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DECAPODA, MYSIDACEA,
ISOPODA, AND TANAIDACEA FROM
JØRGEN BRØNLUND FJORD,
NORTH GREENLAND

BY

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WITH 13 FIGURES, 1 TABLE AND 1 MAP
IN THE TEXT

KØBENHAVN

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1970

Abstract

From Jørgen Brønlund Fjord (82°10' N, 30°30' W) 29 species of Crustacea Malacostraca are listed: 2 Decapoda, 3 Mysidacea, 15 Isopoda, and 9 Tanaidacea.

Two species are considered new to science, viz. *Nannoniscus hansenii* and *Pseudomesus* sp. (nov. sp.).

Two genera and 9 species are recorded for the first time from Greenland waters.

JEAN JUST

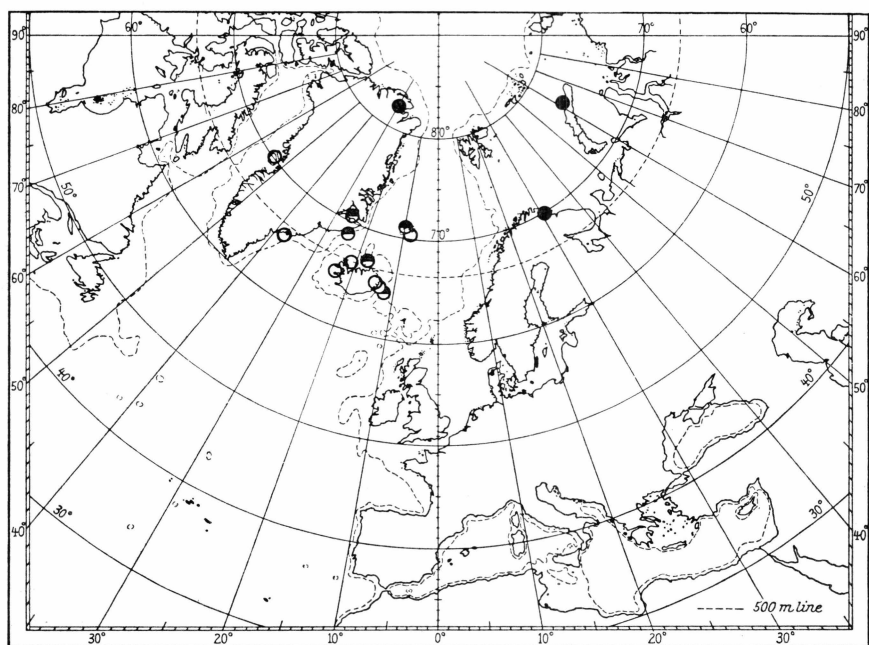
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Map 1, *Pseudotanaïs lilljeborgi*, distribution. ● = "Sars type", ○ = "Hansen type",
◐ = intermediate specimens.

INTRODUCTION

The present paper deals with those groups of Crustacea Malacostraca which have not been treated separately, viz. Amphipoda, (JUST 1970) and Cumacea, (JUST 1970).

The material was collected mainly during the Fourth Peary Land Expedition to Jørgen Brønlund Fjord (82°10' N, 30°30' W) in the summer of 1966. A physiographical survey of the area investigated, with methods and lists of stations, has been given by JUST (1970).

Of the 29 species treated below only 14 have previously been recorded from East Greenland (STEPHENSEN, 1943). Of the remaining 15 species two are considered new to science, viz. *Nannoniscus hansenii* and *Pseudomesus* sp. (nov. sp.), nine are new to Greenland waters, two have been found along West Greenland only, and two could not be determined as to species.

There is no doubt that Decapoda and Mysidacea are strongly under-represented in the material, as the expedition was not equipped to catch these fast moving crustaceans.

The relatively large number of small isopods and tanaids, which have previously been found at one or two localities only, in very limited numbers, and in very different parts of the arctic region, emphasize the great care which must be taken when collecting these groups.

Abbreviations used in the text:

PJ = Samples collected by P. JOHNSEN during the First Peary Land Expedition 1947-50.

St. = Station number of samples collected by M. ANDERSEN and the present author in 1966.

All measurements refer to the distance between the median point of the cephalic front edge and the apex of the abdomen (or telson).

The material is kept in the Zoological Museum, University of Copenhagen.

DECAPODA

Genus *Sclerocrangon* G. O. Sars, 1885

Sclerocrangon ferox (G. O. Sars)

Sclerocrangon salebrosus Sars, 1885, p. 15, Pl. 2.

— *ferox* HEEGAARD 1941, p. 20, fig. 7 (distrib.), 8, and 9.

Material:

Dredge haul: PJ, 12-VIII-1949, jour. no. 2000, 21–46 m.

Remarks:

The single specimen caught is a male of 84 mm.

Genus *Sabinea* KRØYER, 1843

Sabinea septemcarinata (SABINE)

Crangon septemcarinatus SABINE, 1824, p. 236, Pl. 2, figs. 11–13.

Sabinea septemcarinata KRØYER 1843, p. 224, Pl. 4, figs. 34–40 and Pl. 5 figs. 41–44.

— — HEEGAARD 1941, p. 31, fig. 12 (distribution).

Material:

Bottom grab: St. 3, 47.5 m, clay. — 1 specimen.

Dredge haul: PJ, 12-VIII-1949, no. 1999 and 2000, 21–46 m, 2 sp.
St. 72, 10 m, clay with red algae. — 1 sp. (dead).

Others: PJ, 1-IX-1948, from the stomach of *Phoca hispida*
SCHREB. — 1 sp.

Measurements:

St. 3, 19 mm; — PJ, 1999, 70 mm, male; — PJ, 2000, 56 mm, female; — PJ, from *P. hispida*, 70 mm, male?; — St. 72, 56 mm, male.

MYSIDACEA

Genus ***Mysis*** LOVÉN, 1862

Mysis relicta LOVÉN

Mysis relicta HOLMQUIST 1959, with references.

Material:

Dredge haul: St. 26, 1.5–2.0 m, sand and gravel. — 2 specimens.

– 48, 2.5 m, clay. — 1 sp.

Others: PJ, 19-VII-1949, from the stomach of *Salvellinus alpinus* (several animals). About 1500 specimes.

Remarks:

In spite of the fact that some 20 specimens of *S. alpinus* were caught and their stomach content examined between July 15 and 20, 1966 no further material of *M. relicta* was found that summer. This is strikingly contrasted by 1949, where *M. relicta* seems to have been the main feeding object of *S. alpinus* at exactly the same time and place, during the migration of *S. alpinus* from salt to fresh water.

According to HOLMQUIST, p. 61, *M. relicta* has in Greenland never been taken in fresh water, but she writes: "The localities in eastern Greenland were frequently situated off the mouth of an outlet from an inland lake ... It may easily be found that the specimens could have been washed down from an inland lake ...". The only lake from which *M. relicta*, if present, could possibly be washed out into Jørgen Brønlund Fjord is Nedre Midsommersø situated 25 kilometers west of the fiord and connected with it through the large river Midsommerelv.

Genus ***Erythrops*** G. O. SARS, 1869

Erythrops erythrophthalma (GOES)

Erythrops goesi SARS 1870, p. 24, Table I.

– *erythrophthalma* ZIMMER 1909, p. 80, figs. 155–159.

– – TATTERSALL and TATTERSALL 1951, p. 195, fig. 41.

Material:

Dredge haul: St. 41, 50 m, (clay). — 2 specimens.

– 73, 30 m, clay and sand. — 2 sp.

Remarks:

The species is new to East Greenland, but it has been recorded from Spitzbergen (GOES, 1864).

Erythropis abyssorum G. O. Sars

Erythropis abyssorum Sars 1870, p. 36, Tab. V, figs. 1-12.

— — STEPHENSEN 1943, p. 10.

— — TATTERSALL and TATTERSALL 1951, p. 192, fig. 40 A-D.

Material:

Dredge haul: St. 52, 160-180 m, fine red-brown clay. — 3 females.

ISOPODA

Anthuroidea

Genus ***Calathura*** NORM. and STEBB., 1886

Calathura brachiata (STIMPSON)

- Calathura brachiata* Sars 1899, p. 46, Pl. 19, fig. 2.
— — RICHARDSON 1905, p. 72, figs. 56–57.
— — STEPHENSEN 1943, p. 44, fig. 8 (map of distribution).
— — MENZIES 1962, p. 91, fig. 71.

Material:

Dredge Haul: St. 52, 160–180 m, fine red-brown clay. — One male of 22 mm.

