kara Sea, several localities, and 81°28′ N, 96°54′ E, 230 m (Gurjanova, Zoogeographica, vol. 2, 1935, p. 559). 71°26′ N, 57°34′ E, 280 m (Gurjanova, Explor. mers U.R.S.S., vol. 21, 1935, p. 76). Is a high-arctic species.

95. *Halirages megalops* (BUCHHOLZ).

*Paramphithoë megalops* BUCHHOLZ 1874, p. 369, pl. 12.
*Halirages* — STEBBING 1906, p. 293.
*Apherusa* — SHOEMAKER 1930, p. 293, figs.
*Halirages* — K. STEPHENSEN 1931, p. 272, figs.

East Greenland records:

*Paramphithoë megalops* BUCHHOLZ 1874, p. 369.
*Amphithopsis* — H. J. HANSEN 1895, p. 129.
— — K. STEPHENSEN 1913, p. 176.
*Halirages* — — 1931, p. 272.

Occurrence at East Greenland:

*Nordøstkyst:* Shannon; Germania Havn; Sabine Ø, 20 m (type-localities; BUCHHOLZ 1874).

*Franz Joseph Fjord area:* Eskimonæs, Inderhavnen, 2.5—10 m, sand and Algæ, H. MADSEN leg. 8-VIII-1932, a few specimens; Solitærbugt, Ella Ø, 17 m, clay with a few Algæ, and 20 m, 11(12)-IX-1931, 2 specimens.

*Scoresbysund area:* Hekla Havn, 10 m, mud and stones (H. J. HANSEN 1895). Turner Sund, 6 m (K. STEPHENSEN 1931). Hurry Fjord, near the mouth, 25 m, 12-VII-1933, 1 specimen.

*Sydøstkyst:* Tasiusak, 30 m (H. J. HANSEN 1895). Kap Dan Øerne, 12—20 m, rocky bottom almost without Algæ, and Kap Dan, 20—30 m, rocky bottom with many Algæ; Tiningniketok 65°51′ N, 2 m (K. STEPHENSEN 1931). Ikerasausak, 10—0 m, Fucus, Laminaria, E. BERTELSEN leg. 29-VII-1933, 1 specimen; Kap Tordenskjold, 8 m, clay, decaying Algæ, E. BERTELSEN leg. 1-VII-1935, 1 specimen. Lindenows Fjord, 4—25 m (7 hauls) and 28 m (1 haul), sand, rocks etc., Algæ, 1933 and 1935, numerous specimens.

According to the above it is found from about 75° N to 60° N, at depths of 0—25 m (only two hauls are deeper, viz. 28—30 m) on different bottom, frequently with Algæ.

Distribution. Gulf of St. Lawrence, 3 localities, 40—60 m (SHOEMAKER 1930, p. 293). West Greenland, 77°—60° N, numerous occurrences (K. STEPHENSEN 1912, p. 176; 1916, p. 290; 1931, p. 273; 1933b, p. 32). Arctic Canada 70° N, 115° W, 4—10 m (SHOEMAKER 1920, p. 13). A low-arctic species.

## Genus **Apherusa** WALKER.

96. *Apherusa sarsi* SHOEMAKER.

*Apherusa megalops* G. O. SARS 1895, p. 443, pl. 156 fig. 2.
— — STEBBING 1906, p. 306.
— *sarsi* SHOEMAKER 1930, p. 293.

East Greenland records:

*Apherusa megalops* H. J. Hansen 1895, p. 129.
— — K. Stephensen 1912, p. 537.
— — — 1913, p. 174 (no new records).
— *sarsi* — 1931, p. 275 (no new records).
— — — 1933a, p. 8.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 10—20 m (K. Stephensen 1912).

*Kangerdlugssuaq area:* Ravns Fjord, 10 m (K. Stephensen 1933a).

*Sydøstkyst:* Tasiusak near Angmagssalik, 45—50 m, red Algæ, Laminaria, E. Bertelsen leg. 8-VIII-1933, 1 specimen.

Besides East Greenland without special locality (H. J. Hansen1895).

Distribution. Not known from West Greenland. North Iceland, 83 m; ?West Spitsbergen 15 m; northern Norway 30—120 m; Murman Coast; Siberia 76° N, 93° E, 9—16 m. For special localities see K. Stephensen 1931, p. 275, and 1935—42, p. 247. Additional locality: Cross Bay, NW. Spitsbergen, 320 m (St. 2498; Chevreux 1935, p. 100). Is probably a pan-arctic species.

### 97. *Apherusa glacialis* (H. J. Hansen).

*Apherusa glacialis* Stebbing 1906, p. 277.
— — K. Stephensen 1931, p. 277, figs., chart.

East Greenland records:

*Amphithopsis glacialis* H. J. Hansen 1895, p. 129.
*Apherusa* — Broch & Koefoed 1909, pp. 107, 110, 119, 121, 131, 137, 146, 158.
— — K. Stephensen 1912, p. 537.
— — — 1913, p. 176 (no new records).
— — — 1931, p. 277.
— — — 1933a, p. 8.
— — Schellenberg 1935, p. 26.

Occurrence at East Greenland:

*Nordøstkyst:* 78°13½′ N, 14°18′ W, 100 m; 78°06′ N, 15°06′ W, Nansen-net 290—44 m; 77°29′ N, 18°31′ W, surface, and Nansen-net 200—70 m and 250—200 m; between 76°49′ N, 18°13′ W, and 76°58′ N, 18°00′ W, pelagical; 76°37′ N, 18°22′ W, Nansen-net 5—0 m and 300—5 m; 75°58′ N, 14°08′ W, 800 m wire out; 75°48′ N, 13°04′ W, 800 m wire out (Broch & Koefoed 1909). 75°47′ N, 12°27′ W, surface; 76°3′ N, 14°44′ W, from stomach of a young *Phoca foetida*; near Danmarks Havn, 3 hauls, surface to 15 m (K. Stephensen 1912). 74°36′ N, 12°0′ W, along the ice-foot (H. J. Hansen 1895).

*Franz Joseph Fjord area:* 73°53′ N, 14°32′ W, among drifting ice (Schellenberg 1935). 71°22½′ N, 18°58′ W, Nansen-net 1000—800 m

(BROCH & KOEFOED 1909). Tyrolerfjord, 1 m, B. LÖPPENTHIN leg. 18-VII-1930, 1 specimen; Eskimonæs, 12.5—10 m, sand and Algæ, H. MADSEN leg. 8-VIII-1932, 1 specimen, and 55 m, clayish gravel, Laminaria, 12-IX-1932, 1 specimen; Moskusokse Fjord, 200 m wire out, 3-VIII-1932, 1 specimen; near Bontekoe Ø, 0—1 m, several specimens; ibid., Hensen-net 100—0 m, 21-VIII-1932, 1 specimen, and stramin-net, 400 m wire out, 3 specimens; Gael Hamkes Bugt, 1 m, H. MADSEN leg. 10-VII-1932, 1 specimen.

*Scoresbysund area:* Hekla Havn (H. J. HANSEN 1895).

*Kangerdlugssuaq area:* d'Aunay Bugt, surface (K. STEPHENSEN 1933a).

*Sydøstkyst:* Smalsund near Angmagssalik, Laminaria (K. STEPHENSEN 1931).

Distribution. An arctic, circumpolar, pelagic species; mainly near the surface, but also deeper. For special localities see K. STEPHENSEN 1931, p. 277, with chart, and 1935—42, p. 248.

## Genus **Cleippides** BOECK.

### 98. *Cleippides tricuspis* (KRØYER).

*Acanthonotus tricuspis* KRØYER, Naturh., Tidsskr. ser. 2, vol. 2, 1846, p. 115.
— — — in: Voyage Nord (Gaimard), Crust., 1846, pl. 18 fig. 1.
*Cleippides* — STEBBING 1906, p. 301.

East Greenland record:

*Cleippides tricuspis* BERTELSEN 1937, p. 38.

Occurrence at East Greenland:

*Scoresbysund area:* Liverpool Kysten, near Rathbone Ø, 170 m, 13-VIII-1933, 1 specimen.

*Sydøstkyst:* Angmagssalik, Ikatoq at the mouth of Sermilik Fjord, 125 m, stones and Agarum (BERTELSEN 1937). Lindenows Fjord, 400—600 m, clay, E. BERTELSEN leg. 28-VII-1935, 1 specimen.

Distribution. West Greenland: Godthaab?, depth? (type-locality) and Sukkertoppen, 115—135 m (H. J. HANSEN 1887, p. 139). Not found out of Greenland. Is probably a sublittoral-boreal atlantic species.

### 99. *Cleippides quadricuspis* HELLER.

*Cleippides quadricuspis* G. O. SARS 1885, p. 174, pl. 14 fig. 5.
— — STEBBING 1906, p. 301.

East Greenland records:

*Cleippides quadricuspis* GRIEG 1909, p. 50 (550) (= BROCH & KOEFOED 1909, p. 144).

*Cleippides quadricuspis* K. Stephensen 1912, p. 539.
— — — 1913, p. 181 (no new records).
— — — 1931, p. 287.
— — Schellenberg 1935, p. 26.

Occurrence at East Greenland:

*Nordøstkyst:* 77°31′ N, 18°24′ W, 275 m (Grieg 1909). Stormbugt, 100 m, stones with corals (K. Stephensen 1912).

*Franz Joseph Fjord area:* Mackenzie Bugt, 83—63 m, mud; East of Bontekoe Ø, 168 m, clay with stones, ÷ 1.40°, salinity 34.14 ‰; West of Kap Franklin, 170 m, blue clay with stones, ÷ 1.16°, salinity 34.18 ‰; Franz Joseph Fjord, off Kap Petersen (near Eleonore Ø), 462—400 m, clay with stones, ÷ 0.03°, salinity 34.59 ‰; Dusénfjord, 25 miles from the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (Schellenberg 1935). Forsblads Fjord, 100 m and 185—100 m, stones with clay and gravel (K. Stephensen 1931). Nathorst Fjord, near the mouth, 137 m, brownred clay, ÷ 1.76°, salinity 33.71 ‰ (Schellenberg 1935). Dusénfjord, western end of the broad portion, 240 m, clay, 11-VIII-1932, 1 small specimen; between Kap Weber and Ymer Ø, 400 m, clay with very large stones, 13-VIII-1932, 2 specimens; between Maria Ø and Ella Ø, 250 m, clay with gravel and large stones, 25-VIII-1932, 3 medium-sized specimens.

*Scoresbysund area:* Hurry Fjord, the mouth, 100 m (K. Stephensen 1931). Off Kap Hooker, Jameson Land, 150 m, 27-VII-1933, 2 specimens.

Remarks. The following measurements are taken from Schellenberg 1935 and from East Greenland material from Danish expeditions. ♂ are 43—55 m; ♀ with small marsupium, 37—50 mm, were taken 4-VIII, 9-VIII and 20-VIII; ovigerous ♀ are 58—68 mm and were found from 27-VII to 28-VIII; ♀ with empty marsupium are 65—67 m and were taken 11-VIII and 30-VIII.

Distribution. A species characteristic of the deep Polar Basin with adjacent arctic waters to the East; also found in the deep basin in Baffin Bay; depths usually 700—1900 m. For special localities see K. Stephensen 1931, p. 286 (with chart), 1933b, p. 33 (with chart), and 1935—42, p. 244. Additional localities: 69°17½′ N, 14°24¼′ E, 1185 m (Chevreux 1935, p. 99). Laptew (Nordenskiöld) Sea 77°30′ N, 103°00′ E, 200 m, and 79°16′ N, 103°20′ E, 110 m (Gurjanova, Zoogeographica, vol. 2, 1935, p. 559).

## Genus **Haliragoides** G. O. Sars.

### 100. *Haliragoides inermis* G. O. Sars.

*Haliragoides inermis* G. O. Sars 1895, p. 433, pl. 153.
— — Stebbing 1906, p. 303.

East Greenland record:

*Haliragoides inermis* SCHELLENBERG 1935, p. 26.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Granta Fjord (West of Clavering Ø), 82 m, grey clay, ÷ 1.56°, salinity 32.89 ‰ (SCHELLENBERG 1935). Eskimonæs, inner harbour, 10 m from the shore, 12.5—10 m, sand with gravel and brown Algæ, H. MADSEN leg. 8-VIII-1932, 3 small specimens, very defective, but the determination probably certain.

Distribution. Gulf of St. Lawrence, off Cheticamp Island, 30—93 m (SHOEMAKER 1930, p. 299). Off Labrador 55°00′ N, 56°34′ W, 314 m (K. STEPHENSEN 1933b, p. 34). North of the Faroes 887 m (K. STEPHENSEN 1931, p. 290). Northern Norway, from Trondheimfjord, 200—600 m (K. STEPHENSEN 1935—42, p. 245). Barents Sea about 70° N, 60½° E, 205 m, clay (BRÜGGEN 1909, p. 28). Is probably a pan-arctic species.

## Fam. **Pleustidæ** STEBBING.

### Genus **Pleustes** SPENCE BATE.

#### 101. *Pleustes panoplus* KRØYER.

*Pleustes panoplus* G. O. SARS 1895, p. 344, pl. 121.
— — STEBBING 1906, p. 310.

East Greenland records:

*Pleustes panoplus* BUCHHOLZ 1874, p. 336, pl. 6.
— — K. STEPHENSEN 1912, p. 534.
— — — 1913, p. 159 (no new records).

Occurrence at East Greenland:

*Nordøstkyst:* Round Danmarks Havn, 0—40 m (0—25 m 9 hauls, > 25 m 1 haul), varying bottom (K. STEPHENSEN 1912). Sabine Ø, 40—210 m (BUCHHOLZ 1874).

*Scoresbysund area:* Hurry Fjord, near the mouth, 14—15 m, 25 m, and 38 m, stones, sand, Laminaria etc., 5 specimens, G. THORSON leg. 4—20-VII-1933.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 20—25 m, red Algæ, 1 specimen, E. BERTELSEN leg. 28-VIII-1933.

*Sydøstkyst:* Kungmiut, 10—15 m, clay, Fucus, 5 small specimens, E. BERTELSEN leg. 28-VII-1933; Kap Dan Øerne, Angmagssalik, 12—20 m, rocks nearly without vegetation, Amdrup-Exped. leg. 14-VI-1899, 5 specimens; Angmagssalik, sublittoral, KRUUSE leg. 19-VI and 7-VIII-1902, 3 specimens; Tasiusak, 10—35 m, 40—60 m, and 50—60 m, rocks with Algæ, Amdrup-Exped. leg. 14-V—1-VI-1899, 5 specimens; Ikatek, Sermilikfjord, 44 m, Laminaria, E. BERTELSEN leg. 27-VII-1933, 5 small

specimens; Lindenow Fjord, 20—30 m (2 hauls), and 40—50 m, Laminaria, gravel, 8 specimens, E. BERTELSEN leg. 24—28-VII-1935; Kekertarsiak, 60—70 m, sand, gravel, dead Bryozoa, 2 occurrences, E. BERTELSEN leg. 13-VII-1935.

According to the above it is distributed along the East Greenland coasts 77°—60° N, mainly in rather shallow water (0—25 m 18 hauls), more rarely deeper (> 25—50 m 5 hauls; > 50—210 m 4 hauls).

The East Greenland specimens are up to 23 mm in length.

Distribution. Widely distributed from Gulf of St. Lawrence and Arctic America to Norway (not more southerly than Bergen) and New Siberian Islands; also Japan. Probably circumpolar. For special localities see K. STEPHENSEN 1935—42, p. 253 and 1940, p. 43 (Iceland). Is an arctic-boreal species.

### Genus **Parapleustes** BUCHHOLZ = **Neopleustes** STEBBING.

### 102. *Parapleustes bicuspis* (KRØYER).

*Paramphithoë bicuspis* G. O. SARS 1895, p. 349, pl. 123 fig. 1.
*Neopleustes* — STEBBING 1906, p. 313.

Occurrence at East Greenland:

*Sydøstkyst:* Ingolfs Fjord 66°15′ N, rocks with Algæ, 5-VIII-1899, 2 specimens; Kap Dan Øerne, 12—20 m, and Kap Dan, 20—30 m, rocks nearly without Algæ, a few specimens, 11-VI and 14-VI-1899; Smalsund, rocks with Laminaria, near the water line, 2 specimens, 17-IX-1898; Tasiusak, 6—10 m, rocks with Algæ, 1 specimen, 23-X-1898, and 10—35 m, stony bottom with Algæ, 1 specimen, 14—19-VI-1899.

All these specimens were taken in the Angmagssalik area by the Amdrup-Expedition 1898—99. The specimens listed below were taken by E. BERTELSEN VI and VII-1935.

Kutdlek, 5—8 m (2 hauls), 9 m, and 13 m, 5 specimens. Lindenow Fjord, 6—73 m (21 hauls), viz., 6 m, 8 m, 10 m, 12 m, 17 m, 20 m, 20—30 m (3 hauls), 20—35 m (3 hauls), 28 m, 30 m, 30—36 m, 32 m, 33 m, 35 m (2 hauls), 44 m, and 73 m, bottom varying, but usually with Laminaria, a few specimens per haul.

It is new to East Greenland.

Distribution. From Arctic America, West Greenland and Labrador to Franz Joseph Land and NW. France; for special localities see K. STEPHENSEN 1935—42, p. 256, and 1940, p. 44 (Iceland). Is a boreal-arctolittoral (pan-boreal) species.

### 103. *Parapleustes monocuspis* (G. O. SARS).

*Paramphithoë monocuspis* G. O. SARS 1895, p. 351, pl. 123 fig. 2.
*Neopleustes* — STEBBING 1906, p. 313.

Occurrence at East Greenland:

*Sydøstkyst:* Tasiusarsik, 5—6 m; Kutdlek, 2—4 m and 5—8 m; Lindenow Fjord, 20—30 m, 25—35 m, and 28 m; Kekertarsiak, 15 m. In all the hauls the bottom was Laminaria, sometimes with rocks or gravel. All the specimens (a few per haul) were taken by E. BERTELSEN 1935.

The species is new to East Greenland.

Distribution. From Greenland (but not America) to Franz Joseph Land and the Skagerrak; for special localities see K. STEPHENSEN 1935—42, p. 257, and 1940, p. 44. Additional locality: 55°12′ N, 1°25′ W (NE. of Newcastle), 45 m (specimen in Zoological Museum, Copenhagen). Is a boreal-arctolittoral (pan-boreal) species.

### 104. *Parapleustes gracilis* BUCHHOLZ.

*Parapleustes glacilis*, *P. gracilis* BUCHHOLZ 1874, p. 337, pl. 7 fig. 1.
*Paramphithoë brevicornis* G. O. SARS 1895, p. 355, pl. 124 fig. 2.
*Neopleustes* — STEBBING 1906, p. 313.
*Parapleustes gracilis* — 1906, p. 320.
— — (BUCHH.) = *P. brevicornis* (G. O. SARS), fide H. J. HANSEN 1887, p. 124, and SEXTON, Proc. Zool. Soc. London, 1909, p. 851, figs.

East Greenland record:

*Parapleustes glacilis* BUCHHOLZ 1874, p. 342.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, 20 m (type-locality of *P. gracilis*; BUCHHOLZ l. c.). Sabine Ø, anchoring-place, SØREN JENSEN leg. 13-VII-1900, 2 ovigerous ♀, determination not certain.

*Scoresbysund area:* Danmarks Ø, 10 m, mud with Fucus and Desmarestia, E. BAY leg. 11-IV-1892, 1 specimen.

*Kangerdlugssuaq area:* Solos Fjord 67°14′ N, at the beach, rocks with Algæ, Amdrup-Exped. leg. 24-VII-1899, 1 ovigerous ♀.

*Sydøstkyst:* Tasiusak, 6—10 m, stony bottom with Algæ, Amdrup-Exped. 22-X-1898, 1 specimen; Kap Dan, Angmagssalik, 20—30 m, rocks with Laminaria, Amdrup-Exped. 11-VI-1899, 1 specimen; Kungmiut near Angmagssalik, 15 m, clay, Fucus, E. BERTELSEN leg. 28-VII-1933, 1 ovigerous ♀, very defective, determination not certain. Kap Tordenskjold, 8 m, clay, decaying Algæ, E. BERTELSEN leg. 1-VII-1935, 1 specimen.

Remarks. The specimen from Danmarks Ø, 10 m (11-IV-1892) was dissected; the mandibles agree well with the fig. in G. O. SARS 1895. The three specimens from the Amdrup-Exped. were determined by H. J. HANSEN, but hitherto not published.

Distribution. East Greenland, Northern Norway, NW. Spitsbergen, and possibly Northern Iceland; for special localities see K. Stephensen 1935—42, p. 257, and 1940, p. 45. Is probably a low-arctic species.

### 105. *Parapleustes assimilis* (G. O. Sars).

*Paramphithoë assimilis* G. O. Sars 1895, p. 352, pl. 124 fig. 1.
*Neopleustes* — Stebbing 1906, p. 314.

Occurrence at East Greenland:

*Scoresbysund area:* Kap Hope, 9—12 m, sand, Algæ, 21-VI-1933, 1 specimen.

*Sydøstkyst:* Ingolfs Fjord 65°15′ N, rocky bottom with Algæ, Amdrup-Exped. leg. 5-VIII-1899, a few specimens; Naparsarsuak, 25 m, Laminaria, 1 specimen; Kutdlek, 2—4 m, 5—8 m, 13 m, and 35 m, rocks, Laminaria, etc., a few specimens; Kap Tordenskjold, 3 m and 11 m, rocks, Laminaria, 3 specimens; Lindenows Fjord, 10—15 m, Laminaria and gravel, 2 specimens, and 100—150 m, Bryozoa, sand, 1 specimen; Kekertarsiak, 15 m, rocks, Laminaria, 3 specimens, and 75—60 m, gravel, sand, 1 specimen. All the specimens from this area except those from Ingolfs Fjord were taken by E. Bertelsen from 25-VI to 28-VII-1935. It is new to East Greenland.

Remarks. The tooth on the underside of first joint of antenna 1 is too long, not much shorter than in *Sympleustes glaber* (G. O. Sars 1895, pl. 126 fig. 1C); but the epimeral plate 3 agrees with Sars's fig. (G. O. Sars 1895, pl. 124 fig. 1C), and the mandibles have the molar expansion imperfectly developed as in the present genus (for instance G. O. Sars 1895, pls. 122—124 fig. M).

Distribution. From West Greenland and Hudson Bay to White Sea, Helgoland and Liverpool, littoral-sublittoral. For special localities see K. Stephensen 1935—42, p. 258, and 1940, p. 45 (Iceland). Is an arctic-boreal species.

## Genus **Sympleustes** Stebbing.

### 106. *Sympleustes glaber* (Boeck).

*Parapleustes glaber* G. O. Sars 1895, p. 358, pl. 126 fig. 1.
*Sympleustes* — Stebbing 1906, p. 318.

East Greenland record:

*Parapleustes glaber* H. J. Hansen 1895, p. 128.

Occurrence at East Greenland:

*Scoresbysund area:* Danmarks Ø, mud, 6—10 m (H. J. Hansen 1895).

*Sydøstkyst:* Tasiusak, KRUUSE leg. 1902, 3 very small specimens, determination not certain. Kap Tordenskjold, 3 m, rocks, Laminaria, E. BERTELSEN leg. 1-VII-1935, 1 specimen, and Lindenows Fjord, 10—15 m, Laminaria, gravel, E. BERTELSEN leg. 28-VII-1935, 1 specimen.

Distribution. From West Greenland about 70° N to Eastport, Maine, U.S.A., and from Franz Joseph Land to Bay of Biscay, 2—150 m, but mainly in rather shallow water among Algæ. Also Bering or Okhotsk Sea and Pribylof Islands, Alaska. For special localities see K. STEPHENSEN 1935—42, p. 262, and 1940, p. 46 (Iceland). Is a boreal-arctolittoral (panboreal) species.

107. *Sympleustes pulchellus* (G. O. SARS).

*Parapleustes pulchellus* G. O. SARS 1895, p. 359, pl. 126 fig. 2.
*Sympleustes* — STEBBING 1906, p. 319.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 72°26′ N, 19°35′ W, 200 m, DEICHMAN leg. 28-VII-1891, 1 small and very defective specimen, determination uncertain.

*Scoresbysund area:* Hurry Fjord, 14—0 m and 100 m, SØREN JENSEN leg. VIII-1900, 2 specimens; Kap Hooker, 140 m, clayish sand, 3-VII-1933, 1 specimen.

*Sydøstkyst:* Tasiusak, 6—10 m, stony bottom with some Algæ, Amdrup-Exped. leg. 22-X-1900, a few specimens.

Distribution. From West Greenland 71° N to Spitsbergen, Kara Strait and the deep Polar Basin 63° N, depths 0—> 1100 m. For special localities see K. STEPHENSEN 1935—42, p. 263, and 1940, p. 46 (Iceland). Additional localities: Jan Mayen 100—120 m, SØREN JENSEN leg. 25-VI-1900, and 70°50′ N, 8°29′ W, 162 m, 0.1° (specimens in Zoological Museum, Copenhagen). Probably a pan-arctic species.

## Fam. **Paramphithoidæ** STEBBING
(= *Epimeridæ* G. O. SARS).

### Genus **Epimeria** COSTA.

108. *Epimeria loricata* G. O. SARS.

*Epimeria loricata* G. O. SARS 1895, p. 368, pl. 129 fig. 3.
— — STEBBING 1906, p. 322.

East Greenland records:

*Epimeria loricata* GRIEG 1909, p. 48 (548).
— — SCHELLENBERG 1935, p. 26.

Occurrence at East Greenland:

*Nordøstkyst:* 77°31′ N, 18°21′ W, 275 m; between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (GRIEG 1909).

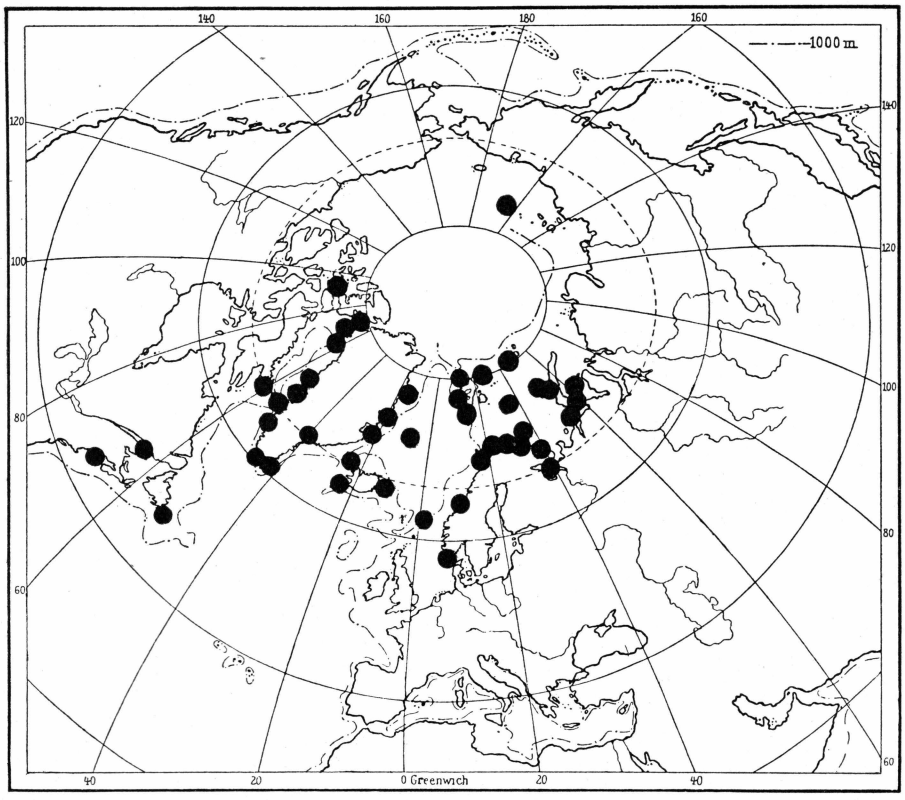


Fig. 3. Distribution of *Paramphithoë hystrix*.

*Franz Joseph Fjord area:* Between Kap Bennett and Bontekoe Ø, 290 m, clay (SCHELLENBERG 1935). Borlase Warren (74°17′ N), 200 m, SØREN JENSEN leg. 10-VII-1900, 1 specimen; between Kap Weber and Ymer Ø, 400 m, clay with large stones, 13-VIII-1932, 1 specimen.

*Scoresbysund area:* Off the mouth of Rosenvinges Bugt, 300 m, stones, 29-VIII 1932, 2 specimens including 1 ovigerous ♀ 31 mm; off Kap Hooker, Jameson Land, 150 m, 27 VII 1933, 8 specimens including ovigerous ♀ 33 mm.

Distribution. From West Greenland and Atlantic 43° N, 51° W (1100 m) to Spitsbergen, Murman Coast, Barents Sea, and Norwegian Depression 58° N, 100—1100 m. For special localities see K. STEPHENSEN 1935—42, p. 265, and 1940, p. 46 (Iceland). Is a panarctic species.

## Genus **Paramphithoë** BRUZELIUS.

### 109. *Paramphithoë hystrix* (J. C. Ross) (Fig. 3).

*Acanthozone cuspidata* G. O. SARS 1895, p. 370, pl. 130.
— — STEBBING 1906, p. 326.
*Paramphithoë hystrix* — 1906, p. 325.

East Greenland records:

*Acanthozone cuspidata* K. STEPHENSEN 1912, p. 535.
*Paramphithoë hystrix* SCHELLENBERG 1935, p. 26.

Occurrence at East Greenland:

*Nordøstkyst:* "Øresund" 40—60 m, Hydroida, hard bottom, 1 ♀ with marsupium, 27 mm (2 IX) (K. STEPHENSEN 1912).

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay with sand and brown Algæ; Vega Sund, 30 m, 120 m, and 250—150 m, clay, 5 specimens including 2 ♀, 22 and 34 mm, with marsupium without marginal setæ (15—16 VIII) (SCHELLENBERG 1935).

*Scoresbysund area:* Kap Hooker, Jameson Land, 150 m, stones, clay, 1 specimen, 27 VII-1933.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 20—60 m, clay, Algæ, Bryozoa (3 hauls), 3 specimens, 1933.

*Sydøstkyst:* Lindenows Fjord, 30—50 m (2 hauls) and 100—150 m (1 haul), gravel, clay, etc., 3 specimens, 1935.

Distribution (chart fig. 3). Widely distributed in the arctic and boreo-arctic areas, probably circumpolar, depths 10—800 m. For special localities see OLDEVIG 1917, p. 30, K. STEPHENSEN 1935—42, p. 267, and 1940, p. 47 (Iceland). Is probably an arctic-boreal species.

### 110. *Paramphithoë buchholzi* (STEBBING).

*Acanthozone hystrix* BUCHHOLZ (non Ross) 1874, p. 362, pl. 11.
*Paramphithoë buchholzi* STEBBING 1906, p. 324.

East Greenland records:

*Acanthozone hystrix* BUCHHOLZ 1874, p. 365.
*Paramphithoë buchholzi* SCHELLENBERG 1935, p. 26.

Occurrence at East Greenland:

*Nordøstkyst:* North Shannon, 60 m (BUCHHOLZ 1874; type-locality).

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay with sand and brown Algæ, and 83—53 m, clay with stones (SCHELLENBERG 1935).

Distribution. Japan (DERJAVIN, Hydrobiol. Zeits., Saratow, vol. 8, 1930, p. 327). ? Japan Sea, 93—175 m (GURJANOVA, Rep. Japan Sea Hydrobiol. Exped. of Zool. Inst. Acad. Sci. U.S.S.R. in 1934, pt. 1, 1938, pp. 323, 397). Zoogeographical position not certain.

## Fam. **Amathillopsidæ** PIRLOT.

*Amathillopsidæ* PIRLOT, Siboga Exped., vol. 33 d, Amphip., vol. 2, pt. 2, 1934, p. 201, and pt. 3, 1936, p. 238.

## Genus **Amathillopsis** HELLER.

### 111. *Amathillopsis spinigera* HELLER.

*Amathillopsis spinigera* G. O. SARS 1885, p. 181, pl. 15 fig. 2.
— — STEBBING 1906, p. 384.

East Greenland records:

*Amathillopsis spinigera* Grieg 1909, p. 47 (547).
— — Schellenberg 1935, p. 28.

