Additions to the Polar Sea bathyal and abyssal Isopoda (Crustacea, Malacostraca). Part 3. Asellota: Munnopsidae

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Thirteen species of Munnopsidae from the Canadan Basin (Polar Sea) were collected by the drift station "North Pole 22". Three new species, *Eurycope septentrionalis* sp. n., *E. vasinae* sp. n., and *Munneurycope glacialis* sp. n., are described.

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Introduction

This paper is the last one in a series of publications on bathyal and abyssal isopods collected during the North Pole-22 (NP-22) expedition of 1974 (Kussakin, 1983; Malyutina & Kussakin, 1996a, 1996b). It comprises 13 munnopsid species belonging to the genera *Ilyarachna, Eurycope, Disconectes, Munnopsurus, Munneurycope*, and *Paramunnopsis*. Three of them, *Eurycope septentrionalis, E. vasinae*, and *Munneurycope glacialis*, are new species.

Terminology and measurements are according to Wilson & Hessler (1980) and Wilson (1982). A scale bar (in millimeters) is given only for entire animals in both dorsal and lateral views. The type material has been deposited in the Zoological Institute of Russian Academy of Sciences, St.Petersburg. The list of NP-22 stations with all recorded isopod species was published earlier (Malyutina & Kussakin, 1996a). Munnopsid species were collected at the following stations:

St. 12 – 81° 58′ N 128° W, 3410 m;
St. 14 – 81° 47′ N 127° W, 3500 m;
St. 21 – 81° N 128° 30′ W, 3350 m;
St. 24 – 80° 27′ N 129° 02′ W, 3530 m;
St. 27 – 80° 08′ N 128° 13′ W, 2370-2750 m;
St. 34 – 79° 26′ N 127° 38′ W, 3290 m;
St. 36 – 79° 11′ N 128° 10′ W, 3340 m;
St. 38 – 79° N 129° W, 3380 m;
St. 39 – 79° N 129° W, 3370 m;
St. 40 – 79° N 129° W, 3380 m;
St. 42 – 79° 23′ N 128° 28′ W, 3440 m;
St. 47 – 79° 04′ N 126° 34′ W, 3230 m;
St. 53 – 78° 10′ N 128° 01′ W, 2850 m;
St. 54 – 77° 50′ N 129° 41′ W, 3110 m;
St. 58 – 73° 36′ N 129° 41′ W, 2700-1508 m;
St. 60 – 73° 45′ N 161° 50′ W, 300 m;
St. 67 – 73° 51′ N 162° 36′ W, 240 m;
St. 69 – 74° 25′ N 164° 08′ W, 420-470 m;
St. 78 – 74° 56′ N 166° 40′ W, 460 m;
St. 79 – 74° 59′ N 167° 54′ W, 150 m;
St. 80 – 74° 50′ N 169° 59′ W, 270 m;
St. 94 – 74° 53′ N 170° 11′ W, 230 m;
St. 98 – 74° 59′ N 170° 11′ W, 260 m;
St. 103 – 75° 09′ N 170° 04′ W, 300-330 m;
St. 105 – 75° 11′ N 170° 05′ W, 325 m;
St. 106A – 74° 52′ N 171° 32′ W, 320 m;
St. 108 – 75° 52′ N 171° 32′ W, 320 m;
St. 112 – 75° 15′ N 171° 03′ W, 450-460 m;
St. 115 – 75° 02′ N 171° 28′ W, 365-400 m.

Family **MUNNOPSIDAE** G.O. Sars, 1869

Genus **Ilyarachna** G.O. Sars, 1870

Ilyarachna longicornis (G.O. Sars, 1864)

Mesostenus longicornis G.O. Sars, 1864: 211.
Ilyarachna longicornis G.O. Sars, 1870: 44; 1899: 136, pl. LIX; Gurjanova, 1932: 66, Tab. XXIV, fig. 95; Hult, 1936b: 1-6; 1941: 97-100; Menzies, 1962: 157-158; Wolff, 1962: 97-100, 258; Hessler & Thistle, 1975: 157; Thistle, 1980: 129-130, fig. 9a-b.
Ilyarachna plunketti Tattersall, 1905: 28; Hansen, 1916: 122; Wolff, 1962: 97; Hessler & Thistle, 1975: 157.

Material. 1 specimen, St. 112.

Distribution. Boreal-Arctic species. The Arctic Ocean, northern Atlantic southwards to New England, western Ireland and Skagerrak.

Habitat. Eurybathic species, found at depths of 8-2788 m. In the NP-22 material, from depth of 450-460 m.

Ilyarachna hirticeps G.O. Sars, 1870

Ilyarachna hirticeps G.O.Sars, 1870: 167; 1899: 137, pl. 60; Hansen, 1916: 122, pl. 11, fig. 7; Gurjanova, 1932: 65-66, Tab. XXIII, fig. 92; Hult, 1936b: 1; 1941: 97; Hessler & Thistle, 1975: 157; Thistle, 1980: 127-129, fig. 8; Svavarsson, 1988: 92-94, figs 6, 7.
Ilyarachna denticulata G.O. Sars, 1899: 138, pl. 61, fig. 1.

Material. 3 specimens up to 12.6 mm long and several broken parts, St. 58.

Distribution. Boreal-Arctic species. European coasts from northern Spitsbergen in the north to the North Sea in the south; Iceland and western Greenland waters; the central Polar Sea: western slope of the Canada Basin.

Habitat. Eurybathic species, found at depths of 8-3270 m. In the NP-22 material, from depth of 1508-2700 m.

Ilyarachna dubia Hansen, 1916

Ilyarachna dubia Hansen, 1916: 125-126, pl. XI, figs 9a-c; Gurjanova, 1932: 66, Tab. XXIV, 94; Menzies, 1962: 97; Wolff, 1962: 97, 100-101, text-fig. 48; Hessler & Thistle, 1975: 157; Just, 1980b: 209, 211-215, figs 7, 8; Svavarsson, 1988: 97-98, fig. 10.
Ilyarachna longicornis (non G.O. Sars, 1864): Hult, 1936b: 1-6 (part.).
Ilyarachna hirticeps (non G.O. Sars, 1870): Thistle, 1980: 127 (part.).

Material. 2 ♂ 4.2 and 4.1 mm long, 1 ♀ 4.1 mm long, damaged, St. 12; 2 ♂ and 3 ♀, St. 21; 6 ♀, 3 of them damaged, St. 24; 7 ♀ and 5 ♂, all damaged, St. 34; 1 ♀, St. 36; 2 damaged ♀, 1 ♂, St. 39; 3 ♂, 3 ♀, St.40; 2 ♀, one of them damaged, St. 42; 7 damaged ♀, St. 47; 9 damaged ♀, St. 53; 2 ♂, 3 ♀, 4 damaged specimens, St. 54.

Distribution. Arctic deep-water species. The Polar Sea: north-east of Iceland; western Canada Basin.

Habitat. Found at depths of 1666-3672m. In the NP-22 material, from depths of 2850 to 3550 m.

Ilyarachna bergendali Ohlin, 1901

Ilyarachna bergendali Ohlin, 1901: 37-38, fig. 8a-d; Stephensen, 1913: 247-248; Hansen, 1916: 126-127; Gurjanova, 1932: 67. Tab. XXIV, fig. 96; 1933: 420; Hult, 1936a: 11-12; Svavarsson, 1988: 94-97, figs 8, 9.

Material. 1 ♂, St. 67; 2 ♂, St. 69; 1 ♀, St. 94; 2 ♀, St. 103; 1 specimen, St. 108; 1♂, 3 ♀, St. 122.

