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STORTHYNGURINAE (ISOPODA, ASELOTA, MUNNOPSIDIDAE) FROM THE ANTARCTIC DEEP SEA WITH THE DESCRIPTIONS OF THREE NEW SPECIES

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ABSTRACT

Storhyngurinae from the deep sea of the West-Atlantic sector of the Antarctic have been studied. The illustrated descriptions of three new species: *Storhyngurella andeepae* n. sp., *Sursumura angulata* n. sp., and *S. longicauda* n. sp. are presented. Moreover, descriptive notes additionally to the original illustrations of the holotypes of *Sursumura argentica* and *S. falcata* (George & Menzies, 1968), and a list of species of *Sursumura* with their distribution as well as a character table of differences between the genera *Sursumura* and *Storhyngurella* are presented.

Key words: Deep sea, Antarctica, taxonomy, Munnopsididae, *Storhyngurella*, *Sursumura*, new species

INTRODUCTION

Kussakin (2003) erected a new subfamily Storhyngurinae for three genera of Munnopsididae: *Microprotus* Richardson, 1910, *Storhyngura* Vanhöffen, 1914, and *Storhyngurella* Malyutina, 1999. Diagnostic characters of the subfamily are: body with dorsal and lateral spines; pereopod 1 with one and pereopods 2-4 with two coxal spines visible from dorsal view, squama on article 3 of antenna 2 not articulated, mandible with proximo-lateral projection for articulation with head in elongate slot, uropod elongate, tubular protopod and rami subequal in length. In a recent revision Malyutina (2003) has split the large genus

Storhyngura into four genera: *Storhyngura* and three new ones, *Rectisura*, *Sursumura* and *Vanhoeffenella*. This deviation was mainly based of the structure of antennular peduncle, the dorsum of the head and the shape of the pleotelson. Therefore, the subfamily Storhyngurinae now consists of six genera, which also differ in some details of the mouthparts, the structure of carpus and propodus of pereopods 3-7, pleopods 3 and 4 and male pleopods 1 and 2 (for identification keys, diagnoses and descriptions compare Malyutina, 2003).

The present paper is the second publication on Storhyngurinae Kussakin, 2003 from the isopod material of the recent Antarctic expedition

Table 1. Differences between the genera *Sursumura* and *Storthyngurella*. The most important differences are marked in bold and italics. Further details can be found in Malyutina, 2003.

Characters	<i>Sursumura</i>	<i>Storthyngurella</i>
Adult body size and constitution	~10-49 mm, robust, strong	~3-10 mm, not robust, weak
Spines on body, article 1 of antenna 1 and antenna 2, coxae	shorter than corresponding segment	longer than corresponding segment
Pereonites 2-4 dorsal spines	1	usually 3
Anterolateral corners of pleotelson	broad, projected	gently sloping, not projected
Lateral spines of pleotelson	2	usually 3
Preanal ridge of pleotelson	short, almost not protruded	long, well protruded, bent posteriorly
Mandible lacinia mobilis	slender, short	rather stout, long
Mandible palp article 3 setae	spatulate	slender
Maxilliped epipod lateral margin	without projection, smooth	with acute projection
Pereopods 5-7 carpi and propodi	moderately expanded	elongate
Male pleopod 1 definite waist	present	absent
Male pleopod 1 distal lobes	situated close to each other, not extending beyond distal margin of pleopod 2	diverging, extending far beyond distal margin of pleopod 2
Male pleopod 2 endopod stylet	about a half of protopod length	about two thirds of protopod length
Male pleopod 2 exopod	short, stout	elongate
Pleopod 3 endopod distal setae	numerous	3-4
Pleopod 3 exopod distal margin	pointed	truncate

ANDEEP. The first paper (Malyutina & Brandt, 2004) dealt with the genus *Storthyngura*, the present paper is devoted to the genera *Sursumura* and *Storthyngurella*. These genera share the following characters, which also distinguish them from the other four genera of the Storthyngurinae: head with a pair of similar dorsal spines; basal article of antenna 1 with medial spine at midlength; article 1 of antenna 2 with distolateral spine; and the pleotelson with an acute dorsally directed terminal spine. The main characters which distinguish *Sursumura* from *Storthyngurella* are: *Sursumura* has a larger and more robust body; shorter body spines; broad, protruded anterolateral edges of the pleotelson, which look like additional lateral projections frontally of the usual anterolateral spines. Other differences between these genera are presented in Table 1. The genus *Storthyngurella* today contains nine species (Table 1 in: Malyutina, 1999: 269) and *Sursumura* has twelve species (Table 2 in the present paper). The genera are primarily distributed in the southern hemisphere.

Among seven examined species of *Storthyngurella* and *Sursumura* from deep-sea collections of

Recent German and Russian Antarctic expeditions three new species were described: *Storthyngurella andeepae* n. sp., *Sursumura angulata* n. sp., and *S. longicauda* n. sp.

The new species were sampled off the South Shetland Islands, the South Orkney Islands, the South Sandwich Islands, the Falkland Islands and the Weddell Sea, at depths between 752-5190 m.

For comparison with both new species of *Sursumura*, we also present here the illustrated redescriptions of the holotypes of *Sursumura falcata* and *S. argentica* (George & Menzies, 1968), similar species from the same region, because the authors' descriptions were incomplete and inaccurate in some details.

METHODS

Material was collected during the expedition ANT XIX-3 & 4 (ANDEEP I & II), February to April 2002, aboard RV 'Polarstern' in the Antarctic deep sea off the South Shetland Islands, the South Sandwich Islands and in the Weddell Sea by means of an epibenthic sledge (Fütterer et al., 2003). Samples from the collec-

Table 2. Species list and distribution of *Sursumura* Malyutina, 2003

Species	Locality	Depth (m)
<i>S. aberrata</i> Malyutina, 2003	Antarctic: South-Sandwich Trench 55°0.9'S 27°12'W	7200-7216
<i>S. abyssalis</i> (Wolff, 1962)	Pacific: Tasman Sea 45°51'S 164°32'E	4400
<i>S. affinis</i> Malyutina, 2004	New Caledonian Trench 29°28'5"S 164°55'1"E off Tasmania 43°36'5"S 144°03'9"E	2010 4468
<i>S. angulata</i> n. sp.	Antarctic: off South Sandwich Is. 58°44'35"S 25°10'48"W off Falkland Is. 52°56'S 55°36'W	752-795 1966-2016
<i>S. argentica</i> (George & Menzies, 1968)	S Atlantic: off South Georgia 52°23'S 37°11'W	1372-1625
<i>S. atlantica</i> (Beddard, 1885)	NE Atlantic, off Azores: 38°11'N 27°09'W	1646
<i>S. falcata</i> (George & Menzies, 1968)	Antarctic: Scotia Sea and off South Shetland Is. 64°08'S 67°44'7"W 56°S 33°58'W	2816-2761 3136-3237
<i>S. longicauda</i> n. sp.	Antarctic: off South Orkney Is. 60°43'S 41°14'W northern Weddell Sea 64°1'54"S 39°6'88"W	3700- 3970 4743-4748
<i>S. magnifica</i> (Chardy, 1976)	N Atlantic: 53°55'N 17°52'W	2456
<i>S. praegrandis</i> (George & Menzies, 1968)	Antarctic: Drake Passage, Scotia Sea, and western Weddell Sea	1105-5631
<i>S. robustissima</i> (Monod, 1925)	Antarctic: Bellingshausen Sea 71°41'S 89°14'W Drake Passage, off South Shetland Is. 62°02'-62°59'S 59°14'-61°08'5"W	400 884-1455
<i>S. spinosissima</i> (Brandt, 2002)	Antarctic: Weddell Sea and Drake Passage	417-1681

tion of Russian expeditions aboard RV 'Akademik Kurchatov' in 1971 off the Falkland Islands and 'Dmitry Mendeleev' in 1989 off the South Orkney Islands were also examined. Material was fixed in precooled 96% ethanol on board RV 'Polarstern'; on the Russian vessels 70% ethanol was used for fixation. In the laboratory, the material was sorted out with a 'Wild M5' dissecting microscope and illustrated using a 'Leitz Dialux MZ 12', equipped with a camera lucida.

For the holotypes of previously described known species we illustrated habitus views and details of appendages when permitted or accessible from previous dissections.

Terminology and measurements follow Wilson

(1989) and Malyutina & Brandt (2004).

The types of the new species are deposited in the Zoological Museum of Hamburg, Germany and in the Zoological Museum of Moscow University, Russia.

The following abbreviations are used in the text and figures: ZMH = Zoological Museum of Hamburg, ZMMU = Zoological Museum of Moscow University; E = epinet and S = supranet of epibenthic sledge, AGT = Agassiz Trawl; A1 = antenna 1, A2 = antenna 2, lMd = left mandible, rMd = right mandible, Hy = hypopharynx; Mx1 = maxilla 1, Mx2 = maxilla 2, Mxp = maxilliped, P1-7 = pereopod 1-7, Pl 1-5 = pleopod 1-5, U = uropod.

SYSTEMATIC PART

Munnopsididae Lilljeborg, 1864
Storthingurinae Kussakin, 2003

Storthingurinae Kussakin, 2003: 273; Malyutina, 2003: 245.

Storthingurella Malyutina, 1999

Storthingurella Malyutina, 1999: 268.

Storthingurella andeepae n. sp.

Figs. 1-5.

MATERIAL. - Holotype: female of 5.8 mm long, (ZMH K-40402), RV 'Polarstern', cruise 61, station 46-7-S, 30-I-2002, 60°38'35"-12"S, 53°57'36"-49"W, 2893-2894 m.