Occurrence at East Greenland:

*Nordøstkyst:* 77°31′ N, 18°24′ W, 275 m (Grieg 1909).

*Franz Joseph Fjord area:* Clavering Fjord off Kap Stosch, 400—338 m, clay, and 410—370 m, clay, + 1.19°, salinity 34.60 ‰; Franz Joseph Fjord, off Isfjord, 780—700 m, with stones, 0.05°, salinity 34.60 ‰; Vega Sund, 25 km. East of Kong Oscars Fjord, 250 m, brown-red clay (Schellenberg 1935). Between Kap Weber and Ymer Ø, 400 m, clay and large stones, 13-VIII-1932, 2 specimens; Franz Joseph Fjord SW. of Kap Franklin, 328 m, clay, etc., 13-VIII-1932, 1 specimen; inside the western mouth of Antarctic Sund, 230 m, large stones, clay, 14-VIII-1932, 2 specimens.

Distribution. The deep Polar Basin with adjacent seas, from East Greenland to Franz Joseph Land (type-locality) and Kara Sea, depths 66 m (Kara Sea) to 1200 m (Polar Basin), usually at negative temperatures. For special localities see K. Stephensen 1935—42, p. 299, and 1940, p. 49 (Iceland), with chart p. 79. A bathy-arctic species.

## Fam. **Atylidæ** G. O. Sars.

### Genus **Atylus** Leach.

#### 112. *Atylus carinatus* (J. C. Fabricius) (Fig. 4).

*Atylus carinatus* G. O. Sars 1895, p. 471, pl. 166 fig. 1.
— — Stebbing 1906, p. 328.

East Greenland records:

*Atylus carinatus* Buchholz 1874, p. 357, pl. 10.
— — H. J. Hansen 1895, p. 129.
— — K. Stephensen 1912, p. 540.
— — — 1913, p. 171 (no new records).
— — — 1933a, p. 8.
— — Schellenberg 1935, p. 27.
— — Madsen 1936, p. 11 (no special localities).
— — Bertelsen 1937, pp. 15, 18, 21 (no localities).

Occurrence at East Greenland (Fig. 4):

*Nordøstkyst:* 10 hauls in or near Danmarks Havn, 0—12 m, Laminaria etc. (K. Stephensen 1912). Germania Havn, 6 m; Sabine Ø, 20—210 m (Buchholz 1874). Landingsdalen off Wollaston Forland, 26—20 m, small stones with Algæ (Schellenberg 1935). Sabine Ø, anchoring-place, Laminariæ, Søren Jensen leg. 12-VII-1900, about 15 specimens including ♀ with embryos (3.5 mm) 31 mm.

*Franz Joseph Fjord area:* 2 miles NE. of Herschelhus, 7 m, mud with Algæ, ÷ 0.73°, salinity 32.47 ‰; Herschelhus, 8 m, mud with

Algæ, especially Laminariæ, and 8—10 m, 4 hauls, sand with mud and Algæ; Kap Humboldt, the beach (SCHELLENBERG 1935). Borlase Warren $74^1/_3°$ N, anchoring-place, SØREN JENSEN leg. 14-VII-1900, numerous specimens including ♀♀ 35 mm with embryos 3.5 mm; Kap Stosch, Gael Hamkes Bugt, 15 m ("Godthaab" 4-VIII-1930), 4 specimens; Kong Oscars Fjord, Åkerbloms Ø, 20 m, stones, G. SEIDENFADEN leg. 28-VIII-1929, about 10 specimens; Dusénfjord, inner part, 1—10 m (3 hauls), clay with algæ, numerous specimens including ♀♀ with empty marsupium 22—25 mm, 9—11-VIII-1933; Carl Jacobsens Bugt, Ymer Ø, 3 m, clay, 1 specimen, 1-VIII-1931; Ella Ø, Solitærbugt, 3—16 m (4 hauls), Algæ, 2-VII—26-VIII-1932, several specimens.

*Scoresbysund area:* Scoresbysund, 10—50 m; Hekla Havn, 3 m, rocks with Fucus, and 6 m; 70°21′ N, 22°08′ W, Jameson Land (H. J. HANSEN 1895). Rosenvinges Bugt, 8—22 m, ALWIN PEDERSEN leg. 16-VII-1928, 1 specimen; Amdrups Havn, 3—5 m, ALWIN PEDERSEN leg., 1 specimen; Kap Hope, 3.5—13 m (8 hauls), sand, Algæ etc., 27-VI—2-VII-1933, numerous specimens; Hurry Fjord 70°50′ N, 0—14 m, SØREN JENSEN leg. 7-VIII-1900, 1 specimen; Hurry Fjord, near the mouth, 4 hauls (3.5—4.5 m, 12—13 m, 30—40 m, and 35—38 m), sand and Algæ, 4—12-VII-1933, 5 specimens; Hurry Fjord, off Konstabelpynten, 23 m, clay, 6-VII-1933, 1 specimen, and near Fame Øerne, 8—12 m, gravel and stones with Laminaria, 3 specimens; 8 miles inside Kap Hooker, 14 m, clayish sand, 15-VII-1933, 1 specimen; western side of Jameson Land, off Bjørne Øerne, 10 m, clay, and 30 m, clay, 25—26-VII-1933, about 25 specimens; Solvigen, Nordvestfjord, 2—3 m, Fucus etc., clay, 24-VII-1933, about 25 specimens; the bay off Røde Ø, 4—5 m, clay with Fucus, 22-VIII-1933, 1 specimen; Ryders Sund, 6 m, and Turner Sund 69°44′ N, 6 m, SØREN JENSEN leg. 25-VII-1900, several specimens.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 10 m, sand, and 10—20 m (K. STEPHENSEN 1933). Mikis Fjord, from stomach of *Somateria*, 19-VIII-1933; ibid. 3.5—4 m and 7—8 m, clay, E. BERTELSEN leg. 17-VIII-1933, about 20 specimens.

*Sydøstkyst:* Sermilik, in a bay with a river mouth in the interior of the fjord, about 2 m below the low water mark on sandy clay without vegetation, 325 specimens (BERTELSEN 1937, p. 18). Sermilik, second Østfjord, 5 m, 10 m, 12 m, and 25 m, clay or sand, numerous specimens, E. BERTELSEN leg. 24—25-VII-1933. Ødesund 66°10′ N, 10—30 m, stones with Algæ, Amdrup-Exped. leg. 6-VIII-1899, 1 specimen; Tasiusak near Angmagssalik, 10—35 m, stony bottom with Algæ, Amdrup-Exped. 14-V and 19-V-1900, and KRUUSE leg. 1902, 4 specimens; Naparsarsuak, 26—38 m (5 hauls), clay, sand, gravel, Algæ, E. BERTELSEN leg. 25—26-VI-1935, numerous specimens; Kutdlek, 26—36 m (5 hauls), clay,

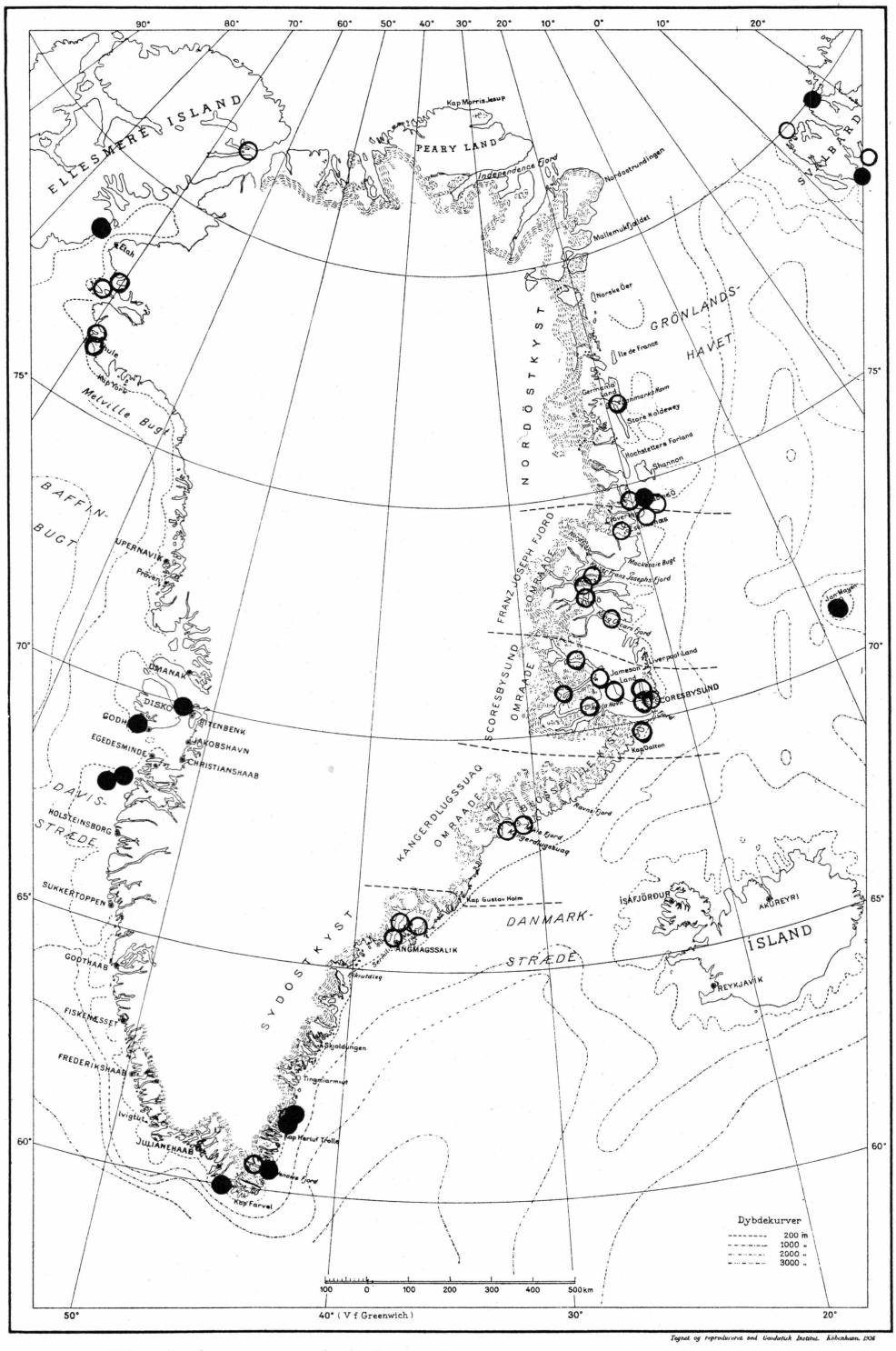


Fig. 4. Occurrence of *Atylus carinatus*. ○ = 0—25 m, ● = > 25.

mud, sand, Algæ, E. BERTELSEN leg. 25—26-VI-1935, numerous specimens; Kap Tordenskjold, 32—36 m (2 hauls), clay, Laminaria, sand, E. BERTELSEN leg. 26-VI-1935, 3 specimens; Lindenow Fjord, 12 m, 25—35 m, and 46 m (3 hauls), sand, Laminaria, 16—28-VII-1935, E. BERTELSEN leg., 3 specimens.

According to the above it is distributed along the East Greenland coasts from 77°—60° N, mainly at depths of 0—25 m, rarely > 25—50 m, and but one haul is deeper. The bottom is varying, but it seems to be most frequent among Laminaria and other Algæ.

Number of hauls (hauls with depth not noted are omitted)

| Depth in meters | Nordøst-kyst | Fr.Joseph Fj. area | Scoresbys. area | Kangerdl. area | Sydøst-kyst | Total number of hauls |
|---|---|---|---|---|---|---|
| 0—25 ..... | 13 | 12 | 22 | 4 | 8 | 59 |
| > 25—50 ..... | — | — | 4 | — | 15 | 19 |
| > 50 ..... | 1 | — | — | — | — | 1 |
| | 14 | 12 | 26 | 4 | 23 | 79 |

Remarks on length etc. (based on material in Zoological Museum, Copenhagen, and SCHELLENBERG 1935). ♂ are up to 32 mm, ♀ 40 mm. ♀ with marsupium without marginal setæ are 28—40 mm and were taken 29-VI—17-VIII. ♀ with empty marsupium are 27—37 mm and were taken 29-VI—7-X, mainly 29-VI—20-VIII. Ovigerous ♀ are 29—35 mm and were taken 17-VII, 29-IX and 7-X. ♀ with embryos (3.5—5 mm) are 29—35 mm and were taken 25-VI—17-VII, and 20-VIII.

Distribution. Widely distributed in the arctic seas, probably circumpolar; at Europe not south of the northernmost Norway (Tromsø). For special localities see K. STEPHENSEN 1935—42, n. 274; not known from Iceland. Is a low-arctic species.

## Genus **Nototropis** A. COSTA.

### 113. *Nototropis smitti* (GOËS).

*Paratylus smitti* G. O. SARS 1895, p. 468, pl. 165, fig. 1.
*Nototropis* — STEBBING 1906, p. 332.

East Greenland records:

*Atylus smitti* BUCHHOLZ 1874, p. 361.
*Paratylus smitti* K. STEPHENSEN 1912, p. 539.
— — — 1913, p. 171 (no new records).
*Nototropis* — SCHELLENBERG 1935, p. 27.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 10—20 m; Stormbugt, 20—30 m, Delesseria, hard bottom (K. STEPHENSEN 1912). North Shannon, 60 m (BUCHHOLZ 1874).

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay with Algæ; Clavering Fjord, near Dødemands Øerne, 34 m, clay; Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (SCHELLENBERG 1935). Borlase Warren 74°17′ N, 200 m, SØREN JENSEN leg. 10-VII-1900, 2 specimens. Eskimonæs, 45 and 55—50 m, gravel, a few Algæ, 3 specimens. Ella Ø, 30—31 m, 30—35 m, and 48—51 m, stones and clay, 3 specimens.

*Sydøstkyst:* Kuaniut, Lindenow Fjord, 10—75 m, POUL M. HANSEN leg. 30-VIII-1932, 1 specimen; Lindenow Fjord, 125—150 m, gravel, clay, 1935, 1 specimen; Kekertarsiak, 60—70 m, sand, gravel, dead Bryozoa, 1935, 1 specimen.

It is found only at depths > 25(—200) m. Length up to 28 mm.

Distribution. From West Greenland to New Siberian Islands; at Europe not South (or West) of East Finmarken. For special localities see K. STEPHENSEN 1935—42, p. 277 and 1940, p. 48 (Iceland). Additional localities: Jan Mayen, 100 m, mud, SØREN JENSEN leg. 28-VI-1900, 2 specimens. 76°30′ N, 25°27¼′ E, 48 m (CHEVREUX 1935, p. 102). Is probably a high-arctic species.

## Fam. **Eusiridæ** STEBBING.

### Genus **Eusirus** KRØYER.

#### 114. *Eusirus cuspidatus* KRØYER.

*Eusirus cuspidatus* G. O. SARS 1895, p. 416, pl. 146.
— — STEBBING 1906, p. 339.

East Greenland records:

*Eusirus cuspidatus* BUCHHOLZ 1874, p. 313.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, 40—210 m (BUCHHOLZ 1874).

*Franz Joseph Fjord area:* Borlase Warren 74°17′ N, 20 m, anchoring-place with Laminaria, SØREN JENSEN leg. 14-VII-1900, 1 ovigerous ♀ about 36 mm.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 10—15 m, clay, E. BERTELSEN leg. 29-VIII-1933, 1 specimen.

*Sydøstkyst:* Ikatek, Sermilik Fjord, 44 m, Laminaria, E. BERTELSEN leg. 27-VII-1933, 1 specimen, determination not certain.

Distribution. From northeastern U.S.A. and Arctic America to the New Siberian Islands and northern Norway, depths 10—400 m; for special localities see K. STEPHENSEN 1935—42, p. 283, and 1940, p. 48 (Iceland), Is probably a panarctic species.

### 115. *Eusirus holmi* H. J. HANSEN.

*Eusirus holmi* H. J. HANSEN 1886, p. 224, pl. 22 fig. 1.
— — STEBBING 1906, p. 342.

East Greenland records:

*Eusirus holmi* GRIEG 1909, p. 49 (549).
— — K. STEPHENSEN 1913, p. 186 (no new records).
— — SCHELLENBERG 1935, p. 27.

Occurrence at East Greenland:

*Nordøstkyst:* 77°31′ N, 18°24′ W, 275 m; between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (GRIEG 1909).

*Franz Joseph Fjord area:* Tyrolerfjord, near Young Sund, 320 m, clay with sand, ÷ 1.73°, salinity 33.54 ‰; Clavering Fjord, off Kap Stosch, 400—338 m, clay (SCHELLENBERG 1935). Franz Joseph Fjord, off Antarctic Sund, 800 m wire out, 13-VIII-1932, 1 specimen, very defective, determination not certain; Franz Joseph Fjord, off the western mouth of Antarctic Sund, 230 m, large stones, clay, 14-VIII-1932, 2 specimens.

Distribution. Is a character form of the deep Polar Basin and of the deep basin in Baffin Bay, depths down to 1400 m, but also found in adjacent waters at smaller depths and North of Siberia; for special localities see K. STEPHENSEN 1933b, p. 36 (with charts) and 1935—42, p. 285. Is a high-arctic species.

## Genus **Rhachotropis** S. I. SMITH.

### 116. *Rhachotropis aculeata* (LEPECHIN).

*Rhachotropis aculeata* G. O. SARS 1895, p. 424, pl. 149.
— — STEBBING 1906, p. 348.

East Greenland records:

*Amphinotus aculeatus* BUCHHOLZ 1874, p. 816, p. 4.
*Rhachotropis aculeata* K. STEPHENSEN 1913, p. 183 (no new records).
— — SCHELLENBERG 1935, p. 27.

Occurrence at East Greenland:

*Nordøstkyst:* Shannon Banken, 10 miles from the coast, 250 m; Kap Wynn, 6 m; North Shannon, 60 m (BUCHHOLZ 1874).

*Franz Joseph Fjord area:* Between Kap Bennett and Bontekoe Ø, 290 m, clay (SCHELLENBERG 1935). Borlase Warren, 200 m, SØREN JEN-

SEN leg. 10-VII-1900, 2 specimens; between Maria Ø and Ella Ø, 250 m, clay with gravel and stones, 25-VIII-1932, 2 specimens.

*Scoresbysund area:* Kap Hooker, Jameson Land, 150 m, 27-VII-1933, about 10 specimens; Turner Sund, 225 m, stones, SØREN JENSEN leg. 26-VII-1900, 2 specimens.

*Sydøstkyst:* Tasiusak, Angmagssalik, 50—80 m, sand, E. BERTELSEN leg. 10-VIII-1933, 1 rather small specimen. Lindenows Fjord 10—225 m, 21 hauls (viz., 10—15 m, 15—30 m, 25 m, 25—30 m, 25—50 m, 35 m, 30—50 m (2 hauls), 40—50 m (2 hauls), 50 m, 60—80 m, 75—100 m, 90 m, 100—125 m, 100—150 m (3 hauls), 120 m, 150—175 m, 225—150 m), Laminaria, gravel, clay, etc. The specimens from Lindenows Fjord (1—2 per haul) were taken by E. BERTELSEN 16—28-VII-1935.

Remarks. In the material from the Danish expeditions there are the following ♀. Specimens with empty marsupium are 37—45 mm and were taken 10-VII and 27-VII (Borlase Warren and Kap Hooker). ♀ with eggs (35—42 mm) were taken 25—27-VII in Lindenows Fjord, 60—175 m.

SCHELLENBERG 1935 records a ♀ with marsupium (length?) and a ♀ with embryos, 43—44 m; both specimens were taken 20-VIII.

Distribution. Widely distributed from north-eastern U.S.A. and Arctic America to Greenland, Iceland, northern Norway, Spitsbergen, Kara Sea, etc., probably circumpolar; depths from a few meters down to 1100 m. For special localities see K. STEPHENSEN 1935—42, p. 287, and 1940, p. 48, with chart p. 80. Probably a pan-arctic species.

### 117. *Rhachotropis oculata* (H. J. HANSEN).

*Rhachotropis oculata* H. J. HANSEN 1887, p. 140, pl. 5 fig. 7.
— — STEBBING 1906, p. 350.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, anchoring-place, Laminaria, SØREN JENSEN leg. 12-VII-1900, 2 specimens.

*Scoresbysund area:* Kap Hooker, 65 m, sand, 3-VII-1933, 1 specimen.

*Sydøstkyst:* Lindenow Fjord, 30 m, Laminaria; ibid. 44 m, clay; ibid. 50 m, fine sand, and 50—75 m, mud, Algæ; E. BERTELSEN leg. 17—28-VII-1935, 1—3 specimens per haul. An ovigerous ♀ was taken 17-VII.

Distribution. West Greenland 63½°—69° N, 3 hauls, 20—80 m (type-localities; H. J. HANSEN l. c.). Gulf of St. Lawrence, 5 hauls, 30—93 m (SHOEMAKER 1930, p. 105). Japan (DERJAVIN, Hydrobiol. Zeits., Saratow, vol. 8, 1930, p. 327). Japan Sea, 120 m (GURJANOVA, Rep.

Japan Sea Hydrobiol. Exped. Zool. Inst. Acad. Sci. U.S.S.R. in 1934, pt. 1, 1938, pp. 329, 398). Zoogeographical position uncertain; possibly low-arctic.

### 118. *Rhachotropis inflata* (G. O. SARS).

*Rhachotropis inflata*, *R. tumida* G. O. SARS 1895, p. 430, pl. 152; p. 697.
— — STEBBING 1906, p. 351.

East Greenland record:

*Rhachotropis inflata* K. STEPHENSEN 1912, p. 538.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 10—20 m (K. STEPHENSEN 1912).

*Sydøstkyst:* Tasiusak, Angmagssalik, 40—60 m, stony bottom with Algæ, Amdrup-Exped. leg. 20-V-1899, 2 small specimens.

Distribution. From Gulf of St. Lawrence and West Greenland to the Skagerrak, North Norway and Spitsbergen; also Japan. For special localities see K. STEPHENSEN 1935—42, p. 288. Depths (10)50—100 m. Probably an arctic-boreal species.

### 119. *Rhachotropis helleri* (BOECK).

*Rhachotropis helleri* G. O. SARS 1895, p. 426, pl. 150.
— — STEBBING 1906, p. 351.
— — SEXTON, Proc. Zool. Soc. London, 1909, p. 869, figs.

East Greenland records:

*Rhachotropis helleri* H. J. HANSEN 1895, p. 128.
— — GRIEG 1909, p. 49 (549).
— — K. STEPHENSEN 1913, p. 185 (no new records).

Occurrence at East Greenland:

*Nordøstkyst:* 77°34′ N, 18°24′ W, 275 m; between 75°58′ N, 14°08′ W, and 75°59′ N, 14°12′ W, 300 m (GRIEG 1909).

*Scoresbysund area:* 69°25′ N, 20°01′ W, 300 m, stones and clay (H. J. HANSEN 1895).

Distribution. From East Greenland and Kara Sea to Bay of Biscay; also Bering or Okhotsk Sea. Depths 100—800 m, probably most frequent at positive temperature. Is an arctic-boreal species.

### *Rhachotropis* (*macropus* G. O. SARS?).

*Rhachotropis macropus* G. O. SARS 1895, p. 428, pl. 151 fig. 1.
— — STEBBING 1906, p. 352.

East Greenland record:

?*Rhachotropis macropus* SCHELLENBERG 1935, p. 27.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, 25 miles inside the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰, 1 specimen, and Vega Sund, NE. of Scott Keltie Øerne, 250—190 m, clay, 1 specimen. These specimens are defective, and it is not entirely excluded that they are *R. helleri* (Schellenberg 1935).

Distribution. From Kara Sea and Spitsbergen to the Skagerrak; also Japan; depths 115—660 m. For special localities see K. Stephensen 1935—42, p. 290. Is probably an arctic-boreal species.

## Genus **Rozinante** Stebbing.

### 120. *Rozinante fragilis* (Goës).

*Rozinante fragilis* Stebbing 1906, p. 354.
— — Stappers 1911, p. 57, pl. 3 figs. 1—4.
— — Shoemaker 1930, p. 107, figs.

East Greenland records:

*Tritropis fragilis* Buchholz 1874, p. 320, pl. 3 fig. 1.
*Rozinante* — K. Stephensen 1913, p. 185 (no new records).

Occurrence at East Greenland:

*Nordøstkyst:* Kap Wynn, 6 m; Sabine Ø, 20 m (Buchholz 1874). Sabine Ø, anchoring-place with Laminaria, Søren Jensen leg. 12-VII-1900, a few specimens.

*Franz Joseph Fjord area:* Borlase Warren, 200 m, Søren Jensen leg. 10-VII-1900, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 12 m, Laminaria, gravel, E. Bertelsen leg. 21-VII-1935, 1 specimen.

Distribution. Widely distributed in the arctic area, probably circumpolar; in the Atlantic with adjacent seas not found south of a line from Gulf of St. Lawrence to White Sea; depths 4—400 m. For special localities see K. Stephensen 1935—42, p. 291. Is a high-arctic species.

## Fam. **Pontogeneiidæ** Stebbing.

### Genus **Pontogeneia** Boeck.

### 121. *Pontogeneia inermis* (Krøyer).

*Pontogeneia inermis* G. O. Sars 1895, p. 451, pl. 159.
— — Stebbing 1906, p. 359.

East Greenland records:

*Paramphithoë inermis* Buchholz 1874, p. 366.
*Pontogeneia* — H. J. Hansen 1895, p. 129.

*Pontogeneia inermis* K. STEPHENSEN 1912, p. 539.
— — — 1913, p. 173 (no new records).
— — SCHELLENBERG 1935, p. 28.

Occurrence at East Greenland:

*Nordøstkyst:* Hvalrosnæs, 0—6 m (K. STEPHENSEN 1912). Germania Havn, 6 m; Kap Wynn, 6 m; Sabine Ø, 20—220 m (BUCHHOLZ 1874). Landingsdalen off Wollaston Forland, 26—20 m, small stones with Algæ (SCHELLENBERG 1935).

*Franz Joseph Fjord area:* Kong Oscars Fjord, Åkerbloms Ø, 20 m, stones, G. SEIDENFADEN leg. 23-VIII-1929, 1 specimen. Isfjord, off Haredalen, 5—2.5 m, Fucus, Laminaria and fine green Algæ, 7-VIII-1932, 1 specimen.

*Scoresbysund area:* Hekla Havn, Danmarks Ø, 10—12 m, mud and stones (H. J. HANSEN 1895).

*Sydøstkyst:* Ingolfs Fjord (66°15′ N), rocks with Algæ, Amdrup-Exped. 1899—1900 leg., a few specimens; Tiningniketok (65°54′ N), 2 m, KRUUSE leg. 5-VII-1902, 2 specimens; Tasiusak, 10—35 m (3 hauls), stony bottom with Algæ, KRUUSE leg. 14-V and 17-V-1899 and 25-IX 1901, several specimens; Kap Dan, Angmagssalik, 20—30 m, rocks with Algæ, Amdrup Exped. leg. 11-VI-1899, 1 specimens. Tasiusarsik, 5—6 m, Laminaria, E. BERTELSEN leg. 20 VII 1933, 2 specimens. Naparsarsuak, 38 m, mud and sand, E. BERTELSEN leg. 25 VI 1935, 1 specimen. Kutdlek, 2—4 m, 5—8 m, 9 m, 13 m, and 28 m, Laminaria, rocks, red Algæ, sand, E. BERTELSEN leg. 25—26-VI-1935, numerous specimens. Kap Tordenskjold, 3 m, 4 m, 8 m, 11 m, and 20 m, rocks, Laminaria, sandy clay, E. BERTELSEN leg. 30-VI—1-VII-1935, several specimens. Lindenows Fjord, 4—25 m (17 hauls) and > 25—35 m (3 hauls), rocks, gravel, sand, clay, Laminaria, E. BERTELSEN leg. VII-1935, numerous specimens. Kekertatsiak, 15 m, rocks, Laminaria, E. BERTELSEN leg. 13-VII-1935, 3 specimens.

Distribution. Northeastern U.S.A. north of 40° N (KUNKEL, Conn. Geol. and Nat. Hist. Survey, Bull. 26, 1918, p. 93). Halifax (KUNKEL, l. c.). Port Daniel, Quebec, among Algæ on pier (FR. JOHANSEN, Canad. Field Naturalist, vol. 44, 1930, p. 93). Very common in the Gulf of St. Lawrence, 2—75 m (SHOEMAKER 1930, p. 325). New Foundland, 5 hauls, "never very numerous" (N. FROST, New Foundland, Divis. of Fish. Research, Reports, Faunistic Ser., No. 1, 1936, p. 7). West Greenland and Baffin Land, about 60°—80° N, 4—50(200) m (K. STEPHENSEN 1913, p. 173 and 1933b, p. 42). East Greenland, see above. Hudson Bay, east side about 55° N, 20 m, sandy mud with loose Algæ (SHOEMAKER, Contrib. Canad. Biol. a. Fish. = Studies Biol. Stat. Canada, N. S., vol. 3, no. 1, 1926, p. 7), and Cape Fullerton at the west side,

depth? (SHOEMAKER, Rep. Canad. Arct. Exped. 1913—18, vol. 7, pt. E, 1920, p. 27). Arctic Canada: Bernard Harbour, Northwest Territories, pelagic over 4 m water (SHOEMAKER, l. c. 1920, p. 15). Pribilof Islands (PEARSE, Proc. U. S. Nat. Mus., vol. 45, 1913, p. 573). Japan (DERJAVIN, Hydrobiol. Zeits., Saratow, vol. 8, 1930, p. 327). Siberia near Bering Strait 68°12′ N, 176°32′ W, hard sand (STUXBERG, Vega-Exped., vol. 1, 1882, p. 711).

G. O. SARS l. c. lists it from West Norway; but this record is probably due to an error (see K. STEPHENSEN 1935—42, p. 293).

It is a low-arctic species.

## Fam. **Gammaridæ** LEACH.

### Genus **Weyprechtia** STUXBERG.

#### 122. *Weyprechtia pinguis* (KRØYER) (Figs. 5—6).

*Amathilla pinguis* BUCHHOLZ 1874, p. 353, pl. 9 fig. 2.
*Weyprechtia* — STEBBING 1906, p. 382.
— — K. STEPHENSEN 1935—42, p. 297, with fig. (reproduction of BUCHHOLZ's figure).

East Greenland records:

*Amathilla pinguis* BUCHHOLZ 1874, p. 353.
— — K. STEPHENSEN 1912, p. 541.
— — — 1913, p. 199 (no new records).
*Weyprechtia* — SCHELLENBERG 1935, p. 28.

Occurrence at East Greenland (Fig. 5):

*Nordøstkyst:* 5 localities around Danmarks Havn, 0—15 m, varying bottom (K. STEPHENSEN 1912). Germania Havn, 6 m; Nord Shannon, 60 m; Kap Wynn, 6 m; Sabine Ø, 20 m (BUCHHOLZ 1874). Germania Havn, Sabine Ø, 10 m, mud with Algæ; Landingsdalen off Wollaston Forland, 26—20 m, small stones with algæ (SCHELLENBERG 1935). Sabine Ø, anchoring-place, Laminariæ, SØREN JENSEN leg. 12-VII-1900, a few specimens.

*Franz Joseph Fjord area:* 2 miles NE. of Herschelhus, 7 m, mud with algæ, ÷ 0.73°, salinity 32.47 ‰; Herschelhus, 8—6 m, mud with algæ, 3 occurrences; Kap Mary, Clavering Ø, 30 m, mud with algæ; Kap Humboldt, 36—30 m, stones (SCHELLENBERG 1935). Kap Stosch, Gael Hamkes Bugt, 15 m ("Godthaab" 4-VIII-1930), 1 specimen; head of Dusénfjord, 2.5—1 m, clay and Fucus, 1 specimen ("Godthaab" 9-VIII-1932); Isfjord, off Haredalen, 5—2.5 m, Fucus, Laminariæ, 6 specimens ("Godthaab" 7-VIII-1932); Åkerbloms Ø, Kong Oscars Fjord, 20 m, stones, 7 specimens, SEIDENFADEN leg. 23-VIII-1929; Solitærbugt, Ella Ø, 3—10 m, 4 occurrences, Algæ, some specimens, G. THORSON leg. 1932.