Distribution. The Greenland Sea, Spitsbergen area; central part of the Polar Sea: southern slope of the Nansen Basin and the outer Chukchi shelf.

Habitat. Found at depths of 20-1260 m. In the NP-22 material, from depths of 230-370 m.

Genus **Eurycope** Sars, 1864

Eurycope hanseni Ohlin, 1901

Eurycope hanseni Ohlin, 1901: 37, fig. 7a-f; Hansen, 1916: 144-145, pl. XIII, fig. 3a-e; Gurjanova, 1932: 73, Tab. XXVII, fig. 109; Menzies, 1962: 143, fig. 35d-e; Wolff, 1962: 145, 217, 263, 275, 289.

Material. 7 damaged specimens, St. 60; 1 ♂, 4 ♀, St. 67; 3 ♀, St. 78; 1 sp., St. 79; 2 ♀, St. 80; 1 sp., St. 94; 1 sp., St. 98; 3 ♂, 5 ♀ , St. 103; 1 sp., St. 105; 2 ♂, 3 ♀ , St. 106A; 5 sps, St. 115; 2 sps, St. 122.

Distribution. The Polar Sea: Denmark Strait; eastwards of Iceland; westwards of Spitsbergen; Jan Mayen area; western slope of the Nansen Basin and western slope of the Canada Basin.

Habitat. Found at depths of 150-2750 m. In the NP-22 material, from depths of 150-1420 m.

Eurycope cryoabyssalis Just, 1980

Eurycope cryoabyssalis Just, 1980: 218-225, fig. 11H, M1; 12H; 13H, M1; 14H, M1.

Material. 5 damaged specimens up to 8.7 mm long, St. 14; 3 damaged specimens up to 10.0 mm long, St. 21; 1 fragment of anterior body part, St. 40.

Distribution. The Central Polar Basin: Amundsen and Canada Basins.

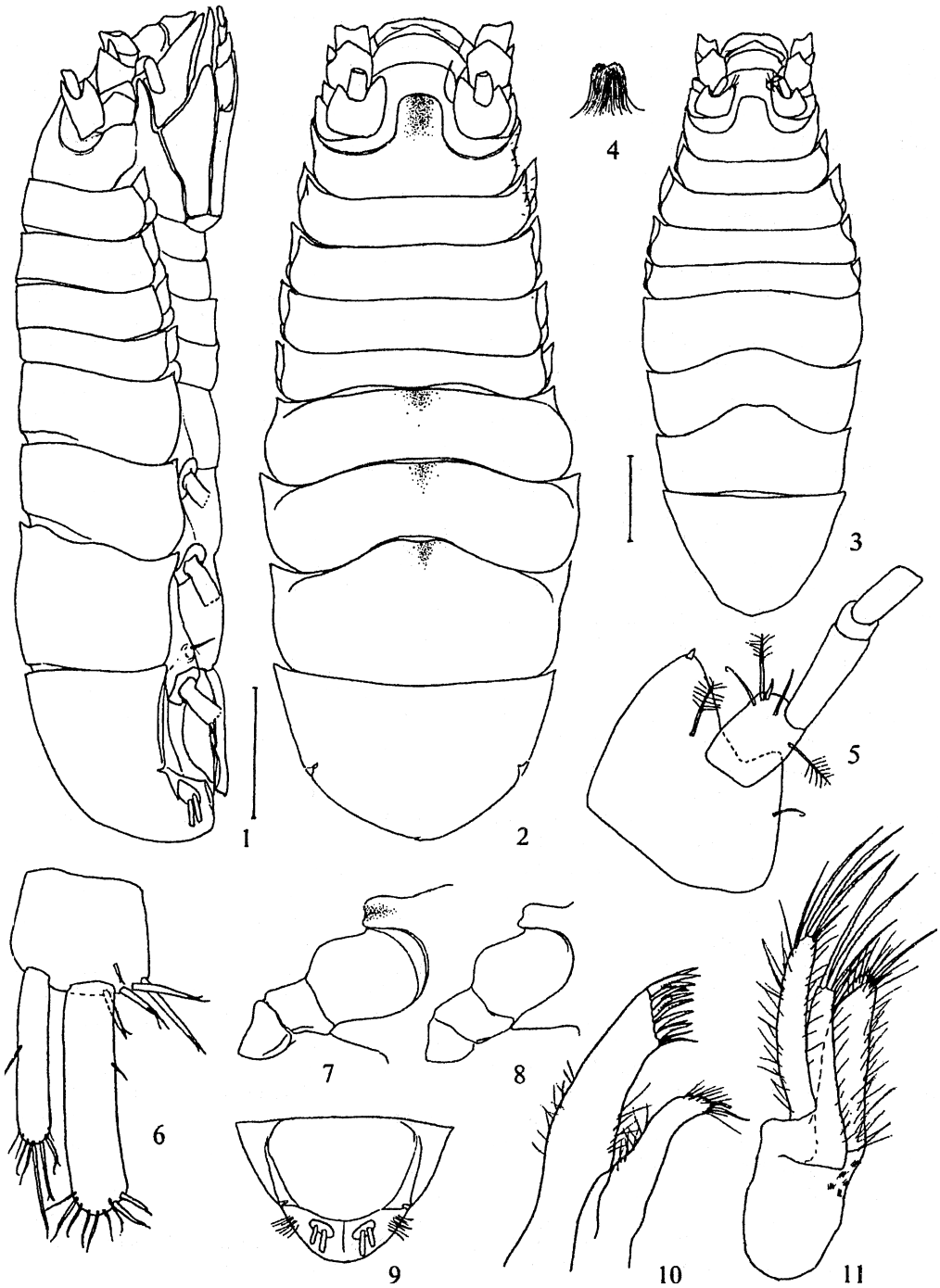
Habitat. Found at depths of 3300-3970 m.

Eurycope septentrionalis sp. n.
(Figs 1-24)

Holotype. No. 1/75354, ♂, 5.8 mm long, St. 21.

Paratypes. 2 ♀, 5.42 mm and 5.91 mm long and 2 specimens 4.3 mm and 5.15 mm long, St. 21.

Description of holotype. Body (Figs 1, 2) 2.6 times as long as wide, oblong-ovate, convex, deepest at pereonite 6. Lateral margins with scattered, fine, short setae. Cephalon relatively short; postrostral cephalon length 0.2 times its width and 0.9 times pereonite 1 length. Lateral spine blunt, length 0.78 times cephalic frons height. Rostrum (Figs 2, 7) long and broad, length 0.33 times cephalon width, width 0.21 times cephalon width. Rostrum almost quadrate in dorsal view,



Figs 1-11. *Eurycope septentrionalis* sp. n. (1, 2, 4-7, 10, 11, male, holotype; 3, 8, 9, female, paratype): **1**, lateral view; **2, 3,** dorsal view; **4**, rostrum; **5**, antenna 1; **6**, uropod; **7, 8,** frons, rostrum, lateral spine and labrum, lateral view; **9**, pleotelson, ventral view; **10**, maxilla 1; **11**, maxilla 2.

with V-shaped median depression, overhanging frons (overhang 0.12 times rostral length). Cephalic keels with fine denticles on rostrum tip (Fig. 4). Cephalic frons sloping abruptly anteriorly in front of rostrum: frons height 0.47 times mouth field depth. Frontoclypeal ridge distinct, straight, perpendicular to body axis.