Pseudomesidae

- Pseudomesini HANSEN 1916, p. 72.
Macrostylidae (Pseudomesini) GURJANOVA 1933, p. 411.
Pseudomesidae WOLFF 1962, p. 93.
Macrostylidae (Pseudomesinae) BIRSTEIN 1963, p. 65.

Genus ***Pseudomesus*** H. J. HANSEN

Pseudomesus sp. (nov. sp.) (fig. 1)

Material:

Dredge haul: St. 55, 80–90 m, fine clay. — One female of 1.5 mm.

Remarks:

Two species of *Pseudomesus* have so far been described, viz. *P. brevicornis* H. J. HANSEN, 1916, and *P. similis* BIRSTEIN, 1963. The present species agrees with *P. brevicornis* in that the 5th pereonite is conspicuously longer than the 4th (in *P. similis* they are subequal in length). It differs from both the known species by having on each lateral margin of the abdomen, just in front of the uropods, a backward pointed nearly straight tooth (fig. 1 A).

The single female caught is, however, in a juvenile stage, and I find it reasonable to await further material before this new species is described in details.

The genus is new to Greenland.

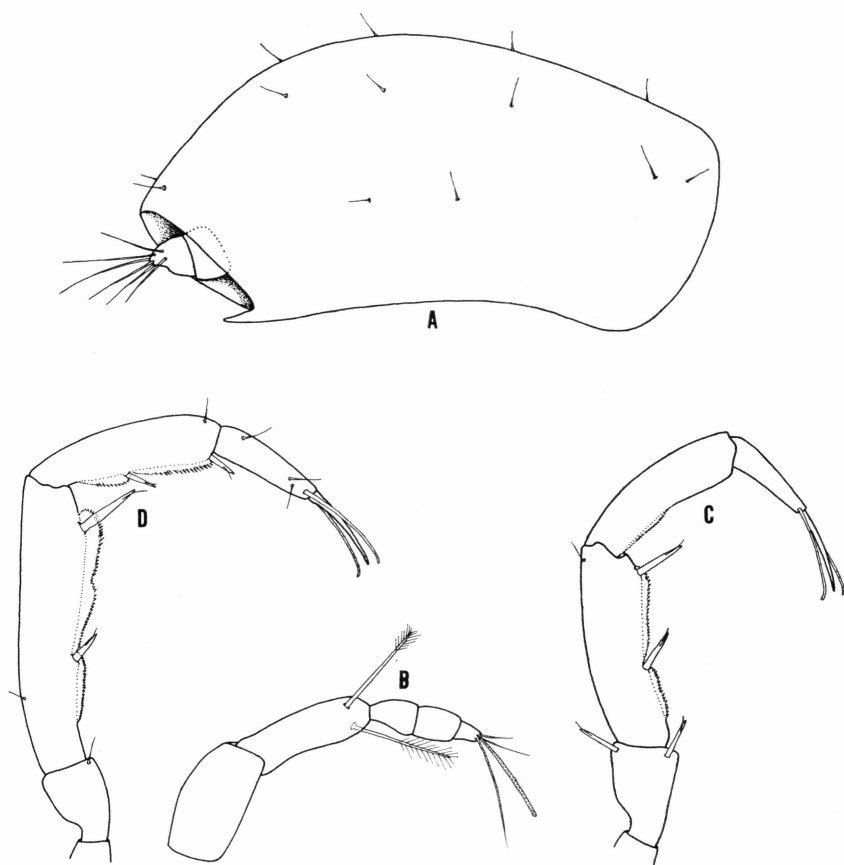


Fig. 1. *Pseudomesus* sp. (nov. sp.), A: abdomen with uropod, B: antenna 1, C: pereopod 1, D: pereopod 2.

Nannoniscidae

Genus *Nannoniscoides* H. J. HANSEN, 1916

Nannoniscoides angulatus H. J. HANSEN (fig. 2)

Nannoniscoides angulatus HANSEN, 1916, p. 86, Pl. VIII, Fig. 2.

— — GORBUNOV 1946, p. 123.

Material:

Dredge haul: St. 52, 160–180 m, fine red-brown clay. — One male of 2.2 mm.

Remarks:

The single male has been compared with HANSEN's type-specimen and they are identical, both differing only minutely from his drawings of the urosomal parts.

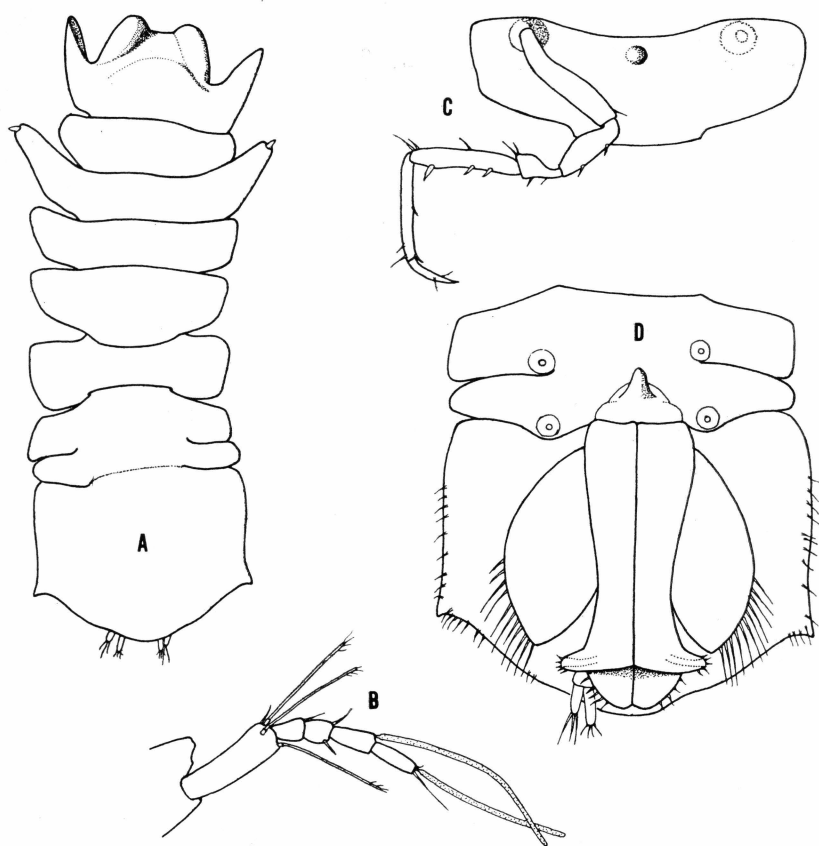


Fig. 2. *Nannoniscoides angulatus*, male of 2.2 mm, A: dorsal view, B: antenna 1, C: pereonite 4, ventral view, D: abdomen, ventral view.

The genus is new to Greenland, and the species has so far been taken only at the type locality (63°36' N, 07°30' W) and in the northernmost part of the Kara Sea (82°09' N, 83°08' W, GORBUNOV, p. 132, St. 60) at 1322 and 698 meters respectively.

Genus ***Nannoniscus*** G. O. SARS, 1870

MENZIES 1962, p. 134 (Key to world *Nannoniscus*).

Nannoniscus reticulatus H. J. HANSEN

Nannoniscus reticulatus HANSEN, 1916, p. 97, Pl. IX, fig. 2.

- - GORBUNOV 1946, p. 123. (Erroneously recorded as *Nannoniscoides reticulatus*).
- - WOLFF 1962, p. 221 (no new records).

Material:

Dredge haul: St. 52, 160–180 m, fine red-brown clay. — One female of 2.2 mm.

— 55, 80–90 m, fine clay. — Three specimens: male, 2 mm, female, 2.1 mm, ovig. female, 2.2 mm.

Remarks:

The female of 2.1 mm has a typical curved hook on the operculum as shown by HANSEN; the female of 2.2 mm has an obtuse process in the same place; the urosomal parts of the ovigerous female is heavily damaged.

The ovigerous female carried 5 eggs in the marsupium.

The species is new to Greenland, and it has so far been found only at the type-locality (67°19' N, 15°32' W) and in the northermost part of the Kara Sea (GORBUNOV).

Nannoniscus hansenii nov. sp. (figs. 3–4)

Material:

Dredge haul: St. 55, 80–90 m, fine clay. — Three females and two males.

Description: (Holotype, female of 1.9 mm without marsupial plates. — Zoological Museum, University of Copenhagen).

The entire animal is about $5\frac{1}{2}$ times as long as broad. Cephalon triangular, as long as broad at the base, with apex evenly rounded, lateral margins slightly convex and without incisions for the antennae when seen from above.