*Scoresbysund area:* Kap Hope, 3—15 m, 10 occurrences, sand with or without Laminariæ, several specimens, 1933; Rosenvinges Bugt, 3—12 m, 3 occurrences, stones, algæ, some specimens, 1924; Hurry Fjord, 1 mile from the mouth, 14 m, sand, 1 specimen, 1933; Danmarks Ø, pelagical, 1 specimen, E. BAY leg. 1892; in the bay off Røde Ø in Røde Fjord, 7—10 m, clay, Fucus, 2 specimens, 1933; Turner Sund, 6 m, 5 specimens, SØREN JENSEN leg. 25-VII-1900.

*Kangerdlugssuaq area:* Kangerdlugssuaq, 6—10 m, 3 occurrences, stones, Algæ, a few specimens, E. BERTELSEN leg. 1933; Solos Fjord (67°17′ N), beach, Amdrup-Exped. 1899, 3 specimens.

*Sydøstkyst:* Ingolfs Fjord 66°15′ N, rocks, Algæ, Amdrup-Exped. 1899, some small specimens; Angmagssalik, 18—0 m, SØREN JENSEN leg. 14-IX-1900, 1 specimen; Kap Dan, 20—30 m, rocks, Algæ, Amdrup-Exped. 11(17)-VI-1899, a few specimens; Tasiusak near Angmagssalik, 4 m, Fucus, stones, BERTELSEN 18-VIII-1933, 2 specimens; Tasiusarsik (66°15′ N), 20—30 m, red Algæ, BERTELSEN 20-VII-1933, 1 specimen; Smalsund (66° N), stony coast with Laminariæ, Amdrup-Exped. 17-IX-1898, 1 specimen; Naparsarsuak, 35 m, Laminariæ, BERTELSEN 1935, 1 specimen; Kutdlek, 36 m, muddy sand, red Algæ, BERTELSEN 1935, 1 small specimen; Kap Tordenskjold, 12 m, black clay, fragments of Algæ, BERTELSEN 1935, 2 specimens; Lindenow Fjord, 8—15 m, 6 occurrences, gravel, sand, Laminariæ, and 15—50 m, 7 occurrences, sand, rocks, Algæ, some specimens, BERTELSEN 1935.

Remarks. According to the above it has been taken from 77° to 60° N 53 times at depths 0—25 m, 9 times 26—50 m, and once 60 m, + twice with the depth not noted; it seems to be most abundant among Algæ.

The specimens attain lengths of up to 22 mm (♂), but are rarely over 20—21 mm. I have not succeeded in finding any ovigerous ♀ or ♀ with distinct marsupium in the material from Danish expeditions. Small specimens (about 5 mm) were found (in Lindenows Fjord) 16-VII and 26-VII.

Distribution (Fig. 6). Is a low-arctic littoral, probably circumpolar species; for special localities see K. STEPHENSEN 1913, p. 199, and 1935—42, p. 297.

## Genus **Gammarellus** HERBST.

### 123. *Gammarellus homari* (J. C. FABRICIUS).

*Amathilla homari* + *A. angulosa* G. O. SARS 1895, pp. 490, 492, pls. 172—173.
*Gammarellus* — + *G.* — STEBBING 1906, p. 387.
— — — CHEVREUX & FAGE 1925, pp. 204, 205, figs.

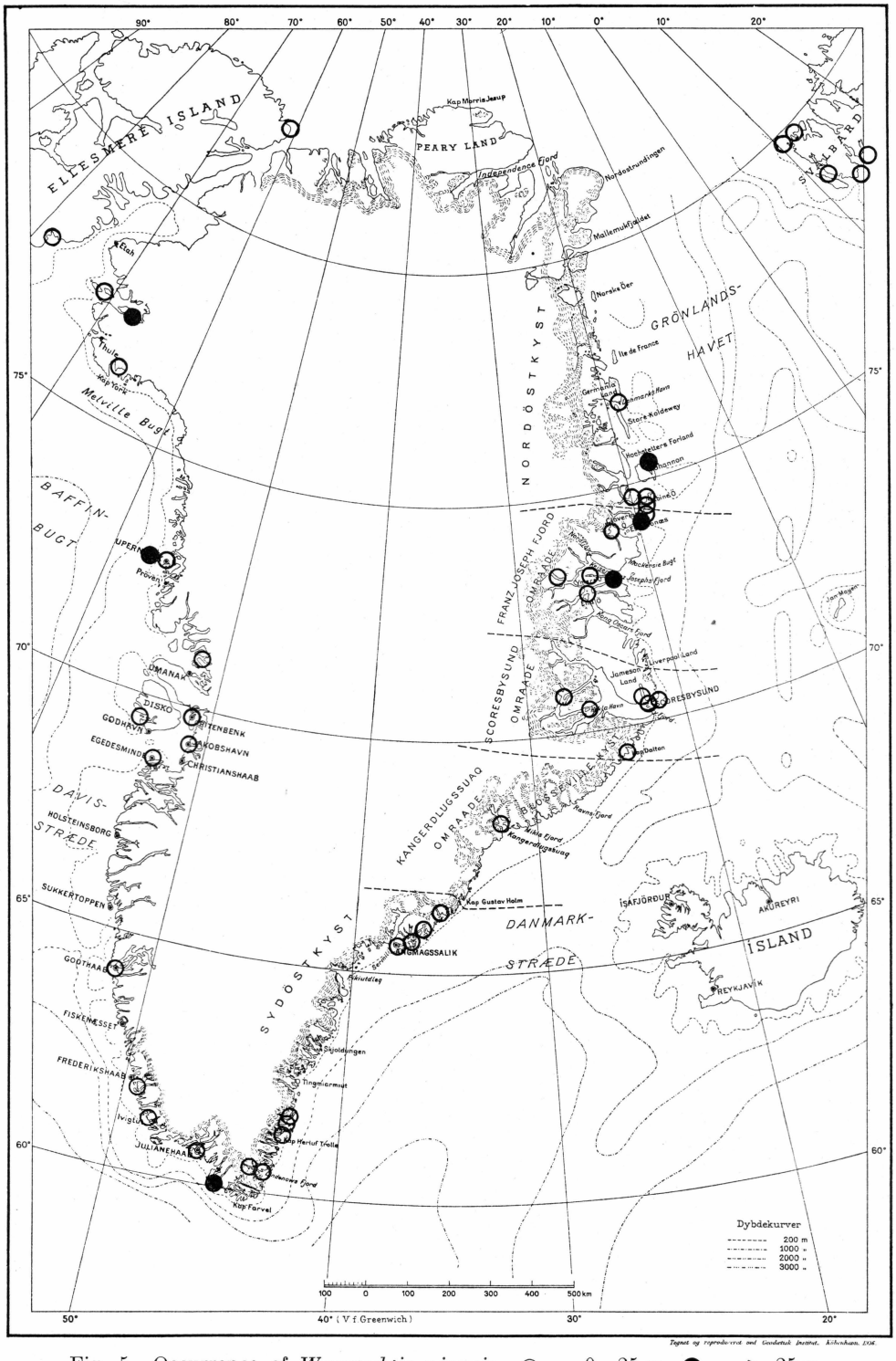


Fig. 5. Occurrence of *Weyprechtia pinguis*. ○ = 0—25 m, ● = > 25 m.

East Greenland records:

*Amathilla sabini* BUCHHOLZ 1874, p. 346, figs.
— *homari* K. STEPHENSEN 1912, p. 541.
— — — 1913, p. 198 (no new records).
*Gammarellus* — — 1933a, p. 8.
— — SCHELLENBERG 1935, p. 28.

Occurrence at East Greenland:

*Nordøstkyst:* Danmarks Havn, 0—15 m, 4 occurrences, rocky bottom with Algæ (K. STEPHENSEN 1912). Germania Havn, Sabine Ø, 10 m, mud with Laminariæ and green Algæ (SCHELLENBERG 1935). Sabine Ø, anchoring-place, 1 specimen, SØREN JENSEN leg. 12-VII-1900.

*Scoresbysund area:* Kap Hope, 5—13 m, sand, Algæ, 5 occurrences, 5 specimens, 1933; Bjørne Øerne, 6—13 m, gravel, red Algæ, 1 specimen, 1933.

*Kangerdlugssuaq area:* Ryder Sund, 6 m, 1 small specimen, SØREN JENSEN leg. 25-VII-1900. Ravns Fjord, 10 m (K. STEPHENSEN 1933a). Kangerdlugssuaq, 4—18 m, 4 occurrences, Fucus, Laminariæ, a few specimens, BERTELSEN leg. 1933. Solos Fjord 67°14′ N, beach, Amdrup-Exped. 1899, 1 small specimen.

*Sydøstkyst:* Ingolfs Fjord 66°15′ N, rocks, beach, Amdrup-Exped. 1899, a few small specimens; Smalsund 66° N, beach, Algæ, some small specimens, Amdrup-Exped. 17-IX-1898; Angmagssalik: Kap Dan and Kap Dan Øerne, 12—30 m, 3 occurrences, rocks, Algæ, a few specimens, Amdrup-Exped. 1899; Tasiusak, 6—60 m, 4 hauls, rocks, Algæ, a few specimens, AMDRUP-Exped. 1899 and BERTELSEN 1933; Naparsarsuak, 2—36 m, 4 hauls, rocks, Laminariæ, and Kutdlek, 2—13 mm, same bottom, some specimens, BERTELSEN 1935; Kap Tordenskjold, 11 m, Laminariæ, 1 small specimen, BERTELSEN 1935; Lindenows Fjord, 8—20 m, 7 hauls; 20—30 m, 4 hauls; 35—50 m, 2 hauls; these 13 hauls contained Laminariæ and gravel; and 400—600 m, clay, Foraminifera, 1 small specimen, BERTELSEN 1935.

Remarks. According to the above it was taken in 41 hauls 0—25 m, 7 hauls 26—50 m, 1 haul 60 m, and 1 haul 400—600 m; usually it was found among Laminariæ or other Algæ. There were very few specimens per haul; but a single haul (Lindenows Fjord, 8—20 m) contained no less than 101 specimens. The majority of the samples are from the Sydøstkyst area.

The length is up 35 mm (♂ with penis) or 38 mm (♀ with marsupium), but the majority are smaller, about 20 mm. There are no ovigerous ♀ in the Danish material. ♀ with large but empty marsupium with marginal setæ, 33 and 29 mm, were found 14-V and 1-VI (Tasiusak). ♀ with small marsupium without marginal setæ were found from 20-V til 28-VIII; their lengths were 26—38 mm.

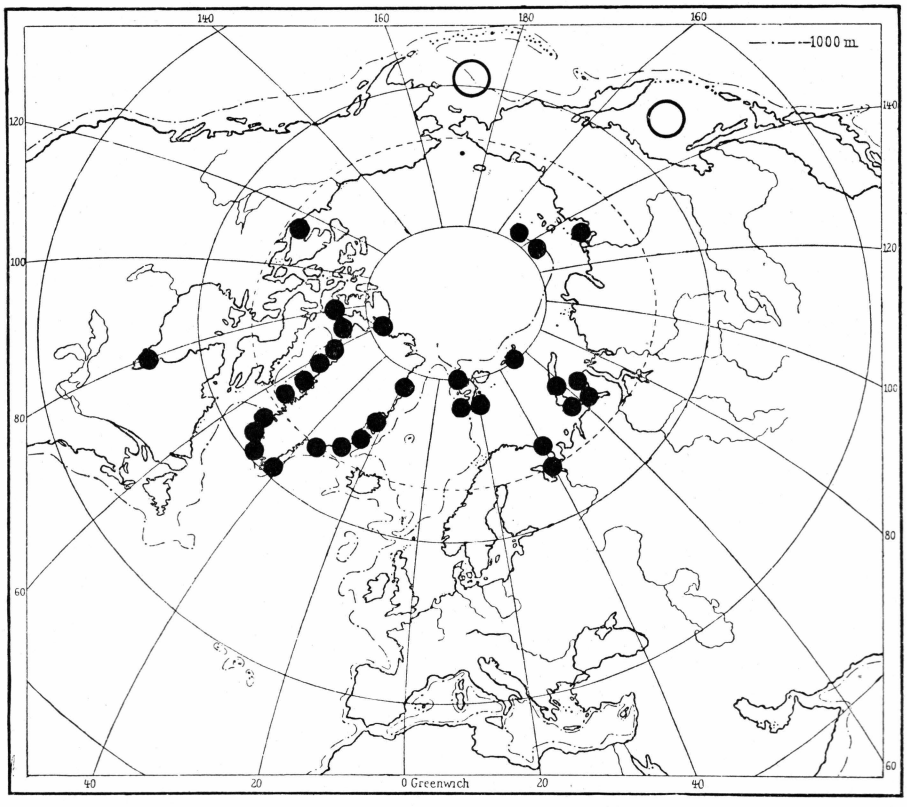


Fig. 6. Distribution of *Weyprechtia pinguis*. The rings indicate localities which could not be noted exactly.

Distribution. A boreal-arctolittoral (= panboreal) species, widely distributed in the northern Atlantic (to Western France) with adjacent arctic waters. For special localities see Oldevig 1917, p. 35, Chevreux & Fage 1935, p. 204—205, and K. Stephensen 1935—42, p. 300.

## Genus **Melita** Leach.

### 124. *Melita dentata* (Krøyer).

*Melita dentata* G. O. Sars 1895, p. 513, pl. 181 fig. 1.
— — Stebbing 1906, p. 427.

East Greenland record:

*Melita dentata* Schellenberg 1935, p. 28.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Loch Fine, near the mouth, 15 m, pebbles with Lithothamnion; Clavering Fjord, on the beach of Kap Stosch, 30 m, clay (Schellenberg 1935).

*Scoresbysund area:* Hurry Fjord, near Fame Øerne, 18—22 m, soft clay ("Godthaab" 17-VII-1933), 1 specimen.

Distribution. A boreal-arctolittoral (pan-boreal) species. Widely distributed in the northern Atlantic (to Gulf of Mexico, England and Denmark) with adjacent arctic waters; also northern Pacific. For special localities see K. STEPHENSEN 1935—42, p. 307.

## Genus **Ceradocus** COSTA.

### 125. *Ceradocus torelli* (GOËS) (Fig. 7).

*Ceradocus torelli* STEBBING 1906, p. 432.
— — BRÜGGEN 1909, p. 38, pl. 1 fig. 4.
— — K. STEPHENSEN 1940, p. 55 (remarks on colour).

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Moskusokse Fjord, off Mount Anker, 95 m, clay with big stones, 3-VIII-1932. 1 ♀ with marsupium without marginal setæ, about 50 mm, but somewhat defective.

*Sydøstkyst:* Lindenows Fjord, 46 m, dark clay, 1 specimen without marsupium, 42 mm, and 58 m, dark clay, 1 ♀ with marsupium without marginal setæ, 41 mm, E. BERTELSEN leg. 27-VII-1935.

It is new to East Greenland.

Distribution (Fig. 7). Probably a high-arctic species. For special localities see K. STEPHENSEN 1935—42, p. 310, and 1940, p. 54.

## Genus **Gammarus** J. C. FABRICIUS.

Up to 1936 but one marine[1]) species, *G. locusta*, was recorded from Greenland, + a single record of the very uncertain *G. locusta* var. *mutata* LILLJEBORG (BROCH & KOEFOED 1909, p. 121).

*Madsen* 1936 and BERTELSEN 1937 record *G. wilkitzki*? These specimens were examined by the present author; at that time the determination could, however, not be certain, for the literature was not clear. But in 1937 a very important paper was issued (viz., BIRULA 1937, see K. STEPHENSEN 1935—42, p. 315), and now it may be stated, that in northern waters the old "*G. locusta*" comprises several different species and subspecies (see K. STEPHENSEN 1935—42, p. 313, seq.).

The present author has been able to revise all East Greenland material of *Gammarus* except the few specimens recorded by BUCHHOLZ

[1]) From fresh water in southern West Greenland *G. dübeni* LILLJEBORG is known; a record of a young and defective specimen of *G. zaddachi* SEXTON (K. STEPHENSEN 1916, p. 293) from a stream at Narssak, southern Greenland, is possibly erroneous (*G. dübeni*?).

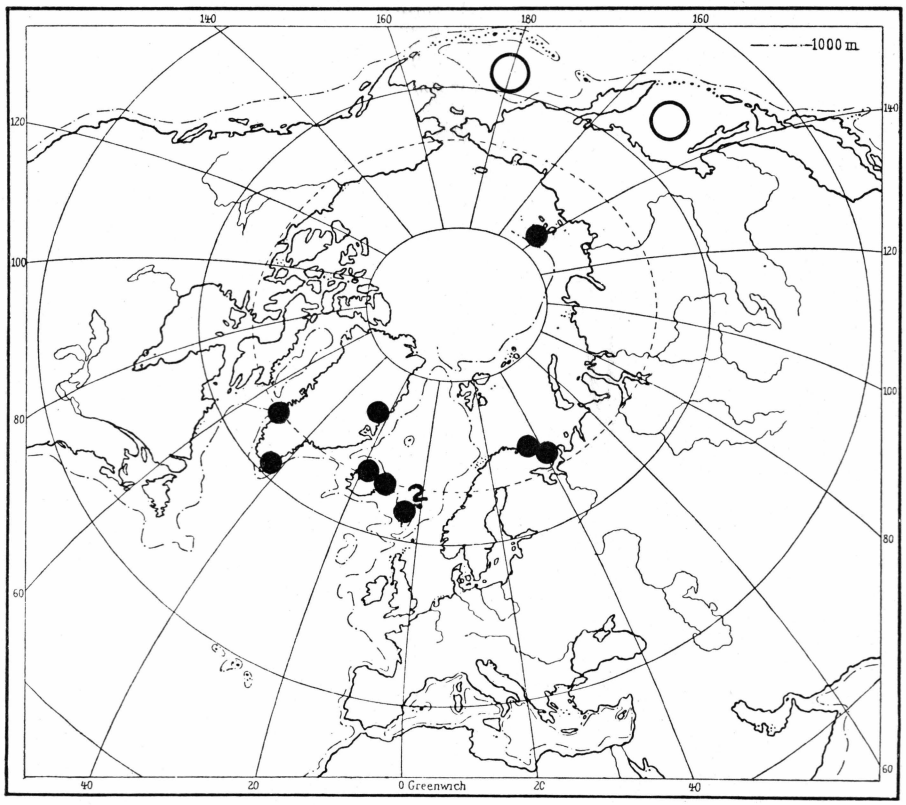


Fig. 7. Distribution of *Ceradocus torelli*. The rings indicate localities which could not be noted exactly.

1874 and by Broch & Koefoed 1909, and this examination has stated, that two species + one subspecies (exclusive of the very uncertain *G. locusta* var. *mutata* Lilljeborg) belong to the marine fauna of East Greenland, see the list below.

East Greenland records of *Gammarus*.

*G. locusta* Buchholz 1874, p. 343 (length up to 40 mm; pelagical) (probably *G. wilkitzkii*).
— H. J. Hansen 1895, p. 129 (*G. wilkitzkii* + *G. locusta setosus*).
— Broch & Koefoed 1909, p. 121 (pelagical; probably *G. wilkitzkii*).
— var. *mutata*, ibid., p. 121 (ditto).
— K. Stephensen 1912, p. 542 (*G. locusta* sens. str., + *G. locusta setosus*, + *G. wilkitzkii*).
— — 1913, p. 193 (no new records).
— — 1933a, p. 8 (*G. locusta setosus*, + *G. wilkitzkii*).
— Schellenberg 1935, p. 28 (*G. locusta setosus* + *G. wilkitzkii*).
*G. wilkitzkii*? Madsen 1936, pp. 11 (and foot-note), 14, 17, 18 (*G. locusta setosus*, see K. Stephensen 1935—42, p. 324).
— Bertelsen 1937, pp. 15, 18, 21, 22 (*G. locusta setosus*, see ibid.).

For East Greenland records of *Gammarus* in K. STEPHENSEN 1935—42, see under the individual species.

Key to the East Greenland species.

1 a. Antenna 1, third joint of peduncle not much shorter than second, and with several clusters of long setæ on underside; also the two other joints of peduncle densely setose on underside. Very large species, up to 48 mm; lives pelagically in the surface and sometimes over very great depths *G. wilkitzkii.*

1 b. Antenna 1, third joint of peduncle usually less than half the length of second joint, with at most 4 clusters of (short) setæ on underside. Length rarely over 20—30 m; littoral forms in rather shallow water, only exceptionally pelagical 2.

2 a. No plumose setæ on urosome and on the limbs (except pleopoda and uropod 3, which always have plumose setæ). Antenna 1, first joint of peduncle has on underside in addition to apical setæ only one seta (rarely two) .. *G. locusta* sens. str.

2 b. Plumose setæ on urosome and on telson, usually also on other appendages, but at all events always on telson. Antenna 1, first joint of peduncle has on underside in addition to apical setæ (2)3—4 graduated clusters of setæ *G. locusta setosus.*

126a. *Gammarus locusta* (LINNÉ) sens. str.

*Gammarus locusta* G. O. SARS 1895, p. 499, pl. 176 fig. 1.
— — sens. str. K. STEPHENSEN 1935—42, p. 316, with lit. etc., figs.

East Greenland record:

*Gammarus locusta* (in parte) K. STEPHENSEN 1912, p. 542.

Occurrence at East Greenland:

*Nordøstkyst:* Hvalrosodden, 0—4 m, soft bottom, 3 specimens; Danmarks Havn, vertical-net 0—20 m, a few small specimens (K. STEPHENSEN 1912).

*Franz Joseph Fjord area:* Kap Mary, Clavering Ø, shallow water, 9-VII-1930, about 10 specimens; Nordfjord, low tide in mouth of river, H. MADSEN leg. 7-VIII-1933, a few small specimens; Moskusokse Fjord, 15 m, LÖPPENTHIN leg. 18-VIII-1930, 3 specimens, determination not certain; Dusénfjord, 7 km from head, beach, H. MADSEN leg. 9-VIII-1933, a few small specimens.

*Scoresbysund area:* Kap Hope, 3 m, sand, 27-VI-1933, 1 small specimen; Danmarks Ø, 3 m, Fucus, rocky bottom, E. BAY leg. 3-VII-1892, 1 specimen, determination not certain.

*Sydøstkyst:* 66°7′ N, shallow water, Amdrup-Exped. 18-VII-1899, a few small specimens; Angmagssalik, 18—0 m, Søren Jensen leg. 14-IX-1900, 1 small specimen, and 20 m, Degerbøl leg. 8-IX-1932, 4 specimens up to about 27 mm; Tasiusak, depth?, Kruuse leg. 1902, 2 specimens; Kap Dan Øerne, shallow water among Algæ, Amdrup-Exped. 14-VI-1899, 4 specimens up to about 30 mm, and 20—30 m, rocky bottom with Algæ, Amdrup-Exped. 11-VI-1899, 1 small specimen; Kungmiut, 5 m, Fucus, Bertelsen leg. 23-VIII-1933, 1 specimen; Lindenows Fjord, 15—25 m, Laminariæ, and 25—35 m, Laminariæ, and 50—75 m, mud and Algæ, Bertelsen leg. 18—28-VII-1935, a few specimens up to 27 mm.

According to the above it has been taken usually in shallow water, rarely as deep as in 20 m or still deeper (50—75 m).

The majority of the specimens are very small and the determination therefore not always quite certain; a few are 15—20 mm, very few still larger, 27—30 mm.

Distribution. A widely distributed, possibly circumterrestrial species, found probably everywhere in the littoral zone of the northern-arctic waters; but because of the earlier confusion with other species the distribution cannot be given exactly. Further see K. Stephensen 1935—42, pp. 318 seq., and 1940, p. 56 (Iceland). Probably an arctic-boreal species.

126b. *Gammarus locusta* (Linné) *setosus* Dementieva (Fig. 8).

*Gammarus setosa* f. *polaris* Dementieva, Trans. State Ocean. Inst., vol. 1, Nos. 2—3, Moskwa 1931, p. 80.
— *locusta setosus* K. Stephensen 1935—42, p. 321, figs.

East Greenland records:

*Gammarus locusta* (in parte) H. J. Hansen 1895, p. 129.
— — — K. Stephensen 1912, p. 542.
— — — — 1913, p. 193 (no new records).
— — — — 1933a, p. 8.
— — Schellenberg 1935, p. 28.
— *wilkitzkii*? Madsen 1936, pp. 11 (and foot-note), 14, 17, 18.
— — Bertelsen 1937, pp. 15, 18, 21, 22.
— *locusta setosus* K. Stephensen 1935—42, p. 324.

Occurrence at East Greenland (Fig. 8):

*Nordøstkyst:* Danmarks Havn, near Søndre Næs, 0—2 m, rocky and sandy bottom with a little Fucus, 2 specimens; ibid., off the river, 0—2 m, 1 specimen; ibid., 0—4 m, soft bottom, 5 specimens; ibid., 6—12 m, Laminariæ, a few specimens; Stormkap, 0—2 m, beach, a few specimens; Hvalrosodden, Dove Bugt, 0—4 m, sandy clay with stones, a few specimens (K. Stephensen 1912). Landingsdalen, Wollaston For-

land, 26—20 m, about 10 specimens up to 25 mm (SCHELLENBERG 1935 = K. STEPHENSEN 1935—42). Sabine Ø, anchoring-place, Laminariæ, SØREN JENSEN leg. 12-VII-1900, 2 specimens including a ♂ 35 mm.

*Franz Joseph Fjord area:* Clavering Ø, Kap Mary, beach, 2 specimens up to 25 mm; Herschelhus, 6—8 m, 1 specimen; Clavering Fjord, the reef, beach, about 10 specimens up to 18 mm; southernwest coast of Jackson Ø, lagoon, 3 specimens up to 15 mm; Kap Humboldt, beach, several specimens up to 18 mm (SCHELLENBERG 1935 = K. STEPHENSEN 1935—42). Mackenzie Bugt (= Myggbukten), beach, numerous specimens 15—18 mm (K. STEPHENSEN 1935—42). Kap Broer Ruis 73°33′ N, shallow water, 6 specimens (H. J. HANSEN 1895). North of Borlase Warren, on the ice-foot, 2-XI-1929, 8 specimens up to 31 mm (♂); Kap Mary, littoral, "Godthaab" 8-VII-1930, 1 specimen; Eskimonæs, Østhavn, 0 m, sand, H. MADSEN leg. 8-VII-1933, numerous specimens; ibid., Østhavn, 0—0.5 m, gravel, sand, 26-VI-1933, and Vesthavn, tidal zone, 25-VI-1933, several specimens; Tyrolerfjord, 0—0.25 m, "Godthaab" 18-VII-1930, numerous specimens; Dusénfjord, 7 km from the head, lagoon, 9-VIII-1933, 3 rather small specimens; Dusénfjord, the head, 2.5—1 mm, clay and Fucus, 9-VIII-1933, 1 small specimen, determination not certain; Ella Ø, Solitærbugt, beach and lagoon, and in the harbour, under Algæ washed ashore, 1-VIII-1933, a few small specimens; Ella Ø, 4—16 m, 3-VIII-1933, 1 specimen; Kap Petersen, Kong Oscars Fjord, SØGAARD leg. 24-VII-1933, 1 specimen.—Frequent in the tidal zone in the Franz Joseph Fjord area (MADSEN 1936).

*Scoresbysund area:* 70°10′ N, 17°50′ W, plankton in the surface, ALWIN PEDERSEN leg. 23-VII-1924, numerous specimens (the locality is probably wrong, for the depth is very great); Rosenvinges Bugt, depth?, 26-VII-1926, about 10 specimens; Hurry Fjord, near the mouth, 30—40 m, sand, algæ, 12-VII-1933, 1 specimen, and $^1/_4$ mile inside the mouth, 3.5—4.5 m, sand, stones, 4-VII-1933, 2 specimens; Hurry Fjord, east of the anchoring-place near Fame Øerne, beach, sand, H. MADSEN leg. 15-VIII-1933, 1 specimen; Kap Hope, 5—7 m, sand, 2-VII-1933, 4 specimens, and 7 m, sand, 27-VI-1933, 4 specimens; Noavig, Milne Land, lagoon, H. MADSEN leg. 24-VIII-1933, 4 specimens; Solvig, Nordvestfjord, 2—3 m, Fucus and other Algæ, 24-VII-1933, 5 specimens; the bay off Røde Ø, beach, H. MADSEN leg. 22-VIII-1933, about 15 specimens including several small; Danmarks Ø, lagoon with salt water, H. MADSEN leg. 23-VIII-1933, about 15 specimens, and ibid., pelagical, E. BAY leg. 1892, 2 specimens.

*Kangerdlugssuaq area:* Character form of the tidal zone, concealed below stones and Algæ, and down to 4—5 m, but without special locality (BERTELSEN 1937, p. 18). Søkongens Bugt, beach, and freshwater lagoon on beach, 5 specimens; Ravns Fjord, 10 m, 1 specimen; Kangerdlugs-

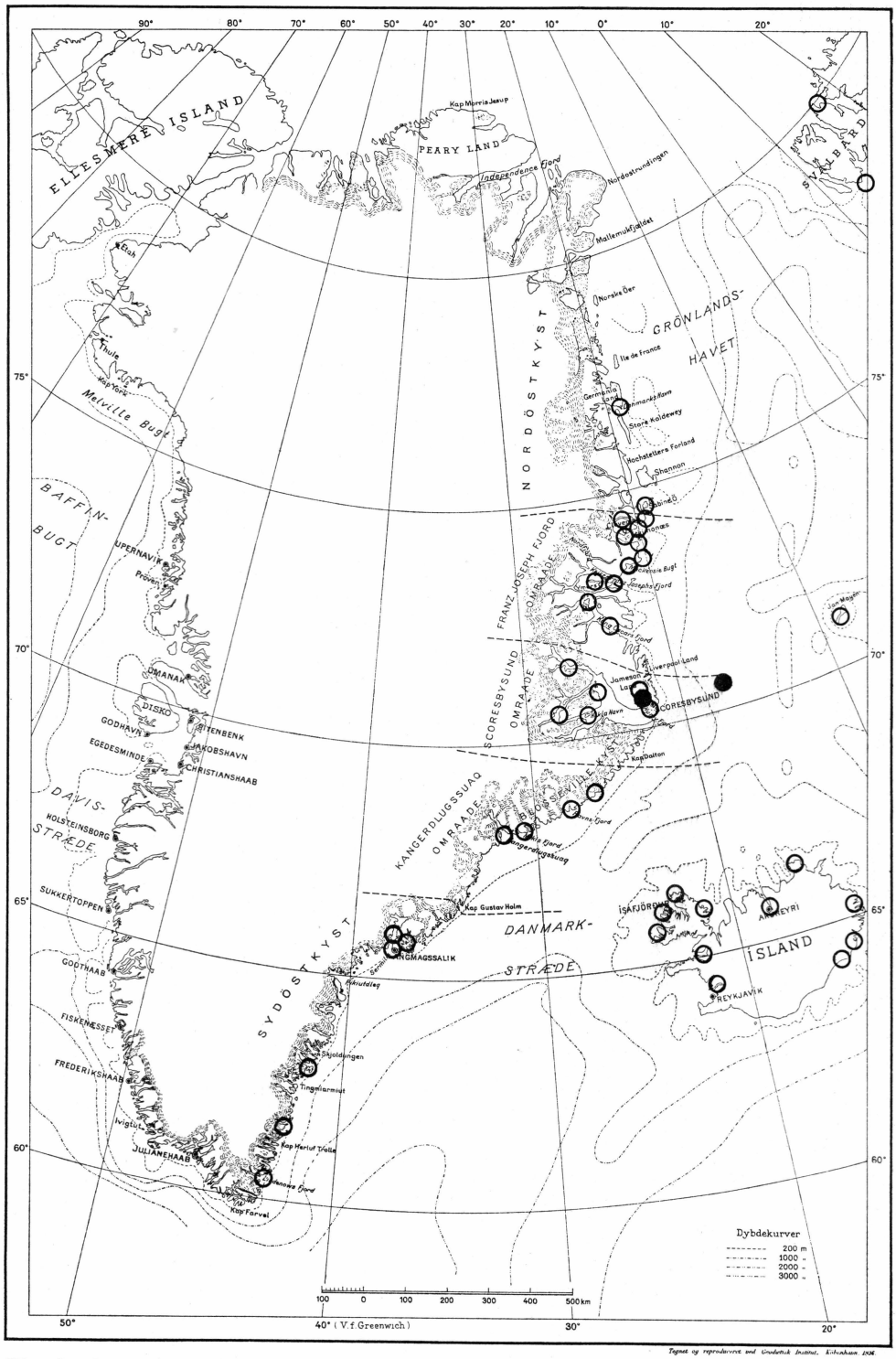


Fig. 8. Occurrence of *Gammarus locusta setosus*. ○ = 0—25 m, ● = > 25 m. After K. Stephensen 1940, 1935—42, and the present paper; only specimens examined by the present author.

suaq, 10—20 m, 1 specimen (K. STEPHENSEN 1933a). Mikis Fjord, 3.5—4 m, clay, and 15 m, clay with stones, E. BERTELSEN leg. 17-VIII-1933, about 12 specimens; Kangerdlugssuaq, 3—4 m, Fucus, E. BERTELSEN leg. 26-VIII-1933, about 10 specimens.