Pereonites 1-3 subequal in median length; pereonite 4 shortest of ambulosomites. Pereonite 7 longest of natosomites, concave; pereonites 5 and 6 subequal, with straight anterior margins. Ventrolateral surface of pereonite 7 with bulla anterior to coxa. Pleotelson in dorsal view only slightly longer than pereonite 7, in lateral view 0.86 times as long as wide, its lateral margin rounded, distal tip bent downward, forming with basal part an angle of 40°.

Antenna 1 (Fig. 5). Flagellum broken off. Article 1 almost as long medially as wide; medial lobe with small distal spine and plumose seta; lateral plate short, angular. Article 2 as long as medial lobe of article 1, with 2 plumose and 3 simple distal setae of different lengths. Article 3 length 1.2 times article 2 length. Article 4 shortest, 0.3 times as long as article 3.

Mandible (Fig. 12) typical, both incisor processes with 4 teeth. Lacinia mobilis as long as incisor process, with 6 teeth. Left spine row with 11 members. Distal surface of molar process with numerous teeth and 10-12 setae on posterior edge. Condyle shorter than molar process (0.8), 0.18 times as long as mandibular body length. Mandibular palp slightly shorter than mandibular body (0.92). Palp article 2 length 0.49 times mandibular body length.

Maxilla 1 (Fig. 10). Inner endite 0.66 times as wide as outer endite, setose distally and laterally; outer endite with 10 clawlike setae and 2 spinelike setae on medial end.

Maxilla 2 (Fig. 11). Mediobasal area with many cuticular combs; medial endite shortest.

Maxilliped (Fig. 16). Endite with 4 small coupling hooks; distal margin with 7 fan and 3 simple long setae; basis with upturned lateral corner at insertion of first article, lateral margin setose. Palp article 2 laterally 1.3 times as long as medially, with few short simple setae distally; article 3 lateral length 0.32 times article 2 lateral length; median lengths of articles 2 and 3 subequal; medial margin of article 3 denticulated, with many small, simple setae; articles 4 and 5 with 7 long distal setae each. Epipod triangular, 2.2 times as long as wide and 0.9 times as long as basis, its lateral margin with small simple setae on distal half.

All pereopods broken off. Pleopod 1 (Figs 17-19) 2.95 times as long as wide, widening in posterior half, ventral surface with 2 rows of 15-16 plumose setae each and 2 rows of simple setae on posterior third. Distal tip truncate, with groups of 8 simple setae on medial and lateral areas.

Pleopod 2 (Figs 14, 15). Sympod robust, 1.98 times as long as wide its distal margin broadly rounded, with 5 small setae. Stylet with acute tip, 0.84 times as long as sympod, extending beyond distal tip of sympod, inserted 0.43 sympod length from distal tip. Sperm duct opening 0.65 stylet length from distal tip. Exopod extending beyond inner margin of sympod, with fine setae on posterior curve.

Pleopod 3 (Fig. 21). Exopod basal segment width 0.4 times endopod width; exopod distal segment with one plumose seta, its length 0.3 times total exopod length; endopod with 4 plumose setae distally.

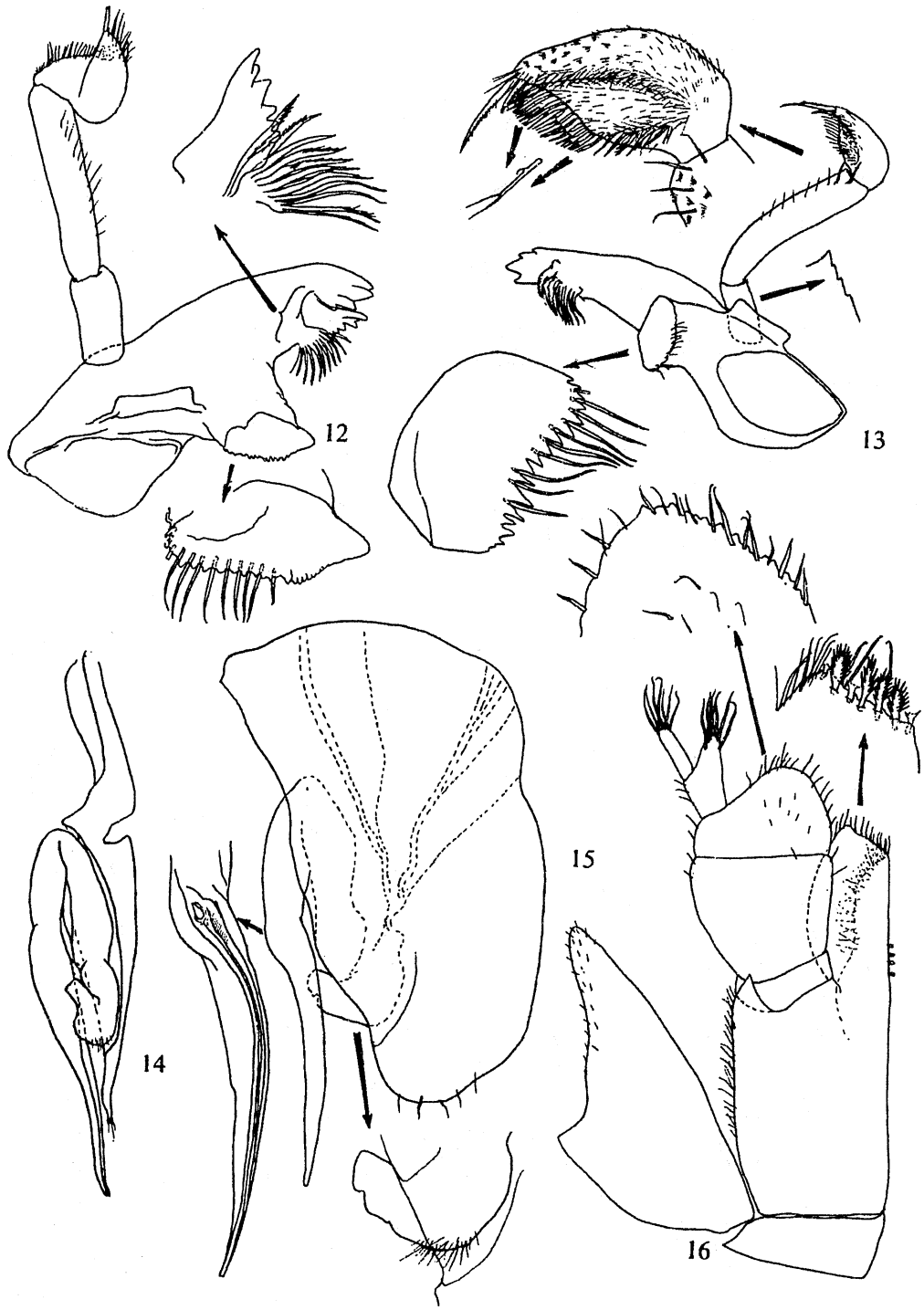
Pleopod 4 (Fig. 22). Exopod not reaching distal tip of endopod, with long plumose seta; endopod cupped laterally.

Pleopod 5 (Figs 23, 24) length 1.6 times as long as wide, strongly cupped laterally.