DIAGNOSIS. - Body 2 times as long as wide; lateral bulges of head frons high, serrated; pereonite 1 with one, pereonites 2-4 with three dorsomedial spines, pleotelson 1.1 times as long as wide, with two long dorsomedial spines and two short granulated tubercles behind posterior medial spine; two lateral spines on each side subequal in size, anterolateral spines directed laterally, posterolateral ones directed posteriorly, projection in between rectangular; terminal spine straight, 0.3 times as long as pleotelson; preanal ventral process rounded, turned posteriorly, invisible in dorsal view; medial spine of antenna 1 article 1 only slightly (0.9) shorter than article; uropod not extending beyond tip of pleotelson.

DESCRIPTION OF HOLOTYPE. - Body (Fig. 1) 2 times as long as greatest width of pereonite 5 with lateral spines; head 0.45 times as long as wide, pair of dorsal spines slender, directed anterolaterally, distance between spines 0.7 times as wide as head; interantennular gap 0.2 times as wide as head and as wide as antenna 1 basally; frons medially concave, lateral bulges high, serrated, frontal arch broad, semicircular in frontal view; clypeus frontally 1.6 times as wide and 0.4 times as long as labrum.

Pereonites 1-4 slightly broadening from 1 to 4, pereonites 1, 2, and 4 subequal in length, pereonite 3 longest; pereonite 1 with one dorsomedial

spine anteriorly, pereonites 2-4 with three frontally directed spines anteriorly, all spines longer than pereonite; anterolateral spines of pereonite 4 slender, directed somewhat anteriorly, visibly longer than pereonite laterally and slightly shorter than coxal spines of pereopods 2-4, which are subequal in length and in shape.

Natasome (pereonites 5-7 + pleotelson) 1.2 times as long as anterior body part (head + ambulosome); pereonites 5-7 fused without sutures, slightly decreasing in width and visibly shortening from 5 to 7; anterolateral spines of pereonites 5 and 6 directed slightly anteriorly, those of pereonite 7 perpendicular to body axis; sternites with small acute medial spines and pair of rounded swells (Fig. 1C); pleotelson 1.1 times as long as wide, separated from pereonite 7 by suture, two lateral spines on each side subequal in size, anterolateral spines directed laterally, posterolateral ones directed posteriorly, projection in between rectangular; terminal spine straight, with broad basis, measuring from the dorsal pore to tip 0.3 times as long as pleotelson; dorsal surface with two long medial spines: anterior one situated slightly behind anterior margin, posterior one on the level of lateral rectangular projections; two short granulated tubercles situated laterally and slightly behind posterior medial spine; preanal ventral process rather short, rounded, turned backwards, invisible in dorsal view.

All body spines with sparse setae, lateral margins of pereonites 1-4 with fine denticles, margins of natasome and especially pleotelson with prominent spines.

Antenna 1 (Fig. 2) 0.25 times as long as body, of 12 articles; article 1 2.2 times as long as wide, medial spine only slightly shorter than article, with many acute tubercles and small setae, distolateral lobe rather broad, serrated distally; article 2 almost half as long as distolateral lobe of article 1, with distomedial small spine and a distolateral broom seta; article 3 1.6 and article 4 0.3 times as long as article 2, first flagellum article twice as long, following flagellar articles as long as peduncle article 4, terminal articles with aesthetascs. Antenna 2 (Fig. 1) more than twice as long as body; basal articles 1-3 gradually extended; lateral spine of article 1 2.5 as long as article, article 2 twice as long as article 1, granulated distally; article 3 about 1.5 times as long as article 2,

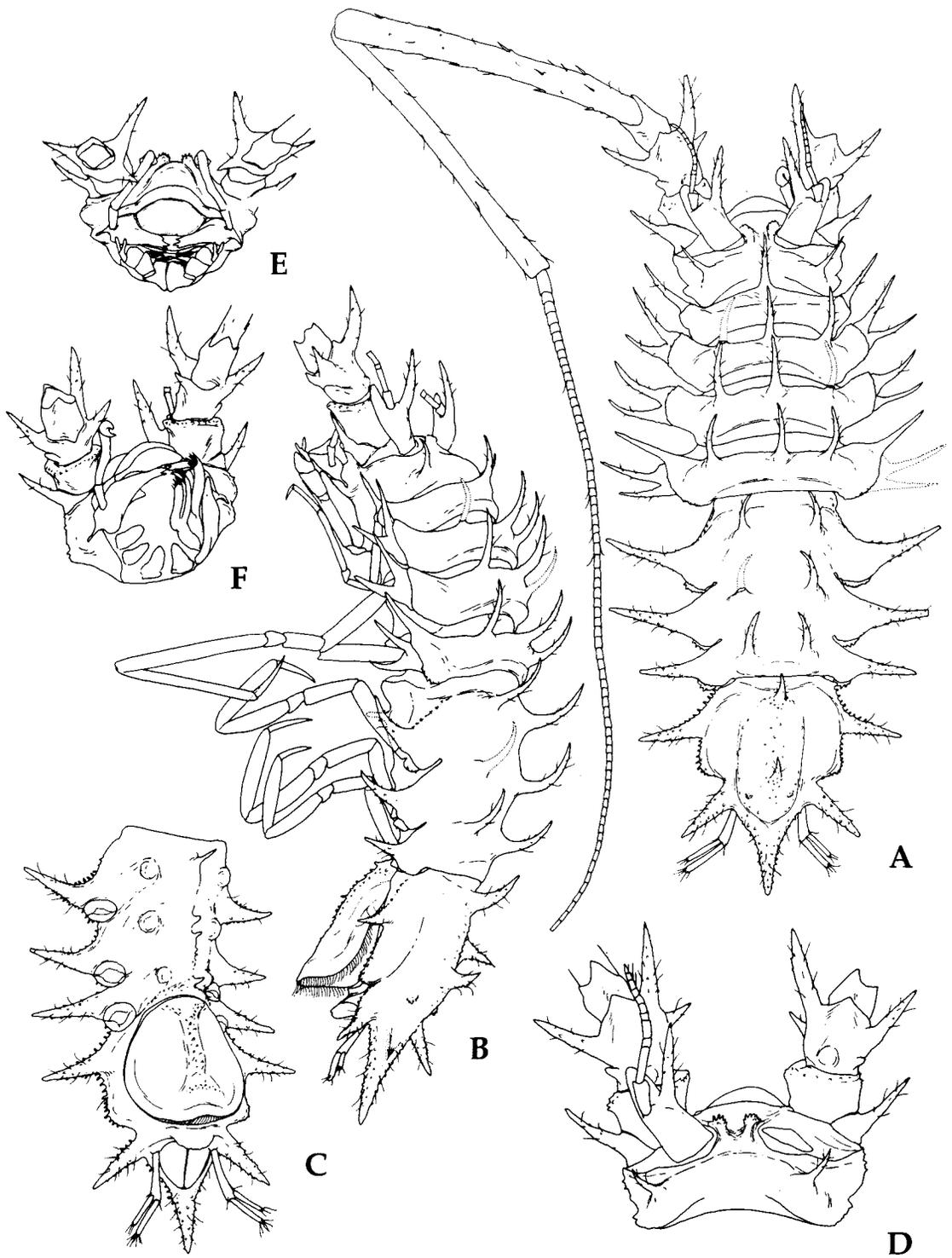


Fig. 1. *Storthingurella andepae* n. sp., female, holotype. A, dorsal and B, lateral body views. C, natasome, ventral view. D, head, dorsal view. E, head, frontal view. F, head, ventral view.