*Sydøstkyst:* In the tidal zone of Angmagssalik it "occurs everywhere on the coast, both on rock facies and on sediment shares found at river mouths" (BERTELSEN 1937, p. 18). Tasiusak, beach, 1 specimen (H. J. HANSEN 1895). Angmagssalik, 18—0 m, SØREN JENSEN leg. 1900, 1 small specimen, and outside the harbour, depth?, surface, 1 specimen; Tasiusak, 0—4 m, 3 hauls, about 15 specimens; Kungmiut, 9—10 m, mud, 1 specimen; Sermilik, second Østfjord (Angmagssalik), 4 m, sand, clay, 1 specimen; Griffenfeldts Ø in Sydbugt (62°56′ N), 10—15 m, about 10 specimens; Naparsarsuakfjord, beach, under stones, and swimming near the beach, numerous specimens; Lindenows Fjord, 3—4 m, 3 hauls, sand, gravel, etc., about 15 specimens; ibid., small bay near Nordpynten, 10—25 m, about 10 specimens, and 27 m, black clay, 1 specimen. The majority of the specimens from the Sydøstkyst were taken by E. BERTELSEN 1933 and 1935.

All the specimens recorded above have been examined by the present author.

According to the above it is rather frequent along all the coasts of East Greenland from 77° N to 60° N, and it is a character form of the tidal zone, only exceptionally found at depths of more than a few meters.

Remarks. The majority of the East Greenland specimens are not over 25 mm in length, but there is a big ♂ of 35 mm from Sabine Ø.

A few specimens have plumose setæ only on urosome and telson; the other specimens have plumose setæ also on the legs, frequently even on antennæ 1—2.

Distribution. A littoral (sub-)species, generally occurring together with *G. locusta* sens. str., but probably mainly arctic. It has been recorded from Norway, Spitsbergen, Barents Sea, Jan Mayen, Iceland and Arctic America, but probably it has a much wider distribution. Further see K. STEPHENSEN 1935—42, p. 321, and 1940, p. 57.

### 127. *Gammarus wilkitzkii* (BIRULA) (Fig. 9).

*Gammarus wilkitzkii* K. STEPHENSEN 1935—42, p. 325, figs.

East Greenland records:

?*Gammarus locusta* BUCHHOLZ 1874, p. 343.
— — (in parte) H. J. HANSEN 1895, p. 129.
? — — BROCH & KOEFOED 1909, p. 121.
? — — var. *mutata* BROCH & KOEFOED 1909, p. 121.
— — (in parte) K. STEPHENSEN 1912, p. 542.

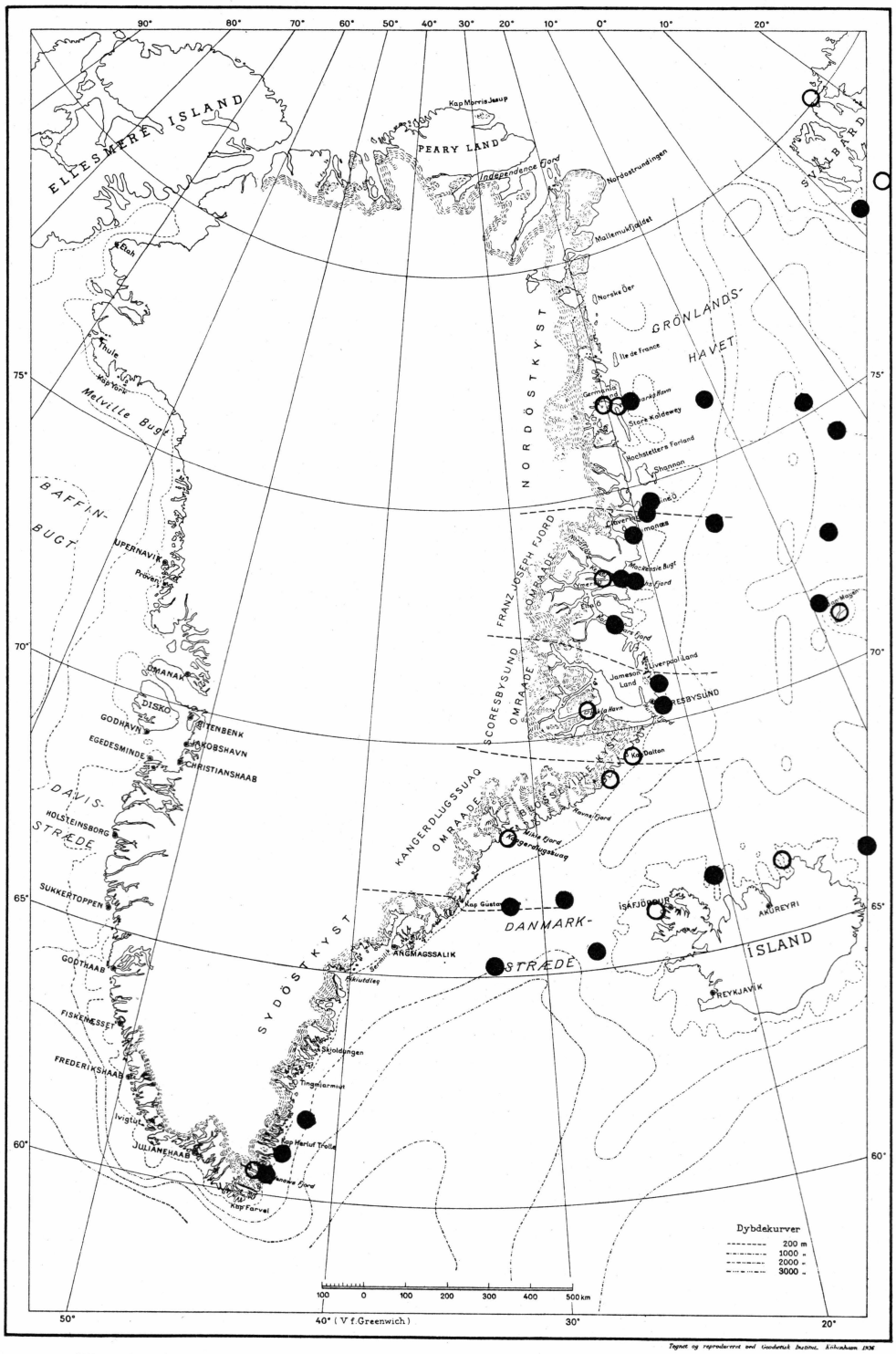


Fig. 9. Occurrence of *Gammarus wilkitzkii*. ○ = 0—25 m, ● = > 25 m.

*Gammarus locusta* (in parte) K. STEPHENSEN 1913, p. 193 (no new records).
— — — — 1933, p. 8.
— — — SCHELLENBERG 1935, p. 28.
— *wilkitzkii* K. STEPHENSEN 1935—42, p. 329.
non — *wilkitzkii*? H. MADSEN 1936 and BERTELSEN 1937 (= *G. locusta setosus*).

Occurrence at East Greenland (Fig. 9):

*Nordøstkyst:* 76°49′(—58′) N, 18°13′(—00′) W, depth 100 m, pelagical (BROCH & KOEFOED). Kap Bismarck Peninsula, 1 ♀ with empty marsupium; Danmarks Havn, in the surface, between an ice-floe and the ship; ibid., close to Søndre Næs, 0—2 m, rocky and sandy bottom with a little Fucus; ibid., 5—15 m, boundary between Laminaria and Delesseria region; ibid., Store Belt, 357 m, on underside of ice; 76°3′ N, 14°44′ W, 300 m, from stomach of *Phoca foetida*; Stormbugt, from stomach of *Phoca foetida*; Maroussia, pelagical in the surface between ice (K. STEPHENSEN 1912). Off Kap Bismarck 76°37′ N, 18°22′ W, 100 m wire out (K. STEPHENSEN 1935—40). Sabine Ø, 20—40 m, "very frequent"; Germania Havn, 6 m (BUCHHOLZ). 74°36′ N, 12°0′ W, along the ice-foot (H. J. HANSEN 1895).—Sabine Ø, anchoring-place, SØREN JENSEN leg. 12-VII-1900, 1 specimen; Borlase Warren, 200 m, SØREN JENSEN leg. 10-VII-1900, 1 specimen 8 mm.

*Franz Joseph Fjord area:* Clavering Fjord, 400—338 m (SCHELLENBERG 1935, = K. STEPHENSEN 1935—42). 73°53′ N, 14°32′ W, depth?, among floating ice (K. STEPHENSEN 1935—42). Between Kap Franklin and Broch Øerne, 300 m wire out, 13-VIII-1933, 2 specimens; 2 miles Northeast of Kap Wardlaw, 300 m wire out, 22-VII-1932, 3 specimens inclusive of a ♂ of 41 mm; Kap Graah, mouth of Dusénfjord, 30—15 m, clay with Desmarestia and red Algæ, 12-VIII-1932, 1 specimen; Kong Oscars Fjord, Southeast of Ancher Øerne, 100 m wire out, 2 specimens, and 500 m wire out, 22-VIII-1932, 2 specimens.

*Scoresbysund area:* Danmarks Ø (H. J. HANSEN 1895); Scoresbysund, off Kap Tobin, 300 m wire out, 29-VIII-1932; Liverpool Kysten off Raffles Ø, 234 m, sand, gravel, stones, 13-VIII-1933, 1 specimen; Ryders Sund, 6—0 m, SØREN JENSEN leg. 25(26)-VII-1900, 1 specimen.

*Kangerdlugssuaq area:* 66°58′ N, 29°01′ W, depth? (K. STEPHENSEN 1935—42). d'Aunay Bugt, surface; Kangerdlugssuaq, surface (K. STEPHENSEN 1933).

*Sydøstkyst:* About 65½° N, 33° W, depth?; Danmark Strædet (K. STEPHENSEN 1935—42). 65°58′ N, 31°30′ W, 460 m, 15 m wire out, 10-VIII-1933, 3 small specimens; 62°13′ N, 42°04′ W, 355 m, 15 and 150 m wire out, 12-VIII-1933, 2 specimens; 60°47′ N, 42°34′ W, 210 m, 65 and 150 m wire out, 2 specimens; Lindenows Fjord, 8—75 m, 5 hauls (viz., 8—10 m, 10—25 m, 35 m, 52 m, 50—75 m), the majority of the specimens were taken by E. BERTELSEN 16—28-VII-1935, 5 specimens.

All these specimens except those recorded by Buchholz 1874 and Broch & Koefoed 1909 have been examined by the present author.

As appears from the above *G. wilkitzkii* has been found about 40 times at East Greenland from about 77° N to 60° N. In 16 samples the depths were not noted; but in the cases where the depths were known, they were as follows: 0—25 m 9 hauls, 26—100 m 5 hauls, > 100—200 m 1 haul, and > 200 m 10 hauls. Very frequently it was taken in or near the surface, for it is a pelagic species, swimming among floating ice.

A ♂ from Claveringfjord is 43 mm, and another from Dusénfjord is 41 mm; the largest of the others are 35 mm, the majority are smaller. I have not seen any ovigerous ♀ from East Greenland, but there are several ♀ with large empty marsupium. And in the collection of the Zoological Museum of Copenhagen there is a ♀ (27 mm) with embryos (2 mm) from Northwest of Jan Mayen (taken 30-VI-1910), and several ♀ (27—31 mm) with embryos (2—3 mm) from 74°45′ N, 3°23′ W (taken 30-VII-1906).

Distribution. From Arctic America about 85° W to Spitsbergen etc. and along Siberia at least to about 136° E; for special localities see K. Stephensen 1935—42, p. 328, and 1940, p. 58 (Iceland). Additional localities: 76°03′ N, 10°40′ W, among the ice-floes, and 74°45′ N, 3°23′ W, surface near ice-floes (K. Stephensen 1912, p. 542). 72°57′ N, 0°57′ E, surface (H. J. Hansen 1895, p. 129). About 72½° N, 7° W, near the ice-foot, Søren Jensen leg. 2-VII-1900, 1 specimen. Northwest of Jan Mayen, on drift-wood, Søren Jensen leg. 30-VI-1900, numerous specimens. 75°19′ N, 4°42′ W, in and near surface, among floating ice, numerous very small specimens, determination not certain (K. Stephensen 1912, p. 542). South of Spitsbergen, Joh. Petersen leg. 25-VII-1901, 1 small specimen. 73°45′ N, 118°01′ E, 11 m, Gurjanova determ. et ded., 2 specimens. All the specimens listed above are in the Zoological Museum, Copenhagen.—79°44′ N, 11°10′ E, depth 25 m, pelagical in the surface, and 76°48′(47′) N, 3°32′ W, depth 250 m, pelagical in the surface ("*G. locusta*", Broch & Koefoed 1909, pp. 34, 85).

## Genus **Gammaracanthus** Bate.

### 128. *Gammaracanthus loricatus* Sabine (Fig. 10).

*Gammaracanthus loricatus* Stebbing 1906, p. 508.
— — Jägerskiöld 1912, p. 26, with chart.
— — Ekman 1920, pp. 513—519, with figs., pp. 567—573.
— — K. Stephensen 1935—42, p. 356, with figs.

East Greenland records:

*Gammaracanthus loricatus* K. Stephensen 1912, p. 543.
— — — 1913, p. 197 (no new records).

*Gammaracanthus* sp. THORSON 1933, pp. 12, 15, 22.
— - — 1934, pp. 30, 36.
— *loricatus* SCHELLENBERG 1935, p. 28.
— — MADSEN 1936, p. 11 (no special localities).
— — BERTELSEN 1937, pp. 15, 18, 21.

Occurrence at East Greenland:

*Nordøstkyst:* Around Danmarks Havn, 11 samples, 0—12 m, varying bottom (K. STEPHENSEN 1912). Sabine Ø, anchoring-place, SØREN JENSEN leg. 12-VII-1900, 3 specimens.

*Franz Joseph Fjord area:* Kap Humboldt, beach (SCHELLENBERG 1935). Dusénfjord, the head, 1—2.5 m, clay, Fucus, 12 specimens; Solitærbugt, Ella Ø, 3—15 m, 5 hauls (viz., 3 m, 3—7 m, 4—8 m, 9 m, and 13—15 m), clay and algæ (THORSON 1933). Kap Stosch, Gael Hamkes Bugt, 15 m ("Godthaab" 4-VIII-1930), 2 specimens. Borlase Warren, anchoring-place, 20 m, Laminariæ, SØREN JENSEN leg. 14-VII-1900, 1 small specimen; 5 miles south of Botanikerøen, depth?, 150 m wire out, 21-VIII-1932, 1 specimen (sex?) about 45 mm; 2 miles north of Kap Wardlaw, depth?, 100 m wire out, 22-VIII-1932, 1 specimen.

*Scoresbysund area:* Coast near Kap Hope, 3.5 and 5.5 m; off Kap Hooker, 14 m, sand with clay (THORSON 1934). Hurry Fjord, the mouth, 100 m, SØREN JENSEN leg. 11-VIII-1900, 1 specimen (sex?) 45 mm; Amdrups Havn and Hvalrosbugt, 8—35 m, ALWIN PEDERSEN leg. 2-IX-1927, 2 specimens; Kap Hope, 5—7 m, sand, 2-VII-1933, 2 specimens (1 ♂ 44 mm, 1 ovigerous ♀ 53 mm); Nordvestfjord, Solvigen, 2—3 m, Fucus and other Algæ, clay, 24-VII-1933, 3 specimens (1 ♂ 45 mm, 2 ovigerous ♀ 49—55 mm).

*Kangerdlugssuaq area:* Kangerdlugssuaq, 0—15 m, 5 hauls (viz., 0—1 m, 3—4 m, 3—5 m, 10—0 m, and 15—0 m), Fucus or other Algæ, several specimens, BERTELSEN leg. 20—28-VIII-1933 (this material was mentioned by BERTELSEN 1937, but without special localities).

*Sydøstkyst:* Kap Dan near Angmagssalik, 20—30 m, rocky bottom with Algæ, AMDRUP-Exped. leg. 11-VI-1899, 1 ovigerous ♀ 42 mm; Sermilik, second Østfjord, 4 m, sand, clay, BERTELSEN leg. 24-VII-1933, numerous specimens; the majority are about 35 mm, but there are several ovigerous ♀ about 40—45 mm (this material was recorded by BERTELSEN 1937, p. 18).

According to the above it has been found 36 times from 77° to 66°N, mainly in the littoral zone 0—25 m among algæ, very rarely deeper.

Remarks on size etc. The largest specimen is a ♀ from Danmarks Havn, 62 mm in length, but a great many are 40—60 mm.

There are the following large ♂: 55—60 mm (Sabine Ø, 12-VII), 45 mm (Nordvestfjord, 24-VII), 44 mm (Kap Hope, 2-VII), and 41 mm (Rosenvinges Bugt, 2-VIII).

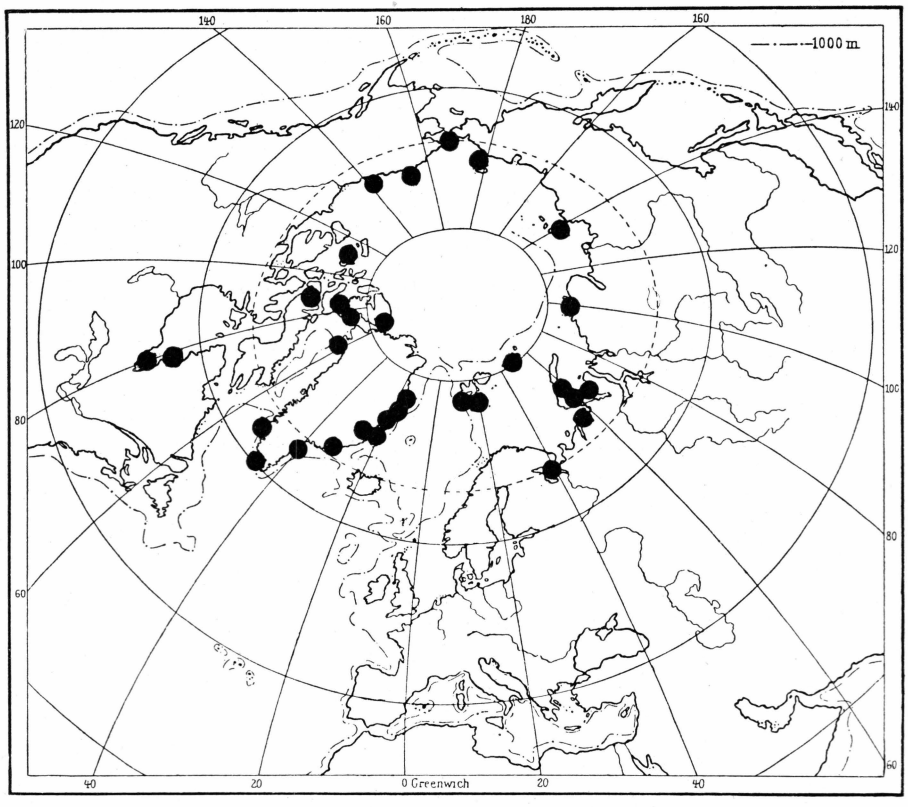


Fig. 10. Distribution of *Gammaracanthus loricatus*.

Ovigerous ♀ are 38—55 mm and were found 11-VI to 20(28)-VIII. The dates etc. are as follows: 11-VI, 42 mm (Kap Dan); 2-VII 53 mm (Kap Hope); 8-VIII, 48 mm (Danmarks Havn); 24-VII, 40—45 mm (Sermilik) and 49—55 mm (Nordvestfjord); 6-VIII, 52 mm (near Danmarks Havn); and 20(28)-VIII, 38 and 55 mm (Kangerdlugssuaq).

♀ with embryos of 2—3 mm in length were found 22-IX and 28-IX, 44 mm and 47 mm (Danmarks Havn), and young specimens, 8 mm, were found 2-VIII (Rosenvinges Bugt).

Distribution (Fig. 10). A low-arctic species; circumterrestrial. For special localities see K. Stephensen 1935—42, p. 356.

## Fam. **Photidæ** Boeck.

### Genus **Photis** Krøyer.

#### 129. *Photis reinhardti* Krøyer.

*Photis reinhardi* G. O. Sars 1895, p. 569, pl. 202.
— — Stebbing 1906, p. 607.

Occurrence at East Greenland:

*Sydøstkyst:* Kekertatsiak (about 60° N), 60—70 m, sand, gravel, 1 ♂, and 60—70 m, sand, gravel and dead Bryozoa, 1 ♀, E. BERTELSEN leg. 1935.

It is new to East Greenland.

Distribution. Widely distributed in the northern Atlantic, from Dogger Bank and Connecticut to White Sea, Spitsbergen and West Greenland 66° N. Is probably an arctic-boreal species. For special localities see K. STEPHENSEN 1935—42, p. 369.

## Genus **Eurystheus** BATE.

### 130. *Eurystheus melanops* (G. O. SARS).

*Gammaropsis melanops* G. O. SARS 1895, p. 560, pl. 199 fig. 1.
*Eurystheus maculatus* (in parte) STEBBING 1906, p. 610.

East Greenland record:

*Eurystheus melanops* K. STEPHENSEN 1935—42, p. 371.

Occurrence at East Greenland:

*Kangerdlugssuaq area:* Kangerdlugssuaq, 56 m, clay, red Algæ, BERTELSEN leg. 18-VIII-1933, 1 specimen.

*Sydøstkyst:* Tasiusak near Angmagssalik, 50—60 m, rocky bottom with many Algæ, AMDRUP-Exped. 1-VI-1900 (K. STEPHENSEN 1935—42). Kekertatsiak (60°15′ N), 60 m, sand, dead Bryozoa, gravel, bottom-grab, BERTELSEN leg. 13-VII-1935, 3 specimens.

Distribution. Very widely distributed in the northern Atlantic, from West Greenland 69° N (and ?Gulf of St. Lawrence) to Novaja Zemlya and Danish waters. For special localities see K. STEPHENSEN 1935—42, p. 370, and 1940, p. 62. Is a boreal-arctolittoral species.

## Genus **Goësia** BOECK.

### 131. *Goësia depressa* (GOËS) (Fig. 11, fig. 12 (in parte)).

*Autonoë*(?) *depressa* GOËS 1866, p. 532, pl. 41 fig. 35.
*Goësia* — STEBBING 1906, p. 622.
— — STAPPERS 1911, p. 71, pl. 3 figs. 26—31.
— — K. STEPHENSEN 1935—42, p. 374, figs.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Dusénfjord, anchoring-place, 25 m, tough clay, 12-VII-1933, 1 specimen (♂?).

*Scoresbysund area:* 8 miles inside Kap Hooker, 14 m, clayish sand, 15-VII-1933, 1 ♂; western side of Jameson Land, opposite Kap Leslie, 22 m, sandy glittering clay, 26-VII-1933, 1 ♂; Kap Leslie, 54 m, glittering clay, 22-VII-1933, 2 specimens (1 ♂, 1 ♀ with embryos); west coast of

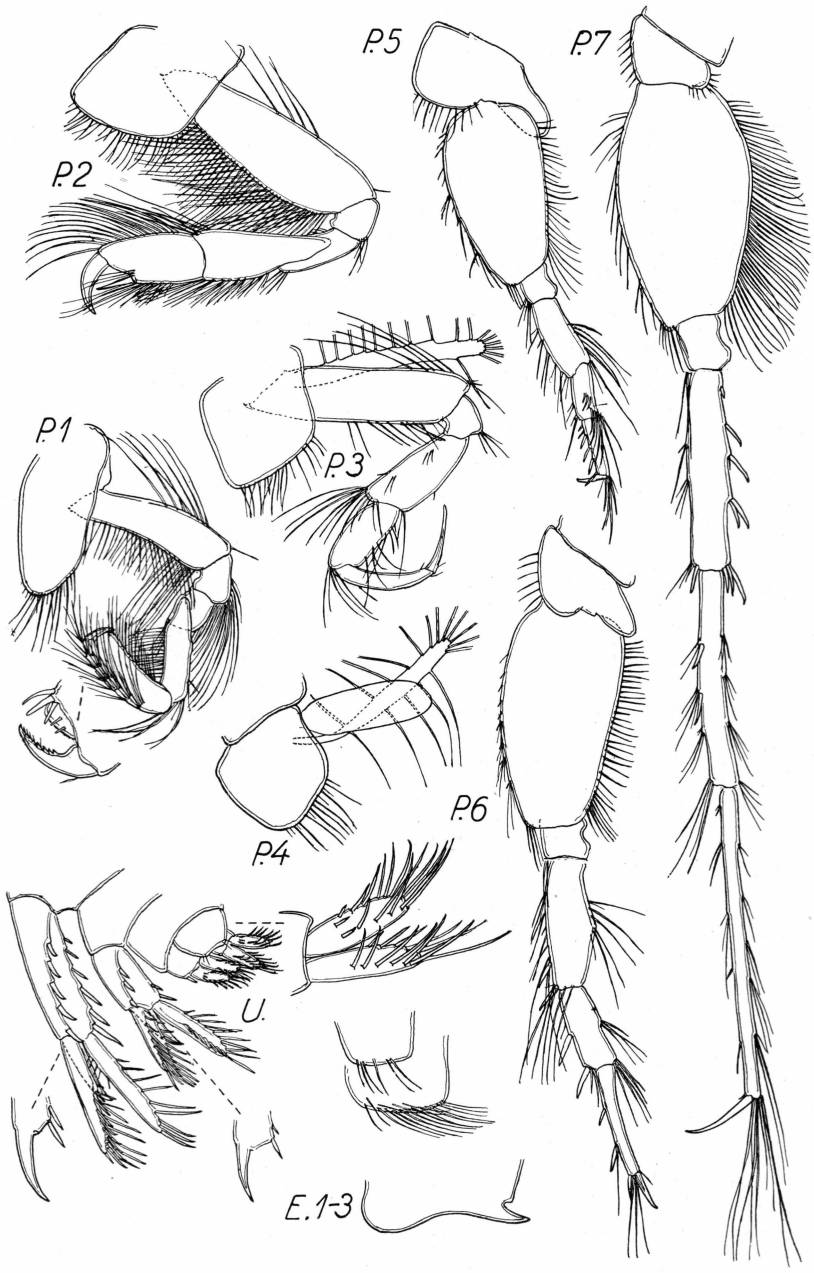


Fig. 11. *Goësia depressa*, ♀, 12 mm. Pereiopods 1—7 (*P. 1—7*), epimeral plates 1—3 of the metasome (*E. 1—3*), and urosome (*U.*).

Jameson Land, off Bjørne Øerne, 29—31 m (3 occurrences), tough clay, 26-VII-1933, 3 specimens.

All the East Greenland specimens were taken with bottom-grab. The species is new to East Greenland.

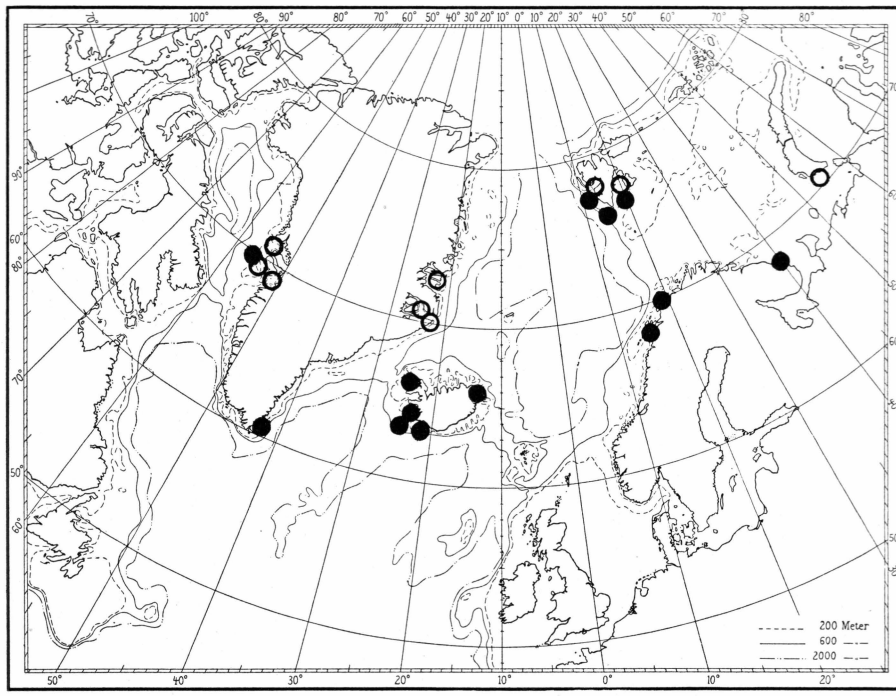


Fig. 12. Distribution of *Goësia depressa* (rings) and *Protomedeia grandimana* (black spots); doubtful localities are omitted.

Remarks. GOËS l. c. has given an excellent, but very brief description with some figures reproduced in a very small scale; STEBBING l. c. is based on GOËS. STAPPERS l. c. gives some additions to the earlier descriptions, with new figures of the oral parts. K. STEPHENSEN l. c. has reproductions of figures from GOËS l. c. and STAPPERS l. c., but no description.

As, according to the above, in existant literature the pereiopods and uropods are figured in a but very small scale, I give new figures of these appendages and of the epimeral plates of the metasome segments. But I have nothing to add to the descriptions, except that peduncles of uropods 1—2 terminate in a long spine each, in uropod 1 half as long as outer ramus, in uropod 2 two thirds the length of outer ramus.

The East Greenland specimens (♀) are up to 12 mm in length; ♂ are somewhat smaller, up to about 10 mm. Apart from the difference in length there seems to be no sexual difference, not even in the antennæ (but antennæ are lost or defective in most specimens): a ♀ with embryos, 10 mm (from Kap Leslie, 54 m, 22-VII-1933) has in flagellum of antenna 1 20 joints + 1 very small apical joint, in antenna 2 9 joints + 1 very

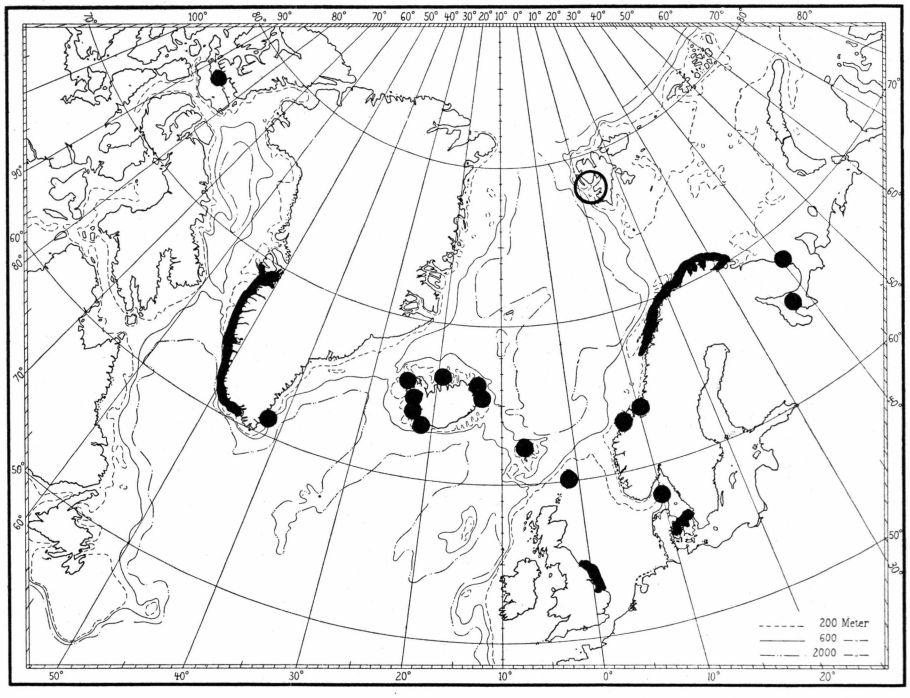


Fig. 13. Distribution of *Protomedeia fasciata*. The locality at Spitsbergen could not be noted exactly. Some localities (Gulf of St. Lawrence, and Arctic America) are outside the chart.

small apical joint; a ♂, 8 mm (from the same locality): antenna 1: 22 joints + 1 apical joint, antenna 2: 9 joints + 1 apical joint.