Pereonite 1 half as long as pereonite 2. Pereonite 3 as long as 1 and 2 together. Pereonite 4 subequal in length to 3. Breadth of pereonites decreasing evenly from 1 to 4. Pereonite 5 as long as 4 but longer than 6 which is longer again than 7. Pereonites 4–7 of equal breadth.

Pereonites 6 and 7 completely separated.

Abdomen triangular with rounded apex, nearly straight lateral margins, and distinctly longer than broad.

Antenna 1 not reaching apex of cephalon. Third article with two lobes reaching nearly to the middle of the vesicle.

Antenna 2, 5th and 6th articles subequal in length. Fifth article armed with a row of 10–12 strong spines. Flagellum composed of 1 or 2 articles proximally, a slightly tapering part with fused articles in the middle, and 4 small articles terminally.

Mouthparts normal.

Pereopod 1, 7th joint very short with an auxilliary claw ventrally. Sixth joint nearly as long as 4th and 5th together. Fifth joint ventrally

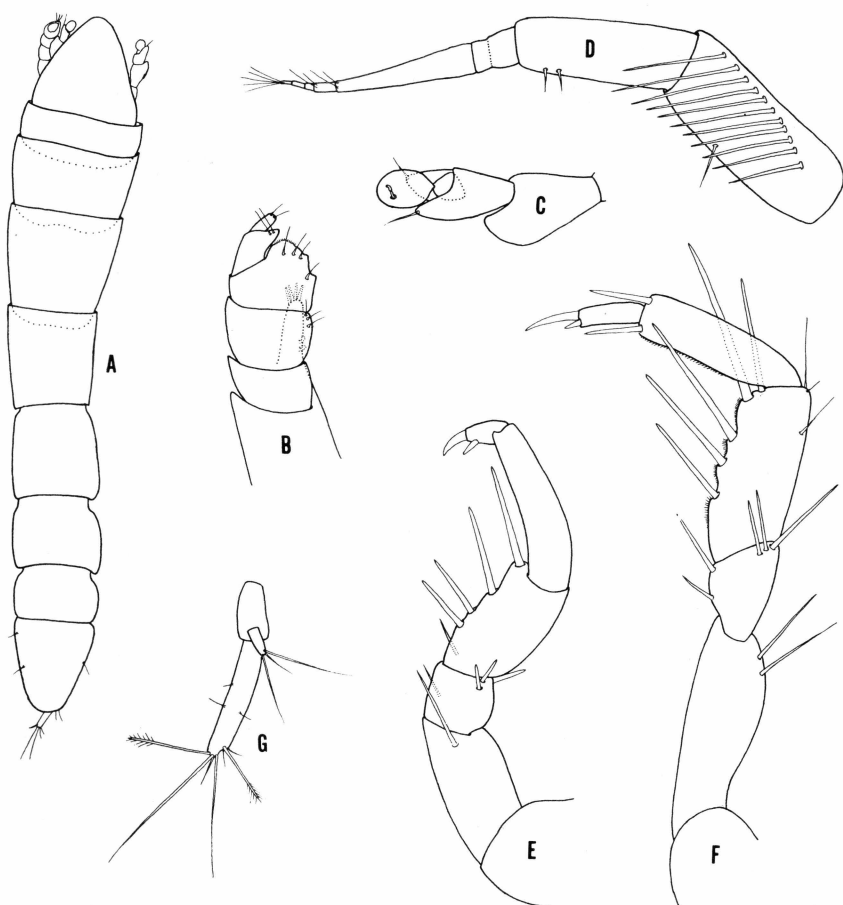


Fig. 3. *Nannoniscus hanseni* nov. sp., A-D: cotype, female of 2.0 mm, E-G: holotype. — A: dorsal view, B: maxilliped, C: antenna 1, D: antenna 2, E: pereopod 1, F: pereopod 2, G: uropod.

armed with 4 strong spines. Fourth joint with 3 short apical spines on the anterior edge.

Pereopod 2 generally as 1, but 6th joint is subequal in length to 5th and armed with two apical spines as long as 7th joint. Fifth joint bears 5-6 ventral spines.

Operculum nearly circular with completely smooth surface.

Uropodal exopod half as long as the peduncle and $4\frac{1}{2}$ -5 times shorter than the endopod.

Male: (1.7 mm).

Generally as female. Fused part of flagellum of antenna 2 with bulbous proximal half.

Pleopods 1 distally widening with slightly concave lateral margins. Apex with broad inner lobes bearing few short setae. Outer lobes rounded.

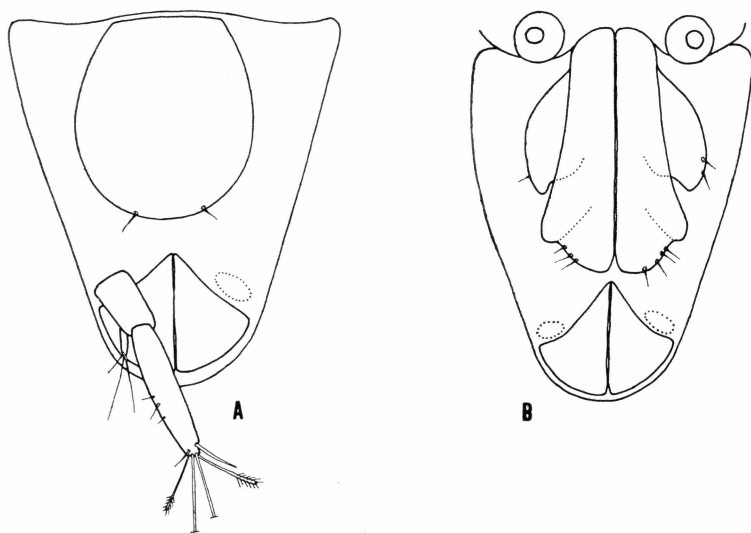


Fig. 4. *Nannoniscus hansenii* nov. sp., abdomen, ventral view, A: female, B: male.

Affinities:

N. hansenii nov. sp. differs from all other known species of *Nannoniscus* but one (*N. tenellus* BIRSTEIN, 1963) in that pereonites 6 and 7 are completely separated.

N. hansenii differs from *N. tenellus* mainly in the peculiar shape of the cephalon, where *N. tenellus* has a typical *Nannoniscus*-head with transversally cut apex and distinct antennal notches laterally.

Remarks:

Two species of *Nannoniscus*, viz. *N. caspius* G. O. SARS and *N. arcticus* H. J. HANSEN, have previously been found at depths less than about 200 m, the latter being the only representative of the genus hitherto recorded from Greenland waters. (See also *N. reticulatus*, present paper p. 11.)

Desmosomidae

Genus *Desmosoma* G. O. SARS, 1863

MENZIES 1962, p. 163 (key to world *Desmosoma*).

Desmosoma armatum G. O. SARS (fig. 5)

Desmosoma armatum SARS 1899, p. 126, Pl. 54, fig. 2.

- - HANSEN 1916, p. 118, Pl. XI, fig. 4.
- - HULT 1941, p. 93, Maps 31 and 32 (distribution).
- - STEPHENSEN 1943, p. 40.

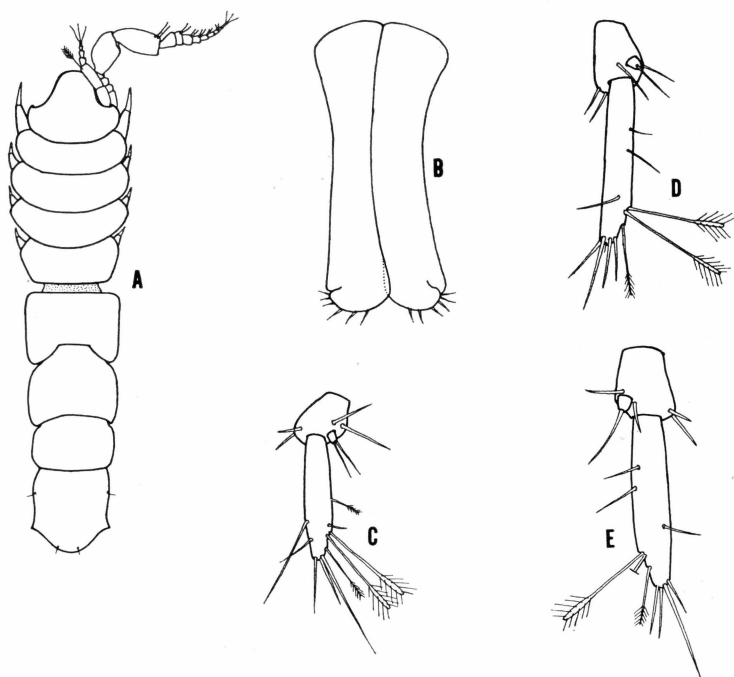


Fig. 5. *Desmosoma armatum*, A-C: male, Jørgen Brønlund Fjord. — A: dorsal view, B: pleopod 1, C: uropod. — D: uropod, female, J.B.F., E: uropod, female, Danmarks Ø.