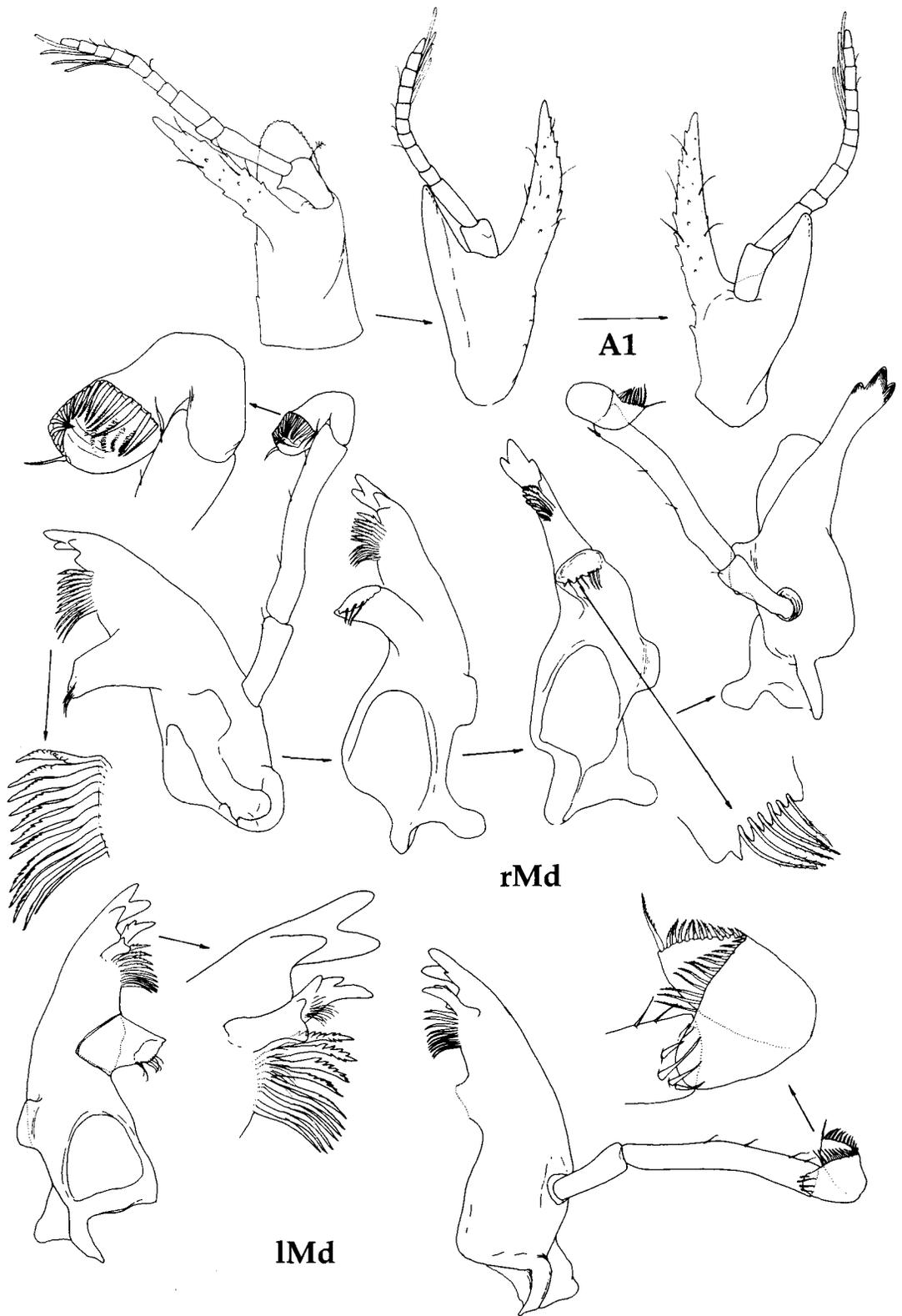


Fig. 2. *Storthyngurella andeepae* n. sp., female, holotype, antenna 1 and mandibles.

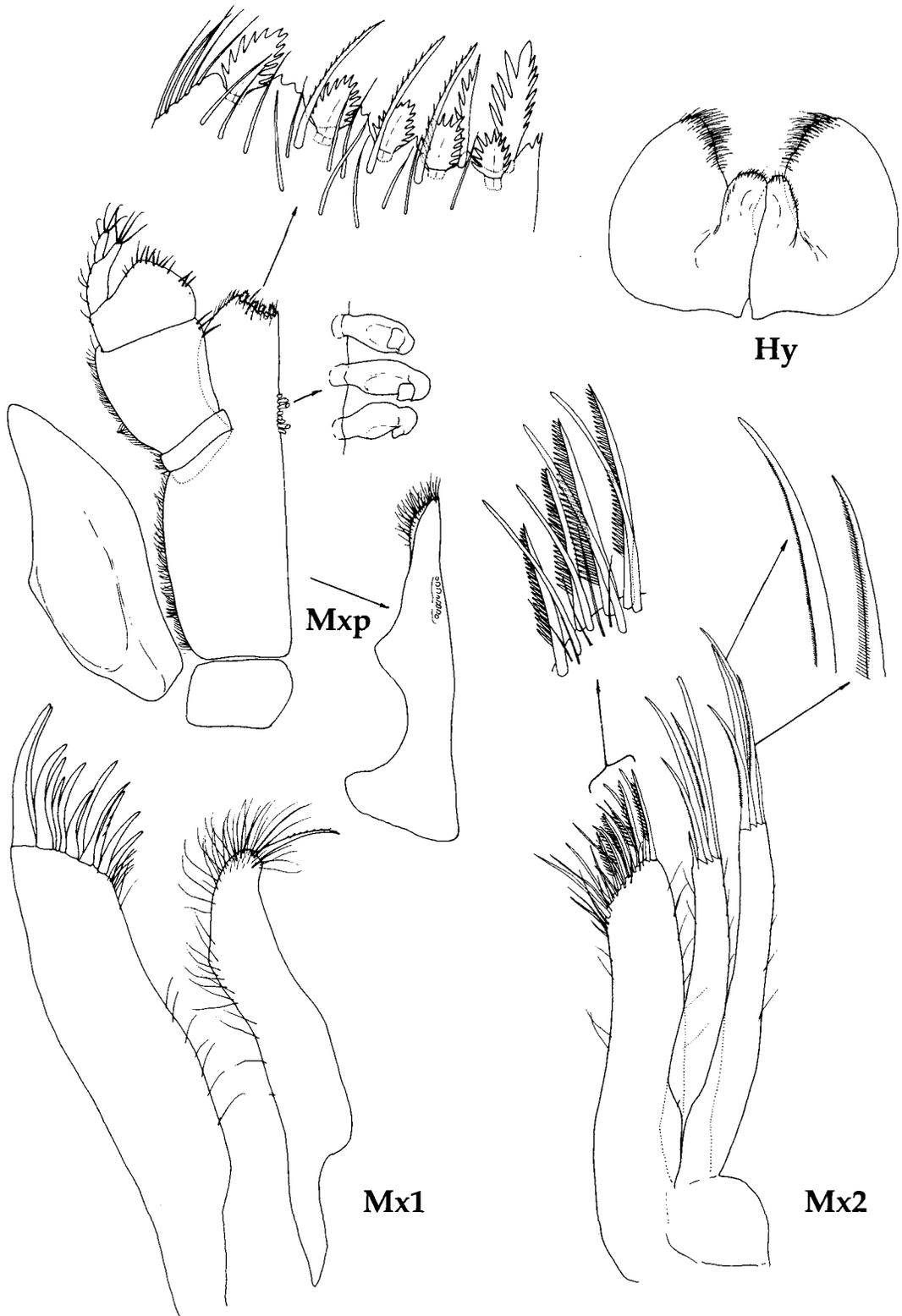


Fig. 3. *Storthyngurella andeepae* n. sp., female, holotype, hypopharynx, maxilla 1 and 2 and maxilliped.

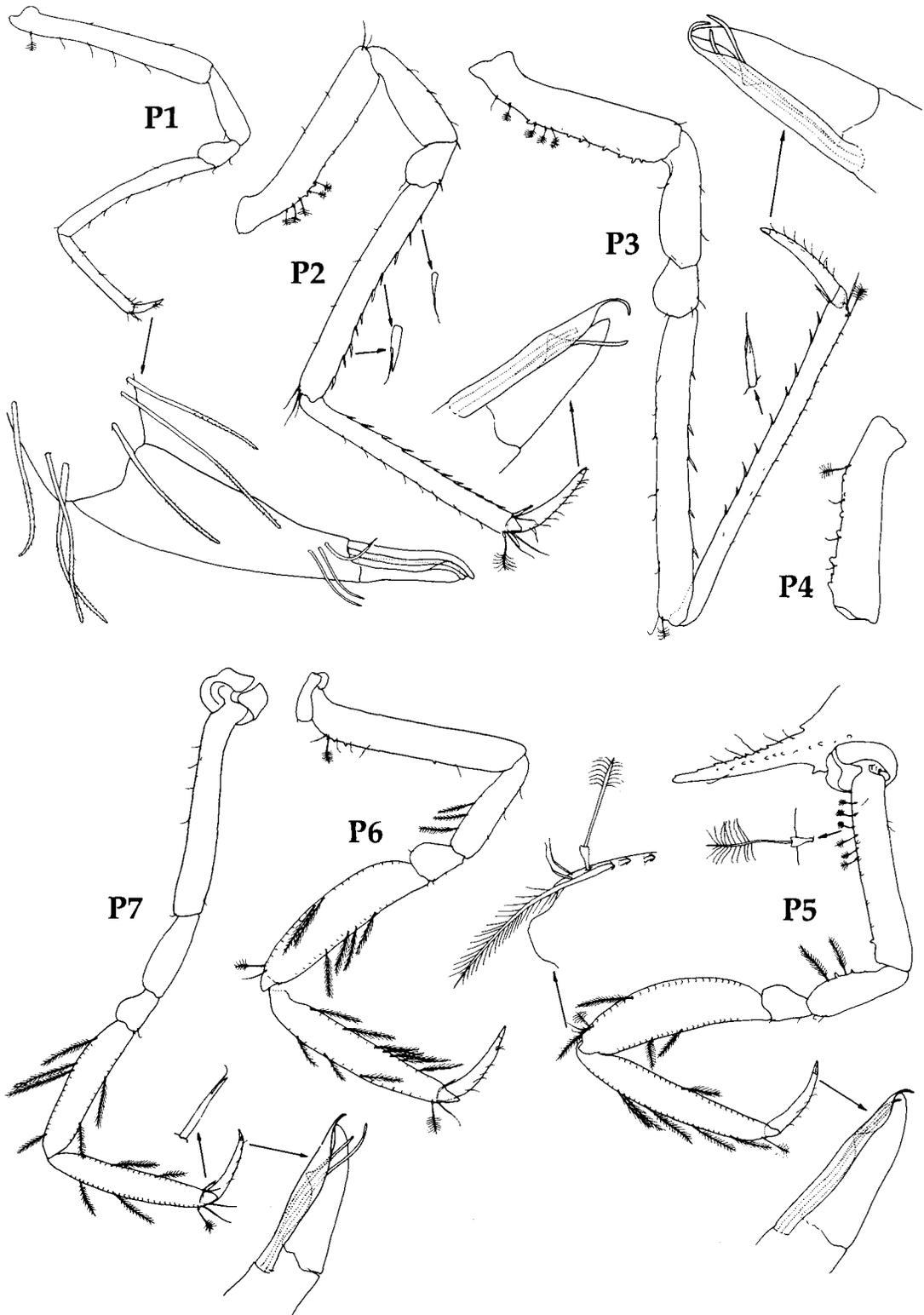


Fig. 4. *Storthyngurella andeepae* n. sp., female, holotype, pereopods.