Distribution (Fig. 12). West Greenland 69°—71° N, 160—235 m; Spitsbergen, 10—25 m (the type-locality was Storfjord, 10 m); Novaja Zemlya, south coast, 90 m (for references see K. Stephensen l. c.). Is probably a low-arctic species.

## Genus **Protomedeia** Krøyer.

### 132. *Protomedeia fasciata* Krøyer (Fig. 13).

*Protomedeia fasciata* G. O. Sars 1895, p. 552, pl. 196.
— — Stebbing 1906, p. 623.
— — K. Stephensen 1935—42, p. 376, fig.

Occurrence at East Greenland:

*Sydøstkyst:* Kekertatsiak (60°15′ N), 80 m, sand, dead Bryozoa, E. Bertelsen leg. 13-VII-1935, bottom-grab, 1 specimen.

The species is new to East Greenland, but is very abundant at West Greenland 60°—70° N, 2—135(400) m (K. Stephensen 1913, p. 206, and 1916, p. 204).

Distribution (Fig. 13). Widely distributed in the northern Atlantic (from Denmark, England and Gulf of St. Lawrence) with adjacent arctic waters, in the littoral and sublittoral zones. Is an arctic-boreal species. For special localities see K. STEPHENSEN 1935—42.

133. *Protomedeia grandimana* BRÜGGEN (Fig. 12, in parte).

*Autonoë macronyx* (in parte) GOËS 1866, p. 531, pl. 40 fig. 31 (the figure, but not all the localities).
*Protomedeia grandimana* BRÜGGEN 1905, p. 223 (Russian text), p. 226 (German text), fig.
— — BRÜGGEN 1906 (1907), p. 233, fig.
— — K. STEPHENSEN 1935—42, p. 379, figs.

Occurrence at East Greenland:

*Sydøstkyst:* Nanusek (about 60½° N), 40 m, sand, clay, E. BERTELSEN leg. 19-VII-1933, bottom-grab, 1 ♀ jun. without marsupium, 8 mm.

It is new to East Greenland, but has been found in Baffin Bay 69°42′ N, 56°20′ W, 160 m (K. STEPHENSEN 1933b, p. 49).

Distribution (Fig. 12 (p. 120)). Baffin Bay (see above), Iceland 19—150 m, Spitsbergen 2—35 m, Norway north of 68° N 10—20 m, Murman Coast 10—12 m; for special localities see K. STEPHENSEN 1935—42, p. 384, and 1940, p. 63. Is probably a low-arctic species.

## Fam. **Jassidæ** STEBBING.

### Genus **Ischyrocerus** KRØYER.

134. *Ischyrocerus anguipes* KRØYER.

*Ischyrocerus anguipes* + *I. minutus* G. O. SARS 1895, pp. 508, 509, pl. 209, 210 fig. 1.
— — STEBBING 1906, p. 658.

East Greenland records:

*Podocerus anguipes* BUCHHOLZ 1874, p. 378, figs.
*Ischyrocerus anguipes* K. STEPHENSEN 1913, p. 211 (no new records).
— — SCHELLENBERG 1935, p. 29.

Occurrence at East Greenland:

*Nordøstkyst:* Germania Havn; Sabine Ø, 20—235 m (BUCHHOLZ 1874).

*Franz Joseph Fjord area:* 2 miles NE. of Herschelhus, 7 m, mud with brown and red Algæ, ÷ 0.73°, salinity 32.47 ‰; Loch Fine (about 74° N), 14—3 m, stones with brown and red Algæ (SCHELLENBERG 1935). Eskimonæs, E. of Knolden, 14—10 m, sabulous black clay, H. MADSEN leg. 18-VIII-1932, 1 juv., and Inner harbour, 12.5—10 m, sand with green and brown Algæ, H. MADSEN leg. 8-VIII-1932, 2 ovigerous ♀; Ella Ø, 4—5 m, 17-VIII-1930, a few ♀.

*Scoresbysund area:* Kap Hope, 7 m, sand, 27-VI-1932, 1 ovigerous ♀, and 9—12 m, sand, Algæ, 21-VI-1932, 1 ♀, defective; Turner Sund, 6 m, SØREN JENSEN leg. 25-VII-1900, 4 ♀.

*Kangerdlugssuaq area:* Uttenthal Sund, Kangerdlugssuaq, 4—5 m, stones, Fucus, E. BERTELSEN leg. 23-VIII-1933, 1 defective ♀, determination not certain.

*Sydøstkyst:* Ingolfs Fjord (66°15′ N), rocks with Algæ, Amdrup-Exped. leg. 5-VIII-1899, some ovigerous ♀; 66°07′ N, rocks, Algæ, near beach, Amdrup-Exped. leg. 18-VII-1899, 1 defective ♀; Smalsund 66° N, Laminaria, Amdrup-Exped. leg. 17-IX-1898, some ovigerous ♀ and 1 ♂ juv.; Tasiusak (near Angmagssalik), 40—60 m, stony bottom, Algæ, Amdrup-Exped. leg. 20-V-1899, 1 juv. Tasiusarsik, 5—7 m (2 hauls), Laminaria and Fucus, 20-VII-1933, 1 ♀ with empty marsupium, numerous ovigerous ♀, and 1 adult ♂; Naparsarsuak, 9 m, rocky bottom, Laminaria, 25-VI-1935, 58 specimens (mainly ovigerous ♀; a few ♂); Kutdlek, 2—13 m (3 hauls), rocky bottom, Laminaria, red Algæ, 25—26-VI-1935, many ovigerous ♀ and 1 big ♂, and 36 m, muddish sand, red Algæ, Alaria, 25-VI-1935, 1 ♀; Kap Tordenskjold, 3—11 m (4 hauls), clay or rocks with Algæ, 1-VII-1935, several specimens, mainly ovigerous ♀; Kakertatsiak, 15 m, rocky bottom, Laminaria, 13-VII-1935, 10 ovigerous ♀; Lindenows Fjord, 5—25 m (17 hauls), Laminaria etc., numerous specimens, mainly ovigerous ♀, and > 25—50 m (8 hauls), Laminaria etc., 16—31-VII-1935, several specimens, mainly ovigerous ♀. All the specimens from 1933 and 1935 were secured by E. BERTELSEN.

According to the above it is distributed at East Greenland from $74^1/_2°$ to 60° N, but mainly to the south.

Number of hauls (hauls with depth not noted are omitted)

| Depth in m | Nordøst-kyst | Fr.Jos.Fj. area | Scoresb. area | Kangerdl. area | Sydøst-kyst | Total no. of hauls |
|---|---|---|---|---|---|---|
| 0—25 | — | 5 | 3 | 1 | 29 | 38 |
| > 25—50 | — | — | — | — | 9 | 9 |
| > 50 | 1 | — | — | — | 1 | 2 |
| | 1 | 5 | 3 | 1 | 39 | 49 |

Most frequently it is found in rather shallow water, 0—25 m, among Laminaria and other Algæ, rarely deeper.

Remarks. The majority of the East Greenland specimens are but 5 mm in length (ovigerous ♀), very few are longer, up to > 10 mm (ovigerous ♀; and ♂ from Smalsund, Tasiusarsik, and Lindenows Fjord). Almost all the specimens are ovigerous ♀; there are very few ♂, and

but 5 specimens (up to 12 mm) with pereiopod 2 agreing with SARS's figure (they are from Tasiusarsik, 5—7 m (20-VII), Kutdlek, 2—4 m (26-VI), and Lindenows Fjord, 10—15 m (28-VII)).

Ovigerous ♀ were taken at the southern part of the Sydøstkyst from 25-VI to 29-VII, in the Scoresbysund area (Kap Hope) 27-VI, and in the Franz Joseph Fjord area (Eskimonæs) 8-VIII.

Distribution. Widely distributed in the northernmost part of the Atlantic with adjacent arctic seas; for special localities see K. STEPHENSEN 1935—42, p. 394, and 1940, p. 64, with chart fig. 11, p. 81. Is a boreal-arctolittoral species.

### 135. *Ischyrocerus megacheir* (BOECK).

*Ischyrocerus megacheir* G. O. SARS 1895, p. 592, pl. 211.
— — STEBBING 1906, p. 659.

East Greenland record:

*Ischyrocerus megacheir* H. J. HANSEN 1895, p. 130.

Occurrence at East Greenland:

*Scoresbysund area:* 69°25′ N, 20°01′ W, 315 m, stones and clay, E. BAY leg. 17-VIII-1892, 1 ovigerous ♀ (H. J. HANSEN l. c.).

Distribution. Widely distributed in the northern Atlantic with adjacent seas, from E. of America 43° N and Skagerrak, to Kara Sea, Spitsbergen and (?)Baffin Bay, depths (20)80—1400 m. For special localities see K. STEPHENSEN 1935—42, p. 396, and 1940, p. 65. Additional localities: Jugor Strait (GURJANOVA, Zoogeographica, vol. 2, 1935, p. 558), and Kara Sea 74°35′ N, 75°36′ E, 32 m (GURJANOVA, Explor. Mers U.R.S.S., vol. 21, 1935, p. 77). Is probably a panarctic (panarctic-boreal) species.

### 136. *Ischyrocerus latipes* KRØYER.

*Podocerus latipes* H. J. HANSEN, Vid. Medd. 1887, p. 161, pl. 6 fig. 3.
*Ischyrocerus latipes* STEBBING 1906, p. 660.

East Greenland records:

*Ischyrocerus latipes* H. J. HANSEN 1895, p. 130.
— — K. STEPHENSEN 1913, p. 212 (no new records).
— — SCHELLENBERG 1935, p. 29.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Herschelhus, 53—43 m, clay with sand and brown Algæ (SCHELLENBERG 1935).

*Scoresbysund area:* Scoresbysund, 10—50 m (H. J. HANSEN 1895).

Distribution. West Greenland 64°—70° N; from Spitsbergen and Barents Sea to New Siberian Islands, 17—350 m. For special localities see K. STEPHENSEN 1935—42, p. 393. Is probably a high-arctic species.

### 137. *Ischyrocerus megalops* G. O. Sars.

*Ischyrocerus megalops* G. O. Sars 1895, p. 591, pl. 210 fig. 2.
— — Stebbing 1906, p. 660.

East Greenland record:

*Ischyrocerus megalops* Schellenberg 1935, p. 29.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Kap Humboldt, 30—20 m, calcareous Algæ and stones; Franz Joseph Fjord West of Kap Franklin, 35 m, brownred clay (Schellenberg 1935).

Distribution. From North Norway $65^1/_2°$ N to East Spitsbergen $78^2/_3°$ N, 1—75 m. For special localities see K. Stephensen 1935—42, p. 398. Is probably a low-arctic species.

### 138. *Ischyrocerus brevicornis* (G. O. Sars).

*Podocerus brevicornis* G. O. Sars 1885, p. 207, pl. 17 fig. 2.
*Ischyrocerus brevicornis* Stebbing 1906, p. 661.

East Greenland records:

*Ischyrocerus brevicornis* H. J. Hansen 1895, p. 130.
— — K. Stephensen 1913, p. 212 (no new records).
— — Schellenberg 1935, p. 29.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 72°26′ N, 19°35′ W, 200 m (H. J. Hansen 1895). Tyrolerfjord, 125 m, clay and sand, ÷ 1.40°, salinity 33.30 ‰; Dusénfjord, 25 miles from the mouth, 185—75 m, brown clay, ÷ 1.2°, salinity 33.32 ‰ (Schellenberg 1935).

*Scoresbysund area:* 69°25′ N, 20°01′ W, 300 m, stones and clay (H. J. Hansen 1895).

Distribution. From East Greenland, Spitsbergen, and the deep Polar Basin, to Kara Sea, depths down to 1400 m, and probably always at negative temperatures. The specimen from Kara Sea was determined with? by Hansen; it is an ovigerous ♀, 7 mm, but though pereiopods 5—7 are lost, the determination is probably correct. For special localities see K. Stephensen 1935—42, p. 399. Is a high-arctic species.

### 139. *Ischyrocerus brusilovi* Gurjanova (Fig. 14).

*Ischyrocerus brusilovi* Gurjanova, Zool. Anzeiger, vol. 103, 1933, p. 126 (no fig.).
— — — Explor. Mers de l'U.R.S.S., fasc. 21, 1935, p. 78, figs. (in Russian).

Possibly synonymous with

*Podocerus hoeki* Stebbing, Amphip. "Challenger", 1888, p. 1136, pl. 120, which, according to Stebbing 1894 (see below) is synonymous with

*Podocerus tuberculatus* HOEK, Niederl. Archiv f. Zool., Suppl.-bd. 1, 1882, Crust., p. 64, pl. 3 fig. 32.
— — STEBBING, Bijdr. Dierk., vol. 17, 1894, p. 45.
*Ischyrocerus* — — 1906, p. 661.
— — K. STEPHENSEN 1935—42, p. 400, with reproduction of HOEK's figure.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Fleming Inlet, 225 m, red clay. SØREN JENSEN leg. 24-VIII-1900. 1 ♂ about 7 mm.

Remarks. The specimen agrees well with GURJANOVA's description and figures, but differs in a few small details. Antenna 1, flagellum (GURJANOVA: 8 joints) has lost its apical part, but 4 joints are kept; antenna 2, flagellum has 6 joints (GURJANOVA: 5 joints). Pereiopod 2 (GURJANOVA: gnath. 2), the teeth on palm are smooth, not "gezähnt". Spines and setæ on telson could not be found. The East Greenland specimen (♂) is longer (7 mm) than GURJANOVA's two specimens (♂, ♀; 5 mm).

Accessory flagellum (not mentioned by GURJANOVA) is 1-articulate, half the length of first joint of flagellum. Oral parts were not dissected out. Pereiopods 3—7 are not described by GURJANOVA. Pereiopod 4, side plate deeper than that of prp. 3, with hind margin slightly concave. Pereiopod 5, side plate has fore lobe not deep, fitting the emargination in hind margin of side plate of prp. 4. Prp. 5 in length equal to prp. 7, somewhat shorter than prp. 6. Second joints of prp. 5—7 rather similar, not very broad, lower hind corner in prp. 5 rounded, in prp. 6 rectangular, in prp. 7 obliquely cut off. Rami of uropods 1—2 are broken.

*I. brusilovi* is probably synonymous with *Podocerus hoeki* STEBBING 1888. STEBBING's fig. of palm of prp. 2 (STEBB.: gn. 2 ♂) agrees excellently with my fig., except that the two median teeth are somewhat lower in his fig., and the fig. shows but 4 teeth + the defining tooth. But his description runs as follows: "the serrate hind margin ends in a small apical tooth within which is a palmar spine, near to which the obliquely sinuous palm is smooth for a short space, then has one or two low tubercles followed by two that are large and irregular in outline, concluding with a nearly straight tract of seven or eight little tubercles which reach the hinge." *I. tuberculatus* has the palm of pereiopod 2 irregularly tuberculate, with numerous small tubercles.

Unfortunately but very specimens of these species are known (see below under Distribution).

Distribution. Kara Sea 71°26′ N, 57°34′ E, 280 m, gray mud, 2 specimens, and 74°35′ N, 75°26′ E, 32 m, 2 specimens (type-localities; GURJANOVA 1933 and 1935). East Greenland, see above. Baffin Bay

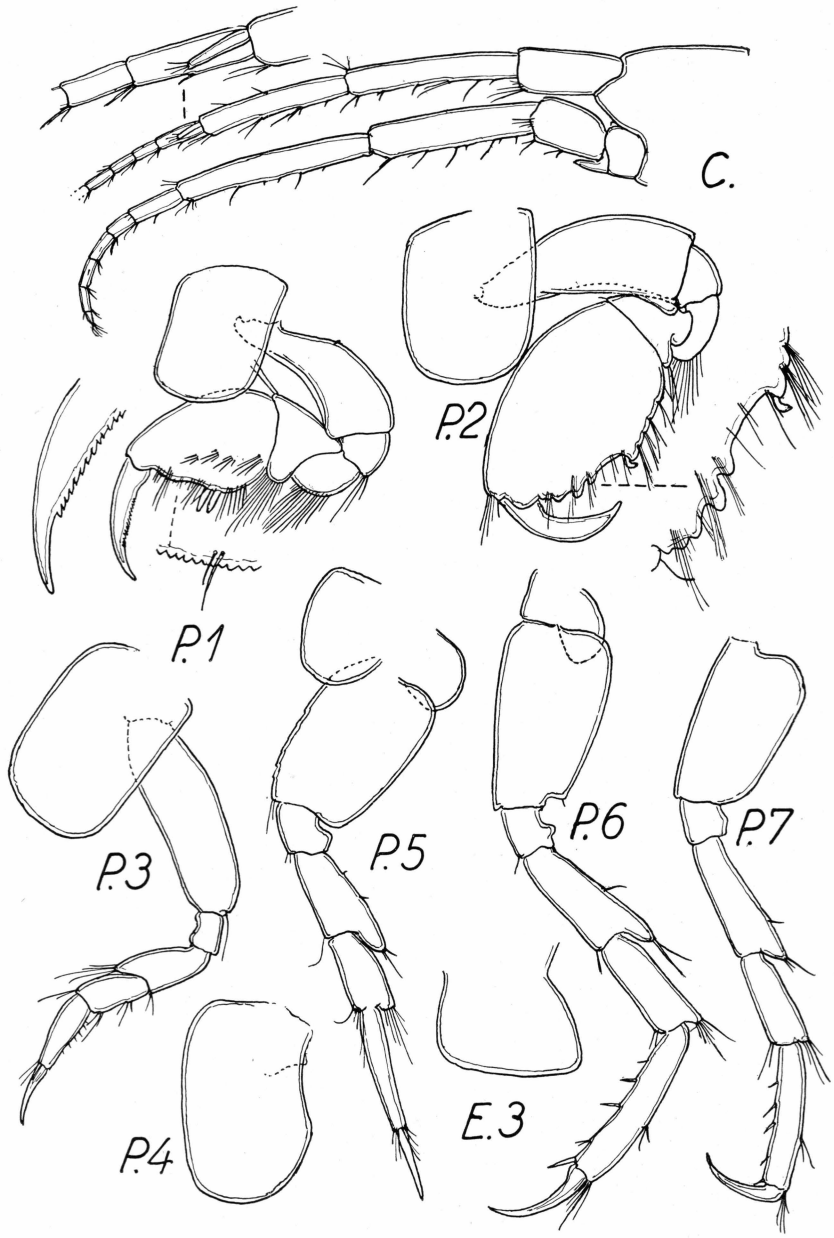


Fig. 14. *Ischyrocerus brusilovi* ♂, Fleming Inlet. Head (*C.*), pereiopods 1—7 (*P. 1—7*), and epimeral plate 3 of the metasome (*E. 3*).

78°15′5″ N, 73′29″ W, 290 m, ÷ 1.05°, 2 ♂; by K. Stephensen 1933b, p. 49 determined as *I.* (*nanoides* H. J. H.?). Is a high-arctic species.

The two species with which *I. brusilovi* probably is synonymous, are found at the following places. Barents Sea 71°23′ N, 48°38′ E, 125 m,

1 ♂ (*P. tuberculatus*, type-locality; HOEK 1882) and 77°07′ N, 49°37′ E, 320 m, some specimens (*P. tuberc.*; STEBBING 1894). Near New Zealand 40°28′ S, 177°43′ E, 2071 m, 1 ♂, 1 ♀ (*P. hoeki*; type-locality; STEBBING 1894).

## Fam. **Corophiidæ** DANA.

### Genus **Ericthonius** MILNE-EDWARDS.

#### 140. *Ericthonius megalops* (G. O. SARS).

*Ericthonius megalops* G. O. SARS 1885, p. 210, pl. 17 fig. 2.
— — STEBBING 1906, p. 673.

East Greenland records:

*Ericthonius megalops* H. J. HANSEN 1895, p. 130.
— — K. STEPHENSEN 1913, p. 213 (no new records).

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 72°53′ N, 20°36′ W, 185 m, stones (H. J. HANSEN 1895).

Distribution From Labrador(?) and Baffin Bay to White Sea; also the deep Polar Basin; depths 10—> 1100 m. For special localities see K. STEPHENSEN 1935—42, p. 403. Is probably a high-arctic species.

#### 141. *Ericthonius hunteri* (SPENCE BATE).

*Ericthonius hunteri* G. O. SARS 1895, p. 605, pl. 216 fig. 2.
— — STEBBING 1906, p. 673.
— — CHEVREUX & FAGE 1925, p. 354, fig.

East Greenland record:

*Ericthonius hunteri* SCHELLENBERG 1935, p. 29.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Mackenzie Bugt, 30 m (SCHELLENBERG 1935).

Distribution. Not known from West Greenland, but widely distributed along the European coasts from Jugor Strait to Iceland and Bay of Biscay; also in Black Sea and Bering or Okhotsk Sea; depths from a few meters down to 235 m (in Barents Sea). For special localities see K. STEPHENSEN 1940, p. 65 (Iceland) and 1935—42, p. 403. Is a boreal-arctolittoral species.

### Genus **Neohela** S. I. SMITH.

#### 142. *Neohela monstrosa* (BOECK).

*Neohela monstrosa* G. O. SARS 1895, p. 624, pl. 224.
— — STEBBING 1906, p. 675.

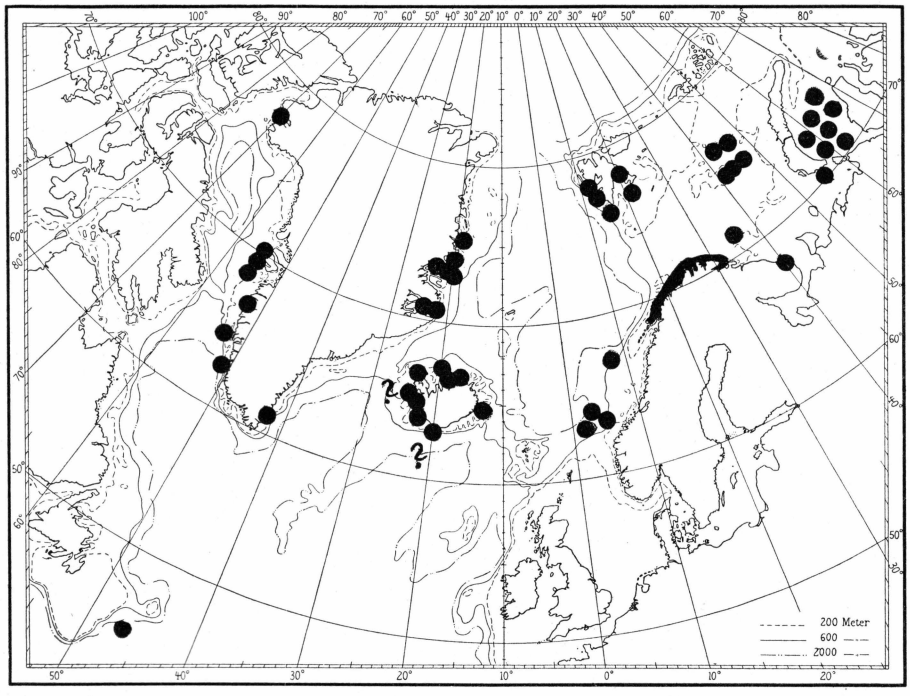


Fig. 15. Distribution of *Unicola leucopis*.

Occurrence at East Greenland:

*Scoresbysund area:* Hurry Fjord, 20 m, clay, 1 ♂, Søren Jensen leg. 21-VIII-1900. It is new to East Greenland.

Distribution. Distributed from Arctic America and West Greenland to Iceland, Skagerrak, Franz Joseph Land and Spitsbergen; also in the deep Polar Basin. Depths from 20 m (East Greenland) to > 2200 m (Polar Basin). For special localities see K. Stephensen 1940, p. 65 (Iceland) and 1935—42, p. 404. Is an arctic-boreal species.

## Genus **Unciola** Say.

### 143. *Unciola leucopis* (Krøyer) (Fig. 15).

*Unciola leucopis* G. O. Sars 1895, p. 620, pl. 222.
— — Stebbing 1906, p. 678.

East Greenland records:

*Glauconome leucopis* Buchholz 1874, p. 385.
*Unciola* — H. J. Hansen 1895, p. 130.
— — K. Stephensen 1913, p. 215 (no new records).
— — Schellenberg 1935, p. 29.

Occurrence at East Greenland:

*Nordøstkyst:* Nord Shannon, 60 m; Germania Havn (BUCHHOLZ 1874).

*Franz Joseph Fjord area:* 72°27′ N, 19°56′ W, 200 m (H. J. HANSEN 1895). Herschelhus, 80—78 m, clay with a few red Algæ; Mackenzie Bugt, 83—63 m, mud (SCHELLENBERG 1935). Borlase Warren, 210 m, SØREN JENSEN leg. 10-VII-1900, 5 specimens; between Clavering Ø and Store Finch Ø, 310 m, clay, bottom-grab, 26-VII-1932, 1 specimen; SE. of Jackson Ø, 73°39′ N, 18°14′ W, 212 m, clay with stones, bottom-grab, 20-VII-1932, 2 specimens.

*Scoresbysund area:* Between Kap Leslie and Jameson Land, 180 m, bottom-grab, 21-VIII-1933, 1 specimen; about 71° N, 250 m, RYDER's Exped. 30-VII-1891, 1 specimen.

*Sydøstkyst:* Lindenows Fjord, 400—600 m, clay, 28-VII-1935, $^1/_2$ specimen, very defective, determination not certain; ibid., 150 m and 125—150 m, clay, gravel, 2 specimens, E. BERTELSEN leg. 28-VII-1935.

Distribution (chart fig. 15). From East of New Foundland 46° N, 47° W, and West Greenland to Spitsbergen and Kara Sea; also the deep Polar Basin; depths 13—1267 m. For special localities see CHEVREUX 1935, p. 130, K. STEPHENSEN 1935—42, p. 405, and 1940, p. 66. Is a pan-arctic species.

## Genus **Siphonoecetes** KRØYER.

### 144. *Siphonoecetes typicus* KRØYER (Figs. 16, 17).

*Siphonoecetes typicus* KRØYER, Naturh. Tidsskr., ser. 2, vol. 1, 1845, pp. 481—491, pl. 7 figs. 4a—f.
— — KRØYER, Voyage de Gaimard, Crust., 1848, pl. 20 figs. 1a—v.
— — STEBBING 1906, p. 682.

Occurrence at East Greenland:

*Sydøstkyst:* Kekertatsiak (about 60° N), 60—70 m (4 hauls), sand with gravel and dead Bryozoa, dredge, 85 specimens, and 80 m, the same bottom, bottom-grab, 3 specimens. All these specimens were taken by E. BERTELSEN 13-VII-1935.

It is new to East Greenland.

Remarks. KRØYER l. c. 1845 has given a rather long description (in Danish), accompanied by a few figures (the species in lateral view, apex of antenna 2, pereiopods 3 and 5, pleopod 1 and uropod 1); l. c. 1848 he has given some more figures (including those of 1845), but no description. STEBBING 1906 is an excellent brief summary of KRØYER's original description, for nobody except H. J. HANSEN 1887 had seen the species since KRØYER's days.

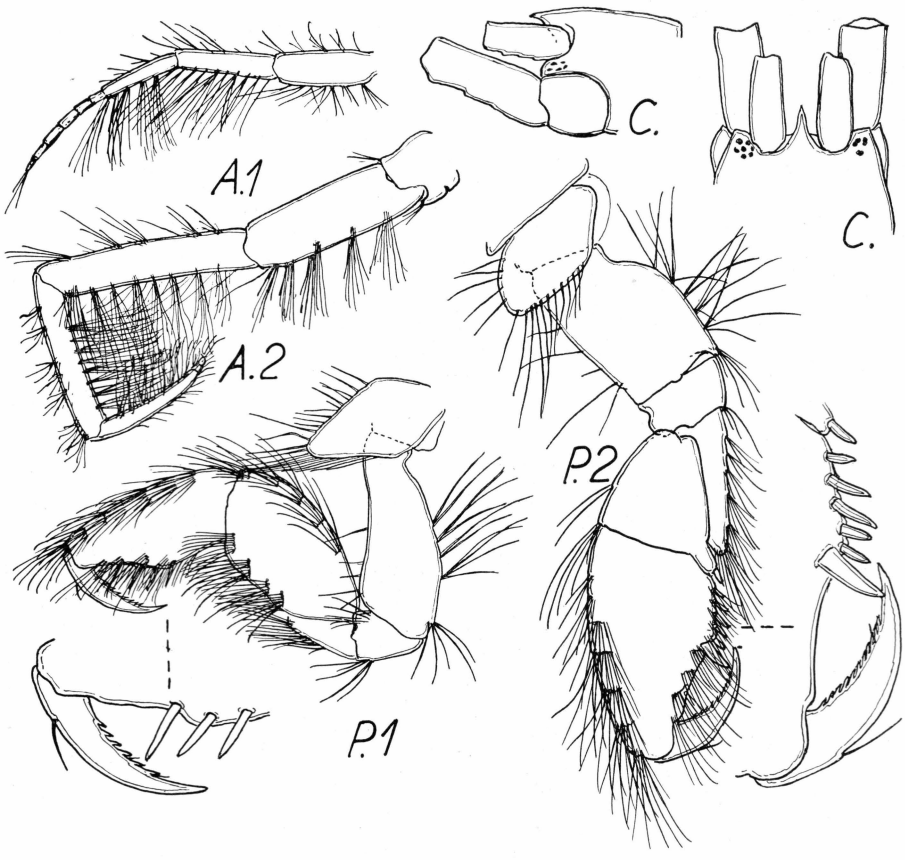


Fig. 16. *Siphonoecetes typicus* ♂, type. Head (*C.*) in lateral and in dorsal view, antennæ 1—2 (*A. 1—2*), and pereiopods 1—2 (*P. 1—2*).

Fortunately KRØYER's type-material, comprising over 20 specimens, is still preserved, and a comparison of this material to KRØYER's original description has shown that a few corrections are needed. Rostrum in small specimens reaches about to the middle of first joint of antenna 1; in larger specimens it is somewhat shorter, about a third of first joint, but not as short as in KRØYER 1848 fig. 1d. As regards the eyes KRØYER writes: "I have not been able to perceive either eyes or lenses under the integument. Therefore eyes are presumably missing. Possibly they are to be considered unnecessary, because of the habits of the animal." This is, however, not correct; in several of the specimens I have found distinct eyes, each consisting of up to about 8 darkbrown ocelli. And the lateral lobes are just as prominent as those of e. g. *S. colletti* or *S. pallidus* (cf. the drawings in G. O. SARS 1895, pl. 218). KRØYER in his text says nothing about these lobes; STEBBING writes, probably on basis of KRØYER's figure: "rostrum and front angles not very prominent." In

KRØYER's figures (1845, fig. 4a = 1848, fig. 1c) both rostrum and lateral lobes (= front angles) are apparently nearly obsolete, probably because the animal drawn was seen a little from below; but, if seen in dorsal view or a little from above their true shape is clearly seen (see my fig. 16, C). The lateral lobes are nearly horisontal and very broad, but in lateral view and, especially seen a little from below, they are sometimes more or less concealed by the very stout basal part of antenna 2.

Also another error in STEBBING is due to incorrectness in KRØYER's drawings (1848, fig. 1p = pereiopod 5). STEBBING writes: "sideplate 5 about thrice as broad as deep, outdrawn behind into a very long point"; but in reality the hind lobe is broader than in KRØYER's fig. (cf. my fig. 17, P.5). Uropod 1 has some setæ, but no spines, in distal half of outer edge. Uropod 3 has about 7—9 (not 12) strong setæ on the ramus, but at the apex of the peduncle there are only a few, extremely short setæ.

All KRØYER's type-specimens seem to be ♂; length up to 7 mm.

I give new figures of head, antennæ, pereiopods, uropods, and telson.