Material:

Dredge haul: St. 43, 20 m, clay with some sand. — 3 specimens.

— 44, 17–18 m, clay. — 27 sp.

— 51, 18 m, clay. — 97 sp.

— 55, 80–90 m, fine clay. — 1 sp.

Remarks:

Of the 128 specimens secured 13 were males (St. 44, 1, and St. 51, 12) (fig. 5 A–C), which could without doubt be referred to *D. armatum*, as pereopods 1 and 2 are identical with those of the female.

Two females from St. 44 (25-VII), both measuring 1.6 mm, had eggs and one female of 1.7 mm had an embryo in the marsupium. Several females measuring 1.5–2.0 mm from St. 51 (27-VII) had newly emptied marsupia.

Up till now one specimen only has been recorded from East Greenland, and from Greenland as a whole, viz. a female from Danmarks Ø, (STEPHENSEN, *loc. cit.*).

Throughout the literature *D. armatum* is stated to have uniramous uropods, but it does in fact possess an extremely small exopod with 1 (2) apical seta (fig. 5 C–E). Three females in the Zoological Museum,

University of Copenhagen labeled "*Desmosoma armatum* G. O. Sars, Norway, Sars ded. 1898" in HANSEN's writing are rather badly preserved, but the minute exopod can just be seen on one specimen.

Desmosoma plebejum H. J. HANSEN

Desmosoma plebejum HANSEN, 1916, p. 120, Pl. XI, fig. 6.

Material:

Dredge haul: St. 55, 80–90 m, fine clay. — 8 specimens.

— 56, 190–200 m, fine red-brown clay. — 1 sp.

Remarks:

The 9 specimens secured differ from HANSEN's description and drawings at one point only, viz. the 5th pereonite has more parallel sides than shown by HANSEN. In that respect they are close to *D. polaris* GURJANOVA, 1946. In that species the 5th pereonite is, however, conspicuously broader than long, and the abdomen is pentagonal and as broad as long, (for the respective characters in *D. plebejum* see HANSEN *loc. cit.*).

The species is new to Greenland, and it has so far been found only at the "Ingolf" stations north and northeast of Iceland at depths between 1412 and 1666 m.

Desmosoma lineare G. O. Sars

Desmosoma lineare Sars 1899, p. 125, Pl. 53, and 54, fig. 1.

— HULT 1941, p. 84, Maps 23 and 24 (distribution).

Material:

Dredge haul: St. 44, 17–18 m, clay. — Two females of 2.5 and 2.1 mm.

Remarks:

The female of 2.5 mm has a well developed but emptied marsupium. The other female has no trace of marsupial plates.

The species is new to Greenland and indeed to arctic regions as a whole, except for HULT's records from northernmost Norway. It is, however, true for several other species of *Desmosoma*, viz. *D. filipes* HULT, *D. tenuimanum* G. O. Sars, *D. intermedium* HULT, *D. coarctatum* (G. O. Sars), *D. laterale* (G. O. Sars), and *D. armatum* G. O. Sars (see HULT), that they have been recorded mainly from the Norwegian west coast and from The Skagerrak with single finds in either West Greenland or East Greenland waters.

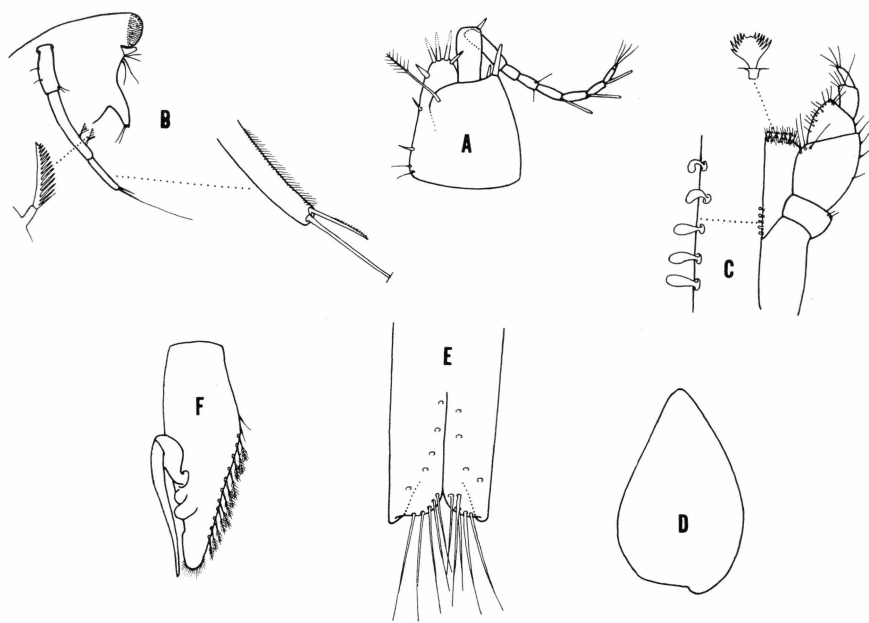


Fig. 6. *Ilyarachna longicornis*, A–D: female of 3.3 mm. — A: antenna 1, B: mandible, C: maxilliped, D: epipod of maxilliped. — E: male of 2.1 mm, pleopod 1, F: male of 2.7 mm, pleopod 2.

Ilyarachnidae

Genus *Ilyarachna* G. O. Sars, 1864

WOLFF 1962, p. 94 (Key to world *Ilyarachna*).

Ilyarachna longicornis G. O. Sars (fig. 6)

Ilyarachna longicornis Sars 1899, p. 136, Pl. 59.

- *hirticeps* ibid., Pl. 60 (= *I. longicornis* by Hult, 1936, p. 1).
- *denticulata* ibid., Pl. 61 (= *I. longicornis* by Ohlin, 1901, p. 35–36).
- *longicornis* Hult 1941, p. 97, Maps 35 and 36 (distribution).
- – Wolff 1962, p. 97–100, figs. 45–47 (in parte).

Material:

Dredge haul: St. 55, 80–90 m, fine clay. — One male of 2.1 mm.
 – 69, 40–45 m, fine red-brown clay. — One female of 3.3 mm and 1 male of 2.7 mm.

Remarks:

The three specimens secured are all very small, but they undoubtedly belong to the present species (the “*denticulata*” type).

Minor differences could be found as compared to Wolff’s drawings: In the mandibles the spine row consists of 4 spines only (Wolff, 7)

and the inner plates of the maxillipeds have 5 double serrated spines (WOLFF, 4). It should also be mentioned that in specimens smaller than about 3.5 mm the lateral process of 1st joint of antenna 2 is rather pointed and bears one spine, whereas the adult specimens have a somewhat blunt corner with 2-4 apical spines.

HULT records a single male, also of the "*denticulata*" type, from the mouth of Kejser Franz Joseph Fjord, this being the only record from East Greenland.

Ilyarachna arctica (H. J. HANSEN)

Echinozone arctica HANSEN, 1916, p. 129, Pl. XII, fig. 2.

— — GORBUNOV 1946, p. 123.

Material:

Dredge haul: St. 56, 190-200 m, fine red-brown clay. — One female of 1.2 mm.

Remarks:

Although the single female is far from adult, it agrees well with HANSEN's description and drawings except for the uropodal exopod being slightly longer in proportion to the endopod than shown on his fig. 2 c.

The species is new to Greenland and it has so far been found only at the type locality (Jan Mayen, 1 male of 2.2 mm) and in the northernmost part of the Kara Sea (82°09' N 83°08' W, GORBUNOV, p. 132, St. 60).

Eurycopidae

Genus ***Eurycope*** G. O. SARS, 1864

WOLFF 1962, p. 144 (key to world *Eurycope*).

Eurycope brevirostris H. J. HANSEN

Eurycope brevirostris HANSEN, 1916, p. 146, Pl. XIII, fig. 5.

— — WOLFF 1956, p. 133, Table 4.

Material:

Dredge haul: St. 52, 160-180 m, fine red-brown clay. — One male of 1.5 mm.

Remarks:

The single specimen has been compared with lectotypes of HANSEN's "Ingolf" material (selected by T. WOLFF), and they differ in one single point only: the two small rostral denticles could not be found on the present somewhat mutilated specimen. The same is, however, true of several small specimens in HANSEN's "Ingolf" material (St. 138). The denticles are extremely fragile in specimens smaller than about

2 mm, and they will easily bend upwards or downwards and thus become completely unrecognizable.