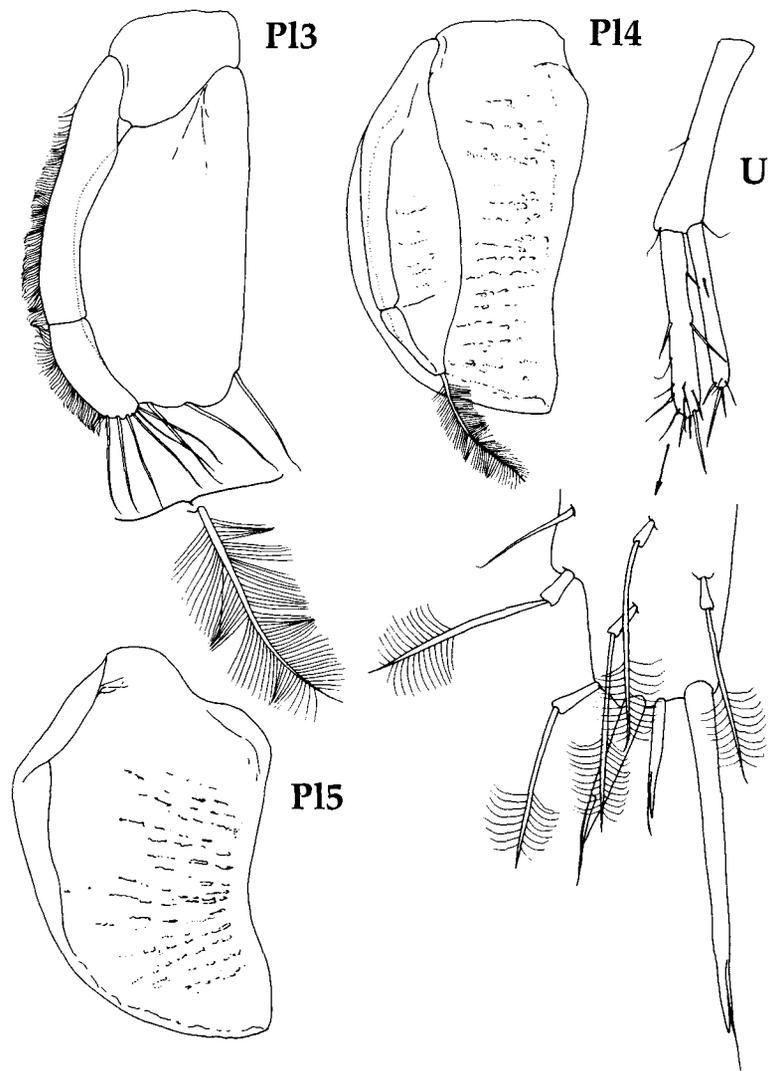


Fig. 5. *Storhyngurella andeepae* n. sp., female, holotype, pleopods 3-5 and uropod.

with three distal spines, medial one largest, as long as article; article 5 twice as long as all preceding articles together, with more than 10 stout spine-like setae and many small simple setae along, article 6 narrower and as long as article 5; flagellum with approximately 110 elongate articles.

Mandibles (Fig. 2). Both mandible incisors with four cusps, lacinia mobilis of left mandible only slightly shorter than incisors, with one broad proximal and four narrow distal teeth, spine row with 10 and 12 spines on left and in right mandibles respectively, molar process distally denticulated, with six setulated setae; palp slender, subequal in length to mandibular body, articles 1 and 2 subequal in width, article 2 2.4 times as long as article 1, with four simple small medial setae and four stout distolateral setae, article 3 with rather small setulated marginal setae.

Maxilla 1 (Fig. 3) medial endite 0.6 times as wide as lateral endite, with 12 claw-like setae, serrated more proximally. Maxilla 2 (Fig. 3) lateral endite longest, medial and middle endites subequal in length; additional distal setae on middle endite relatively long.

Maxilliped (Fig. 3) endite with eight coupling hooks, distal margin serrated, with five-six fan-setae, four saw-like setae and numerous simple setae; palp article 2 slightly narrower than basis, laterally 1.3 times as long as medially, lateral margin of basis, articles 1 and 2 with dense row of hair-like setae; article 3 0.8 times as long as article 2 medially and 0.3 laterally, with rather long setulated medial setae; article 4 longer than article 3 laterally, medial lobe shorter than article 5, the lobe and article 5 with four simple distal setae each; epipod 2.6 times as long as wide, slightly shorter than basis, angular tip rounded distally, lateral margin with small medial projection.

Pereopods (Fig. 4) increasing in size from 1 to longest 3 (pereopod 4 missing, basis only), pereopods 5 and 6 subequal in size and shape, about 0.7 times as long as pereopod 3, pereopod 7 slightly shorter and narrower than pereopods 5 and 6; all pereopod bases subequal in length, in pereopods 1-3 basis broadest article, all bases except 1 with dorsal denticles, few broom setae on proximodorsal part and small sparse setae along; ischium of pereopods 1 and 7 less than half, of pereopods 2, 3, 5 and 6 about half of cor-

responding basis length. Pereopod 1 (Fig. 4) carpus almost straight, 0.8 times as long as basis, propodus 0.6 times as long as carpus, both articles with few small marginal simple setae, propodus with tuft of setulated distal setae, dactylus as long as merus. Pereopod 2 (Fig. 4) carpus 1.1 times as long as basis, propodus slightly narrow and as long as carpus, carpus with 10 and propodus with 15 ventral stout spine-like setae, both articles with distodorsal tuft of a few whip setae and one broom seta. Pereopod 3 (Fig. 4) carpus 1.5 times as long as basis, with five stout ventral setae, propodus 1.2 times as long as carpus, with 10 ventral stout spine-like setae, both articles with distodorsal tuft of a few whip setae and one broom seta. Pereopods 5 and 6 (Fig. 4) carpus about 4 times as long as wide, 1.3 times as wide and 0.9 times as long as basis, carpus of pereopod 7 as wide as preceding articles and 0.7 times as long as basis; propodi 5-7 narrower and slightly longer than carpi, margins of both articles and dorsal margin of ischia 5-7 with thin short plumose setae; dactyli 2-7 about twice as long as meri, with numerous thin, simple dorsal setae.

Pleopod 2 (Figs. 1B, C) as long as wide, longitudinal keel low, narrow, with denticles, margins with dense plumose setae. Pleopod 3 (Fig. 5) endopod 1.8 times as long as wide, with three distal plumose setae, exopod 0.25 times as wide and 1.1 times as long as endopod, with row of thin simple lateral setae, both articles subequal in width, apical article 0.3 times as long as basal one, with six distal plumose setae. Pleopod 4 (Fig. 5) endopod 1.6 times as long as wide, semicircular, with acute distomedial tip, exopod 0.9 times as long and 0.45 times as wide as endopod, with one distal seta. Pleopod 5 (Fig. 5) endopod 1.6 times as long as wide.

Uropod (Fig. 5) half as long as pleotelson, not extending beyond terminal spine of pleotelson; protopod slightly broadening distally, with one medial and two distal setae, 4 times as long as wide; endopod slightly shorter (0.97) and about half as wide as protopod, with four medial, three distal unequal bifid setae, and five plumose lateral setae, exopod slightly narrower than endopod, 0.9 times as long as endopod, with three distal unequal bifid setae.

MALE. - Unknown.

ETYMOLOGY. - Named after the 'ANDEEP' (ANTarctic DEEP-sea biodiversity: colonisation history and recent community patterns) Expedition with RV 'Polarstern' from January to April 2002, devoted to the exploration of the Antarctic deep sea.

REMARKS. - *Storhyngurella andeepae* n. sp. is most similar to *S. wolffi* Malyutina, 1999 from the deep-sea basins of the Indian and the Pacific oceans near Australia. Both species share the same shape of their pleotelson with only two lateral spines and the rectangular projection in-between. *S. andeepae* n. sp. differs from *S. wolffi* in having three dorsal spines on each of pereonites 2-4 instead of one in *S. wolffi*, a rather short, rounded preanal ridge (which is long and bears a deep notch in *S. wolffi*), and an operculum without a ventral spine.

DISTRIBUTION. - Antarctic, the Southern Ocean, off Elephant Island, the South Shetland Islands, 2894 m.

***Storhyngurella hirsuta* Malyutina, 1999**

Storhyngurella hirsuta Malyutina, 1999: 269, figs. 1-3.

MATERIAL. - 1 female, 1 male (ZMH K-40413), RV 'Polarstern', cruise 61, station 139-5-E, 20-III-2002, 58°14'10"-18°S 24°21'22"-20°94'W, 3927-3942 m.

DIAGNOSIS. - Body 3.4 times as long as wide, rather smooth, all spines on body, coxae of pereopods, and antennae with dense, long, hair-like bifid setae; lateral bulges of frons low, smooth; pereonite 1 with one, pereonites 2-4 with three dorsomedial spines; pleotelson as long as wide, with two long dorsomedial spines and pair of minute spines behind posterior medial spine; two lateral spines on each side subequal in size, directed posteriorly, short spine in between near a half as long as antero- and posterolateral spines; terminal spine straight, 0.4 times as long as pleotelson; preanal ventral process elongate, with concave notch, invisible in dorsal view; medial spine of antenna 1 article 0.6 as long as article; uropod reaching tip of pleotelson.