*S. typicus* is extremely close to *S. colletti* BOECK (G. O. SARS 1895, p. 610, pl. 218 fig. 1; STEBBING 1906, p. 683). The most important difference seems to be, that *S. colletti* has in distal half of outer edge of peduncle of uropod 1 some short, but rather stout spines (not a series of setæ), and that peduncle of uropod 3 has about 7—9 long setæ, equally as long as those of ramus (see G. O. SARS l. c., figs.).

Distribution. Hitherto known only from West Greenland 64°—68° N, 30—119 m. The special localities are as follows. West Greenland, probably Godthaab, 30—35 m, sand (KRØYER 1844; type-locality). 68°09′ N, 56°32′ W, 85 m, sand (H. J. HANSEN 1887, p. 163). Fyllas Banke 63°59′ N, 53°03′ W, 119 m, bottom-grab (K. STEPHENSEN 1933b, p. 57; was erroneously determined as *S. colletti* BOECK). Is possibly a low-arctic species.

## Genus **Corophium** LATREILLE.

*Corophium* CRAWFORD 1937 (Revision of all species).

### 145. *Corophium crassicorne* BRUZELIUS.

*Corophium crassicorne* G. O. SARS 1895, p. 615, pl. 220.
— — (in part) STEBBING 1906, p. 690.
— — CRAWFORD 1937, p. 607, with lit. etc., fig. 4A—F.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, 10—6 m, SØREN JENSEN leg. 13-VII-1900, 1 ♀ with 8 spines on second joint of antenna 2.

*Scoresbysund area:* Hurry Fjord, 1 mile inside the mouth, 15 m, sand, bottom-grab, 5-VII-1933. 1 ♀ with 11 spines on second joint of antenna 2.

It is new to Greenland.

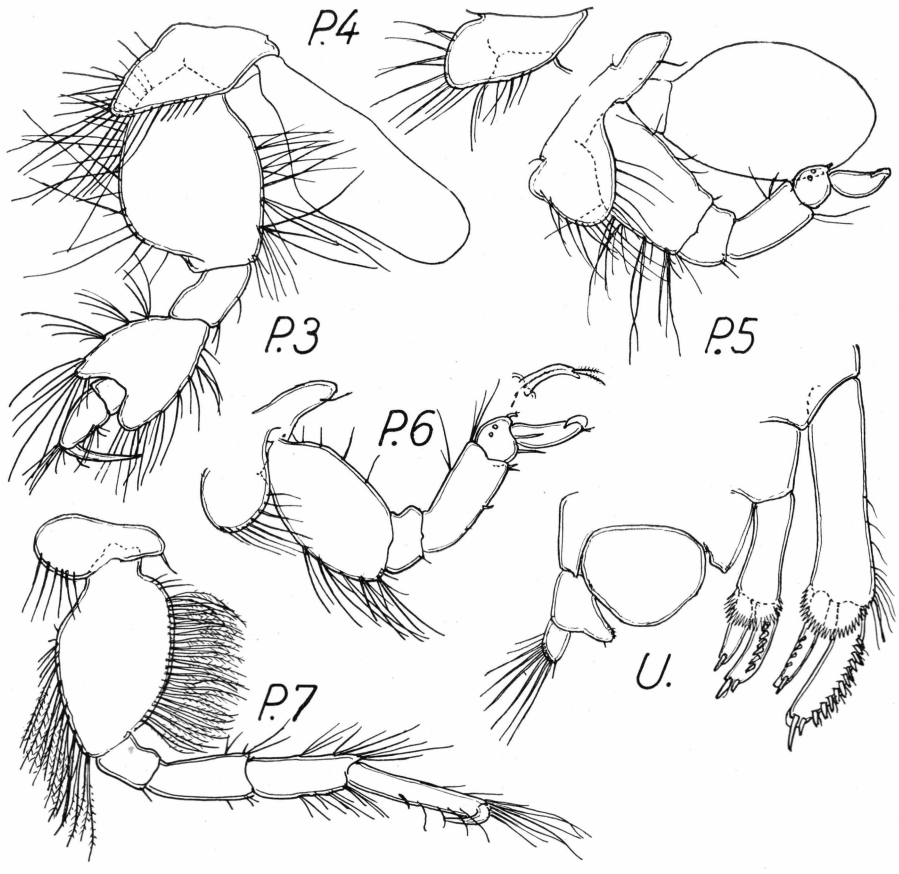


Fig. 17. *Siphonoecetes typicus* ♂, type. Pereiopods 3—7 (*P.3—7*), and urosome (*U.*).

Distribution. Widely distributed in the northern Atlantic, from Long Island (U.S.A.) and East Greenland (see above), but not West Greenland, and from White Sea and Spitsbergen to Black Sea. Not known from Iceland, but found at Alaska. For special localities see K. Stephensen 1935—42, p. 410. Is a boreal-arctolittoral species.

*Corophium* (*bonelli* G. O. Sars?).

*Corophium bonelli* G. O. Sars 1895, p. 616, pl. 221 fig. 1.
— — Stebbing 1906, p. 691.
— — Crawford 1937, p. 608, with figs.
— — K. Stephensen 1935—42, p. 411.

Occurrence at East Greenland:

*Nordøstkyst:* Sabine Ø, anchoring-place, Søren Jensen leg. 15-VII-1900, 1 ♀ 4 mm.

*Scoresbysund area:* Hurry Fjord, 1 mile inside the mouth, 15 m, sand, 5-VII-1933. 1 ovigerous ♀ 5 mm.

It is new to Greenland.

Remarks. These specimens belong probably to *C. bonelli*, but in a single character they agree with *C. insidiosum* CRAWFORD (CRAWFORD 1937, p. 610, p. 615, fig. 2, A—G), for pereiopod 1 (CRAWFORD: gnath. 1) has palm almost straight.

The following characters are noteworthy. Antenna 1, first joint has 4 straight spines on lower edge in both of the specimens (as in *C. insidiosum*); the Sabine-specimen has on inner edge 2 straight, not recurved basal spines (as in *C. insidiosum*), whereas the Hurry Fjord-specimen has 3 spines, the basal one of which is somewhat recurved (as in *C. bonelli*, CRAWFORD fig. 2, J), but not so much curved as in *C. pseudacherusicum* ♂ (CRAWFORD fig. 2, L) and ♀ (CRAWFORD fig. 2, N). Mandibles were not dissected out. Pereiopod 2 (CRAWFORD: gnath. 2) has but one accessory tooth on dactylus, and uropod 1 has 3 well spaced spines on inner edge of peduncle.

Distribution. From east coast of U.S.A. to East (not West) Greenland, and along the European coasts from Novaja Zemlya (but not Spitsbergen) to the Mediterranean. Also Iceland and southern South America. For special localities see K. STEPHENSEN 1935—42, p. 411, and 1940, p. 66 (Iceland). Is a boreal-arctolittoral species.

### *Corophium* (*acherusicum* COSTA?).

*Corophium acherusicum* DELLA VALLE, Fauna Flora Neapel, vol. 20, 1893, p. 364, pl. 1 fig. 11, and pl. 8 figs. 17, 18, 20—41.
— — CRAWFORD 1937, p. 617, with lit. etc.

Occurrence at East Greenland:

*Scoresbysund area:* Turner Sund, 6 m, SØREN JENSEN leg., 1 ♂ 4 mm.

It belongs probably to this species; but the two small processes on 5th joint of antenna 2 (one near the base, and one larger, more terminal) are missing.

Distribution. In the arctic zone it is found in Baffin Bay (SHOEMAKER, Proc. Biol. Soc. Wash., vol. 47, 1934, p. 24) and East Greenland (see above); but outside the Arctic its distribution is nearly world-wide, see CRAWFORD l. c. It is probably a boreal-arctolittoral species.

## CAPRELLIDEA

### Fam. **Caprellidæ** Dana.

### Genus **Æginina** Norman.

#### 146. *Æginina longicornis* (Krøyer).

*Ægina echinata* G. O. Sars 1895, p. 651, pl. 234 fig. 2.
*Æginina longicornis* K. Stephensen 1935—42, p. 430 (lit.).

East Greenland records:

*Ægina spinifera* Buchholz 1874, p. 388.
— *longicornis* var. *spinifera* H. J. Hansen 1895, p. 130.
— *spinosissima* Broch & Koefoed 1909, p. 134.
*Æginella* — K. Stephensen 1912, p. 543.
*Ægina longicornis* K. Stephensen 1913, p. 222 (no new records).

Occurrence at East Greenland:

*Nordøstkyst:* 78°09′ N, 14°01′ W, 75 m (Broch & Koefoed 1909). Near Danmarks Havn, 6 occurrences, 30—60 m (K. Stephensen 1912). About 74°—75° N (Buchholz 1874). Danmarks Havn, 10 m, soft bottom, 1 specimen; Borlase Warren, 210 m, Søren Jensen leg. 10-VII-1900, 1 specimen.

*Franz Joseph Fjord area:* 72°53′ N, 20°36′ W, 180 m, stones; 72° 26′ N, 19°36′ W, 200 m (H. J. Hansen 1895). Kap Mary, Clavering Ø, shell bottom with Algæ, 22 m, G. Seidenfaden leg. 22-VII-1929, 2 specimens; 2 miles to the north of Kap Wardlaw, 250 m, clay with stones, 3 specimens, 22-VIII-1932.

*Scoresbysund area:* Scoresby Sund, 10—50 m (H. J. Hansen 1895). Western side of Jameson Land, off Bjørne Øerne, 20—30 m, sabulous clay, 26-VII-1933, 1 specimen; Henry Land, 40 m, stones, Søren Jensen leg. 21-VII-1900, numerous specimens.

*Sydøstkyst:* Lindenows Fjord, 30—50 m, gravel, E. Bertelsen leg. 22-VII-1935, 1 specimen.

Remarks. The East Greenland specimens attain lengths of up to about 50 mm.

Distribution. Widely distributed, especially in the arctic zone; the southernmost Atlantic localities are at America 36° N, at Europe at Bergen, possibly at the North Sea coast of Denmark. For special localities see Stappers 1911, p. 75, and K. Stephensen 1935—42, p. 430. Is probably an arctic-boreal species.

### Genus **Æginella** Boeck.

#### 147. *Æginella spinosa* Boeck.

*Æginella spinosa* G. O. Sars 1895, p. 653, pl. 235 fig. 1.

East Greenland records:

*Æginella spinosa* H. J. HANSEN 1895, p. 130.
— — K. STEPHENSEN 1913, p. 223 (no new record).

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 74°17′ N, 15°20′ W, 250 m, clay with small stones (H. J. HANSEN 1895).

Distribution. West Greenland $65^1/_2$°—68° N, 150—300 m; East and South Iceland, 160—375 m (K. STEPHENSEN 1940, p. 69); from Southwest Norway (Haugesund) to Murman Coast and Southeast Spitsbergen, 15—400 m (for special localities, see K. STEPHENSEN 1935—42, p. 429). Is probably a boreal-arctolittoral (pan-boreal) species.

## Genus **Caprella** LAMARCK.

### 148. *Caprella septentrionalis* KRØYER.

*Caprella septentrionalis* G. O. SARS 1895, p. 659, pl. 237 fig. 1.

Occurrence at East Greenland:

*Scoresbysund area:* Kap Tobin, 17—31 m, Laminaria, Desmarestia, 14-VIII-1933, 2 specimens; Rosenvinges Bugt, 10—12 m, 24-X-1924, 2 specimens; Hurry Fjord, near the mouth, 38 m, sand, stones, 30-VI-1933, 1 specimen; Kap Hope, 6—13 m, 5 hauls, stones or sand with Algæ, 27-VI—8-VII-1933, 1—2 specimens per haul.

*Kangerdlugssuaq area:* Uttenthal Sund, Kangerdlugssuaq, 4—15 m, 3 hauls, clay or stones with Algæ, E. BERTELSEN leg. 23(24)-VIII-1933, several specimens.

*Sydøstkyst:* Angmagsivik (65°57′ N), sublittoral, KRUUSE leg. 19-VI-1902, 1 specimen; Tasiusak (Angmagssalik), KRUUSE leg. 1902, several specimens, and 6 m, Laminaria, stones, E. BERTELSEN leg. 10-VIII-1933, 2 specimens; Tasiusarsik, 5—6 m, Laminaria, E. BERTELSEN leg. 20-VII-1933, a few specimens; Tiningniketok, KRUUSE leg. 1902, 2 specimens; Kap Tordenskjold, 3—17 m, 3 hauls, rocks, mud etc., Algæ, E. BERTELSEN leg. 1-VII-1935, a few specimens per haul; Lindenows Fjord, 8—20 m, 4 hauls, sand and Laminaria, a few specimens per haul; ibid., 25—35 m, Laminaria, 1 specimen, and 40—50 m, Laminaria, gravel, 1 specimen, E. BERTELSEN leg. 16—28-VII-1935; Kekertatsiak, 15 m, rocks, Laminaria, E. BERTELSEN leg. 13-VII-1935, 1 specimen.

It is new to East Greenland.

The male specimens from East Greenland attain lengths up to 28 mm, females with marsupium up to about 20 mm.

Distribution. From the west coast of the Davis Strait and the New England States to Novaja Zemlya and Danish waters; also Japan;

usually it is found in rather shallow water. For special localities see K. Stephensen 1935—42, p. 439, and 1940, p. 73 (Iceland). Is a boreal-arctolittoral (panboreal) species.

### 149. *Caprella microtuberculata* G. O. Sars.

*Caprella microtuberculata* G. O. Sars 1885, p. 222, pl. 18 fig. 3.
— — — 1895, p. 664, pl. 239 fig. 1.
— — K. Stephensen 1935—42, p. 436 (lit.).

East Greenland records:

*Caprella septentrionalis* var. *spinigera* H. J. Hansen 1895, p. 130.
— *microtuberculata* K. Stephensen 1913, p. 225 (no new record).
non? *Caprella microtuberculata* Grieg 1909, p. 51 (551) (see under the next species).

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 72°26′ N, 19°35′ W, 200 m (H. J. Hansen 1895).

*Scoresbysund area:* Henry Land, 40 m, stones, Søren Jensen leg. 21-VII-1900, numerous specimens.

*Sydøstkyst:* Tiningniketok 65°54′ N, depth?, Kruuse leg. 1902, 1 ♀ with marsupium.

Remarks. As sometimes the species has been confused with the next species (*C. dubia* H. J. Hansen), I give some notes regarding the East Greenland specimens which are all in the Zoological Museum, Copenhagen.

H. J. Hansen's largest specimen of 1895 (Hansen has no remarks on his material of this species) is a ♂, 31 mm, and agrees well with Sars 1885, p. 18 fig. 3x; his other specimens are much smaller.

The ♀ with marsupium from Tiningniketok agrees fairly well with Sars 1885, fig. 3 as regards the dorsal armature; length 15 mm.

The specimens from Henry Land (♂ and young specimens) have the characteristic dorsal armature of the three hindmost segments, and the anterior segments are dorsally smooth; length of ♂ up to 25 mm.

Distribution. East Greenland, see above. From North Norway (Hammerfest) and Spitsbergen to Franz Joseph Land, from the shore down to 329 m; for special localities see K. Stephensen 1935—42, p. 436. Also Kara Sea 105 m, and North of the New Siberian Islands, 147° E, 42 m (Brüggen 1909, p. 43). Is a low-arctic species.

### 150. *Caprella dubia* H. J. Hansen.

*Caprella microtuberculata* G. O. Sars var. *spinigera* H. J. Hansen 1887, p. 175, pl. 6 fig. 8.
— *dubia* H. J. Hansen, ibid., p. 217.
— — K. Stephensen 1935—42, p. 434, with reproduction of H. J. Hansen's figures.

East Greenland record:

*Caprella microtuberculata* GRIEG 1909, p. 51 (551).

Occurrence at East Greenland:

*Nordøstkyst:* 78°09′ N, 14°01′ W, 78—73 m, ÷ 1.73° (GRIEG 1909).

Remarks. Though GRIEG's specimen was recorded under the name of *C. microtuberculata*, it belongs probably to *C. dubia*, for GRIEG's note runs *in extenso* as follows: "Un exemplaire, qui se rapproche le plus de la variété *spinigera* (Videnskabelige Meddelelser 1887, p. 175, tab. VI, fig. 8—8d) decrite par H. J. Hansen)".

Distribution. West Greenland, 3 hauls, 65½°—68° N, 160—200 m, stones with Hydroida etc. (type-localities; H. J. HANSEN l. c.). Franz Joseph Land: Bear Berg, 19 m (SCOTT 1899, p. 81). Is probably a high-arctic species.

### 151. *Caprella horrida* G. O. SARS.

*Caprella spinosissima* G. O. SARS 1885, p. 225, pl. 18 fig. 4.
— *horrida* K. STEPHENSEN 1935—42, p. 438, with lit.

East Greenland records:

*Caprella horrida* H. J. HANSEN 1895, p. 130.
— — P. MAYER 1903, p. 141.
— — K. STEPHENSEN 1913, p. 226 (no new records).
— — SCHELLENBERG 1935, p. 29.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* 72°53′ N, 20°36′ W, 180 m; 72°26′ N, 19°35′ W, 200 m (H. J. HANSEN 1895). Herschelhus, 78—72 m, mud with Algæ, especially Laminaria (SCHELLENBERG 1935).

*Sydøstkyst:* 61°59′ N, 49°35′ W, depth? (P. MAYER 1903).

Distribution. Arctic America; from the deep Polar Basin (incl. the Faroe Channel) to Kara Sea and Siberia, depths down to 1359 m; for special localities see K. STEPHENSEN 1935—42, p. 438. Is a high-arctic species.

## Fam. **Cyamidæ** LÜTKEN.

### Genus **Cyamus** LATREILLE.

### 152. *Cyamus monodontis* LÜTKEN.

*Cyamus monodontis* K. STEPHENSEN 1935—42, p. 448, figs.

Occurrence at East Greenland:

*Franz Joseph Fjord area:* Eskimonæs, HOLGER MADSEN leg. 26-VI-1933, two specimens.

*Scoresbysund area:* Scoresby Sund, A. Rosenkrantz leg. 28-VII-1927, and Alwin Pedersen leg. 1928, numerous specimens.

*Kangerdlugssuaq area:* Kangerdlugssuaq, E. Bertelsen leg. 23-VIII-1933, numerous specimens.

It is new to East Greenland; all specimens were taken on narwhale.

Distribution. Arctic seas.

Genus **Paracyamus** G. O. Sars.

153. *Paracyamus nodosus* (Lütken).

*Paracyamus nodosus* K. Stephensen 1935—42, p. 451, figs.

Occurrence at East Greenland:

*Kangerdlugssuaq area:* Kangerdlugssuaq, E. Bertelsen leg. 23-VIII-1933, numerous specimens.

*Sydøstkyst:* Sermiliqaq near Angmagssalik, VII-1933, numerous specimens (in Rijks Mus. Nat. Hist., Leiden).

It is new to East Greenland; all specimens were taken on narwhale.

Distribution. Arctic seas.

## General Remarks.

153 species (two of them with two forms) and 9 uncertain species of Amphipoda are known from East Greenland waters at depths down to about 400 m (or from still greater depths in the fjords), and the greater part of the material has been brought together by Danish investigations. The Danish expeditions in the later years have collected material from about 75° N to the Lindenows Fjord (c. 60° N) (see chart fig. 18).

From the table I (p. 145) it is evident that the majority of species are known from but rather few occurrences, 1 or 2 up to 7—9. Only 54 species are taken 10 times or more, viz., 29 species 10—25 times, 14 species > 25—50 times, and 11 species > 50 times. These 11 species are as follows,

*Halirages fulvocinctus*, and
*Gammarus locusta setosus* 53 hauls each
*Weyprechtia pinguis* 63 hauls
*Pontoporeia femorata* 64 hauls
*Monoculodes latimanus* 74 hauls

*Themisto abyssorum* 78 hauls
*Atylus carinatus* 79 hauls
*Themisto libellula* 88 hauls
*Paroediceros lynceus* 111 hauls
*Stegocephalus inflatus* 119 hauls
*Anonyx nugax* 181 hauls.

## Comparison of the fauna of Amphipods of East and West Greenland (depths down to about 400 m).

153 species are with certainty known from East Greenland, 157 from West Greenland (see table II, p. 149). 102 out of these are found on both sides of Greenland; 55 are known from West Greenland, not East Greenland, and 51 from East Greenland, not West Greenland. When we, however, bear in mind, that the present paper records no less than 36 species new to East Greenland (see above, p. 7) we may presume, that future investigations will still more enrich the fauna, and that numerous species, hitherto found at only one side of Greenland, will be found at the other side too.

Nearly all the East Greenland species, viz., 140, are found in the three northernmost (and best investigated) areas, only 43 in the Kangerdlugssuaq area, and 93 in the Sydøstkyst area.

If we compare the southernmost parts of the two sides of Greenland (table III, p. 160) we find that the Amphipod faunas are fairly alike. Of the 93 species from the Sydøstkyst area (two of them with two forms) 48 are known also from the southernmost parts of the west coast (about 61° N or still farther to the south), 24 from about 62°—65° N; 10 species are at West Greenland possibly accidentally not found S. of about 66°(—72°) N. For 4 species the southernmost locality in West Greenland cannot be stated with certainty, and only 8 are hitherto not known from West Greenland.

On the other hand all the Amphipods found at the southernmost part of West Greenland (S. of 61°—62° N) are found also in the Sydøstkyst area of East Greenland, only except 5 (viz., *Tryphosa schneideri*, *Metopa sinuata*, *M. clypeata*, *Neohela monstrosa*, and *Æginella spinosa*) which are at East Greenland not found S. of about 70°—74° N.

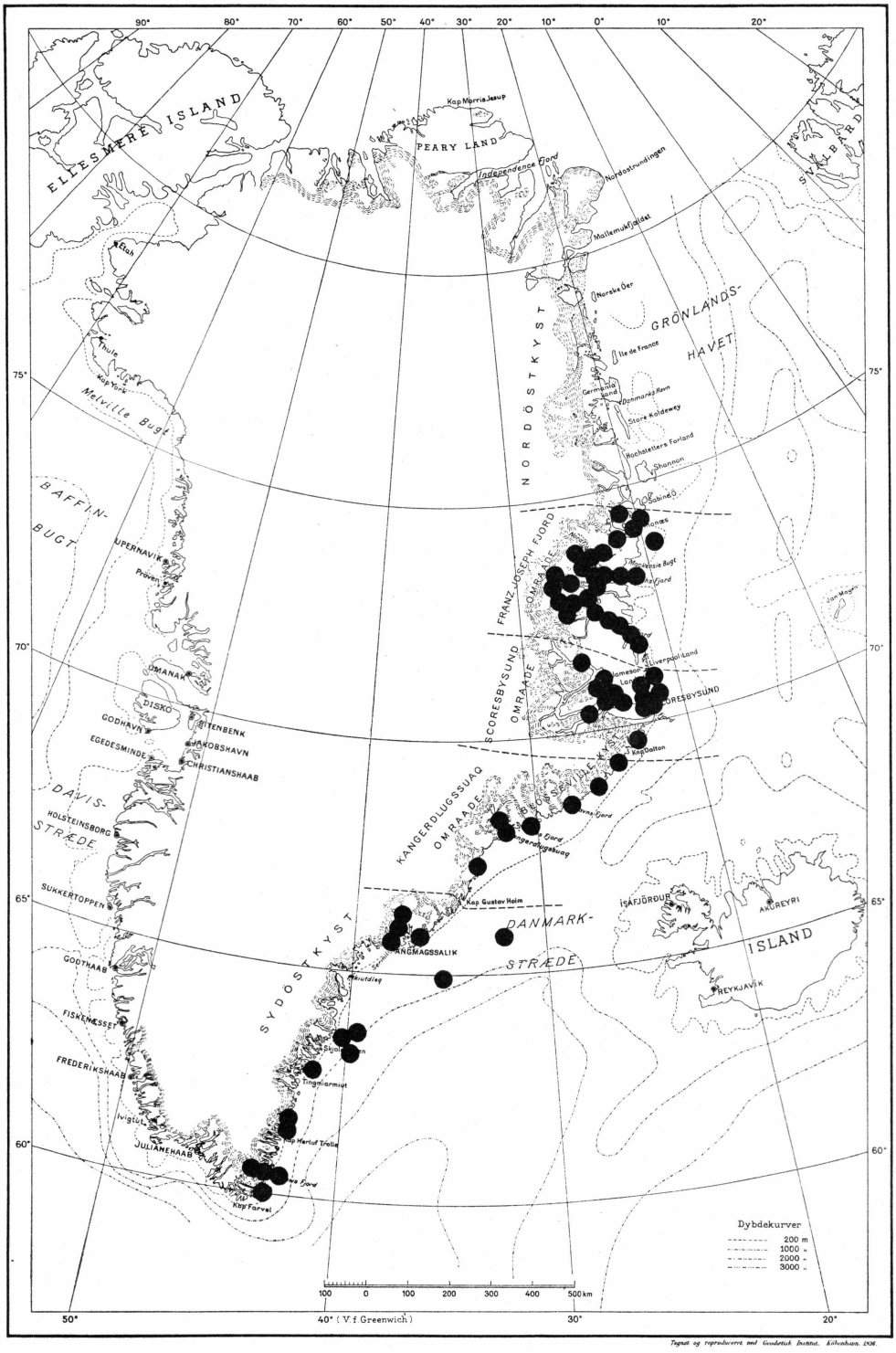


Fig. 18. Localities where *Amphipoda* were secured by recent Danish expeditions (after 1930).

## The Zoogeographical Position of the Species.

Regarding the zoogeographical position of the individual species I have tried to arrange them according to the terms used by HOFSTEN (1915, pp. 202 seq.), EKMAN (1935), HULT (1941) and LEMCHE (1941).

The East Greenland waters are to be divided into two different regions of depth, viz., 0—25 m, and > 25 m. The upper water layers, 0—25 m, comprise the region of water which during the summer reaches positive temperatures; the deeper water layers, from 25 m and downwards, comprise the region with constant negative temperatures (North of the Ridge; from the Nordøstkyst to and inclusive of the Scoresbysund area) or temperatures slightly above zero (South of the Ridge; off the Sydøstkyst); the Kangerdlugssuaq area, off the Ridge between Iceland and Greenland, takes an intermediate position. According to the above the water layer 0—25 m along the whole coast is to be regarded as being from the same region as that from > 25 m off the Sydøstkyst.

### A. Bottom Forms.

The arctic area comprises according to HOFSTEN (1915, p. 203) the following waters N. of and adjacent to the Atlantic: the North American Polar Sea, West and East Greenland (but not the deep Basin S. of the Ridge, c. 66°—67° N), Jan Mayen, the deep Polar Basin > 600 m, Spitsbergen, Barents Sea exclusive of the southwestern part with Finmarken and Murman Coast, Kara Sea.

The arctic area is divided into the high arctic and the low arctic areas.

#### I. The high-arctic area

north of the Atlantic comprises according to HOFSTEN (1915, p. 203): North American Polar Sea, NW. Greenland, East Greenland N. of c. $69^1/_2$ N, Jan Mayen, the deep Polar Basin. E. and N. Spitsbergen (but the Storfjord and the northern coast of W. Iceland are not purely high-arctic), northern part of the Barents Sea, Kara Sea.

High-arctic species are stenotherm cold-water species which are able only to exist in temperatures < 0°— + 4°; at East Greenland the depths are usually > 25 m.

11(+ 13?) species are high-arctic (see table I, p. 145).

#### II. Low-(Sub-)arctic species

prefer summer temperatures of 0°—7°, at East Greenland usually at depths of 0—25 m.

According to HOFSTEN (1915, p. 203) the low-arctic area comprises the regions of the arctic area which are not high-arctic; and the species which inhabit the low-arctic area and the adjacent boreo-arctic transition zone are called low-arctic (HOFSTEN 1915, p. 207). Sometimes it is very difficult to decide whether a species is low-arctic or pan-arctic (group III)

To this group I refer 16(+ 16?) species (see table I, p. 145).

### III. Pan-arctic (= pan-arctic-boreal) species

(including the arctic-boreo-submergent species) cannot endure temperatures exceeding about 7°, but are able to develop in water with negative temperature all the year round (LEMCHE 1941, p. 42). According to HOFSTEN (1915, p. 207) they are distributed in the arctic area and in the northernmost part of the boreal area; some of them occur on both sides of the Wyville-Thomson Ridge.

To this group I refer 10(+ 12?) species (see table I, p. 145).

### IV. Arctic-boreal (boreo-littoral), including low-arctic species

are propagatively cold-stenotherm and vegetatively eurytherm. In boreal waters they are forced to live in the littoral zone, but in the Arctic they are able to descend to greater depths (LEMCHE 1941, p. 42). They are distributed both in the arctic and in the boreal areas (HOFSTEN 1915, p. 207); some of them extend to Skagerrak or still farther to the South.

To this group belong 20 (+ 18?) species (see table I, p. 145).

### V. Pan-boreal (HULT) (= boreal-arctolittoral) species

are vegetatively eurytherm and propagatively warm stenotherm. Such species have their main distribution in the boreal waters, but penetrate to some extent into the Arctic (LEMCHE 1941, p. 43). They extend to Great Britain, France, or the Mediterranean.

18(+ 3?) species belong to this group (see table I, p. 145).

### VI. Bathy-arctic species

are stenotherm cold-water species that occur only in the sublittoral zone or at still greater depths to the North of the Wyville-Thomson Ridge (LEMCHE 1941, p. 43).

To this group belong only 1(2?) species, viz.,

No. 111, *Amathillopsis spinigera*, and
? - 57, *Harpinia abyssi.*

VII. Sublittoral-boreal atlantic species

have a southern distribution, but extend more or less rarely to East Greenland. They prefer temperatures of 5°—8°.

To this group belong probably 3 species, viz.,

No. 21, *Aristias microps*
- 72, *Halice abyssi*, and
- 98, *Cleippides tricuspis*.

VIII. Cosmopolitan species

have an almost worldwide distribution. To this group belongs one species, viz., No. 59, *Leucothoë spinicarpa*.

IX. Species with uncertain zoogeographical position.

To this group belongs 7 species, viz.,

No. 7, *Acidostoma laticorne*
- 13, *Onisimus dubius*
- 34, *Tryphosa groenlandica*
- 73, *Lilljeborgia fissicornis*
- 93, *Halirages mixtus*
-110, *Paramphithoë buchholzi*
-126b, *Gammarus locusta setosus*.

## B. Plankton Forms.

To this group belong the following 12 species, viz.,

Nos. 1—6, Hyperiidea
No. 15, *Pseudalibrotus nanseni*
- 16, — *glacialis*
- 97, *Apherusa glacialis*
- 127, *Gammarus wilkitzkii*
- 152, *Cyamus monodontis*
- 153, *Paracyamus nodosus*.

Of the six Hyperiidea 1 or 2 are pan-boreal, 1 is arctic-boreal, 1 is pan-arctic, and 2 are cosmopolitan. The other six are arctic.