The shape and proportions of the male pleopods 1 and 2 of the present specimen are identical with HANSEN's description and drawings, and they offer excellent characters for separating *E. brevirostris* from *E. cornuta* G. O. SARS. BIRSTEIN's male of 3.5 mm (1963, p. 112, fig. 55, *Eurycope* sp. (cf. *brevirostris* HANSEN)) can not possibly belong to that species, as HANSEN's detailed drawings are very accurate, and BIRSTEIN's specimen differs very much in the rostral parts and in pleopods 1 and 2.

E. brevirostris is possibly bipolar (WOLFF, loc. cit.). In the northern hemisphere it has so far been taken at the "Ingolf" stations only, up to 66°23' N and at a minimum depth of 890 m.

The species is new to Greenland.

Eurycope mutica G. O. SARS

Eurycope mutica SARS 1899, p. 149, Pl. 68, fig. 1.

— — HANSEN 1916, p. 151, Pl. XIII, fig. 10.

— — HULT 1941, p. 112 Maps 45 and 46 (distribution).

Material:

Dredge haul: St. 44, 17–18 m, clay. — 120 specimens.

— 51, 18 m, clay. — 20 sp.

Remarks:

Eurycope mutica was found on the threshold only. Of the 140 specimens 7 females had highly developed but emptied marsupia.

The maximum length of females are 1.6–1.7 mm, and of males 1.2–1.3 mm, but the majority of the specimens are between 0.8 and 1.2 mm.

The species is new to East Greenland.

Dajidae

Genus *Dajus* KRØYER, 1842

Dajus mysidis KRØYER

Dajus mysidis SARS 1899, p. 223, Pl. 93 and 94.

— — HANSEN 1916, p. 208, Pl. XV, fig. 14.

— — STEPHENSEN 1943, p. 54.

Material:

PJ, 19-VII-1949, from the stomach of *Salvellinus alpinus*.

Remarks:

Detached among the many hundred specimens of *Mysis relicta* (see p. 7) was found a single larval male in the stage drawn by HANSEN and SARS, Pl. 94, male larv. and male larv. C.

HANSEN's fig. 14 b shows the 7th pereopod with two branched spines on the prehensile margin of the hand. The present specimen has three such spines.

Up till now East Greenland specimens of *D. mysidis* have been found exclusively on *Mysis oculata*, which species has so far not been recorded from Jørgen Brønlund Fjord.

Gnathiidea

Genus ***Gnathia*** LEACH, 1814

Gnathia elongata (KRØYER) (fig. 7 C-D)

Gnathia elongata SARS 1899, p. 55, Pl. 23, fig. 1.

— — MONOD 1926, p. 347, figs. 136-138.

— — STEPHENSEN 1943, p. 55.

Material:

Bottom grab: St. 22, 11.5 m, clay with some sand. — 5 specimens.

Dredge haul: St. 31, 8-9 m, clay with some algae. — 4 sp.

— 43, 20 m, clay. — 10 sp.

— 44, 17-18 m, clay. — 9 sp.

— 51, 18 m, clay. — 13 sp.

— 52, 160-180 m, fine red-brown clay. — 10 sp.

— 69, 40-45 m, fine red-brown clay. — 7 sp.

Remarks:

Among the 58 specimens secured from all parts of the fiord 14 are males measuring from 3.7 to 4.5 mm (average 4.2 mm), 4 are ovigerous or embryo bearing females between 3.4 and 4.0 mm, 1 female of 4.4 mm has an empty marsupium, and the remaining 39 specimens are "*Pranzia*" larvae in different stages from 1.5 to 3.5 mm.

Ovigerous females were found from 27-VI, and one female had well developed larvae of 1.0 mm in the marsupium on 25-VII.

Gnathia sp., larva, (fig. 7 A-B)

Material:

Bottom grab: St. 18, 9.5 m, gravel. — 1 specimen.

Remarks:

Among the many "*Pranzia*" larvae recorded under *G. elongata* G. O. SARS (above) a single specimen belonging to a different species was found. I cannot with certainty refer it to any known species. It seems to be quite close to *G. vorax* (LUCAS), MONOD 1926, fig. 214 A and B, but the proportions of antenna 2 are very different. It is also close to *G. abyssorum* G. O. SARS, but that species has the apex of the telson nearly rounded.

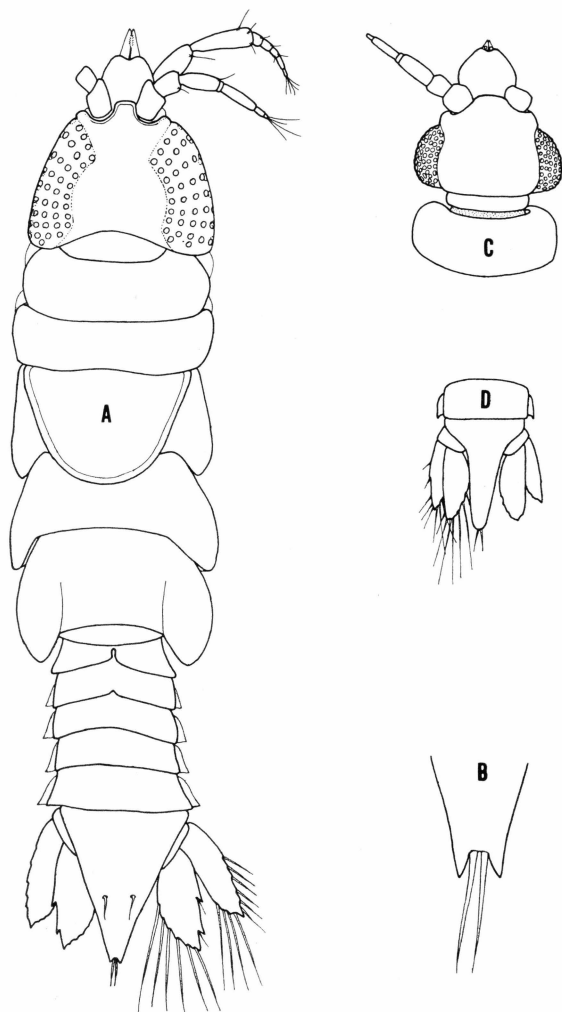


Fig. 7. *Gnathia* sp. larva, A: dorsal view, B: apex of telson. — *Gnathia elongata*, larva, C: cephalon, D: urosome.

TANAIDACEA

Genus *Typhlotanais* G. O. Sars, 1880

Typhlotanais finmarchicus G. O. Sars (fig. 8)

Typhlotanais finmarchicus Sars 1899, p. 20, Pl. IX.

— — Hansen 1913, p. 58, Pl. VI, fig. 2.

— — Gurjanova 1929, p. 30, fig. 2.

— — Stephensen 1943, p. 34.

Material:

Bottom grab: St. 29, 19 m, clay. — 1 specimen.

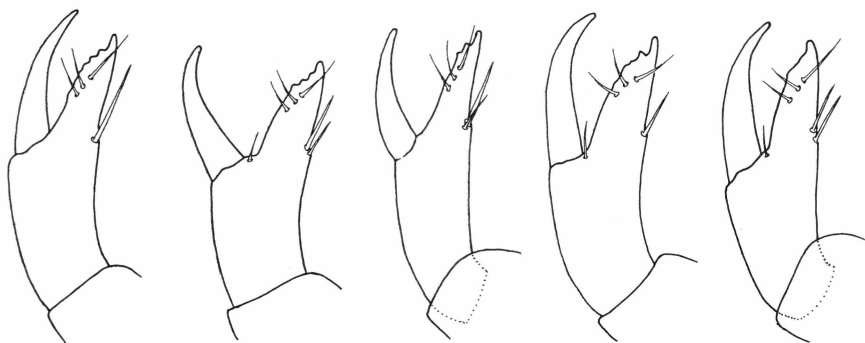


Fig. 8. *Typhlotanais finmarchicus*, variation in chelae.

Dredge haul: St. 43, 20 m, clay with some sand. — 17 sp.

— 44, 17–18 m, clay. — 127 sp.

— 51, 18 m, clay. — 138 sp.

Remarks:

The chelae of the several hundred specimens vary rather much, a variation already indicated when one compare the drawings of SARS and GURJANOVA. The apical dentition of the fixed finger can be almost unrecognizable or it can be distinctly tridentate. The variation is shown in fig. 8.

The uropods, too, are due to small variations with regard to actual length in proportion to the length of the entire animal, the proportionate length between the two rami, and the intraramal proportions between the two articles. Both SARS' and HANSEN's figures are correct and fall within the range of variation as found in the present material.