DISTRIBUTION. - Antarctic, the Scotia Sea, South

Sandwich Trench, 3927 - 6150 m.

***Storhyngurella menziesi* Malyutina, 1999**

Storhyngurella menziesi Malyutina, 1999: 278, figs. 7, 8.

MATERIAL. - 1 ovig. female (damaged) (ZMH K-40412), RV 'Polarstern', cruise 61, station 99-4-E, 12-II-2002, 61°6'41"-24°S 59°16'55"-79°W, 5190 m.

DIAGNOSIS. - Body 3.2 times as long as wide, surface covered with small acute tubercles, all spines of body, coxae of pereopods and antennae with long hair-like setae; lateral bulges of frons low; pereonites 1-4 with three dorsomedial spines; pleotelson 1.1 times as long as wide, with two long dorsomedial spines and two pairs of shorter spines behind posterior medial one; three subequal lateral spines on each side directed posteriorly; terminal spine straight, slender, 0.3 times as long as pleotelson; preanal ventral process rather short, rounded, directed posteriorly, invisible in dorsal view; medial spine of antenna 1 article 1.0.7 as long as article; uropod reaching tip of pleotelson.

DISTRIBUTION. - Argentine Basin, northeastern Weddell Sea, 5190 - 5225 m.

***Storhyngurella triplispinosa* (Menzies, 1962)**

Storhyngura triplispinosa Menzies, 1962: 149, figs. 38 a-e; George & Menzies, 1968a: 298, fig. 12b; George & Menzies, 1968b: 177.

Storhyngurella triplispinosa; Malyutina, 1999: 282, figs. 9, 10d.

MATERIAL. - 1 juv. (ZMH K-40403), RV 'Polarstern', cruise 61, station 41-3-E, 26-I-2002, 59°22'24"-40°S 60°4'06"-3'99"W, 2372-2375 m; 1 juv. station 42-2-S, 1 male, 3 females, station 42-2-E, (ZMH K-40404), 27-I-2002, 59°40'29"-42°S 57°35'43"-27°W, 3680-3683 m; 7 females (ZMH K-40405), station 43-8-E, 4-II-2002, 60°27'12"-24°S 56°5'10"-25°W, 3961-3962 m; juv., 3 males, 3 females (ZMH K-40406), station 46-7-E, 23 30-I-2002, 60°38'3"-12°S 53°57'36"-49°W, 2894 m; 2 females, 1 male, 2 immature (ZMH K-40407), station 114-4-S, 18-II-2002, 61°43'54°S 60°44'20"-55°W, 2914-2920 m; 1 immat. (ZMH K-40408), station 129-2-E, 23-II-2002, 59°52'21"-15°S 55°58'75"-30°25°W, 3622-3643 m; 1 male 2 females (ZMH K-40409), station 131-3-E, 5-III-2002, 65°19'83"-

95°S 51°31'62"-41"W, 3049-3050 m; 1 female (ZMH K-40410), station 140-8-E, 22-III-2002, 58°15'98"-16°13"S 24°53'72"-87"W, 2947-2970 m; 1 male (ZMH K-40411), station 141-10-E, 23-III-2002, 58°25'08"-24°93"S 25°0'77"-95°W, 2281-2313 m.

DIAGNOSIS. - Body 2.8 times as long as wide, surface fine granulated, with sparse setae; lateral bulges of frons low; pereonites 1-4 with three dorsomedial spines, pleotelson almost as long as wide, with two long dorsomedial spines and pair of spines behind posterior medial ones; three lateral spines on each side subequal in size, directed posteriorly; terminal spine straight, 0.25 times as long as pleotelson; preanal ventral process rather short, rounded, turned posteriorly, invisible in dorsal view; medial spine of antenna 1 article 1 0.6 as long as article; uropod not reaching tip of pleotelson.

DISTRIBUTION. - Argentine Basin, Antarctic, the Scotia Sea, the western Weddell Sea, to the east off the South Sandwich Islands, 2281- 6145 m.

Sursumura Malyutina, 2003

Sursumura Malyutina, 2003: 249.

Sursumura angulata n. sp.

Figs. 6-11

MATERIAL. - Holotype: female 22 mm long (ZMH K-40400), RV 'Polarstern', cruise 61, station 143-2 AGT, 25-III-2002, 58°3'76"-44°35"S 25°10'48"-11°09"W, 752-795 m.

Paratypes (ZMH K-40401): 1 male 11.4 mm long, station 143-1-S, 25-III-2002, 58°44'69"-49°S 25°10'27"-47"W, 756-774 m; 1 male 10.5 mm long, 2 juv., station 143-1-E, 25-III-2002, same locality; 2 females, 23.2 mm and 18.7 mm long, (ZMMU Mc 1391), RV 'Akademik Kurchatov', cruise 11, station 926, 52°56'S 55°36'W, 1966-2016 m.

DIAGNOSIS. - Pleotelson 1.1 as long as wide and 0.9 as long as the rest part of natasome, with narrow terminal tip; anterolateral corners well projected, rounded; posterolateral spines more acute and longer than anterolateral ones, directed somewhat posteriorly; lateral margin in between lateral spines angular, with protruding tip; anterolateral spines on pereonite 4 elongate; dorsal spines on natasome less than a half as long as pereonites, directed anteromedially; antenna 1

article 1 with medial spine as long as article 2; stylet of male pleopod 2 0.5 times as long as protopod; uropod extending beyond tip of pleotelson.

DESCRIPTION OF FEMALE, HOLOTYPE. - Body (Fig. 6) 2.4 times as long as greatest width of pereonite 4; dorsal surface, especially of pleotelson, granulated, with short setae.

Head medially from point between antennae to posterior margin 0.4 times as long as wide, inter-antennular distance 0.7 times as wide as antenna 1 basally; pair of dorsal spines short, narrow, directed anteromedially, small rounded dorsal bulge upper frons between antennae; frons 0.3 times as long as head, frontal arch short, with thick lateral and rounded medial bulges; clypeus 1.4 times as broad as labrum, in dorsal view 0.6, in frontal view 0.4 times as long as labrum.

Pereonite 1 shortest, pereonite 4 longest among pereonites 1-4 (ambulosome), pereonites 2 and 3 subequal in length; dorsomedial pointed projection of pereonites 1-4 broad, flattened, less than 0.3 times as long as pereonites; anterolateral projections of pereonite 4 elongate, directed laterally and slightly anteriorly, 0.6 times as long as pereonite laterally; coxae of pereopod 1 stout, shorter than pereonite 1 laterally; anterior coxal spines of pereopods 2-4 shorter than pereonites, with broad basis and narrow tip.

Natasome 1.6 times as long as anterior body part; pereonites 5-7 fused dorsomedially without sutures, each pereonite with pair of dorsal spines, directed anteromedially, slightly longer than spine on pereonite 4, distance between spines increasing from pereonite 5 to 7; anterolateral pointed projections of pereonites 5-7 similar in shape and direction, slightly decreasing in size from 5 to 7; pleonite with dorsal spine, fused with pereonite 7 and separated from pleotelson by suture; pleotelson 1.1 times as long as wide, anterior large part 1.6 as wide as long; anterolateral corners rounded, broad, following anterolateral spines directed laterally, margin behind these spines angular, with protruding tip, posterolateral spines longer than anterolateral ones, directed somewhat posteriorly, almost reaching lateral margin; terminal projection with acute tip, length caudally from insertion of uropods 0.3 of pleotelson total length; dorsal