Table I. The Amphipoda of East Greenland, depths 0—400 m, and their zoogeographical position.

| | Number of hauls | | | | | | | | | Total no. of hauls | Zoogeographical position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0–25 m | | | > 25–200 m | | | > 200 m | | | | |
| | I-III[1]) | IV | V | I-III | IV | V | I-III | IV | V | | |
| HYPERIIDEA | | | | | | | | | | | |
| 1. *Hyperoche medusarum* | — | — | — | — | — | — | 1 | — | 1 | 2 | P, pb?[3]) |
| 2. *Hyperia galba* | ×[2]) | — | × | — | — | — | — | — | — | 3 | P, pb |
| 3. *Themisto abyssorum* | × | × | × | — | — | — | — | — | — | 78 | P, ab? |
| 4. — *libellula* | × | × | × | — | — | — | — | — | — | 88 | P, pa? |
| 5a. — *gaudichaudi* f. *compressa* | × | — | × | — | — | — | — | — | — | 11 | P, c |
| 5b. — — f. *bispinosa* | — | — | × | — | — | — | — | — | — | 2 | P, c |
| 6. *Scina borealis* | — | — | — | — | — | — | 1 | — | — | 1 | P, c? |
| GAMMARIDEA | | | | | | | | | | | |
| 7. *Acidostoma laticorne* | — | — | — | 1 | — | — | 2 | — | — | 3 | ? |
| 8. *Onisimus edwardsi* | 6 | — | 11 | 1 | — | 4 | .. | .. | .. | 22 | la? |
| 9. — *plautus* | 4 | — | 4 | 1 | — | 5 | 2 | — | — | 16 | la |
| 10. — *brevicaudatus* | 5 | — | — | 6 | 1 | — | 1 | — | — | 13 | ha? |
| 11. — *caricus* | 11 | — | 1 | 2 | — | — | — | — | — | 14 | ha? |
| 12. — *affinis* | 2 | — | — | — | — | — | — | — | — | 2 | ha? |
| 13. — *dubius* | 1 | — | — | — | — | — | — | — | — | 1 | ? |
| 14. *Pseudalibrotus littoralis* | 12 | 1 | 15 | 1 | 1 | 3 | — | — | — | 33 | la |
| 15. — *nanseni* | × | × | — | — | — | — | — | — | — | 12 | P, a |
| 16. — *glacialis* | × | × | × | — | — | — | — | — | — | 16 | P, a |
| 17. *Paralibrotus setosus* | 1 | — | — | 1 | — | — | — | — | — | 2 | la? |
| 18. *Orchomene serrata* | 1 | — | — | — | — | — | — | — | — | 1 | pa |
| 19. — *pectinata* | — | — | — | 1 | — | — | — | — | — | 1 | pa |
| 20. *Menigrates obtusifrons* | 2 | — | — | — | — | — | — | — | — | 2 | pb |
| 21. *Aristias microps* | — | — | — | — | — | — | 1 | — | — | 1 | sba? |
| 22. — *tumidus* | 1 | 1 | — | 2 | 2 | 1 | — | — | — | 7 | la |
| 23. *Ambasia murmanica* | — | — | — | 1 | — | — | 2 | — | — | 3 | pa |
| 24. *Schisturella pulchra* | — | 1 | — | 1 | — | — | — | — | — | 2 | la? |
| 25. *Anonyx nugax* | 65 | 4 | 46 | 44 | 3 | 18 | 1 | — | — | 181 | la |
| 26. *Socarnes bidenticulatus* | 14 | 7 | 4 | 10 | 6 | 5 | — | — | — | 46 | pa? |
| 27. — *vahli* | 2 | — | 5 | 2 | — | 11 | — | — | — | 20 | pa |
| 28. *Hippomedon holbølli* | — | — | — | 1 | — | — | 1 | — | — | 2 | ha? |
| 29. — *propinquus* | — | — | — | — | — | 2 | 1 | — | — | 3 | pa |
| 30. *Centromedon productus* | — | — | — | 1 | — | — | — | — | — | 1 | ha? |
| 31. — *pumilus* | 2 | — | — | 1 | — | — | — | — | — | 3 | ab? |
| 32 *Tryphosa hørringi* | — | — | — | 1 | — | — | — | — | — | 1 | ab? |
| 33. — *schneideri* | 1 | — | — | — | — | — | — | — | — | 1 | pa? |
| 34. — *groenlandica* | 3 | — | — | — | — | — | — | — | — | 3 | ? |

[1]) I: Nordøstkyst; II: Franz Joseph Fjord area; III: Scoresbysund area; IV: Kangerdlugssuaq area; V: Sydøstkyst.

[2]) × indicates that the species is taken in the area in question, but that the depth is not noted.

[3]) a: arctic; ab: arctic-boreal (incl. low-arctic-boreal); ba: bathy-arctic; c: cosmopolitan; ha: high-arctic; la: low-sub-) arctic; pa: pan-arctic (= panarctic-boreal); pb: pan-boreal (= boreal-arcto-littoral); P: Plankton; sba: sublittoral-real-atlantic.

Table I (continued).

| | Number of hauls | | | | | | | | | | Zoogeographical position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0–25 m | | | > 25–200 m | | | > 200 m | | | Total no. of hauls | |
| | I-III | IV | V | I-III | IV | V | I-III | IV | V | | |
| 35. *Tryphosa spitzbergensis* | 1 | 1 | 1 | 1 | 1 | 3 | — | — | — | 8 | la? |
| 36. *Chironesimus debruyni* | 1 | — | — | 1 | — | — | — | — | — | 2 | la? |
| 37. *Tmetonyx cicada* | 1 | — | 1 | 1 | — | 2 | — | 1 | — | 6 | pa |
| 38. — *similis* | — | — | — | 1 | — | — | — | — | — | 1 | pb |
| 39. *Lepidepecreum umbo* | — | — | — | — | 2 | 1 | — | 1 | 1 | 5 | ab |
| 40. *Orchomenella minuta* | 7 | — | 8 | — | 1 | 4 | — | — | — | 20 | ab |
| 41. — *groenlandica* | — | — | — | 1 | 1 | 1 | — | — | — | 3 | pa |
| 42. *Stegocephalopsis ampulla* | — | — | — | — | — | — | — | — | 2 | 2 | ha |
| 43. *Phippsia rømeri* | — | — | — | 1 | — | — | — | — | — | 1 | ha |
| 44. *Stegocephalus inflatus* | 16 | 9 | 7 | 50 | 9 | 17 | 11 | — | — | 119 | ab |
| 45. *Andaniella pectinata* | — | — | — | 1 | — | — | — | — | — | 1 | ab? |
| 46. *Ampelisca eschrichti* | 3 | — | 3 | 4 | — | 16 | — | — | — | 26 | ab |
| 47. — *macrocephala* | 15 | — | — | 4 | — | 10 | — | — | — | 29 | ab? |
| 48. *Byblis gaimardi* | 2 | — | — | 9 | — | — | — | — | — | 11 | ab? |
| 49. *Haploops tubicola* | 1 | — | 1 | 4 | — | 5 | 2 | — | 1 | 14 | ab? |
| 50. — *setosa* | 1 | — | — | 2 | — | 2 | — | — | — | 5 | pa? |
| 51. *Pontoporeia femorata* | 39 | 1 | 16 | 8 | — | — | — | — | — | 64 | ab |
| 52. *Argissa hamatipes* | — | — | — | — | — | 1 | — | — | — | 1 | pb |
| 53. *Phoxocephalus holbølli* | 1 | — | — | — | — | 3 | — | — | — | 4 | pb |
| 54. *Harpinia mucronata* | — | — | — | 5 | — | — | 1 | — | — | 6 | ha? |
| 55. — *serrata* | 1 | — | — | 2 | — | 2 | — | — | — | 5 | pa? |
| 56. — *plumosa* | — | — | — | 1 | — | — | — | — | — | 1 | la? |
| 57. — *abyssi* | — | — | — | — | — | — | 1 | — | — | 1 | ba? |
| ? *Amphilochus tenuimanus* | — | — | — | — | — | — | 1 | — | — | 1 | ab |
| 58. *Gitanopsis inermis* | — | — | — | 1 | — | 1 | — | — | — | 2 | ab |
| 59. *Leucothoë spinicarpa* | — | — | — | — | — | — | — | — | 1 | 1 | c |
| 60. *Metopa sinuata* | — | — | — | 2 | — | — | — | — | — | 2 | la |
| ? — *bruzelii* | — | — | — | 1 | — | — | — | — | — | 1 | pb |
| 61. — *cariana* | — | — | 2 | 1 | — | 1 | — | — | — | 4 | ha? |
| 62. — *groenlandica* | 5 | — | — | — | — | — | — | — | — | 5 | pb |
| 63. — *clypeata* | — | — | — | 1 | — | — | 1 | — | — | 2 | la? |
| ? — *alderi* | — | — | — | 1 | — | — | — | — | — | 1 | pb? |
| ? — *tenuimana* | — | — | — | 1 | — | — | — | — | — | 1 | pb |
| 64. *Metopella carinata* | — | — | 6 | — | — | — | — | — | — | 6 | la? |
| 65. — *longimana* | — | — | — | — | — | 2 | — | — | — | 2 | ab? |
| 66. *Odius carinatus* | — | — | 1 | — | — | 1 | — | — | — | 2 | ab |
| 67. *Acanthonotozoma serratum* | 2 | 1 | 1 | 3 | — | 6 | — | — | — | 13 | ab? |
| 68. — *cristatum* | — | 3 | — | 4 | 2 | 3 | 1 | — | — | 13 | ab? |
| 69. — *inflatum* | — | — | — | 4 | — | — | — | — | — | 4 | ha? |
| 70. *Pardalisca abyssi* | — | — | — | 2 | 2 | — | 1 | — | — | 5 | ab |
| 71. — *cuspidata* | — | — | — | 4 | — | 1 | — | — | — | 5 | ab |
| ? — *tenuipes* | — | — | — | 1 | — | 1 | — | — | — | 2 | ab? |
| 72. *Halice abyssi* | — | — | — | — | — | — | 2 | — | — | 2 | sba? |
| 73. *Lilljeborgia fissicornis* | — | — | — | — | — | — | — | — | 1 | 1 | ? |

Table I (continued).

| | Number of hauls | | | | | | | | | Total no. of hauls | Zoogeographical position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0–25 m | | | > 25–200 m | | | > 200 m | | | | |
| | I-III | IV | V | I-III | IV | V | I-III | IV | V | | |
| 74. *Idunella æquicornis* | — | — | — | 1 | — | — | — | — | — | 1 | ha |
| 75. *Oediceros saginatus* | — | — | 2 | — | — | 1 | — | — | — | 3 | pa? |
| 76. — *borealis* | 8 | — | — | 1 | — | 3 | — | — | — | 12 | la |
| 77. *Paroediceros propinquus* | 2 | — | 2 | 1 | — | — | — | — | — | 5 | pa? |
| 78. — *lynceus* | 50 | 3 | 31 | 11 | — | 15 | 1 | — | — | 111 | la |
| 79. *Arrhis phyllonyx* | 7 | — | — | 15 | 1 | — | 1 | — | 2 | 26 | ab |
| 80. *Westwoodilla (megalops?)* | — | — | 3 | 2 | — | 5 | — | — | — | 10 | la? |
| 81. *Acanthostepheia malmgreni* | 3 | 1 | 1 | 5 | 2 | 2 | 7 | — | — | 21 | ha |
| 82. *Aceroides latipes* | 2 | — | 1 | 2 | — | — | — | — | — | 5 | la? |
| 83. *Bathymedon obtusifrons* | 1 | — | — | 3 | — | — | — | — | — | 4 | ab |
| 84. *Monoculopsis longicornis* | — | — | 9 | — | — | 5 | — | — | — | 14 | la |
| 85. *Monoculodes longirostris* | 10 | — | — | 3 | — | 1 | — | — | — | 14 | pa |
| 86. — *borealis* | 13 | 1 | 13 | 4 | — | 7 | — | — | — | 38 | ab |
| 87. — *latimanus* | 25 | 2 | 21 | 4 | — | 22 | — | — | — | 74 | la |
| 88. — *simplex* | 2 | — | 2 | — | — | — | — | — | — | 4 | la |
| 89. — *tuberculatus* | 13 | — | 2 | — | — | 6 | — | — | — | 21 | ab? |
| 90. *Tiron acanthurus* | — | — | — | 1 | — | 1 | — | — | — | 2 | ab? |
| 91. *Syrrhoë crenulata* | 5 | 1 | 2 | — | 2 | 12 | 1 | — | — | 23 | ab |
| 92. *Halirages fulvocinctus* | 26 | 1 | 8 | 7 | 1 | 10 | — | — | — | 53 | ab |
| 93. — *mixtus* | — | — | × | — | — | — | — | — | — | 1 | ? |
| 94. — *quadridentatus* | — | — | — | — | — | — | 1 | — | — | 1 | ha |
| 95. — *megalops* | 6 | — | 12 | — | — | 2 | — | — | — | 20 | la |
| 96. *Apherusa sarsi* | 1 | 1 | 1 | — | — | — | — | — | — | 3 | pa? |
| 97. — *glacialis* | 8 | × | × | 6 | — | — | 4 | — | — | 30 | P, a |
| 98. *Cleippides tricuspis* | — | — | — | 1 | — | 1 | — | — | 1 | 3 | sba? |
| 99. — *quadricuspis* | — | — | — | 10 | — | — | 5 | — | — | 15 | ha |
| 100. *Haliragoides inermis* | 1 | — | — | 1 | — | — | — | — | — | 2 | pa? |
| 101. *Pleustes panoplus* | 11 | 1 | 6 | 3 | — | 6 | — | — | — | 27 | ab |
| 102. *Parapleustes bicuspis* | — | — | 13 | — | — | 12 | — | — | — | 25 | pb |
| 103. — *monocuspis* | — | — | 5 | — | — | 2 | — | — | — | 7 | pb |
| 104. — *gracilis* | 3 | 1 | 4 | — | — | — | — | — | — | 8 | la? |
| 105. — *assimilis* | 1 | — | 8 | — | — | 3 | — | — | — | 12 | ab |
| 106. *Sympleustes glaber* | 1 | — | 2 | — | — | — | — | — | — | 3 | pb |
| 107. — *pulchellus* | 1 | — | 1 | 2 | — | — | 1 | — | — | 5 | pa? |
| 108. *Epimeria loricata* | — | — | — | — | — | — | 7 | — | — | 7 | pa |
| 109. *Paramphithoë hystrix* | — | — | — | 5 | 3 | 3 | 1 | — | — | 12 | ab? |
| 110. — *buchholzi* | — | — | — | 3 | — | — | — | — | — | 3 | ? |
| 111. *Amathillopsis spinigera* | — | — | — | — | — | — | 8 | — | — | 8 | ba |
| 112. *Atylus carinatus* | 47 | 4 | 8 | 5 | — | 15 | — | — | — | 79 | la |
| 113. *Nototropis smitti* | 2 | — | — | 10 | — | 3 | — | — | — | 15 | ha? |
| 114. *Eusirus cuspidatus* | 1 | 1 | — | 1 | — | 1 | — | — | — | 4 | pa? |
| 115. — *holmi* | — | — | — | — | — | — | 5 | — | — | 5 | ha |
| 116. *Rhachotropis aculeata* | 1 | — | 4 | 3 | 1 | 19 | 4 | 1 | — | 32 | pa? |
| 117. — *oculata* | 1 | — | — | 1 | — | 4 | — | — | — | 6 | la? |

Table I (continued).

| | Number of hauls | | | | | | | | | Total no. of hauls | Zoogeographical position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0–25 m | | | > 25–200 m | | | > 200 m | | | | |
| | I-III | IV | V | I-III | IV | V | I-III | IV | V | | |
| 118. *Rhachotropis inflata* | 1 | — | — | — | — | 1 | — | — | — | 2 | ab? |
| 119. — *helleri* | — | — | — | — | — | — | 3 | — | — | 3 | ab |
| — (*macropus?*) | — | — | — | 1 | — | — | 1 | — | — | 2 | ab? |
| 120. *Rozinante fragilis* | 3 | — | 1 | 1 | — | — | — | — | — | 5 | ha |
| 121. *Pontogeneia inermis* | 7 | — | 32 | 1 | — | 6 | — | — | — | 46 | la |
| 122. *Weyprechtia pinguis* | 36 | 4 | 13 | 3 | — | 7 | — | — | — | 63 | la |
| 123. *Gammarellus homari* | 12 | 7 | 22 | — | — | 8 | — | — | 1 | 50 | pb |
| 124. *Melita dentata* | 2 | — | — | 1 | — | — | — | — | — | 3 | pb |
| 125. *Ceradocus torelli* | — | — | — | 1 | — | 2 | — | — | — | 3 | ha? |
| 126a. *Gammarus locusta* sens.str. | 8 | — | 7 | — | — | 2 | — | — | — | 17 | ab? |
| 126b. — — *setosus* | 32 | 7 | 13 | 1 | — | 1 | — | — | — | 53 | ? |
| 127. — *wilkitzkii* | × | × | × | — | — | — | — | — | — | 40 | P, a? |
| 128. *Gammaracanthus loricatus* | 27 | 5 | 2 | 1 | — | — | — | — | — | 35 | la |
| 129. *Photis reinhardti* | — | — | — | — | — | 2 | — | — | — | 2 | ab? |
| 130. *Eurystheus melanops* | — | — | — | — | 1 | 2 | — | — | — | 3 | pb |
| 131. *Goësia depressa* | 3 | — | — | 4 | — | — | — | — | — | 7 | la? |
| 132. *Protomedeia fasciata* | — | — | — | — | — | 1 | — | — | — | 1 | ab |
| 133. — *grandimana* | — | — | — | — | — | 1 | — | — | — | 1 | la? |
| 134. *Ischyrocerus anguipes* | 8 | 1 | 29 | 1 | — | 10 | — | — | — | 49 | pb |
| 135. — *megacheir* | — | — | — | — | — | — | 1 | — | — | 1 | pa? |
| 136. — *latipes* | — | — | — | 1 | — | — | — | — | — | 1 | ha? |
| 137. — *megalops* | 1 | — | — | 1 | — | — | — | — | — | 2 | la? |
| 138. — *brevicornis* | — | — | — | 3 | — | — | 1 | — | — | 4 | ha |
| 139. — *brusilovi* | — | — | — | — | — | — | 1 | — | — | 1 | ha |
| 140. *Ericthonius megalops* | — | — | — | 1 | — | — | — | — | — | 1 | ha? |
| 141. — *hunteri* | — | — | — | 1 | — | — | — | — | — | 1 | pb |
| 142. *Neohela monstrosa* | 1 | — | — | — | — | — | — | — | — | 1 | ab |
| 143. *Unciola leucopis* | — | — | — | 5 | — | 2 | 4 | — | 1 | 12 | pa |
| 144. *Siphonoecetes typicus* | — | — | — | — | — | 5 | — | — | — | 5 | la? |
| 145. *Corophium crassicorne* | 2 | — | — | — | — | — | — | — | — | 2 | pb |
| — (*bonelli?*) | 2 | — | — | — | — | — | — | — | — | 2 | pb |
| — (*acherusicum?*) | 1 | — | — | — | — | — | — | — | — | 1 | pb? |
| CAPRELLIDEA | | | | | | | | | | | |
| 146. *Æginina longicornis* | 3 | — | — | 11 | — | 1 | 2 | — | — | 17 | ab? |
| 147. *Æginella spinosa* | — | — | — | — | — | — | 1 | — | — | 1 | pb? |
| 148. *Caprella septentrionalis* | 7 | 3 | 10 | 1 | — | 2 | — | — | — | 23 | pb |
| 149. — *microtuberculata* | — | — | — | 2 | — | — | — | — | — | 2 | la |
| 150. — *dubia* | — | — | — | 1 | — | — | — | — | — | 1 | ha? |
| 151. — *horrida* | — | — | — | 3 | — | — | — | — | — | 3 | ha |
| 152. *Cyamus monodontis* | × | × | — | — | — | — | — | — | — | 4 | P, a |
| 153. *Paracyamus nodosus* | — | × | — | — | — | — | — | — | — | 2 | P, a |

Table II. The Amphipoda of the northern Atlantic with adjacent arctic waters, depths 0—400 m.

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway[3] | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| HYPERIIDEA | | | | | | | | |
| Fam. *Hyperiidæ* | | | | | | | | |
| *Hyperoche medusarum* (Kr.) | × | × | × | × | — | × | × | × |
| *Hyperia medusarum* (O. Fr. Müll.) | × | × | — | × | — | × | × | × |
| — *galba* (Mont.) | × | × | × | × | × | × | × | × |
| — *spinigera* Bovall | × | — | — | — | — | × | × | — |
| *Themisto abyssorum* Boeck | — | × | × | × | × | × | × | × |
| — *libellula* (Mandt) | × | × | × | × | — | × | × | × |
| — *gaudichaudi* Guér. f. *compressa* (Goës) | × | × | × | × | × | × | — | × |
| — — f. *bispinosa* (Boeck) | × | × | × | × | — | × | × | × |
| Fam. *Scinidæ* | | | | | | | | |
| *Scina borealis* G. O. Sars | — | × | × | — | × | × | — | — |
| Fam. *Lycœidæ* | | | | | | | | |
| *Tryphana malmi* Boeck | × | — | — | — | — | — | — | — |
| GAMMARIDEA | | | | | | | | |
| Fam. *Lysianassidæ* | | | | | | | | |
| *Kerguelenia borealis* G. O. Sars | — | — | — | — | — | × | — | — |
| *Trischizostoma raschi* Esm. & Boeck | — | — | — | × | — | — | — | — |
| *Acidostoma obesum* (Bate) | — | — | — | — | ×[1] | × | — | — |
| — *laticorne* G. O. Sars | × | — | × | — | — | — | — | — |
| *Euonyx chelatus* Norman | — | (?) | — | — | — | × | — | — |
| *Opisa eschrichti* Kr. | × | × | — | × | (×)[2] | × | — | × |
| *Onisimus edwardsi* Kr. | × | × | × | × | — | × | × | × |
| — *plautus* Kr. | × | × | × | × | — | — | × | × |
| — *affinis* H. J. H. | — | — | × | — | — | — | — | — |
| — *normani* G. O. S. | × | (×) | — | — | — | × | × | × |
| — *derjugini* Gurj. | — | — | — | — | — | — | — | × |
| — *brevicaudatus* H. J. H. | — | — | × | — | — | — | — | × |
| — *caricus* H. J. H. | — | — | × | — | — | — | × | — |
| — *dubius* Schell | — | — | × | — | — | — | — | — |
| *Lysianella petalocera* G. O. S. | — | — | — | — | — | × | — | — |
| *Pseudalibrotus littoralis* (Kr.) | — | × | × | × | — | × | × | × |
| — *nanseni* G. O. S. | — | × | × | × | — | — | × | × |
| — *glacialis* G. O. S. | ? | × | × | × | — | — | × | — |
| *Paralibrotus setosus* K. Steph. | × | × | × | — | — | — | — | — |
| *Paratryphosites abyssi* (Goës) | × | × | — | — | — | — | — | — |
| *Paronesimus barentsi* Stebb. | — | — | — | — | — | — | — | × |
| *Orchomene serrata* Boeck | — | — | × | × | × | × | × | × |
| — *pectinata* G. O. S. | — | — | × | — | — | × | — | × |

[1]) Raitt 1937, p. 251. [2]) (×) = taken only at depths > 400 m. [3]) N. of c. 68° N.

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Orchomene tschernyschevi* BRÜGG. | — | — | — | — | — | — | — | × |
| — *crispata* (GOËS) | — | — | — | (?) | — | — | × | — |
| — *amblyops* G. O. S. | — | (×) | — | — | (×) | × | — | — |
| *Menigrates obtusifrons* BOECK | — | — | × | × | — | × | × | × |
| *Aristias tumidus* KR. | × | × | × | — | — | × | × | × |
| — *neglectus* H. J. H. | — | — | — | — | — | × | — | — |
| — *microps* G. O. SARS | × | (×) | × | (×) | — | × | — | — |
| — *megalops* G. O. SARS | — | — | — | — | — | × | — | — |
| *Ambasia atlantica* M.-EDW. | — | (×) | — | × | × | × | — | — |
| *Ambasiella murmanica* (BRÜGG.) | — | — | × | — | (×) | × | — | × |
| *Schisturella pulchra* (H. J. H.) | × | × | × | — | — | — | — | — |
| *Anonyx nugax* (PHIPPS) | × | × | × | × | × | × | × | × |
| — *affinis* OHLIN | — | × | — | — | — | — | — | — |
| *Ichnopus spinicornis* BOECK | — | — | — | — | × | — | — | — |
| *Socarnes bidenticulatus* BATE | × | × | × | — | — | × | × | × |
| — *vahli* KR. | — | × | × | × | — | × | × | × |
| *Hippomedon holbølli* (KR.) | — | × | × | ? | — | — | × | × |
| — *gorbunovi* GURJ. | — | — | — | — | — | — | — | × |
| — *denticulatus* (BATE) | — | — | — | — | — | × | — | × |
| — *propinquus* G. O. SARS | × | — | × | × | — | × | × | × |
| — *robustus* G. O. SARS | — | — | — | × | — | × | — | — |
| — *nasutus* K. STEPH. | — | — | — | × | — | — | — | — |
| *Scopelocheirus hopei* COSTA | — | — | — | — | — | × | — | — |
| — *crenatus* BATE | — | — | — | × | — | × | — | — |
| *Uristes umbonatus* DANA | × | — | — | × | — | × | — | — |
| *Centromedon pumilus* (LILLJB.) | × | — | × | — | — | × | — | × |
| — *productus* (GOËS) | — | — | × | — | — | — | × | × |
| *Tryphosa hørringi* BOECK | — | (×) | × | — | — | × | × | × |
| — *nanoides* G. O. SARS | — | — | — | × | — | × | — | × |
| — *schneideri* K. STEPH. | — | × | × | — | — | × | × | × |
| — *spitzbergensis* GURJ. | — | — | × | — | — | — | × | — |
| — *groenlandica* SCHELL | — | — | × | — | — | — | — | — |
| — *triangula* K. STEPH. | — | — | — | × | — | — | — | — |
| *Chironesimus debruyni* (HOEK) | × | — | × | — | — | × | — | × |
| *Eurythenes gryllus* (MANDT) | — | (×) | — | — | — | × | × | — |
| *Tmetonyx trionyx* K. STEPH. | — | — | — | × | — | — | — | — |
| — *barentsi* GURJ. | — | — | — | — | — | — | — | × |
| — *cicada* (O. FABR.) | × | × | × | × | — | × | × | × |
| — *similis* (G. O. SARS) | × | — | × | — | (×) | × | × | — |
| — *cæculus* (G. O. SARS) | — | — | — | × | — | × | — | — |
| — *leucophthalmus* (G. O. SARS) | — | — | — | — | — | × | — | — |
| — *albidus* (G. O. SARS) | — | — | — | — | — | × | — | — |
| *Tryphosites longipes* (B. & W.) | — | — | — | — | × | × | — | — |

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Lepidepecreum umbo* (GOËS) | × | × | × | × | — | × | × | × |
| — *serratum* K. STEPH. | — | — | — | × | (×) | — | — | — |
| *Lepidepecreella cymba* (GOËS) | — | — | — | — | — | — | × | — |
| *Orchomenella nana* KR. | — | — | — | — | — | — | — | × |
| — *lobata* CHEVR. | — | — | — | — | — | — | × | — |
| — *pinguis* (BOECK) | × | × | — | — | .. | × | ? | × |
| — *minuta* (KRØYER) | × | × | × | × | × | × | × | × |
| — *groenlandica* (H. J. H.) | × | × | × | — | — | × | — | × |
| Fam. *Stegocephalidæ* | | | | | | | | |
| *Stegocephalopsis ampulla* (PHIPPS) | × | — | × | — | — | — | × | × |
| *Phippsia rømeri* SCHELL | — | — | × | — | — | — | (×) | — |
| *Stegocephalus inflatus* KR. | × | × | × | × | (×) | × | × | × |
| *Phippsiella similis* (G. O. SARS) | (×) | (×) | — | — | — | × | (×) | — |
| *Stegocephaloides auratus* (G. O. S.) | — | — | — | × | — | — | — | — |
| — *christianiensis* (BOECK) | — | — | — | — | — | × | — | — |
| *Andaniopsis nordlandica* (BOECK) | — | — | — | — | — | × | — | — |
| *Andaniella pectinata* G. O. S. | × | × | × | × | — | × | × | × |
| *Andaniexis abyssi* (BOECK) | × | (×) | — | — | — | × | — | — |
| Fam. *Ampeliscidæ* | | | | | | | | |
| *Ampelisca eschrichti* KR. | × | × | × | × | — | × | × | × |
| — *macrocephala* LILLJB. | × | × | × | × | — | × | × | × |
| — *latipes* K. STEPH. | — | (×) | — | × | — | — | — | — |
| — *gibba* G. O. SARS | × | (×) | — | × | — | × | — | — |
| — *odontoplax* G. O. SARS | — | — | — | — | ×[1] | × | — | — |
| — *amblyops* G. O. SARS | × | (?) | — | — | — | × | — | — |
| — *spinipes* BOECK | × | — | — | — | — | — | — | — |
| — *æquicornis* BRUZEL | × | (×) | — | × | × | × | — | — |
| *Byblis erythrops* G. O. SARS | — | — | — | — | — | × | — | — |
| — *abyssi* G. O. SARS | — | — | — | — | — | — | — | × |
| — *gaimardi* (KR.) | × | × | × | × | — | × | × | × |
| — *longicornis* METZGER | — | — | — | — | — | × | × | × |
| — *crassicornis* G. O. SARS | — | — | — | — | — | × | — | — |
| *Haploops tubicola* LILLJB. | × | × | × | × | — | × | × | × |
| — *lævis* HOEK | — | × | — | — | — | — | — | × |
| — *setosa* BOECK | × | (×) | × | × | — | × | × | × |
| — *robusta* G. O. SARS | × | × | — | × | — | × | × | × |
| Fam. *Argissidæ* | | | | | | | | |
| *Argissa hamatipes* (NORMAN) | × | × | × | × | — | × | — | × |
| Fam. *Haustoriidæ* | | | | | | | | |
| *Bathyporeia elegans* WATKIN 1938 (= *B. pelagica* G. O. SARS 1891) | — | — | — | — | — | × | — | — |

[1]) RAITT 1937, p. 251.