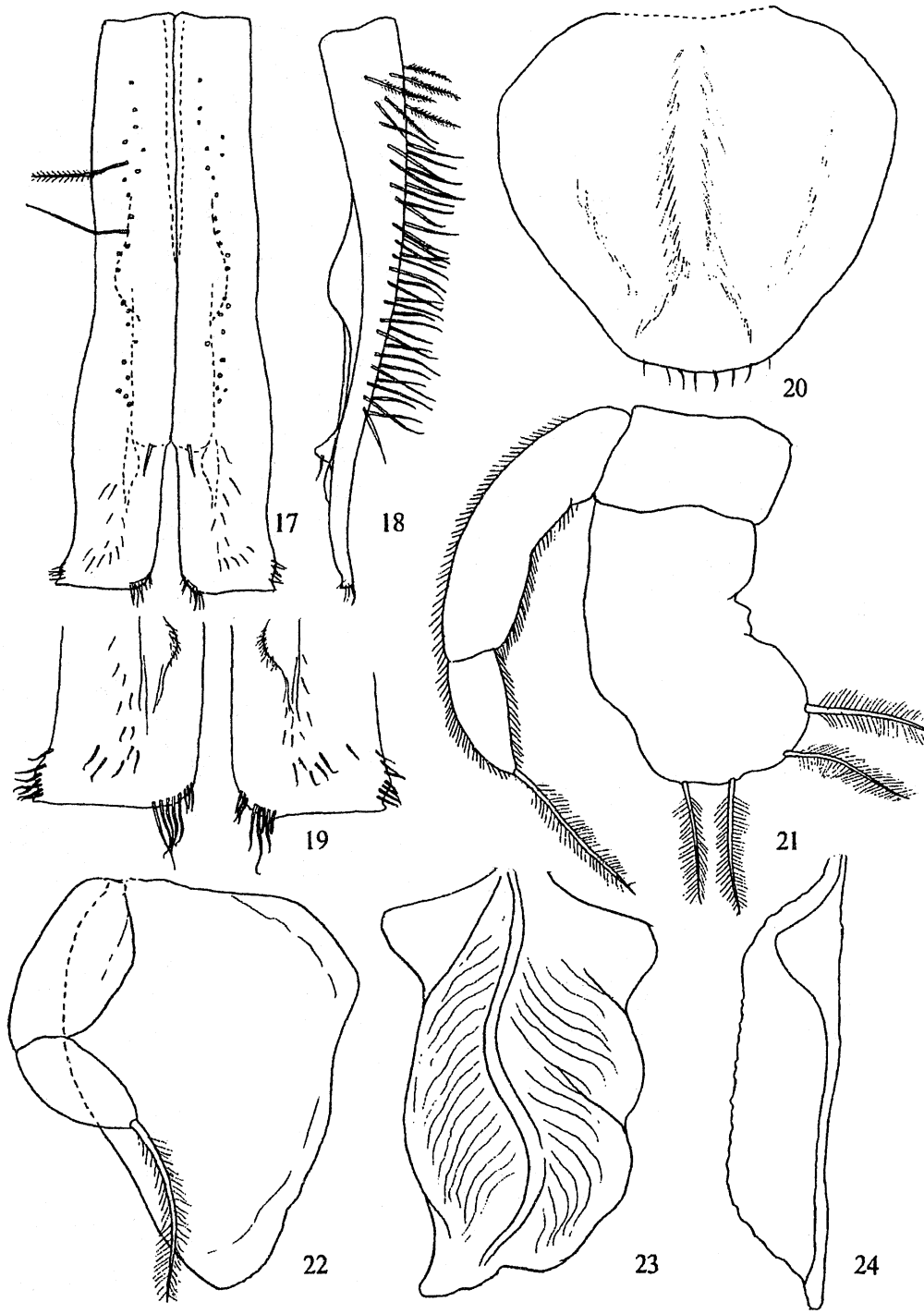
Uropod (Fig. 6). Sympod 0.86 times as long as wide, with 4 distomedial unequally bifid setae. Endopod length twice sympod length and 1.4 times exopod length. Endopod and exopod with distal rosette of robust unequally bifid setae.

Female (Figs 3, 8, 9, 13, 20) similar to male. Pleopod 2 (Fig. 20) 0.88 times as long as wide and 0.42 times as deep as long, ventral surface and lateral margins without setae, distal margin with few small simple setae. Keel narrow, without seta, distance from its apex to distal tip 0.3 times total pleopod length.

Remarks. E. septentrionalis belongs to a complex of related species, including *E. producta* Sars, 1868, *E. spinifrons* Gurjanova, 1933, *E. gaussi* Wolff, 1956, *E. linearis* Birstein, 1963 and *E. dahli* Svavarsson, 1987. This *producta* complex was separated by Svavarsson (1987) and may be distinguished from most other species of *Eurycope* by the long and broad rostrum, having a notch and small denticles on the margins. *E. septentrionalis* is more similar in many aspects to *E. dahli* from Norway, Greenland and North Polar seas, but differs mainly in the more slender body (body length/width ratios 12.0-12.2 in *E. dahli* and 12.6 in *E. septentrion-*



Figs 12-16. *Eurycope septentrionalis* sp. n. (13, female, paratype; 12, 14-16, male, paratype): **12**, left mandible; **13**, right mandible; **14**, male pleopod 2, lateral view; **15**, male pleopod 2, ventral view; **16**, maxilliped.



Figs 17-24. *Eurycope septentrionalis* sp. n. (20, female, paratype; 17-19, 21-24, male, holotype): **17**, male pleopod 1, ventral view; **18**, male pleopod 1, lateral view; **19**, distal part of male pleopod 1; **20**, female pleopod 2; **21**, pleopod 3; **22**, pleopod 4; **23**, pleopod 5, dorsal view; **24**, pleopod 5, lateral view.

alis), shorter distomedial lobe of basal article of antenna 1, and shorter uropodal exopod (♀ exopod length/endopod length ratios 0.85-0.90 in *E. dahli* and 0.75 in *E. septentrionalis*). Median notch and dorsal rostral depression is less developed in *E. septentrionalis* than in *E. dahli*.

Distribution. Central part of the Polar Sea: western slope of the Canada Basin.

Habitat. Found at depth of 3550 m.

Eurycope vasinae sp. n.
(Figs 25-39)

Holotype. No. 1/75356, 1 ♂ 3.1mm long, St. 12. *Paratypes*. 2 ♂ and 2 ♀ up to 2.9 mm long, St. 12.

Description of holotype. Body (Figs 25, 26) oblong-ovate, convex, deepest at pereonite 4, length 2.24 times its width. Dorsal surface without setae. Cephalon postrostral length 0.2 times width and subequal to pereonite 1 length. Lateral spine pointed, its length 0.85 times cephalic frons height. Rostrum rather small, triangular, with truncate tip and low cephalic keels, length 0.15 times cephalon width, width 0.08 times cephalon width; rostrum slightly overhanging cephalic frons. Frons gently sloping anteriorly in front of rostrum, its height 0.46 times mouth field depth. Frontoclypeal ridge distinct, slightly convex.

Pereonites 1 and 2 subequal in median length; pereonite 4 shortest of ambulosomites. Pereonite 7 longest of natosomites. Pereonites 5 and 6 subequal in length. Ventrolateral surface of pereonite 7 with bulla anterior to coxa (Fig. 28). Pleotelson length in dorsal view 1.4 times pereonite 7 length, length in lateral view 0.8 times dorsal width; distal tip of pleotelson slightly bent downward.

Antenna 1 (Fig. 32). Flagellum broken off. Article 1 slightly longer than wide; medial lobe basally nearly half as wide as article, with 6 distal setae of diferent lengths; article 2 almost twice as long as medial lobe of article 1, with 5 distal setae; article 3 half as long as article 2.

Antenna 2 broken off.

Mandible (Figs 31, 33) typical: both incisor processes with 4 teeth; lacinia mobilis as long as incisor process, with 6 teeth. Left spine row with 4 members. Distal surface of molar process with numerous teeth and 6-7 setae on margin. Condyle longer than molar process, its length 0.27 times mandibular body length. Mandibular palp almost as long as mandibular body. 2nd palp article 0.55 times as long as mandibular body, with 4 simple setae and setal comb distally.