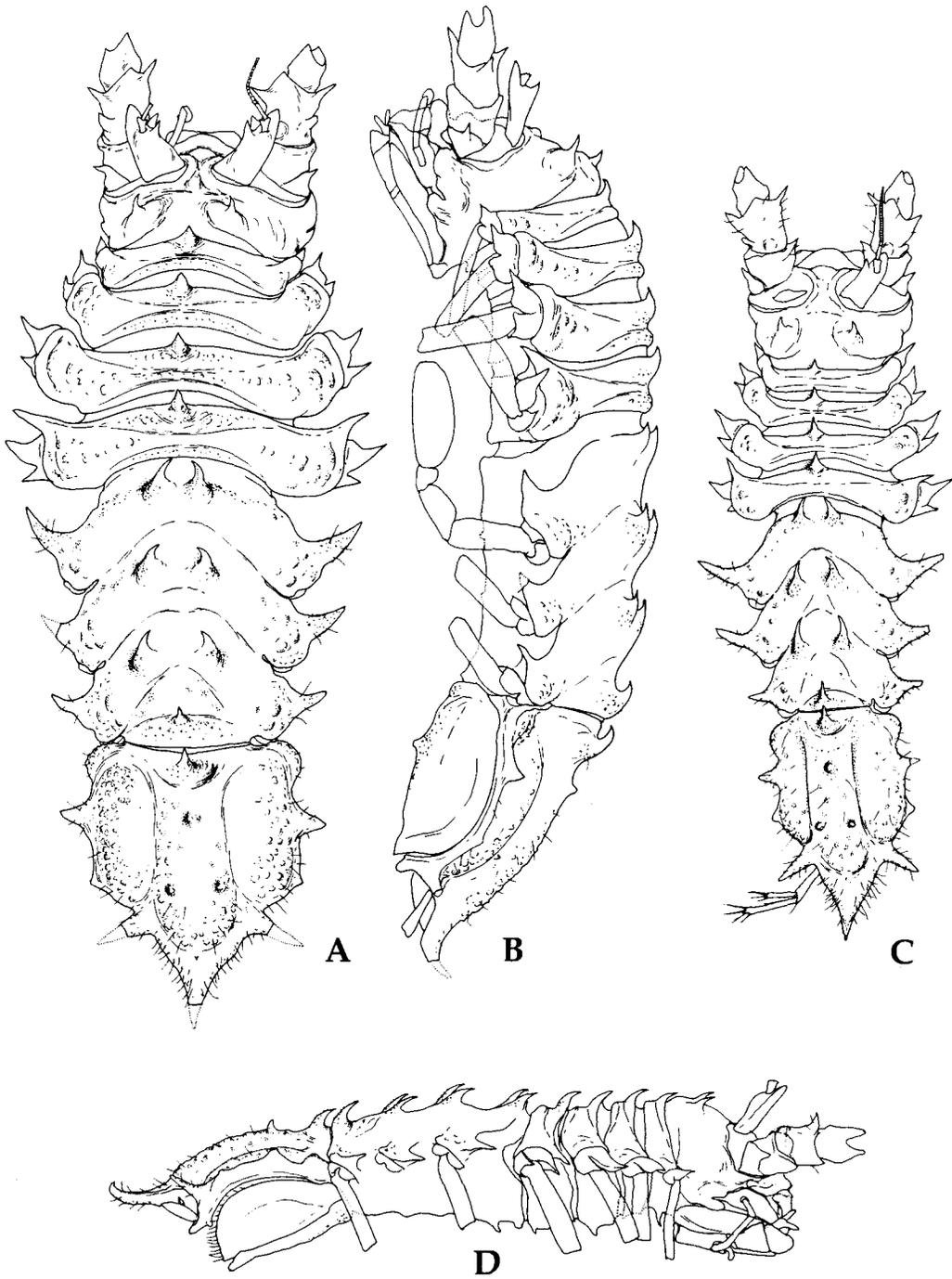


Fig. 6. *Sursumura angulata* n. sp., female, holotype. A, dorsal and B, lateral body views. Male, paratype. C dorsal and D, lateral body views.

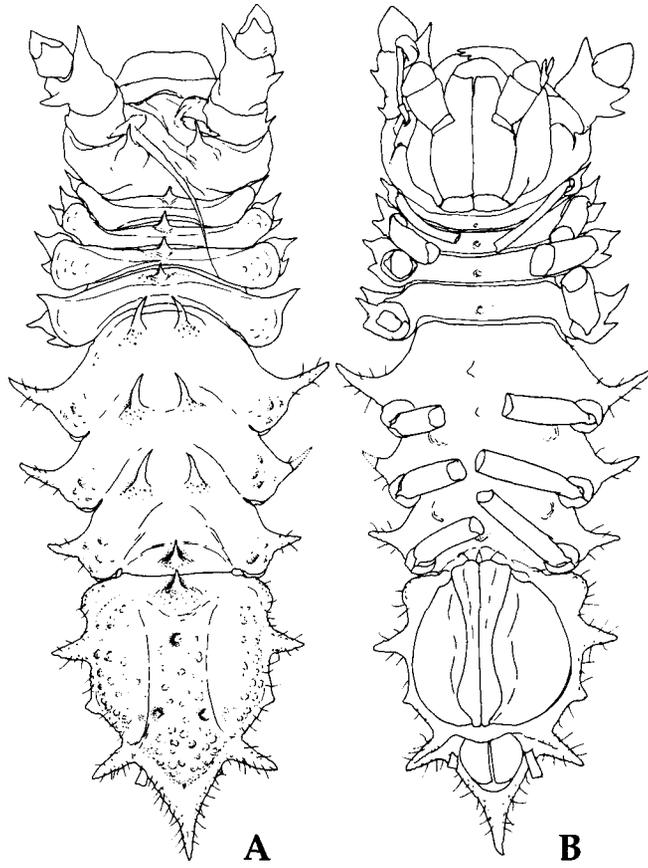


Fig. 7. *Sursumura angulata* n. sp., male, paratype. A, dorsal and B, ventral body views.

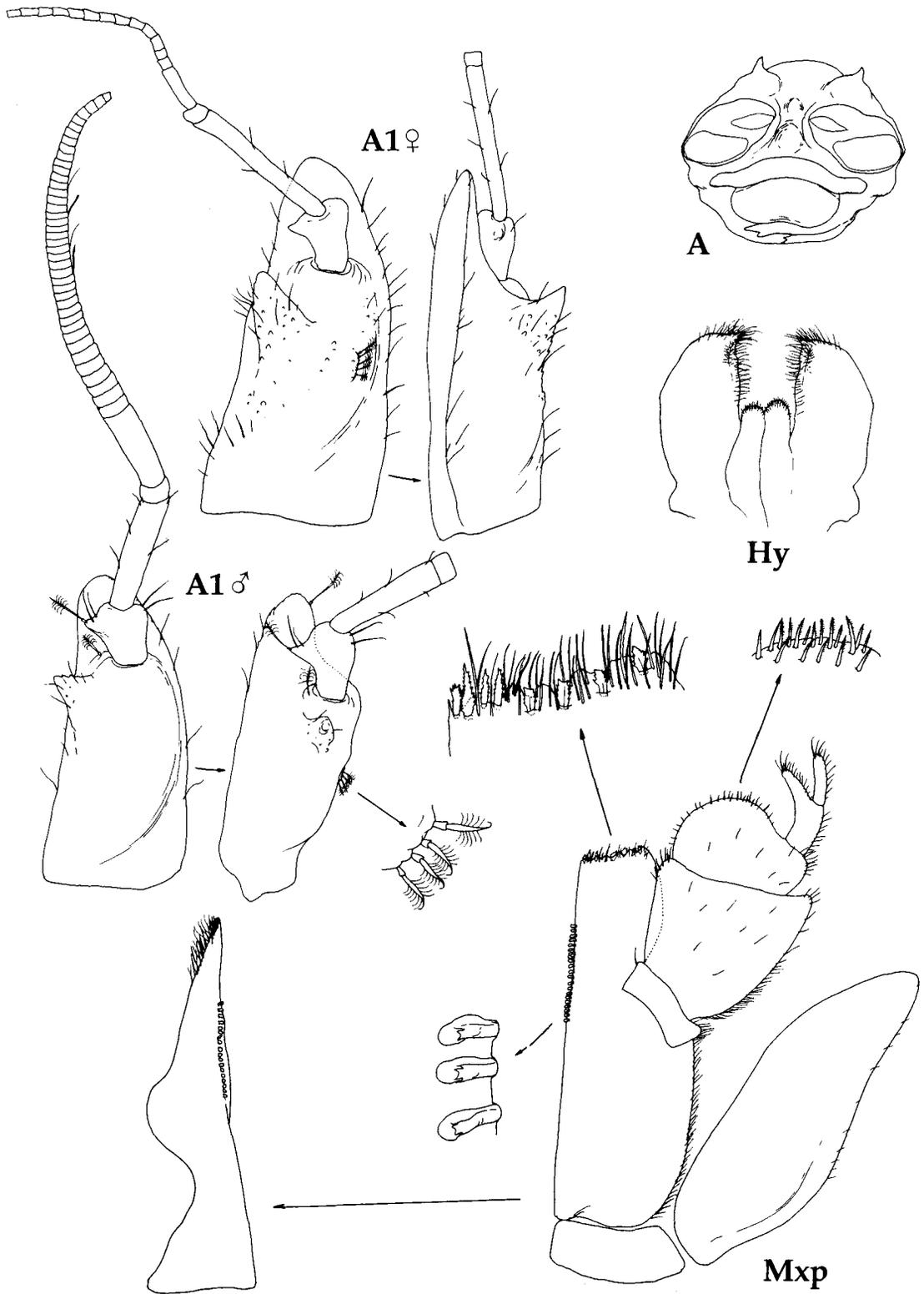


Fig. 8. *Sursumura angulata* n. sp., female, holotype. A, head, frontal view, antennae 1, hypopharynx and maxilliped. Male, paratype, antennae 1.