T. finmarchicus is the only representative of the genus hitherto recorded from Greenland (east and west).

Typhlotanais irregularis H. J. HANSEN (fig. 9)

Typhlotanais irregularis HANSEN, 1913, p. 36, Pl. III, fig. 5.

Material:

Dredge haul: St. 56, 190–200 m, fine red-brown clay. — 1 specimen.

Remarks:

The single female (1.5 mm) secured is slightly more slender than HANSEN's type specimen, but it is in good accordance with his rather large cotype material, and all the different specific characters mentioned by HANSEN could be found in the present specimen.

The species is new to Greenland, and it has so far been found at the "Ingolf" stations only.

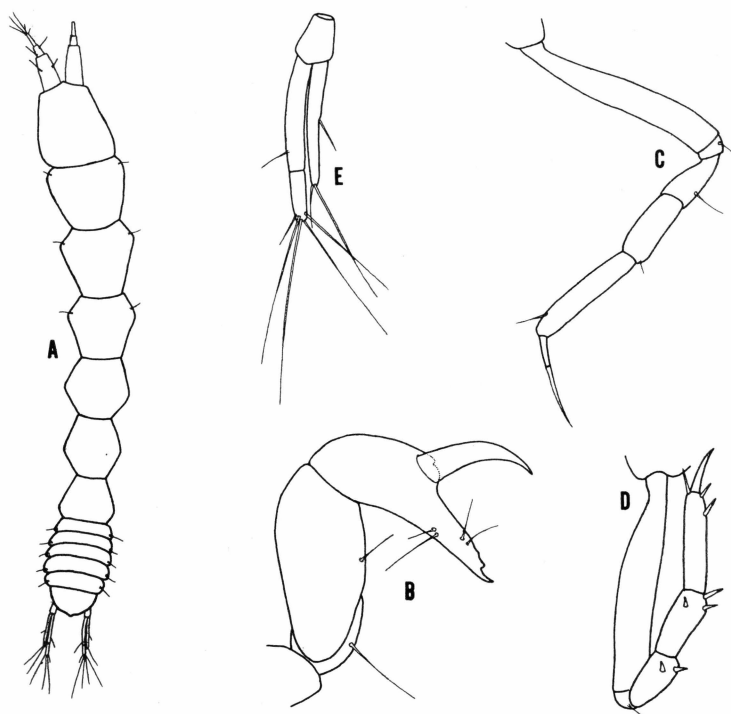


Fig. 9. *Typhlotanais irregularis*, A: dorsal view, B: chela, C: pereopod 2, D: pereopod 7., E: uropod.

Typhlotanais inermis H. J. HANSEN (fig. 10)

Typhlotanais inermis HANSEN, 1913, p. 46, Pl. IV, fig. 6.

Material:

Dredge haul: St. 52, 180–160 m, fine red-brown clay. — One female of 2.0 mm.

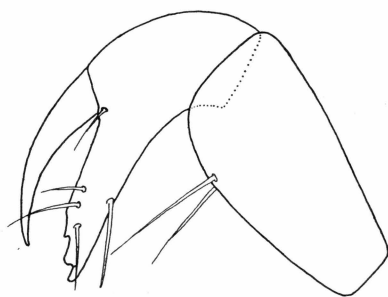


Fig. 10. *Typhlotanais inermis*, chela.

Remarks:

The single specimen has been compared to HANSEN's type-specimen, and no deviations could be found. The two denticles of the fixed finger of the chela (fig. 10) are not clearly visible in HANSEN's drawing.

The species is new to Greenland, and like the preceeding species it has so far been found at the "Ingolf" stations only.

Genus *Leptognathia* G. O. SARS, 1880

Leptognathia polita H. J. HANSEN

Leptognathia polita HANSEN, 1913, p. 96, Pl. IX, fig. 5.

Material:

Bottom grab: St. 11, 105 m, fine clay. — 1 specimen.

Dredge haul: St. 69, 40–45 m, fine red-brown clay. — 4 sp.

Remarks:

All five specimens are females between 2.8 and 3.0 mm, and none of them has developed any trace of marsupial plates.

HANSEN's type specimen has been studied and I can add nothing to his description and drawings.

The species is new to Greenland, and previously known from the type locality (63°22' N, 06°58' W, 1350 m, -0.6° C) only.

Leptognathia amdrupi H. J. HANSEN

Leptognathia amdrupi HANSEN, 1913, p. 81, Pl. VIII, fig. 2.

— — STEPHENSEN 1943, p. 36 (no new records).

Material:

Dredge haul: St. 52, 160–180 m, fine red-brown clay. — 1 specimen.

Remarks:

The single female secured measures 2.7 mm, and it has no marsupium.

The species is not known outside East Greenland, and only the type specimen has so far been recorded (female of 2.7 mm with marsupium, Forsblad Fjord, 71°51' N, 170–75 m).

Leptognathia sp. (fig. 11)

Material:

Dredge haul: St. 43, 20 m, clay with some sand. — 4 specimens.

— 44, 17–18 m, clay. — 1 sp.

— 51, 18 m, clay. — 5 sp.

Remarks:

The ten specimens listed above are all males belonging to the same species. The males of *L. polita* and of *L. amdrupi* (recorded above) have

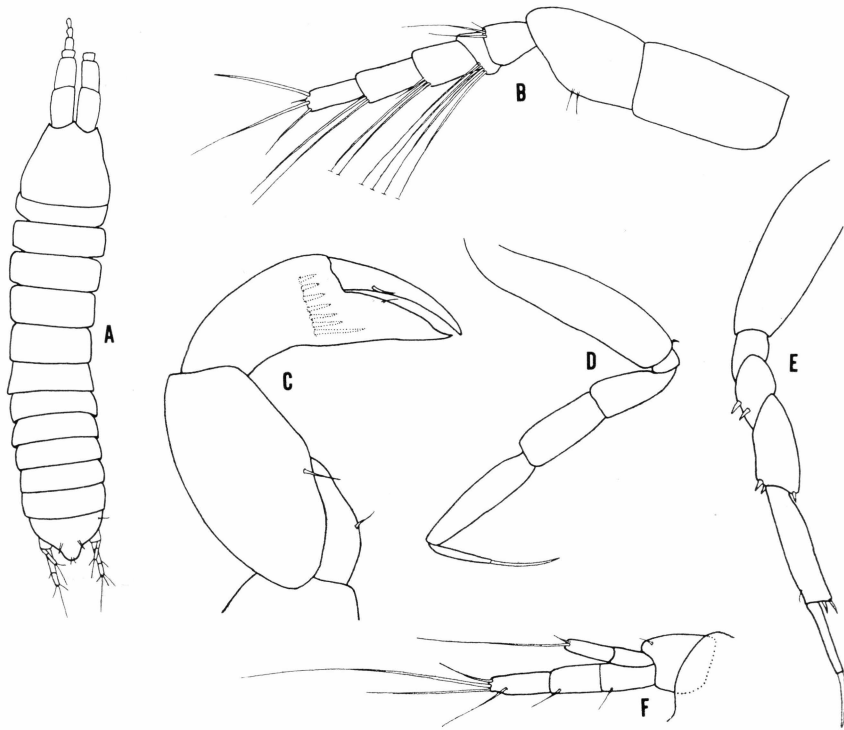


Fig. 11. *Leptognathia* sp., male, St. 51, A: dorsal view, B: antenna 1, C: chela, D: pereopod 2, E: pereopod 6, F: uropod.

not been described, but as none of the present males were taken together with either *L. polita* or *L. andrupi* I find it impossible to decide whether or not they should be referred to one of the two species mentioned.

Genus ***Pseudotanais*** G. O. Sars, 1880.

Pseudotanais lilljeborgi G. O. Sars (figs. 12–13 and map 1)

Pseudotanais lilljeborgi Sars 1899, p. 40, Pl. 17, fig. 2.

- — STAPPERS 1911, p. 86.
- — (in parte) HANSEN 1913, p. 27, Pl. II, fig. 5.
- — STEPHENSEN 1933, p. 346 (no new records).
- — — 1943, p. 33 (no new records).

Material:

Bottom grab: St. 28, 19 m, clay. — 1 specimen.

Dredge haul: St. 43, 20 m, clay with some sand. — 2 sp.

— 44, 17–18 m, clay. — 10 sp.

— 51, 18 m, clay. — 7 sp.

— 55, 80–90 m, fine clay. — 1 sp.