Maxilla 1 (Fig. 29). Inner endite 0.54 times as wide as outer endite, with 1 long simple seta and tuft of setules distally.

Maxilliped (Fig. 30). Endite with 3 coupling hooks; distal margin with 6 fan and 2 long simple setae; basis with upturned lateral corner at insertion of first article. Palp article 2 with subequal lateral and medial margins, lateral margin with dense row of small, simple setae; article 3 median length 0.72 times article 2 median length and 0.4 times palp article median length, lateral length 0.4 times article 2 lateral length; article 4 as long as article 3 laterally; 5th article 1.4 times as long as article 4. Articles 2-5 with long simple setae medially. Epipod triangular, slightly shorter than basis, 1.58 times as long as wide, distolateral margin concave.

All pereopods broken off.

Operculum (Figs 37, 38) 0.9 times as long as wide and 0.35 times as deep as long, distally widely truncated, lateral margins rectangularly convex, with 2-3 fine setae, distal margin with 4-5 fine setae; keel broad, without large seta, distance from its apex to distal tip 0.4 times total pleopod length.

Pleopod 3 (Fig. 34). Endopod 1.6 times as long as wide, with 3 long plumose setae distally. Exopod basal segment 0.4 times as wide as endopod; distal segment with plumose seta, its length 0.34 times total exopod length.

Pleopod 4 (Fig. 35). Exopod extending beyond distal tip of endopod, with long plumose seta; endopod cupped laterally.

Pleopod 5 (Fig. 36) 1.4 times as long as wide, strongly cupped laterally.

Uropod (Fig. 39). Sympod 0.83 times as long as wide, with 2 small simple distolateral setae; endopod 2.5 times as long as sympod and 2.7 times as long as exopod, with 10 robust, unequally bifid distal setae; exopod short, slender, with 3 distal setae.

Remarks. The most characteristic features of *E. vasinae* are the small uropodal exopod (not longer than 0.4 of endopod), pointed lateral angle of maxillipedal epipod and peculiar form of operculum with large, inflated, truncated distal part much protruding posteriorly.

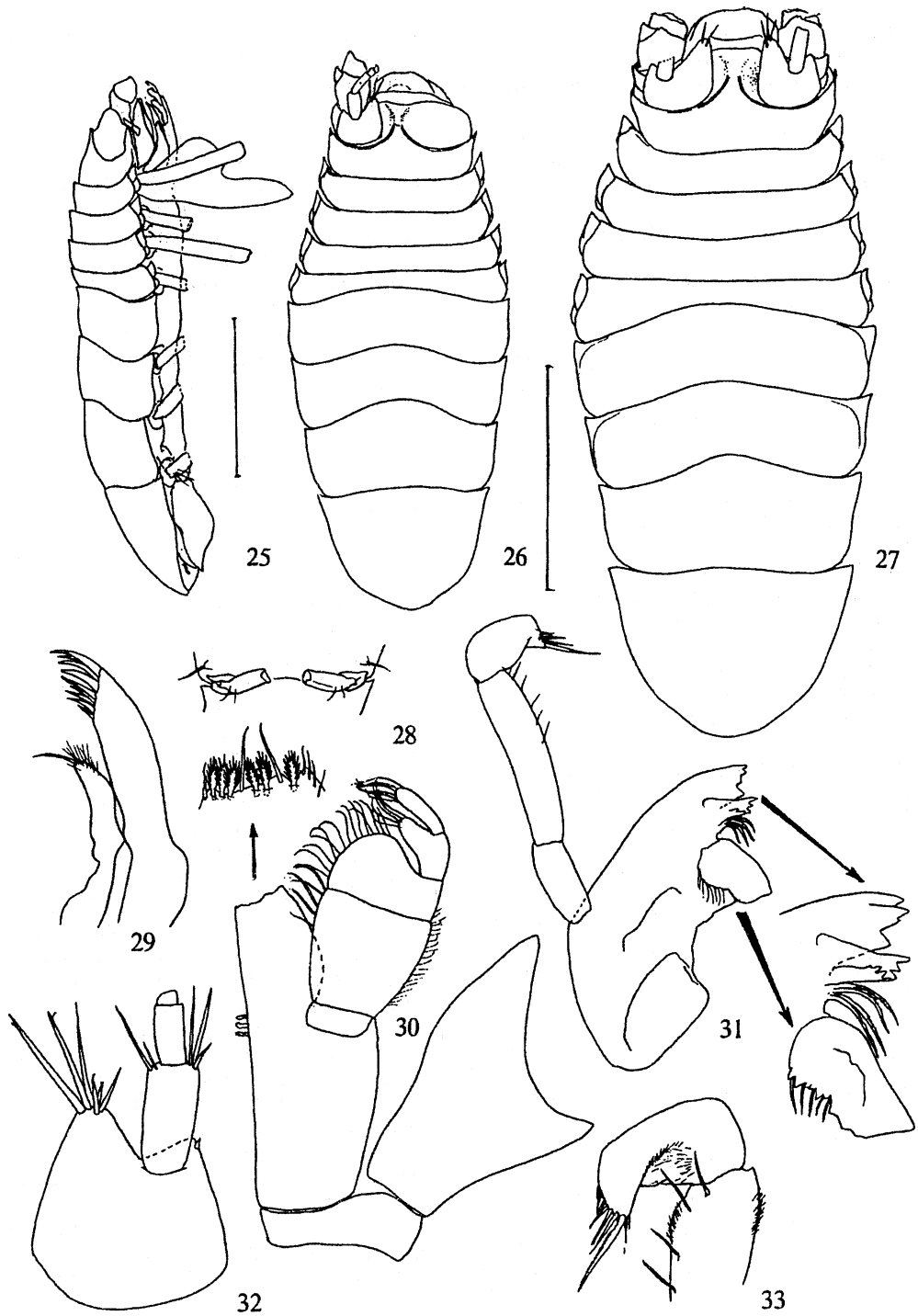
Distribution. Central part of the Polar Sea: western slope of the Canada Basin.

Habitat. Found at depth of 3410 m.