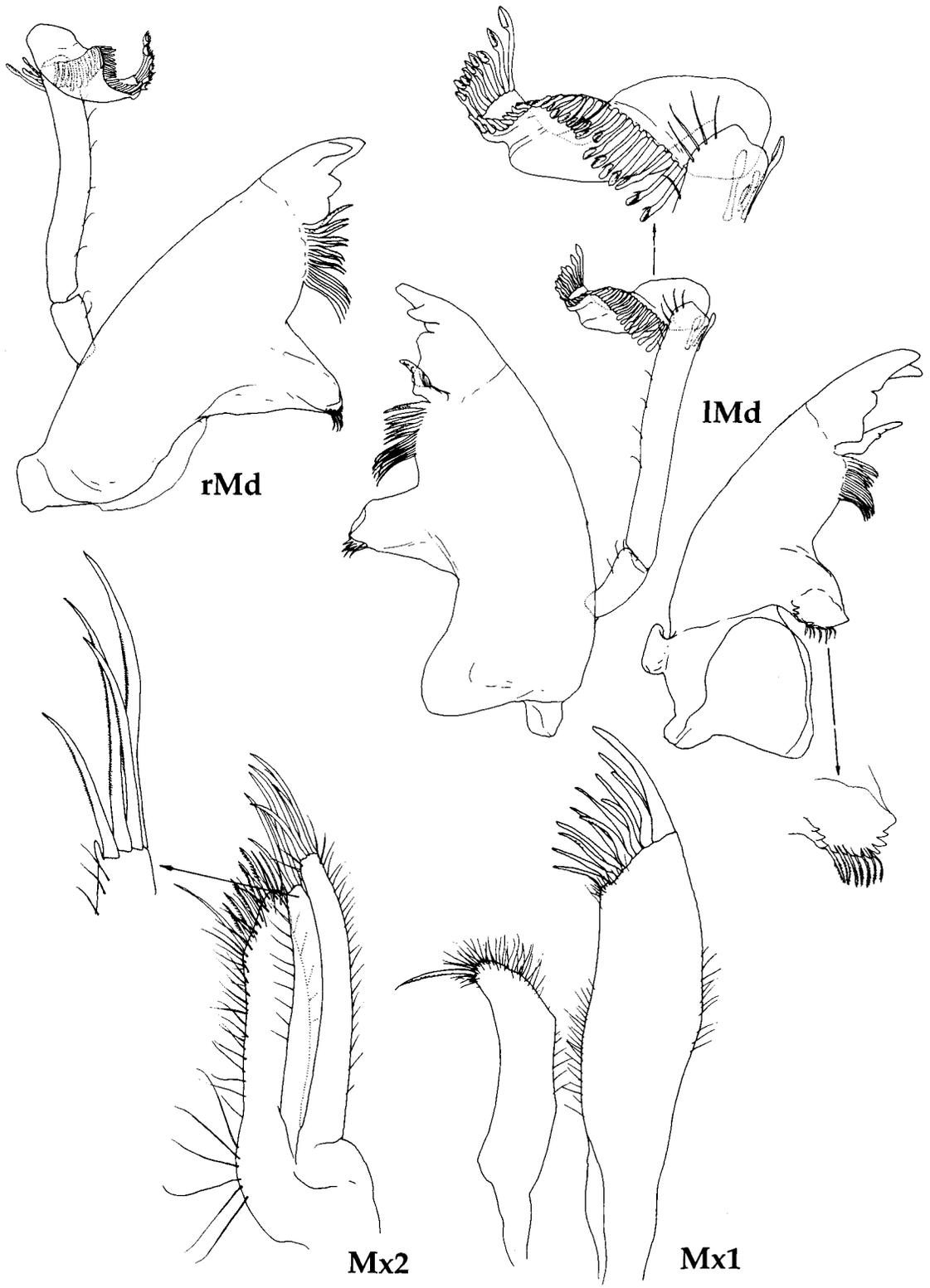


Fig. 9. *Sursumura angulata* n. sp., female, holotype, mandibles and maxillae 1 and 2.

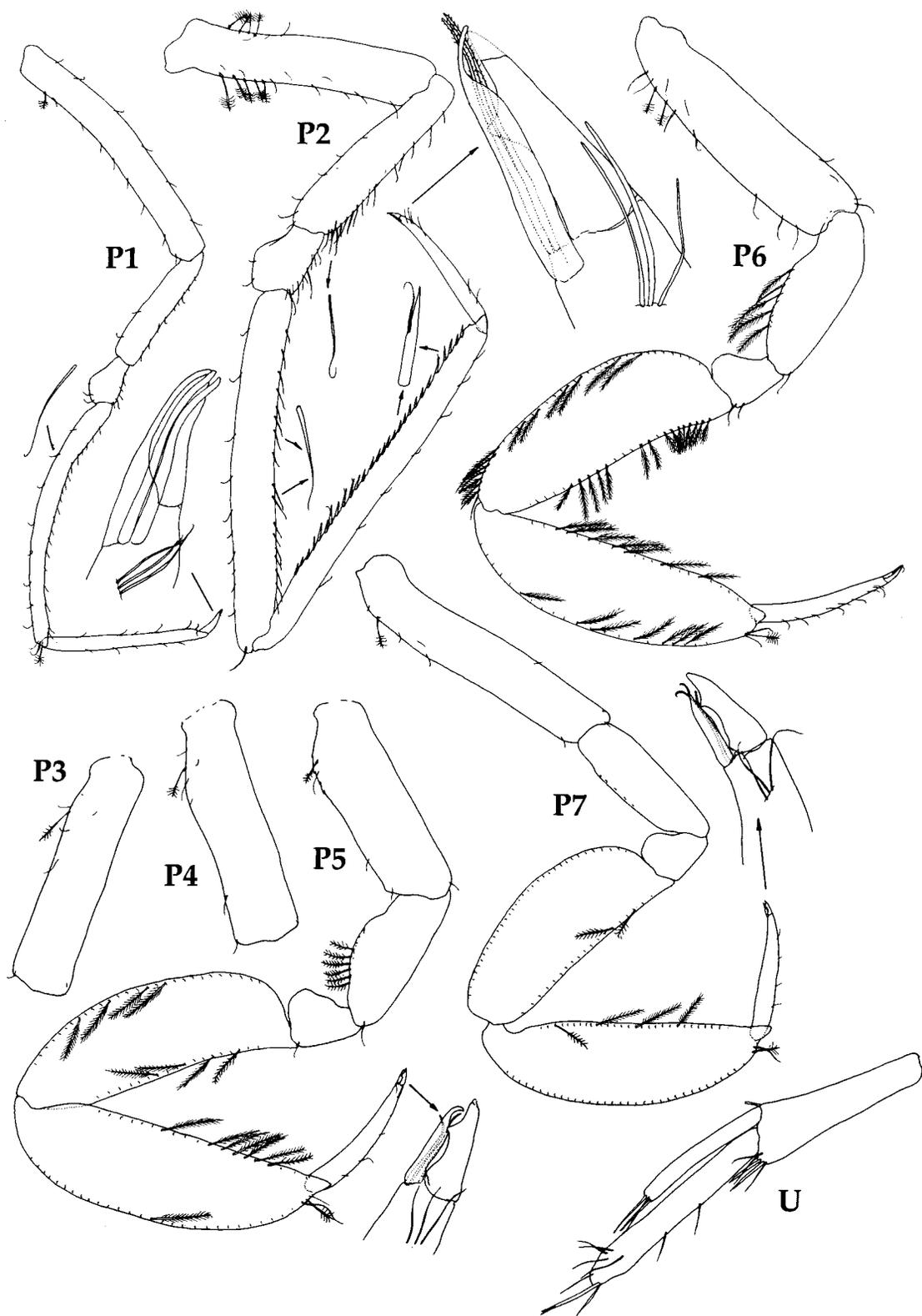


Fig. 10. *Sursumura angulata* n. sp., female, holotype, pereopods and uropod.

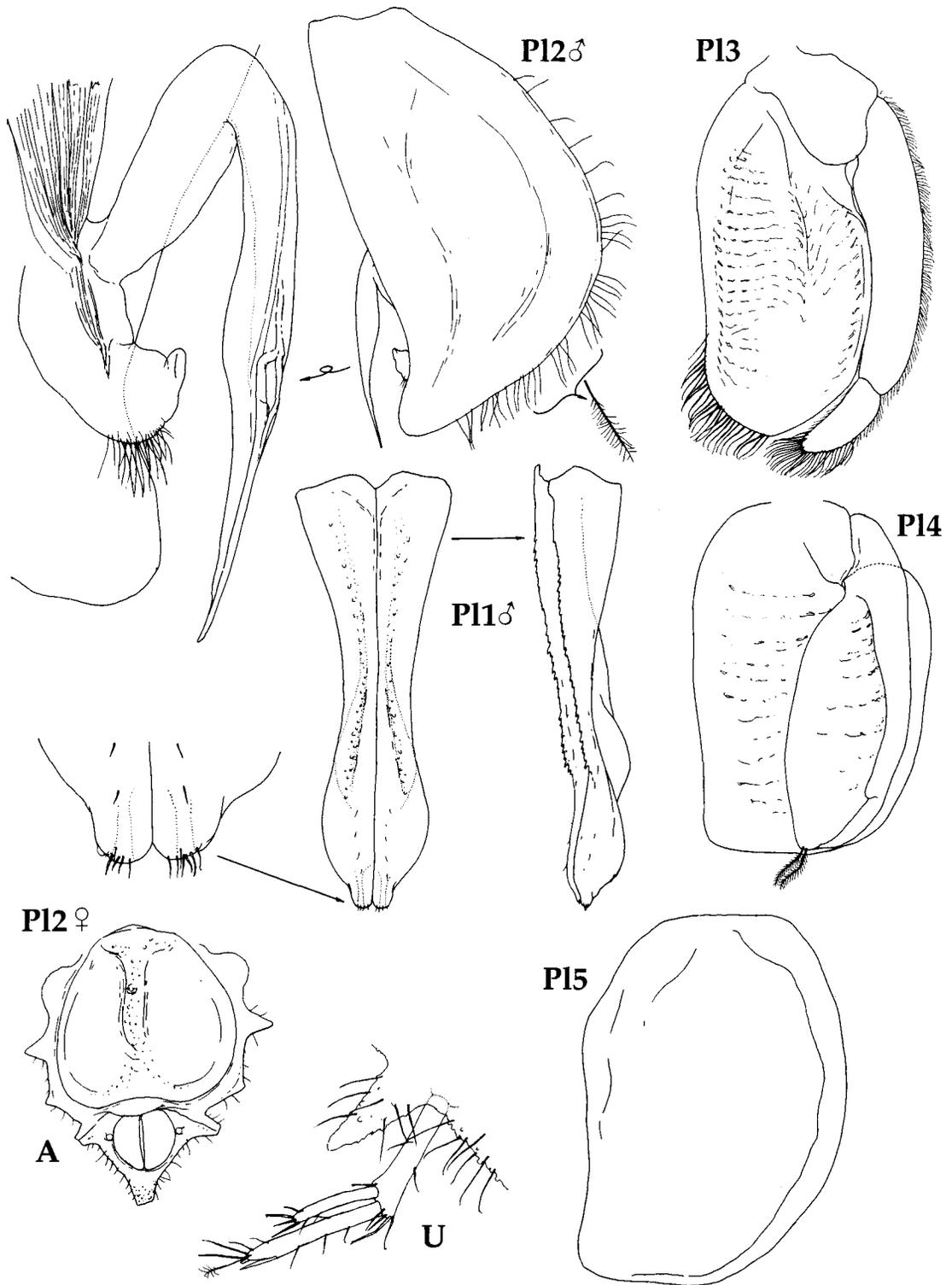


Fig. 11. *Sursumura angulata* n. sp., female, holotype. A, pleotelson, ventral view. Male, paratype, pleopods and uropod.

surface with a medial anterior spine, and three tubercles posteriorly; preanal ventral process weakly protruded, rounded.