Remarks:

The total material recorded above is in complete agreement with Sars' description and drawings except for the uropodal exopod (fig. 13 F), which is one-jointed in all specimens from Jørgen Brønlund Fjord (and in all the "Ingolf" specimens (see below)). The ocular pigment is clearly visible in most specimens, and no corneal lenses are present.

As, however, HANSEN's description and drawings of *P. lilljeborgi* deviate somewhat from those of Sars, and HANSEN even writes: "But his (Sars') representation of the front end of the head with the eyes is not quite correct.", I have taken the opportunity to reexamine all specimens recorded by HANSEN (1913), some sixty specimens, which, together with one female from the Barents Sea (STAPPERS), are the only records outside the typelocality, Varanger Fjord, North Norway.

HANSEN records material from West Greenland, East Greenland, West, North, and East Iceland, and Jan Mayen. His drawing, fig. 5 a, of the carapace is representative for the majority of the "Ingolf" specimens, and it can be stated at once, that I have been unable to detect any differences between the present material and Hansen's material others than those concerning the shape of the carapace as listed below.

1. Frontal edge of carapace.

In all specimens from Jørgen Brønlund Fjord, as in Sars' drawing and description, the front edge is nearly straight to slightly convex in its whole length, and without any median projection.

In the "Ingolf" material the majority of the specimens have a median triangular projection, pointed or blunt, and the front edge is straight to slightly concave at each side of the projection (HANSEN, fig. 5 a).

2. Antero-lateral corners of carapace.

All J.B.F. specimens have rounded corners.

The "Ingolf" specimens generally have distinct corners, which may even be acute.

3. Angle between lateral margins of carapace (fig. 12D-E).

Most of the J.B.F. material has been measured and the angle average 34° (max. 35° , min. 33°).

Fourty seven "Ingolf" specimens have been measured with the following result: (Table 1).

Discussion:

Together with a single specimen from East Greenland the J.B.F. material belongs to the "Sars type" with unprojected front edge, rounded lateral corners, and a "carapace angle" around $34-35^\circ$.

Table 1

Locality	Lat. °N ¹⁾	Temp. °C	Depth m	average		"carapace angle" max.—min.	Numb. ²⁾ of spec.	Carapace type		
				"carapace angle" females	males			"HAN-SEN"	inter-med.	"SARS"
Jørgen Brønlund Fjord	82	ab. —0.5	17–90	34		35–33	20			×
Barents Sea (Stappers)	76		30				1			×
"Ingolf" St. 115, Jan Mayen . . .	71	0.1	175	40		42–38	7		×	
2nd Amdrup Exp., Jan Mayen . .	(71)		110	45			1	×		
Varanger Fjord, N. Norway	70		ab. 200							×
Danmarks Ø, E. Greenland	70	0–1.0	ab. 10	35			1			×
— — — — —	70			45			1	×		
Kap Dalton, E. Greenland	69		ab. 20	38	34		1		×	
"Ingolf" St. 126, N. Iceland . . .	67	—0.5	600	42		45–37	5	×	×	(×)
— St. 128, — — — — —	67	0.6	390	44+		46–44	3	×		
Angmagssivik, E. Greenland	65			44		46–42	6	×	(×)	
Seydis Fjord, E. Iceland	65		40–100	44		45–43	4	×		
"Ingolf" St. 86, W. Iceland	65	ab. 6.0	150		34					
"Ingolf" St. 4, E. Iceland	64	2.5	480	42—		43–40	2	×	×	
"Ingolf" St. 58, E. Iceland	64	0.8	420	44		46–43	7	×		
Nord Fjord, E. Iceland	65		80	51	44	52–50	4			

¹⁾ Exact position can be found in the literature.²⁾ Number of specimens refers to females only.

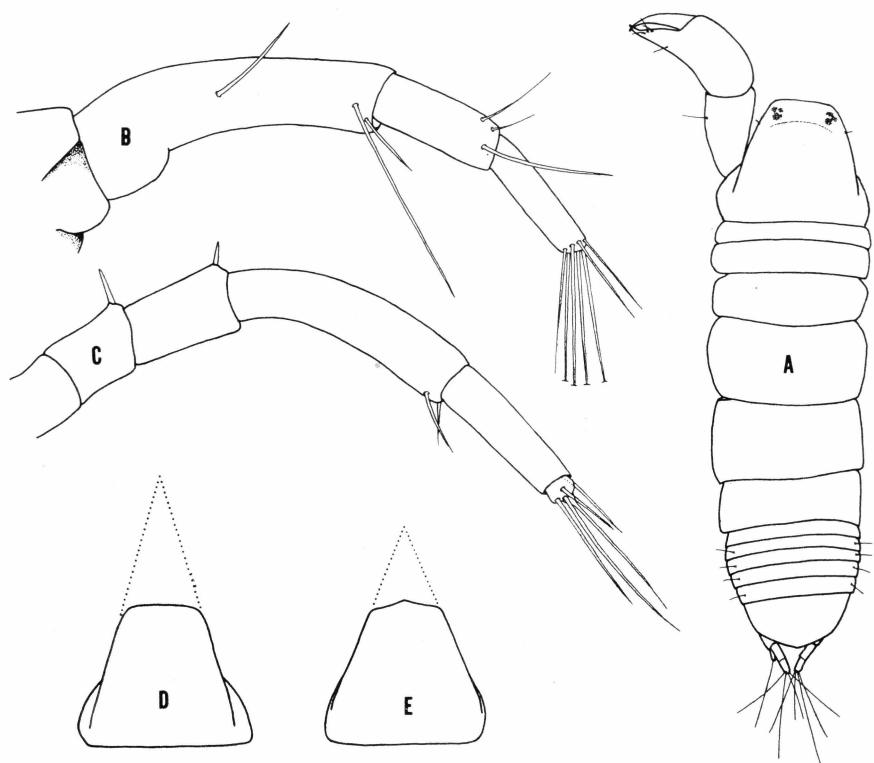


Fig. 12. *Pseudotanaïs lilljeborgi*, A-C: female with emptied marsupium, St. 51. — A: dorsal view, B: antenna 1, C: antenna 2. — D: carapace of female from J.B.F., E: carapace of female from Seydis Fjord, East Iceland; (the angles refer to table 1).

In contrast stands the "HANSEN type" from West Greenland, South-east Greenland, Jan Mayen, and from around Iceland at depths less than 400–500 m. That type has a more or less projected front edge, distinct to acute lateral corners, and a "carapace angle" averaging 44° .

Between those two groups are specimens from central East Greenland, Jan Mayen, and from Iceland at depths exceeding 400–500 m, which show the above mentioned characters to varying degrees and in varying combinations.

Although I have not examined the Norwegian material I take it that it belongs to the above mentioned pure "SARS type", and the same must be the case with STAPPERS' single female as he writes (translated from French): "Plate XVII in "Crustacea of Norway" gives excellent figures of the present species."

Note: The 5 specimens from Nord Fjord, 40 fm., (in HANSEN) do not belong to *P. lilljeborgi*. One specimen belongs to *P. forcipatus* (LILLJEBORG) and 4 specimens could not be determined as to species.