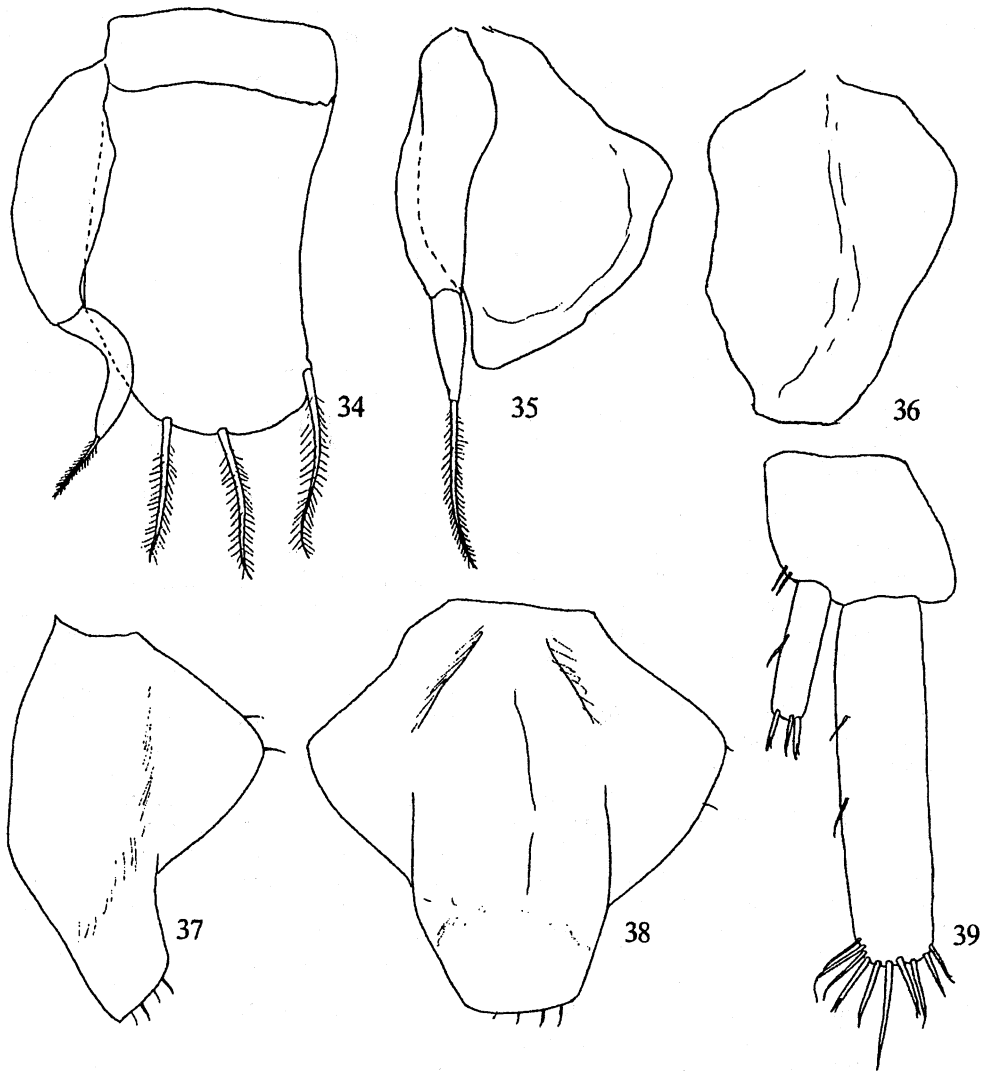
Genus **Disconectes** Wilson & Hessler, 1981

Disconectes coxalis Kussakin, 1983

Disconectes coxalis Kussakin, 1983: 13-17, figs 1-3.



Figs 25-33. *Eurycope vasinae* sp. n. (27, female, paratype; 25, 26, 28-33, female, holotype): **25**, lateral view; **26**, **27**, dorsal view; **28**, pereonite 7, ventral view; **29**, maxilla 1; **30**, maxilliped; **31**, left mandible; **32**, antenna 1; **33**, distal part of mandibular palp.



Figs 34-39. *Eurycope vasinae* sp. n., female, holotype: **34**, pleopod 3; **35**, pleopod 4; **36**, pleopod 5; **37**, pleopod 2, lateral view; **38**, pleopod 2, ventral view; **39**, uropod.

Material. Holotype: No. 1/75096, ♂ 3.0 mm long, St. 12; paratypes: 1 ♂, St. 39; 2 ♀, St. 54.

Distribution. Central Polar Basin: western slope of the Canada Basin.

Habitat. Found at depths of 3110-3410 m.

Genus **Munnopsurus** Richardson, 1912

Munnopsurus giganteus (G.O. Sars, 1877)

Eurycope gigantea G.O. Sars, 1877: 353; 1885: 130, pl. XI, figs 1-25; Hansen, 1887: 198, pl. XX, figs 3-3 m.

Munnopsurus arcticus Richardson, 1912: 227.

Munnopsurus giganteus: Hansen, 1916: 135, pl. XII, fig. 5a; Gurjanova, 1932: 70, Tab. XXVI, fig. 103; 1936: 58-59, fig. 22.

Munnopsurus giganteus giganteus: Wolff, 1962: 151, 152, 153, 217, 218, 258, 290.

Material. 1 specimen, St. 106A.

Distribution. Widespread Arctic species, occuring as far as high-boreal Atlantic. The Greenland, Norway, Barents, Kara and Laptev Seas, central Polar Basin up to 83° N in the north and 171° 32′ W in the east.

Habitat. Eurybathic species, inhabiting depths of 8-1469 m at water temperature of

−1.5° to +3 °C. In the NP-22 material, from depth of 320 m.

Genus **Munneurycope** Stephensen, 1913

Munneurycope glacialis sp. n.
(Figs 40-47, 59, 60)

Holotype. No. 1/76359, 1 ♀ 7.25 mm long, St. 27.

Description of holotype. Body (Figs 40, 41) soft, with thin teguments, length 2.4 times width of pereonite 5. Cephalon postrostral length 0.3 times width and 0.8 times pereonite 1 length, width 0.7 times pereonite 1 width. Lateral margins of pereonites with sparse thin and long setae. Pereonite 1 longest of ambulosomites; pereonite 2 subequal in median length to pereonite 3, 0.54 times as long as pereonite 1. Posterior part of ambulosomite with distinct keel. Ambulosomites gradually widening and natatosomites tapering backwards. Pleotelson 0.23 of body length, rounded, swollen, 1.54 times as long as wide; posterior margin broadly rounded, lateral margins rounded, with numerous, thin, long setae.

Antenna 1 (Fig. 47). Flagellum broken off. Article 1 round-triangular, 1.23 times as long as wide; 2nd article 0.44 times as long as article 1, with few thin setae laterally; article 3 shortest; article 4 almost as long as article 2.

Mandible (Figs 45, 46). Both incisor processes with 4 teeth; lacinia mobilis slightly shorter than incisor process, with 4 teeth. Left spine row with 9 members. Distal surface of molar process with numerous teeth and setae on posterior edge. Condyle almost as long as molar process, 0.2 times as long as mandibular body. Mandibular palp as long as mandibular body. Palp article 2 length 0.55 times mandibular body length.

Maxilla 1 (Fig. 43). Inner endite 0.64 times as wide as outer endite, rounded distally, setose, with 3 robust setae distally; outer endite with 10 serrate clawlike setae and many setulae on medial end.

Maxilla 2 (Fig. 44). Inner lobe shortest, its distal tip truncate, setose, with comblike long setae.

Maxilliped (Fig. 42). Endite with 4 small coupling hooks; distal margin with 1 fan and many simple setae; basis with setose lateral margin. Palp article 1 relatively long, with small lateral and 4 long distomedial setae; article 2 with small simple marginal setae, lateral length 1.6 times median length; article 3 with small simple setae, on medial margin lateral length 0.2 times article 2 lateral length; articles 3-5 increasing in lateral length; articles 4 and 5 with long distal setae. Epipod slightly shorter than basis, with setose margins, 2.2 times as long as wide.

All pereopods broken off, bases only present.

Female pleopod 2 (Fig. 59) 0.9 times as long as wide, narrowing distally; distal margin slightly concave, with many short, thin setae.

Uropod (Fig. 60). Sympod twice as long as wide, with 1 simple distolateral seta; endopod elongated, twice as long as sympod, with 5 simple setae distally; exopod 0.2 times as long as endopod, with 4 distal setae.

Remarks. *M. glacialis* is most similar to *M. murrari* (Walker), but differs from it in the considerably larger exopod of uropod, smaller number of spine row, and presence of distal setae on maxilliped basis. The new species differs from *M. elongata* Wolff in the presence of mandibular palp, from *M. incisa* Gurjanova in the rounded outlines of pleotelson, which is devoid of posterior median excavation, from *M. nodifrons* Hansen in the narrower basal article of antenna 1 and presence of distal setae on maxilliped basis. *M. menziesi* Wolff has nearly a double number of mandibular spine row. The new species is distinguishable from *M. harrietae* Wolff by the smaller number of spine row.