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Bathyporeia sarsi* WATKIN 1938 (= *B. robertsoni* G. O. SARS 1891) | — | — | — | — | — | × | — | — |
| *Priscillina armata* (BOECK) | × | × | — | — | — | — | — | × |
| *Pontoporeia femorata* KR. | × | × | × | × | — | × | × | × |
| *Urothoë elegans* BATE (= *U. norvegica* G. O. SARS) | — | — | — | × | — | × | — | — |
| Fam. *Phoxocephalidæ* | | | | | | | | |
| *Phoxocephalus holbølli* (KR.) | × | × | × | × | × | × | ? | × |
| *Leptophoxus falcatus* (G. O. S.) | — | — | — | — | — | × | — | — |
| *Paraphoxus oculatus* G. O. S. | — | — | — | × | — | — | — | — |
| *Harpinia mucronata* G. O. S. | — | ? | × | × | (×) | — | — | × |
| — *crenulata* (BOECK) | — | — | — | × | — | × | — | — |
| — *pectinata* G. O. SARS | — | — | — | — | — | × | — | — |
| — *serrata* G. O. SARS | × | — | × | — | — | × | — | — |
| — *antennaria* MEINERT | — | × | — | × | ? | × | — | × |
| — *propinqua* G. O. SARS | — | — | — | ? | × | — | — | — |
| — *plumosa* (KR.) | — | × | × | — | — | ? | × | × |
| — *abyssi* G. O. SARS | — | (×) | × | — | — | — | — | — |
| — *similis* K. ST. | — | — | — | × | — | — | — | — |
| Fam. *Amphilochidæ* | | | | | | | | |
| *Amphilochus manudens* BATE | — | — | — | — | × | × | — | × |
| — *tenuimanus* BOECK | — | (×) | ? | — | — | × | — | — |
| *Amphilochoides odontonyx* BOECK (non G. O. SARS) | — | — | — | — | — | × | — | — |
| *Gitanopsis bispinosa* BOECK | — | × | — | — | — | × | — | — |
| — *inermis* G. O. SARS | — | × | × | × | — | × | × | — |
| — *arctica* G. O. SARS | — | × | — | × | — | × | — | × |
| *Gitana sarsi* BOECK | — | — | — | — | — | — | × | — |
| Fam. *Leucothoidæ* | | | | | | | | |
| *Leucothoë spinicarpa* ABILDG. | — | × | × | × | — | × | — | × |
| Fam. *Stenothoidæ* | | | | | | | | |
| *Metopa robusta* G. O. SARS | — | × | — | — | × | × | — | — |
| — *propinqua* G. O. SARS | × | — | — | — | — | — | — | × |
| — *sinuata* G. O. SARS | — | (×) | × | × | — | × | × | × |
| — *bruzelii* GOËS | × | × | ? | × | × | × | × | — |
| — *cariana* GURJ. | — | — | × | — | — | — | — | — |
| — *palmata* G. O. SARS | — | — | — | × | — | × | — | — |
| — *alderi* (BATE) | — | — | ? | × | — | × | × | × |
| — *clypeata* (KR.) | × | × | × | — | — | — | — | — |
| — *spectabilis* G. O. SARS | × | × | — | — | — | × | × | — |
| — *spitzbergensis* G. O. SARS | — | — | — | — | — | — | × | — |
| — *latimana* H. J. H. | — | × | — | — | — | — | — | — |

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Metopa affinis* Boeck | — | — | — | — | — | × | — | — |
| — *norvegica* (Lilljb.) | — | × | — | × | × | × | — | × |
| — *boecki* G. O. Sars | — | × | — | × | — | × | — | — |
| — *nordmanni* K. Steph. | — | × | — | — | — | — | — | — |
| — *longicornis* G. O. S. | — | × | — | — | — | ? | — | — |
| — *pusilla* G. O. Sars | — | — | — | — | — | × | — | × |
| — *rubrovittata* G. O. S. | — | — | — | — | ? | × | — | — |
| — *sølsbergi* Sp. Schneider | — | × | — | — | — | × | — | — |
| — *invalida* G. O. Sars | — | — | — | — | — | × | — | — |
| — *groenlandica* H. J. H. | × | × | × | — | — | — | — | — |
| — *borealis* G. O. Sars | — | — | — | — | — | × | — | — |
| — *tenuimana* G. O. Sars | — | — | ? | — | — | — | — | — |
| *Metopella nasuta* (Boeck) | × | × | — | × | — | × | — | — |
| — *carinata* (H. J. H.) | × | × | × | — | — | — | — | — |
| — *longimana* (Boeck) | — | × | × | × | — | — | — | — |
| — *neglecta* (H. J. H.) | — | × | — | — | — | — | — | × |
| *Proboloides glacialis* (Kr.) | — | × | — | × | — | — | × | × |
| *Stenothoë monoculoides* (Bate) | — | — | — | × | × | × | — | — |
| — *marina* (Bate) | — | — | — | — | ? | — | — | — |
| — *brevicornis* G. O. Sars | — | — | — | — | — | × | — | — |
| Fam. *Cressidæ* | | | | | | | | |
| *Cressa dubia* (Bate) | — | — | — | — | × | — | — | — |
| — *minuta* Boeck | — | — | — | ? | — | — | — | — |
| — *abyssicola* G. O. Sars | — | × | — | (×) | — | — | — | — |
| Fam. *Colomastigidæ* | | | | | | | | |
| *Colomastix pusilla* Grube | — | — | — | — | × | — | — | — |
| Fam. *Laphystiidæ* | | | | | | | | |
| *Laphystius sturionis* Kr. | — | — | — | × | — | — | — | — |
| Fam. *Laphystiopsidæ* | | | | | | | | |
| *Laphystiopsis planifrons* G. O. S. | — | — | — | — | (×) | × | — | — |
| Fam. *Acanthonotozomatidæ* | | | | | | | | |
| *Odius carinatus* (Bate) | × | × | × | × | × | × | × | × |
| *Iphimedia obesa* Rathke | — | — | — | — | × | × | — | — |
| *Acanthonotozoma serratum* (O. Fabr.) | × | × | × | × | — | × | × | × |
| — *cristatum* (Ross) | × | (×) | × | × | — | × | × | × |
| — *inflatum* (Kr.) | × | × | × | — | — | — | × | × |
| Fam. *Pardaliscidæ* | | | | | | | | |
| *Pardalisca abyssi* Boeck | × | ? | × | × | — | × | × | — |
| — *tenuipes* G. O. S. | × | — | ? | — | (×) | × | × | × |
| — *cuspidata* Kr. | × | × | × | × | — | × | × | × |

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Nicippe tumida* BRUZEL. | — | × | — | × | — | × | — | — |
| *Halice abyssi* BOECK | — | (×) | × | × | — | × | — | × |
| Fam. *Lilljeborgiidæ* | | | | | | | | |
| *Lilljeborgia brevicornis* (BRUZEL.) | — | — | — | × | — | × | — | × |
| — *fissicornis* (M. SARS) | — | (×) | × | × | — | × | × | × |
| — *kinahani* (BATE) | — | — | — | — | — | ? | — | — |
| *Idunella æquicornis* G. O. S. | — | — | × | × | — | × | — | × |
| Fam. *Oedicerotidæ* | | | | | | | | |
| *Perioculodes longimanus* (B. & W.) | × | — | — | — | — | × | — | — |
| *Pontocrates arcticus* G. O. S. | — | — | — | × | — | × | — | — |
| *Synchelidium tenuimanum* NORM. | — | — | — | — | — | × | — | — |
| *Oediceros saginatus* KR. | × | × | × | × | — | × | × | × |
| — *borealis* BOECK | — | × | × | × | — | ? | × | × |
| *Paroediceros curvirostris* (H. J. H.) | — | × | — | ? | — | — | — | — |
| — *intermedius* STEBB. | — | — | — | — | — | — | — | × |
| — *lynceus* (M. SARS) | × | × | × | × | — | × | × | × |
| — *propinquus* G. O. S. | — | (×) | × | ? | — | × | ? | × |
| *Arrhis phyllonyx* (M. SARS) | × | × | × | × | (×) | × | × | × |
| *Arrhinopsis longicornis* STAPP. | — | — | — | — | — | — | — | × |
| *Westwoodilla brevicalcar* (GOËS) | × | × | — | × | — | × | × | — |
| — *cæcula* (BATE) | × | — | — | — | — | × | — | — |
| — *megalops* (G. O. SARS) | × | — | ? | × | — | × | — | × |
| — *acutifrons* (G. O. SARS) | — | — | — | — | — | × | — | — |
| *Acanthostepheia malmgreni* (GOËS) | × | × | × | × | — | — | × | × |
| — *behringiensis* (LOCK.) | — | — | — | — | — | — | — | × |
| *Aceroides latipes* G. O. SARS | — | × | × | — | — | × | × | × |
| *Bathymedon obtusifrons* (H. J. H.) | × | × | × | × | — | × | — | × |
| — *saussurei* (BOECK) | — | × | — | — | — | — | — | — |
| — *longimanus* (BOECK) | × | — | — | — | — | × | — | × |
| *Monoculopsis longicornis* (BOECK) | × | × | × | × | — | × | — | × |
| *Monoculodes longirostris* (GOËS) | × | — | × | × | (×) | × | × | × |
| — *krøyeri* BOECK | — | × | — | — | — | × | — | — |
| — *pallidus* G. O. SARS | — | — | — | × | (×) | — | — | × |
| — *borealis* BOECK | × | × | × | × | — | × | × | × |
| — *crassirostris* H. J. H. | — | × | — | — | — | — | — | — |
| — *schneideri* G. O. SARS | × | — | — | — | — | × | — | × |
| — *latimanus* (GOËS) | × | × | × | × | — | × | × | × |
| — *tesselatus* SP. SCHNEIDER | × | — | — | × | × | × | — | × |
| — *simplex* H. J. H. | — | × | × | — | — | — | — | — |
| — *tuberculatus* BOECK | × | × | × | — | — | × | × | × |
| — *norvegicus* (BOECK) | × | × | — | × | — | × | — | — |
| — *subnudus* NORM. | — | — | — | × | — | × | — | — |

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Monoculodes packardi* Boeck | × | — | — | × | — | × | — | — |
| — *tenuirostratus* Boeck | × | — | — | × | (×) | — | — | — |
| Fam. *Tironidæ* | | | | | | | | |
| *Tiron acanthurus* Lilljb. | × | × | × | × | — | × | × | × |
| *Bruzelia typica* Boeck | — | — | — | — | — | × | — | — |
| — *tuberculata* G. O. S. | — | — | — | — | — | × | — | — |
| *Astyra abyssi* Boeck | — | — | — | × | — | × | — | — |
| *Syrrhoites serratus* (G. O. S.) | — | — | — | (×) | — | × | — | — |
| *Syrrhoë crenulata* Goës | × | × | × | × | — | × | × | × |
| Fam. *Calliopiidæ* | | | | | | | | |
| *Laothoës meinerti* Boeck | — | — | — | — | × | × | — | — |
| *Amphithopsis longicaudata* Boeck | × | × | — | × | — | × | — | × |
| *Halirages fulvocinctus* (M. Sars) | × | × | × | × | — | × | × | × |
| — *mixtus* K. Steph. | — | — | × | — | — | — | — | — |
| — *quadridentatus* G. O. S. | × | — | × | — | — | — | — | — |
| — *megalops* (Buchh.) | × | × | × | — | — | — | — | — |
| *Apherusa cirrus* (Bate) | — | — | — | — | — | × | × | — |
| — *bispinosa* (Bate) | — | — | — | — | × | × | — | × |
| — *tridentatus* (Bruzel.) | — | — | — | — | — | × | × | × |
| — *sarsi* Shoemaker | — | — | × | × | — | × | × | × |
| — *jurinei* (M.-Edw.) | — | — | — | × | × | × | — | × |
| — *glacialis* (H. J. H.) | × | × | × | — | — | — | × | × |
| *Leptamphopus longimanus* Boeck | × | × | — | — | — | — | — | — |
| *Calliopius læviusculus* (Kr.) | × | × | × | × | × | × | × | × |
| *Cleippides quadricuspis* Heller | — | — | × | × | (×) | — | — | × |
| — *tricuspis* (Kr.) | — | × | × | — | — | — | — | — |
| *Haliragoides inermis* (G. O. S.) | × | × | × | — | — | × | — | × |
| Fam. *Pleustidæ* | | | | | | | | |
| *Pleustes medius* (Goës) | × | — | — | — | — | — | × | × |
| — *cataphractus* Stimpson | × | — | — | — | — | — | × | — |
| — *tuberculatus* Bate | "Arctic Ocean" | | | | | | | |
| — *panoplus* (Kr.) | × | × | × | × | — | × | × | × |
| *Parapleustes boecki* (H. J. H.) | — | × | — | — | × | — | — | — |
| — *pulchellus* (Kr.) | × | × | — | × | — | × | × | × |
| — *bicuspis* (Kr.) | × | × | × | × | — | × | × | × |
| — *monocuspis* (G. O. S.) | — | × | × | × | × | × | — | × |
| — *gracilis* Buchh. | — | — | × | ? | — | × | × | — |
| — *assimilis* (G. O. S.) | × | × | × | × | × | × | — | × |
| *Stenopleustes malmgreni* (Boeck) | — | — | — | × | — | × | — | — |
| — *nodifer* (G. O. S.) | × | — | — | — | × | — | — | — |
| — *eldingi* Gurj. | — | — | — | — | — | — | — | × |

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Sympleustes latipes* (M. SARS) | — | × | — | × | × | × | — | × |
| — *glaber* (BOECK) | × | × | × | × | × | × | × | × |
| — *pulchellus* (G. O. S.) | × | × | × | × | — | × | × | — |
| Fam. *Paramphithoidæ* | | | | | | | | |
| *Epimeria parasitica* (M. SARS) | — | — | — | — | — | × | — | — |
| — *loricata* G. O. S. | × | × | × | × | — | × | × | × |
| — *cornigera* (J. C. FABR.) | — | — | — | × | × | × | — | — |
| — *tuberculata* G. O. S. | — | — | — | × | — | × | — | — |
| *Paramphithoë hystrix* (ROSS) | × | × | × | × | — | × | × | × |
| — *polyacantha* (MURDOCH) | — | — | — | — | — | — | — | × |
| — *buchholzi* STEBB. | — | — | × | — | — | — | — | — |
| Fam. *Amathillopsidæ* | | | | | | | | |
| *Acanthopleustes affinis* (MIERS) | — | — | — | — | — | — | × | — |
| *Amathillopsis spinigera* HELLER | — | — | × | × | — | — | — | × |
| Fam. *Atylidæ* | | | | | | | | |
| *Atylus carinatus* (J. C. FABR.) | × | × | × | — | — | × | × | × |
| *Nototropis falcatus* (METZGER) | — | — | — | — | — | × | — | — |
| — *swammerdami* (M.-EDW.) | — | — | — | — | × | × | — | × |
| — *nordlandicus* (BOECK) | — | — | — | × | — | × | — | × |
| — *smitti* (GOËS) | — | × | × | × | — | × | × | × |
| Fam. *Melphidippidæ* | | | | | | | | |
| *Melphidippe goësi* STEBB. | × | × | — | × | — | × | × | × |
| — *borealis* BOECK | — | — | — | — | — | × | — | — |
| — *macrura* G. O. S. | — | — | — | — | — | × | — | — |
| Fam. *Eusiridæ* | | | | | | | | |
| *Eusirus cuspidatus* KR. | × | × | × | × | — | × | × | × |
| — *propinquus* G. O. S. | — | — | — | — | — | × | — | — |
| — *longipes* BOECK | — | — | — | — | — | × | — | — |
| — *minutus* G. O. S. | — | — | — | — | — | × | — | — |
| — *holmi* H. J. H. | × | × | × | — | — | — | × | × |
| *Rhachotropis oculata* (H. J. H.) | × | × | × | × | — | — | — | — |
| — *aculeata* (LEPECH.) | × | × | × | × | — | × | × | × |
| — *inflata* (G. O. S.) | × | × | × | — | — | × | × | — |
| — *helleri* (BOECK) | — | — | × | — | — | × | × | — |
| — *macropus* G. O. S. | — | — | ? | — | — | × | × | × |
| *Rozinante fragilis* (GOËS) | × | × | × | — | — | — | × | × |
| Fam. *Pontogeneiidæ* | | | | | | | | |
| *Pontogeneia inermis* (KR.) | × | × | × | — | — | — | — | — |
| Fam. *Gammaridæ* | | | | | | | | |
| *Weyprechtia pinguis* (KR.) | × | × | × | — | — | — | × | × |
| — *heuglini* (BUCHH.) | — | — | — | — | — | — | × | × |

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Gammarellus homari* (J. C. Fabr.) | × | × | × | × | × | × | × | × |
| *Eriopisa elongata* (Bruzel.) | — | — | — | × | × | × | — | — |
| *Cheirocratus sundevalli* (Rtk.) | — | — | — | — | — | × | — | — |
| — *assimilis* (Lilljb.) | — | — | — | — | — | × | — | — |
| *Cheirocratella thori* K. Steph. | — | — | — | × | — | — | — | — |
| *Melita quadrispinosa* Voss. | — | — | — | — | — | — | × | × |
| — *palmata* (Mont.) | — | — | — | — | — | — | — | × |
| — *dentata* (Kr.) | × | × | × | × | — | × | × | × |
| — *formosa* Murdoch | — | × | — | × | — | × | × | × |
| *Ceradocus torelli* (Goës) | — | × | × | × | ? | — | — | × |
| *Maera loveni* (Bruzel.) | × | × | — | × | — | × | × | — |
| — *prionochira* Brüggen | — | — | — | — | — | — | × | — |
| *Gammarus locusta* (L.), sens. str. | × | × | × | × | × | × | × | × |
| — — *setosus* Dement. | × | — | × | × | — | × | × | × |
| — *wilkitzki* Birula | × | — | × | × | — | — | × | × |
| — *zaddachi* Sexton | — | — | — | — | — | — | — | × |
| *Marinogammarus marinus* (Leach) | — | — | — | × | ×[1]) | — | ? | ? |
| — *obtusatus* (Dahl) | — | — | — | × | ×[2]) | × | — | — |
| — *finmarchicus* (Dahl) | × | — | — | × | — | × | — | — |
| — *stoerensis* Reid | — | — | — | × | — | — | — | — |
| *Rivulogammarus dübeni* (Lilljb.) | × | × | — | × | × | × | — | × |
| *Gammaracanthus loricatus* (Sab.) | × | × | × | — | — | — | × | × |
| Fam. *Dexaminidæ* | | | | | | | | |
| *Dexamine spinosa* (Mont.) | — | — | — | — | — | × | — | — |
| — *thea* Boeck | × | — | — | × | × | × | — | — |
| Fam. *Talitridæ* | | | | | | | | |
| *Hyale prevosti* (M.-E.) (= *H. nilssoni* (Rtk.)) | — | — | — | × | × | × | — | × |
| — *pontica* (Rtk.) | — | — | — | — | × | — | — | — |
| *Orchestia gammarellus* (Pallas) | — | — | — | — | × | — | — | — |
| Fam. *Aoridæ* | | | | | | | | |
| *Microdeutopus gryllotalpa* (Costa) | × | — | — | — | — | — | — | — |
| — *anomalus* (Kr.) | — | — | — | ? | — | — | — | — |
| *Lembos arcticus* (H. J. H.) | — | — | — | — | — | — | — | × |
| — *megacheir* (G. O. S.) | — | — | — | — | — | × | — | — |
| — *longipes* (Lilljb.) | — | — | — | — | — | × | — | — |
| — *websteri* (Bate) | — | — | — | — | ×[3]) | — | — | — |
| Fam. *Photidæ* | | | | | | | | |
| *Photis reinhardti* Kr. | × | × | × | × | — | × | × | × |
| — *tenuicornis* G. O. S. | — | × | — | × | ×[4]) | — | — | — |
| *Eurystheus melanops* (G. O. S.) | ? | × | × | × | × | × | — | × |
| — *erythrophthalmus* (Lilljb.) | — | — | — | — | × | × | — | — |

[1]) K. Stephensen 1935—42, p. 341. [2]) K. Stephensen 1935—42, p. 444. [3]) Raitt 1937, p. 251. [4]) Raitt 1937, p. 251.

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| *Podoceropsis nitida* (STIMPS.) | × | — | — | × | × | × | — | — |
| — *lindahli* H. J. H. | — | × | — | — | — | — | — | — |
| *Megamphopus cornutus* NORM. | — | — | — | — | — | × | — | — |
| *Goësia depressa* (GOËS) | — | × | × | — | — | — | × | — |
| *Protomedeia fasciata* KR. | × | — | × | × | × | × | × | × |
| — *grandimana* BRÜGG. | — | × | × | × | — | × | × | × |
| *Leptocheirus aberrans* (OHLIN) | × | — | — | — | — | — | — | — |
| Fam. *Amphithoidæ* | | | | | | | | |
| *Amphithoë rubricata* (MONT.) | × | — | — | × | × | × | — | × |
| *Sunamphithoë pelagica* (M.-E.) | — | — | — | — | — | × | — | — |
| *Pleonexes gammaroides* BATE | — | × | — | — | — | — | — | — |
| Fam. *Jassidæ* | | | | | | | | |
| *Parajassa pelagica* (LEACH) | — | — | — | × | × | × | — | — |
| *Jassa pulchella* LEACH | — | — | — | × | × | × | — | — |
| — *pusilla* (G. O. S.) | — | — | — | — | × | — | — | — |
| *Ischyrocerus nanoides* (H. J. H.) | — | × | — | — | — | — | — | — |
| — *latipes* KR. | — | × | × | — | — | — | × | × |
| — *anguipes* KR. | × | × | × | × | × | × | × | × |
| — *enigmaticus* GURJ. | — | × | — | — | — | — | — | — |
| — *megacheir* (BOECK) | × | — | × | × | × | × | × | × |
| (=?— *spitzbergensis* SCHELL.) | — | — | — | — | — | — | × | — |
| — *assimilis* (G. O. S.) | × | — | — | — | — | — | — | — |
| — *megalops* G. O. S. | — | — | × | — | — | × | × | — |
| — *brevicornis* (G. O. S.) | — | — | × | — | — | — | × | × |
| — *brusilovi* GURJ. | × | — | × | — | — | — | — | — |
| (=?— *tuberculatus* (HOEK)) | — | — | — | — | — | — | — | × |
| Fam. *Corophiidæ* | | | | | | | | |
| *Cerapus crassicornis* (BATE) | — | — | — | — | × | — | — | — |
| *Ericthonius brasiliensis* (DANA) | — | — | — | — | — | × | — | × |
| — *difformis* M.-E. | × | — | — | — | × | — | × | × |
| — *hunteri* (BATE) | — | — | × | × | × | — | — | × |
| — *megalops* (G. O. S.) | × | × | × | — | — | — | — | × |
| *Neohela monstrosa* (BOECK) | × | × | × | × | — | × | × | — |
| — *maxima* K. STEPH. | — | × | — | — | — | — | — | — |
| *Unciola leucopis* (KR.) | — | × | × | × | — | × | × | × |
| — *planipes* NORM. | — | × | — | × | — | × | — | × |
| *Siphonoecetes typicus* KR. | — | × | × | — | — | — | — | — |
| — *pallidus* G. O. S. | — | — | — | — | — | × | — | — |
| — *colletti* BOECK | × | — | — | — | — | × | — | — |
| *Corophium affine* BRUZ. | — | — | — | — | — | × | — | — |
| — *crassicorne* BRUZ. | — | — | × | — | × | × | × | × |
| — *bonelli* G. O. S. | × | — | ? | × | × | × | — | × |
| — *acherusicum* COSTA | × | — | ? | — | — | — | — | — |

Table II (continued).

| | NE. America | W. Greenland | E. Greenland | Iceland | The Faroes | N. Norway | Spitsbergen | Barents Sea + White Sea |
|---|---|---|---|---|---|---|---|---|
| Fam. *Podoceridæ* (= *Dulichiidæ*) | | | | | | | | |
| *Lætmatophilus armatus* (NORM.) | — | — | — | × | — | × | — | — |
| *Xenodice frauenfeldti* BOECK | — | — | — | × | × | × | — | — |
| *Dulichia spinosissima* KR. | × | × | — | × | — | × | × | × |
| — *bispina* GURJ. | — | — | — | — | — | — | — | × |
| — *monacantha* METZGER | — | — | — | × | — | × | — | — |
| — *nordlandica* BOECK | — | — | — | × | — | × | — | — |
| — *falcata* (BATE) | — | — | — | — | — | × | — | × |
| — *porrecta* (BATE) | × | × | — | × | — | × | — | — |
| — *knipowitschi* GURJ.[1]) (= *D. aspina* K. STEPH.) | × | — | — | × | — | — | — | × |
| — *tuberculata* BOECK | × | × | — | × | — | × | × | — |
| *Paradulichia typica* BOECK | — | × | — | × | — | × | — | — |
| CAPRELLIDEA | | | | | | | | |
| Fam. *Caprellidæ* | | | | | | | | |
| *Cercops holbølli* KR. | — | × | — | — | — | — | — | — |
| *Phtisica marina* SLABBER | — | — | — | — | × | × | — | — |
| *Æginella spinosa* BOECK | — | × | × | × | × | × | × | × |
| *Æginina longicornis* (KR.) | × | × | × | × | — | — | × | × |
| *Proæginina norvegica* (K. STEPH.) | — | — | — | (×) | — | × | — | — |
| *Caprella dubia* H. J. H. | — | × | × | — | — | — | — | × |
| — *microtuberculata* G. O. S. | — | — | × | — | — | × | × | × |
| — *linearis* (L.) | × | — | — | × | × | × | × | × |
| — *horrida* G. O. S. | × | — | × | (×) | — | — | × | × |
| — *septentrionalis* KR. | × | × | × | × | × | × | × | × |
| — *loveni* BOECK | — | — | — | ? | — | — | — | — |
| — *monocera* G. O. S. | — | × | — | ? | ? | × | × | × |
| — *punctata* BOECK | — | — | — | ? | ? | × | × | × |
| — *ciliata* G. O. S. | — | — | — | × | — | — | — | — |
| Fam. *Cyamidæ* | | | | | | | | |
| *Cyamus ceti* (L.) | — | × | — | — | — | — | — | — |
| — *monodontis* LTK. | — | × | × | — | — | — | — | — |
| — *ovalis* ROUS. DE VAUZ. | — | — | — | × | — | — | — | — |
| *Paracyamus erraticus* R. DE V. | — | — | — | × | — | — | — | — |
| — *nodosus* (LTK.) | — | × | × | — | — | — | — | — |
| — *boopis* (LTK.) | — | × | — | × | — | × | — | — |
| *Isocyamus delphini* (GUÉR.-MÉN.) (= *Cyamus globicipitis* aut.) | — | — | — | — | × | — | — | — |
| *Platycyamus thompsoni* (GOSSE) | — | — | — | — | × | — | × | — |
| Total number of species: 387 + 6? | 147 (+1) +2? | 157 (+19) +4? | 153 +9? | 174 (+3) +8? | 71 (+14) +6? | 247 +4? | 135 (+2) +4? | 185 +1? |

[1]) GURJANOVA, Zool. Anzeiger, vol. 108, 1934, p. 128.

Table III. Comparison of all species from the southernmost West Greenland (S. of c. 61° N) and southern East Greenland (S. of c. 67° N, Sydøstkyst area).

| | Southernmost occurrence | |
|---|---|---|
| | West Greenland | East Greenland |
| HYPERIIDEA | | |
| 1. *Hyperoche medusarum* KR. | 58° N | 61° N |
| 2. *Hyperia galba* (MONT.) | 61° N | 66° N |
| — *medusarum* (O. FR. MÜLL.) | 59½° N | not E. Greenl. |
| 3. *Themisto abyssorum* (BOECK) | 60° N | 60° N |
| 4. — *libellula* (MANDT) | 60° N | 62° N |
| 5. — *gaudichaudi* GUÉR. (f. *compr.* + f. *bispin.*) | 59° N | 60° N |
| GAMMARIDEA | | |
| 8. *Onisimus edwardsi* KR. | 61° N | 60° N |
| 9. — *plautus* KR. | 60° N | ditto |
| 11. — *caricus* H. J. H. | not W. Greenl. | 66° N |
| 14. *Pseudalibrotus littoralis* (KR.) | 62° N | 60° N |
| 16. — *glacialis* G. O. SARS | 60° N | 66° N |
| 22. *Aristias tumidus* KR. | ditto | ditto |
| 25. *Anonyx nugax* (PHIPPS) | ditto | 60° N |
| 26. *Socarnes bidenticulatus* BATE | 65° N | ditto |
| 27. — *vahli* KR. | 63° N | ditto |
| 28. *Hippomedon holbølli* (KR.) | "S. Greenl." | c. 70° N |
| 29. — *propinquus* G. O. S. | 64° N | 60° N |
| 33. *Tryphosa schneideri* K. ST. | 60° N | 74° N |
| 35. — *spitzbergensis* CHEVR. | ? | 60° N |
| 37. *Tmetonyx cicada* (J. C. FABR.) | 60° N | 66° N |
| 39. *Lepidepecreum umbo* (GOËS) | 72° N | 62° N |
| 40. *Orchomenella minuta* (KR.) | 60° N | 60° N |
| 41. — *groenlandica* (H. J. H.) | 65° N | ditto |
| 44. *Stegocephalus inflatus* KR. | 60° N | ditto |
| 46. *Ampelisca eschrichti* KR. | ditto | ditto |
| 47. — *macrocephala* LILLJB. | ditto | ditto |
| 49. *Haploops tubicola* KR. | ditto | ditto |
| 50. — *setosa* BOECK | ditto | ditto |
| 51. *Pontoporeia femorata* KR. | 61° N | ditto |
| 52. *Argissa hamatipes* (NORMAN) | 63½°N (1000 m) | only 60° N |
| 53. *Phoxocephalus holbølli* (KR.) | 64° N | 60° N |
| 55. *Harpinia serrata* G. O. SARS | not W. Greenl. | ditto |
| 58. *Gitanopsis inermis* G. O. SARS | 61° N | ditto |
| — *arctica* G. O. SARS | ditto | not E. Greenl. |
| 59. *Leucothoë spinicarpa* (ABILDG.) | 63½° N | not N of 60° N |
| 60. *Metopa sinuata* G. O. SARS | 60° N | 71° N |
| — *bruzelii* GOËS | ditto | ditto? |
| 61. — *cariana* GURJ. | not W. Greenl. | 60° N |
| 63. — *clypeata* (KR.) | 60° N | 70° N |

Table III (continued).

| | Southernmost occurrence | |
|---|---|---|
| | West Greenland | East Greenland |
| 64. *Metopella carinata* (H. J. H.) | 60° N | 66° N |
| 65. — *longimana* (Boeck) | ditto | 60° N |
| — *neglecta* (H. J. H.) | ditto | not E. Greenl. |
| 66. *Odius carinatus* (Bate) | ditto | not N of 60° N |
| 67. *Acanthonotozoma serratum* (O. Fabr.) | ditto | 60° N |
| 68. — *cristatum* (Ross) | 66½° N | ditto |
| 71. *Pardalisca cuspidata* Kr. | 63° N | ditto |
| ? — *tenuipes* G. O. Sars | not W. Greenl. | ditto |
| 73. *Lilljeborgia fissicornis* (M. Sars) | 63½° N | ditto |
| 75. *Oediceros saginatus* Kr. | 62° N | ditto |
| 76. — *borealis* Boeck | 64° N | ditto |
| 77. *Paroediceros propinquus* G. O. S. | 65° N | ditto |
| 78. — *lynceus* (M. Sars) | 60° N | ditto |
| 79. *Arrhis phyllonyx* (M. Sars) | 63° N | ditto |
| 80. *Westwoodilla (megalops* (G. O. S.)?) | 64° N | ditto |
| 81. *Acanthostepheia malmgreni* (Goës) | 69½° N | ditto |
| 82. *Aceroides latipes* G. O. Sars | 65° N | ditto |
| 84. *Monoculopsis longicornis* (Boeck) | 64° N | ditto |
| 85. *Monoculodes longirostris* Goës | 72° N | 61½° N |
| 86. — *borealis* Boeck | 60° N | ditto |
| 87. — *latimanus* Goës | ditto | 60° N |
| 88. — *simplex* H. J. H. | 62° N | ditto |
| 89. — *tuberculatus* Boeck | 70° N | ditto |
| 90. *Tiron acanthurus* Lilljb. | 64° N | ditto |
| 91. *Syrrhoë crenulata* Goës | 60° N | ditto |
| 92. *Halirages fulvocinctus* (M. Sars) | ditto | ditto |
| 93. — *mixtus* K. St. | not W. Greenl. | 66½° N |
| 95. — *megalops* (Buchh.) | 60° N | 60° N |
| 96. *Apherusa sarsi* Shoemaker | not W. Greenl. | 66° N |
| 97. — *glacialis* (H. J. H.) | 59½° N | ditto |
| 98. *Cleippides tricuspis* (Kr.) | 64° N | 60° N |
| 101. *Pleustes panoplus* Kr. | 60° N | ditto |
| 102. *Parapleustes bicuspis* (Kr.) | ditto | ditto |
| 103. — *monocuspis* (G. O. S.) | ? | ditto |
| 104. — *gracilis* Buchh. | not W. Greenl. | 61½° N |
| 105. — *assimilis* G. O. S. | 64° N | 60° N |
| 106. *Sympleustes glaber* (Boeck) | 60° N | ditto |
| 107. — *pulchellus* (G. O. S.) | 71° N | 66° N |
| 109. *Paramphithoë hystrix* (Ross) | 60° N | 60° N |
| 112. *Atylus carinatus* (J. C. Fabr.) | ditto | ditto |
| 113. *Nototropis smitti* (Goës) | (55°) 69° N | ditto |
| 114. *Eusirus cuspidatus* Kr. | 60° N? | 66° N? |
| 116. *Rhachotropis aculeata* (Lepech.) | 60° N | 60° N |
| 117. — *oculata* (H. J. H.) | ditto | ditto |
| 118. — *inflata* (G. O. S.) | 68½° N | ditto |
| 120. *Rozinante fragilis* (Goës) | 69° N | ditto |

Table III (continued).

| | Southernmost occurrence | |
|---|---|---|
| | West Greenland | East Greenland |
| 121. *Pontogeneia inermis* (KR.) | 60° N | 60° N |
| 122. *Weyprechtia pinguis* (KR.) | ditto | ditto |
| 123. *Gammarellus homari* (J. C. FABR.) | ditto | ditto |
| 125. *Ceradocus torelli* (GOËS) | 67° N | ditto |
| 126a. *Gammarus locusta* (L.) sens. str. | 60° N? | ditto |
| 126b. — — *setosus* DEM. | ? | ditto |
| 127. — *wilkitzkii* BIRULA | ? | ditto |
| 128. *Gammaracanthus loricatus* (SAB.) | 64° N | 66° N |
| 129. *Photis reinhardti* KR. | ditto | 60° N |
| 130. *Eurystheus melanops* (G. O. S.) | $63^1/_2$° N | ditto |
| 132. *Protomedeia fasciata* KR. | 60° N | ditto |
| 133. — *grandimana* BRÜGGEN | $69^3/_4$° N | ditto |
| 134. *Ischyrocerus anguipes* KR. | 60° N | ditto |
| — *enigmaticus* GURJ. | 61° N[1]) | not E. Greenl. |
| 142. *Neohela monstrosa* (BOECK) | ditto | 71° N |
| 143. *Unciola leucopis* (KR.) | 64° N | 60° N |
| 144. *Siphonoecetes typicus* KR. | 64° N? | only 60° N |
| CAPRELLIDEA | | |
| 146. *Æginina longicornis* (KR.) | 60° N | 60° N |
| 147. *Æginella spinosa* BOECK | ditto | 74° N |
| 148. *Caprella septentrionalis* KR. | ditto | 60° N |

[1]) GURJANOVA, Zool. Anz., vol. 108, 1934, p. 128.

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