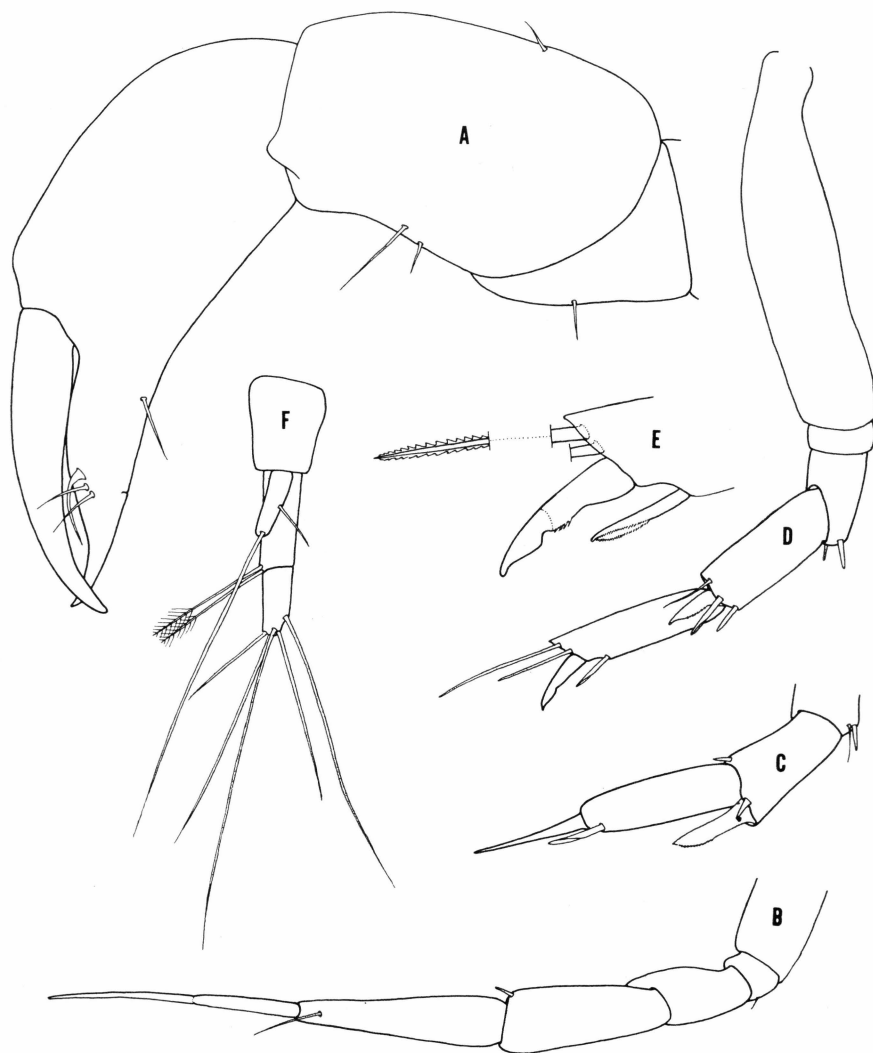


Fig. 13. *Pseudotanaïs lilljeborgi*, same female as in fig. 12 A–C, A: chela, B: pereopod 2, C: pereopod 3, D: pereopod 7, E: apex of pereopod 7, F: uropod.

Pseudotanaïs affinis H. J. HANSEN

Pseudotanaïs affinis HANSEN 1913, p. 30, Pl. III, fig. 2.

— STEPHENSEN 1943, p. 34.

Material:

Dredge haul: St. 55, 80–90 m, fine clay. — 3 specimens.

— 69, 40–45 m, fine red-brown clay. — 1 sp.

Remarks:

The four specimens secured were all females. The largest one measured 1.67 mm and had a fully developed but empty marsupium.

All four specimens agree completely with HANSEN's description and drawings and with his type material.

Genus *Cryptocope* G. O. SARS, 1880

Cryptocope arctica H. J. HANSEN

Cryptocope arctica HANSEN, 1887, p. 209, Tab. XXI, fig. 4.

— — — 1913, p. 106, Pl. XI, fig. 1.

— — STEPHENSEN 1943, p. 36.

Material:

Dredge haul: St. 69, 40–45 m, fine red-brown clay. — One female of 2.0 mm.

Remarks:

As already stated by HANSEN in his description of the "Ingolf" material (1913) *C. arctica* seems to be subject to some variation.

The single female caught in Jørgen Brønlund Fjord is identical with specimens from East Greenland as recorded by HANSEN, and it also agrees with part of the rather large "Ingolf" material. Variations are especially pronounced in the general outline of the pereonites when seen in dorsal view. The majority of the specimens recorded by HANSEN agree with his drawing (1913), but in some specimens the lateral margins of the pereonites are somewhat more parallel. This is the case mainly in specimens from cold (negative?) water, and accordingly the present specimen together with the rest of the East Greenland material (STEPHENSEN *loc. cit.*) belong to this type.

The length of the carapace also varies to some extent between a length equalling the first $3\frac{1}{2}$ pereonites (HANSEN 1913), and a length equalling the first 3 pereonites; (the latter proportions are found in the cold water specimens).

LITERATURE

- BIRSTEIN, J. A. 1963: Deep-Sea Isopods of the North-west Pacific. — *Isd.-vo Akad. Nauk SSSR*, Moscow. (In Russian).
- GOES, A. 1864: Crustacea decapoda podophthalma marina Succiae, interpositis speciebus Norvegicus aliisque vicinis. — *Öfvers VetenskAkad. Förh. Uppsala*, **20**, 161–181.
- GORBUNOV, G. 1946: Bottom Life of the Novosiberian Shoalwaters and the Central Part of the Arctic Ocean. — *Trans. Drifting Exped. Icebreaker Sedov 1937–40*, **3**: 30–138. (In Russian).
- GURJANOVA, E. 1929: On the Fauna of Crustacea-Malacostraca of the Barents Sea, White Sea, and Kara Sea. — *Travaux Soc. Nat. Leningrad*, **59**: 29–46.
- 1933: Die marinen Isopoden der Arktis. — *Fauna arct.*, Jena, **6**, 5: 390–470.
- 1946: New Species of Isopoda and Amphipoda from the Arctic Ocean. — *Trans. Drifting Exped. Icebreaker Sedov 1937–40*, **3**: 272–297. (In Russian).
- HANSEN, H. J. 1887: Oversigt over de på Dijmphna-Togtet indsamlede krebsdyr. — *Dijmphna-Togtets Zool.-bot. Udbytte*, København: 183–286.
- 1913: Crustacea Malacostraca (II). — *Dan. Ingolf-Exped.* **3**, 3: 1–145.
- 1916: Ibid. (III). — *Ibid.* **3**, 5: 1–262.
- HEEGAARD, P. E. 1941: Decapod Crustaceans. — *Meddr Grønland*, Bd. **121** Nr. 6: 1–72.
- HOLMQUIST, CH. 1959: Problems on Marine-Glacial Relicts. — *Lund*: 1–270.
- HULT, J. 1936: On some Species and Genera of Parasellidae, II. — *Ark. Zool.* **29** B, 5: 1–6.
- 1941: On the Soft-Bottom Isopods of the Skager Rak. — *Zool. Bidr. Uppsala*, **21**: 1–234.
- JUST, J. 1970: Marine Biological Investigations of Jørgen Brønlund Fjord, North Greenland. — *Meddr Grønland*, Bd. **184** Nr. 5.
- 1970: Amphipoda from Jørgen Brønlund Fjord, North Greenland. — *Meddr Grønland* Bd. **184** Nr. 6.
- 1970: Cumacea from Jørgen Brønlund Fjord, North Greenland. — *Meddr Grønland*, Bd. **184** Nr. 8.
- KRØYER, H. 1843: De hidtil bekjendte nordiske Crangon-arter. — *Naturhist. Tidsskr. Ny Række*, ser. 1, 4.
- MENZIES, J. R. 1962: The Isopods of the Abyssal Depth in the Atlantic Ocean. — *Vema Research Ser.* **1**: 79–206.
- MONOD, TH. 1926: Les Gnathiidae. — *Mem. Soc. Sci. Nat. du Maroc*, Rabat, **13**: 1–667.
- OHLIN, A. 1901: Arctic Crustacea Collected During the Swedish Arctic Expeditions 1898 and 1899. I. Leptostraca, Isopoda, Cumacea. — *Bih. svensk VetenskAkad. Handl.*, **26**, 4, 12: 1–54.
- RICHARDSON, H. 1905: A Monograph of the Isopods of North America. — *Bull. U.S. nat. Mus.*, **54**: 1–727.

- SABINE, E. 1824: Marine Invertebrate Animals. — Suppl. to the Appendix of Capt. Parry's Voyage 1819–20.
- SARS, G. O. 1870: Nye dybvandscrustaceer fra Lofoten. — Forh. VidenskSelsk. Krist.: 145–286.
- 1870: Carcinologiske bidrag til Norges Fauna. I, Mysider, 1 : 1–64. Christiania.
- 1885: Crustacea, I. — Norweg. N. Atl. Exped., Zool. 1 : 1–276.
- 1899: Account of the Crustacea of Norway, II, Isopoda.
- STAPPERS, L. 1911: Crustacées Malacostracés. — Duc d'Orleans, Campagne Arctique de 1907, Bruxelles : 1–152.
- STEPHENSEN, K. 1933: The Tanaida and Amphipoda of the Arctic. — Fauna arct., Jena, 6, 4 : 343–378.
- 1943: Leptostraca, Mysidacea, Cumacea, Tanaidacea, Isopoda, and Euphausiacea. — Meddr Grønland, Bd. 121, Nr. 10 : 1–82.
- TATTERSALL, W. M. and O. S. TATTERSALL 1951: The British Mysidacea. — London: 1–460.
- WOLFF, T. 1956: Isopoda from Depth Exceeding 6000 Metres. — Galathea Rep. 2: 85–157.
- 1962: The Systematics and Biology of Bathyal and Abyssal Isopoda Asellota. — Ibid. 6 : 1–320.
- ZIMMER, C. 1909: Schizopoden. — Nordisches Plankton, 6 : 1–310.