Distribution. Greenland and the Polar Seas: the Amundsen Basin, western slope of the Canada Basin.

Habitat. Found at depth of 2750-2370 m.

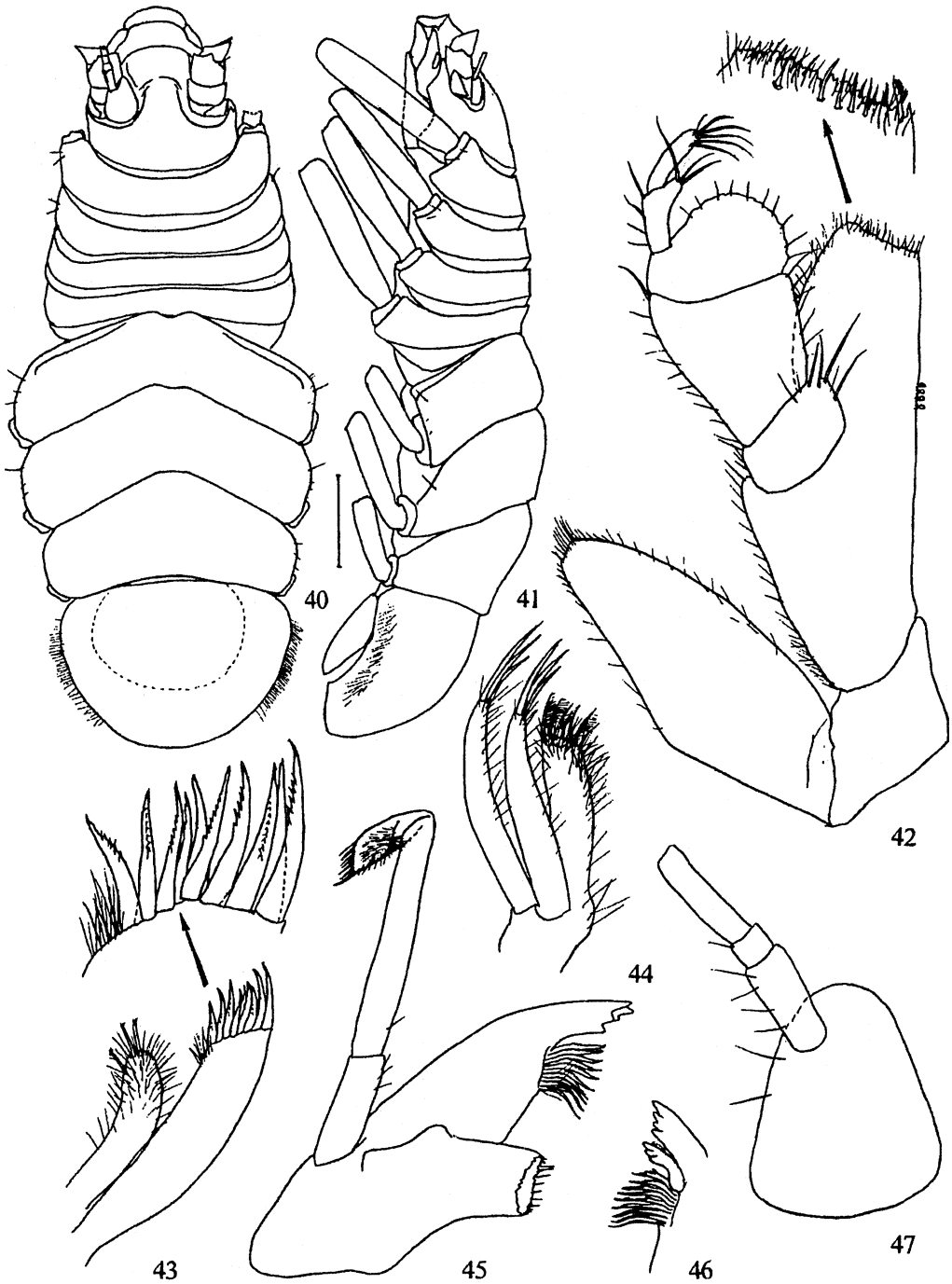
Genus **Paramunnopsis** Hansen, 1916

Paramunnopsis justi Svavarsson, 1988
(Figs 47-56)

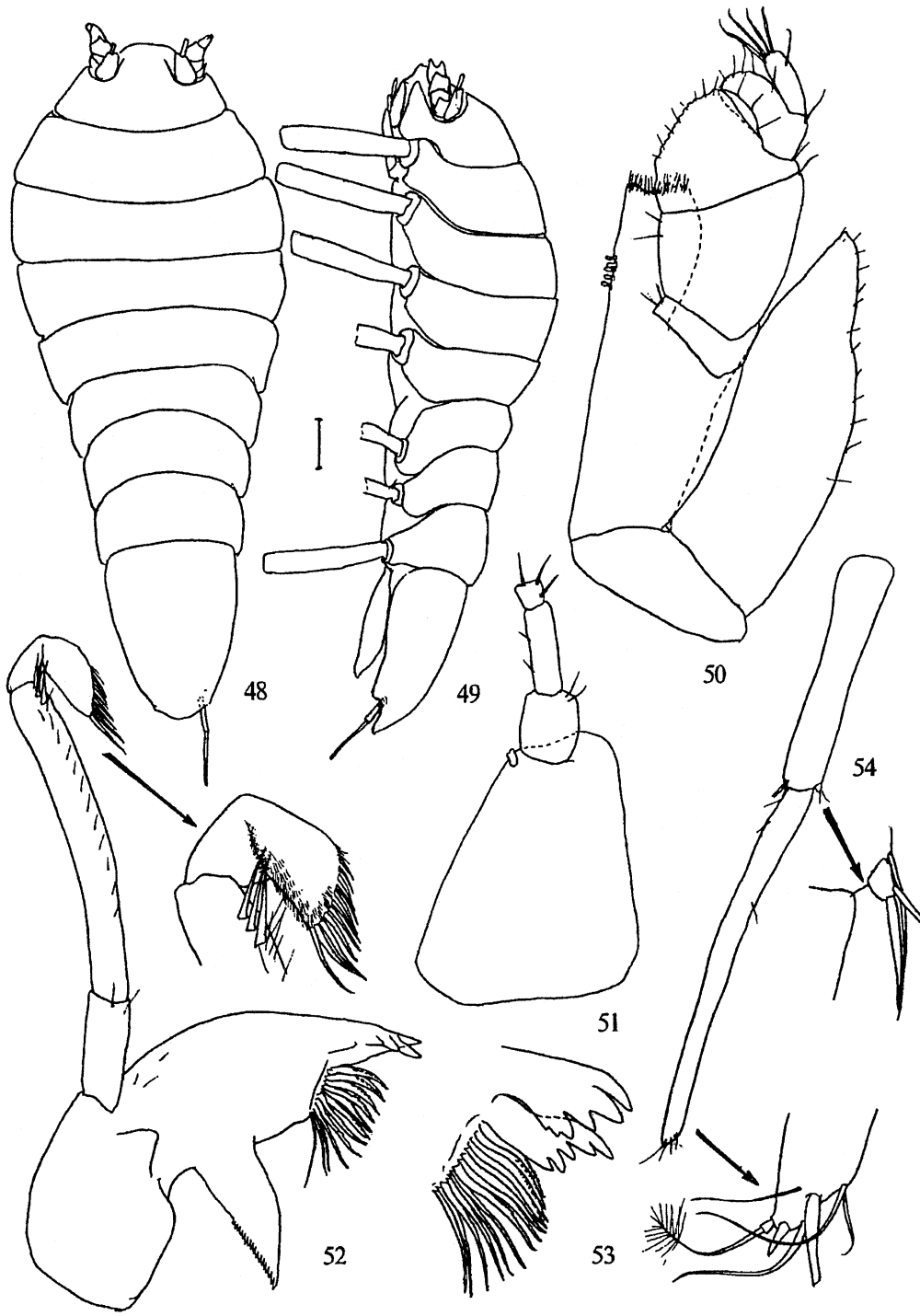
Paramunnopsis sp.: Just, 1980: 225-227, figs 15-16;
Paramunnopsis justi Svavarsson, 1988: 102-105, figs 15-17.

Material. 1 ♂ 12.5 mm long, 3 ♀ up to 13.2 mm long, St. 47.

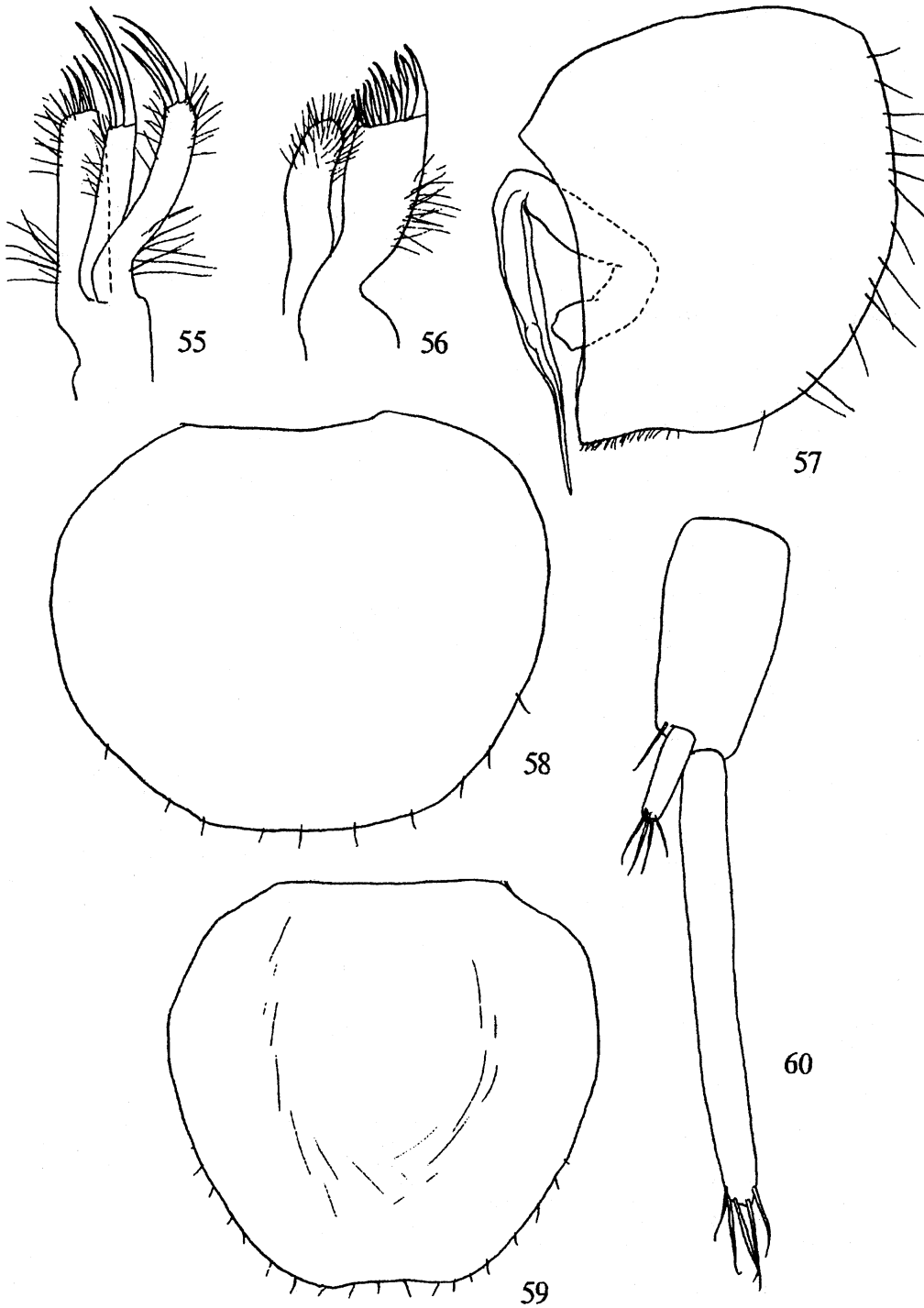
Remarks. Our specimens agree well with Just's (1980) and Svavarsson's (1988) descriptions and, in our opinion, belong to *Paramunnopsis justi*. Since Just had only one damaged male available, whereas Svavarsson described only females, we present some additional remarks concerning morphology of males. Unfortunately, the male pleopod 1 is broken off. Pleopod 2 (Figs 14, 15) sympod robust, 1.14 times as long as wide, its lateral margin broadly rounded, with 15-17



Figs 40-47. *Munneurycope glacialis* sp. n., female, holotype: **40**, dorsal view; **41**, lateral view; **42**, maxilliped; **43**, maxilla 1; **44**, maxilla 2; **45**, right mabdible; **46**, incisor process, lacinia mobilis and spine row of left mandible; **47**, antenna 1.



Figs 48-54. *Paramunnopsis justi* Svavarsson, female: **48**, dorsal view; **49**, lateral view; **50**, maxilliped; **51**, antenna 1; **52**, right mandible; **53**, incisor process, lacinia mobilis and spine row of left mandible; **54**, uropod.



Figs 55-60. 55-58, *Paramunnopsis justi* Svavarsson: **55**, maxilla 2; **56**, maxilla 1; **57**, male pleopod 2; **58**, female pleopod 2; **59, 60**, *Munneurycope glacialis* sp. n. female, holotype: **59**, pleopod 2; **60**, uropod.

long, thin setae; stylet with acute tip, 0.78 times as long as sympod, extending beyond distal tip of sympod; sperm duct opening half as long as stylet; exopod extending beyond inner margin of sympod.

Distribution. The Greenland Sea; the Polar Sea: northeast off Greenland; and the western slope of the Canada Basin.

Habitat. Found at depths of 1490-3970 m. In the NP-22 material, from depth of 3230 m.

Genus **Munnopsis** M. Sars, 1861

Munnopsis typica M. Sars, 1861

Munnopsis typica M. Sars, 1861: 84; 1868: 310, pls VI-VII; Hansen, 1887: 196, pl. XX, fig. 2-2e; G.O. Sars, 1899: 133, pls 57-58; Richardson, 1905: 486-490, figs 544-546; Gurjanova, 1932: 77, Tab. XXIX, fig. 119; Hult, 1941: 116-120, maps 47-48; Wolff, 1962: 18, 21, 185, 187, 188, 217, 219, 258, 289, text-figs 118c, 119a-f; Svavarsson, 1988: 102.

Material. 2 ♀, St. 60, 1 ♀, St. 67; 20 sps, St. 79; 6 sps, St. 64; 2 sps, St. 103; 1 ♂, St. 115.

Distribution. Widespread Arctic-boreal, arctatlantic species. Circumpolar in the Polar Sea, in the Atlantic Ocean southwards to Skagerrak along the European coast and to Cape Cod along the American coast.

Habitat. Found at depths of 4-1203 m. In the NP-22 material, from depths of 150-400 m.

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