Antenna 1 (Fig. 8) article 1 twice as long as basal width, with many small marginal and dorsal setae, central part swollen, granulated dorsally, with five small broom setae; medial spine stout, conspicuously shorter than distal lobe; article 2 0.2 times as long as article 1, about half as long as distolateral lobe of article 1, 0.5 times as wide (distal width together with distomedial process) as article 1 medially; article 3 elongate, with few small setae on medial margin, articles 3-5 2.2, 0.22, and 0.6 times as long as article 2 respectively, flagellum broken, of more than 13 elongate articles with aestetasc. Antenna 2 (Fig. 8) broken, only four basal articles present; article 1 lateral spine shorter than article, article 2 slightly granulated distally, article 3 dorsally almost twice as long as article 2, distomedial and distolateral spines straight, subequal in length.

Mandibles (Fig. 9) incisors with two acute distal and two blunt proximal teeth; lacinia mobilis of left mandible small, slender, about half as long as incisor, with three distal teeth, spine row with 15 and 17 members on left and right mandibles, respectively; molar process tapering, obliquely truncated, with acute denticles and seven to eight setulated setae distally; palp subequal in length to mandibular body, article 2 slender, somewhat curved, 3.7 times as long as article 1, with four stout spatulate distolateral and four long simple distomedial setae, article 3 much curled, with spatulate marginal setae.

Maxilla 1 (Fig. 9) lateral endite twice as wide as medial endite. Maxilla 2 (Fig. 9) medial endite shortest, with seven sturdy comb-like setae, most proximal of them longest, middle endite with additional short stout finger-like setae.

Maxilliped (Fig. 8) endite with about 21 coupling hooks, distal margin serrated, with eight fan-setae, five to six long setulated setae and numerous simple setae; palp article 2 1.2 times as wide as basis, lateral margin 1.6 times as long as straight medial margin; article 3 0.8 times as wide and 0.9 as long medially as article 2; article 4 subequal in length to article 5; article 4 distomedial lobe slightly shorter than article 5, both with tuft of long setulated distal setae; epipod narrowing distally, 3 times as long as wide.

Pereopod 1 (Fig. 10) 0.4 times as long as body, basis broadest, ischium 0.6 times as long as basis, carpus 1.1 times as long and half as wide as basis, slightly curved; propodus 0.6 times as long as carpus, both articles about 12 times as long as wide; dactylus almost half as long as merus; all articles with sparse small marginal setae. Pereopod 2 (Fig. 10) basis as long and about half as wide as basis of pereopod 1, with short simple setae along and proximal broom setae; ischium 0.75 times as long as basis, ischium and merus with dense ventral setae; carpus 1.3 times as long as basis, with ventral stout whip setae, propodus slightly longer (1.1) and half as wide as carpus, with dense stout unequally bifid ventral setae and simple dorsal setae; dactylus twice as long as merus. Pereopods 3 and 4 broken off, only bases present (Fig. 10). Pereopods 5-7 (Fig. 10) of approximately similar shape and size, 0.9 times as long as pereopod 2. Basis of pereopod 5 shortest, basis of pereopod 7 longest; propodus of pereopods 5-7 1.1 times as long as carpus, both articles of the same width, marginal plumose setae shorter than articles width, length/width ratio for carpi 5-7: 3.1, 2.8, 2.5; for propodi 5-7: 3.5, 3.6, 3.3; dactyli as long as ischia. Pereopod 5 ischium-dactylus 0.7, 0.3, 1.25, 1.4, 0.7 times as long as basis. Pereopod 6 ischium-dactylus 0.6, 0.2, 0.95, 1.15, 0.6 times as long as basis. Pereopod 7 ischium-dactylus 0.5, 0.2, 0.8, 0.9, 0.5 times as long as basis.

Pleopod 2 (Fig. 11) about as long as wide, keel low, finely granulated, with small spine on proximal third.

MALE. - (Fig. 7) Studied specimens are smaller and slender than females.

Antenna 1 (Fig. 8) article 1 2.3 times as long as basal width, with four small dorsal broom setae; medial spine shorter than that in female; article 2 slightly and following articles stronger than those in female; articles 3-5 1.8, 0.3, and 0.35 times as long as article 2 respectively, flagellum of more than 40 articles shorter than article 4, some of them with aestetasc.

Pleopod 1 (Fig. 11) 2.8 as long as wide, midlength waist 0.45 times as wide as broadest basal part. Distal broadened one-third slightly narrower than basal part, proximal two-third with granulated longitudinal ventral keels, distoventral part with two rows of small ventral

setae; distomedial lobes with row of small setae, distolateral lobes invisible from above. Pleopod 2 (Fig. 11) protopod 1.8 times as long as wide, lateral margin with dense row of plumose setae; stylet 0.5 times as long as protopod; exopod short, sturdy, acute apically. Pleopod 3 (Fig. 11) endopod twice as long as wide, with 27 distal plumose setae; exopod slightly longer than endopod, with row of hear-like lateral setae, proximal article 0.4 times as wide as endopod, distal article slightly narrower and 0.3 times as long as proximal article, rounded distally, with 31 distal plumose setae. Pleopod 4 (Fig. 11) endopod 1.5 times as long as wide, exopod as long and half as wide as endopod, with two distal plumose setae. Pleopod 5 (Fig. 11) similar in shape and slightly larger than endopod of pleopod 4. Uropod (Fig. 11) 0.45 times as long as pleotelson, extending beyond tip of pleotelson; protopod broadening distally, with five-six distal setae; endopod about one third as wide as protopod, 1.1 times as long as protopod, with three strong unequal bifid, two to three broom and more 10 whip distal setae; exopod 0.6 times as long and as wide as endopod, with five distal setae.

ETYMOLOGY. - The species name is derived from Latin *angulatus*, which means 'angular' and refers to angular lateral margins of pleotelson.

REMARKS. - *Sursumura angulata* n. sp. is very similar to *S. argentica*, *S. falcata*, *S. praegrandis* and *S. longicauda* n. sp. in terms of general body shape, especially shape of the pleotelson and the mouthparts (for details see descriptions and Fig. 22). *S. angulata* n. sp. can easily be distinguished by the angular lateral margin of the pleotelson between antero- and posterolateral spines. This lateral margin is also angular in *S. falcata*, but the tip of this angle is not so prominent. The pleotelson of *S. angulata* n. sp. has the posterolateral spines directed posteriorly instead of laterally or anteriorly, as in other species from this genus. The largest anterior part of the pleotelson in adult specimens is relatively short in comparison to other species. *S. robustissima* (Monod, 1925) and *S. spinosissima* (Brandt, 2002) have a similar pleotelson, but differ from *S. angulata* n. sp. and other species in possessing angular anterolateral cor-

ners of pleotelson and posterolateral margins of pereonites 2 and 3 rather than rounded ones.

DISTRIBUTION. - Antarctic: to the east of the Falkland Islands, 1966-2016 m and to the east off the South Sandwich Islands, 752-795 m.

***Sursumura longicauda* n. sp.**

Figs. 12-17

MATERIAL. - Holotype: male 31.8 mm long, (ZMMU Mc 1389), RV 'Dmitry Mendeleev', cruise 43, station 4093, 60°43'S 41°14'W, 3700-3970 m. Paratypes: female, 37.5 mm long and damaged male about 28 mm long, (ZMMU Mc 1390), from the type locality; 1 immature, (ZMH K-40399), RV 'Polarstern', cruise 61, station 136-4-S, 13-III-2002, 64°01'54"-45°S 39°6'88"-66°W, 4743-4748 m.

DIAGNOSIS. - Pleotelson elongate, 1.6 as long as wide and 1.25 times as long as the rest part of natasome, with long terminal spine, preanal ridge weakly produced, anterolateral corners well projected, rounded, antero- and posterolateral spines narrow, subequal in size, directed laterally, lateral margin inbetween these rounded; anterolateral spines of pereonite 4 slender; dorsal spines of natasome about a half as long as pereonites; medial spine of antenna 1 article 1 twice as long as article 2, stylet of male pleopod 2 0.6 times as long as protopod; uropod not reaching tip of pleotelson.

DESCRIPTION OF MALE, HOLOTYPE. - Body (Fig. 12) 2.9 times as long as greatest width of pereonite 5; dorsal surfaces of body, especially of pleotelson, finely granulated, with short setae. Head from point between antennae to posterior margin 0.4 times as long as wide; interantennular gap 0.5 times as wide as antenna 1 basally; dorsal spines relatively long, directed anteriorly; frontal arch short, with thick lateral and rounded medial bulges; clypeus 1.6 times as wide as labrum, in dorsal view 0.6, in frontal view 0.3 times as long as labrum.

Pereonite 1 shortest, pereonite 4 longest among pereonites 1-4 (ambulosome), pereonites 2 and 3 subequal in length; dorsomedial spines of pereonites 1-4 almost as long as pereonites; anterolateral spines of pereonite 4 slender, directed later-

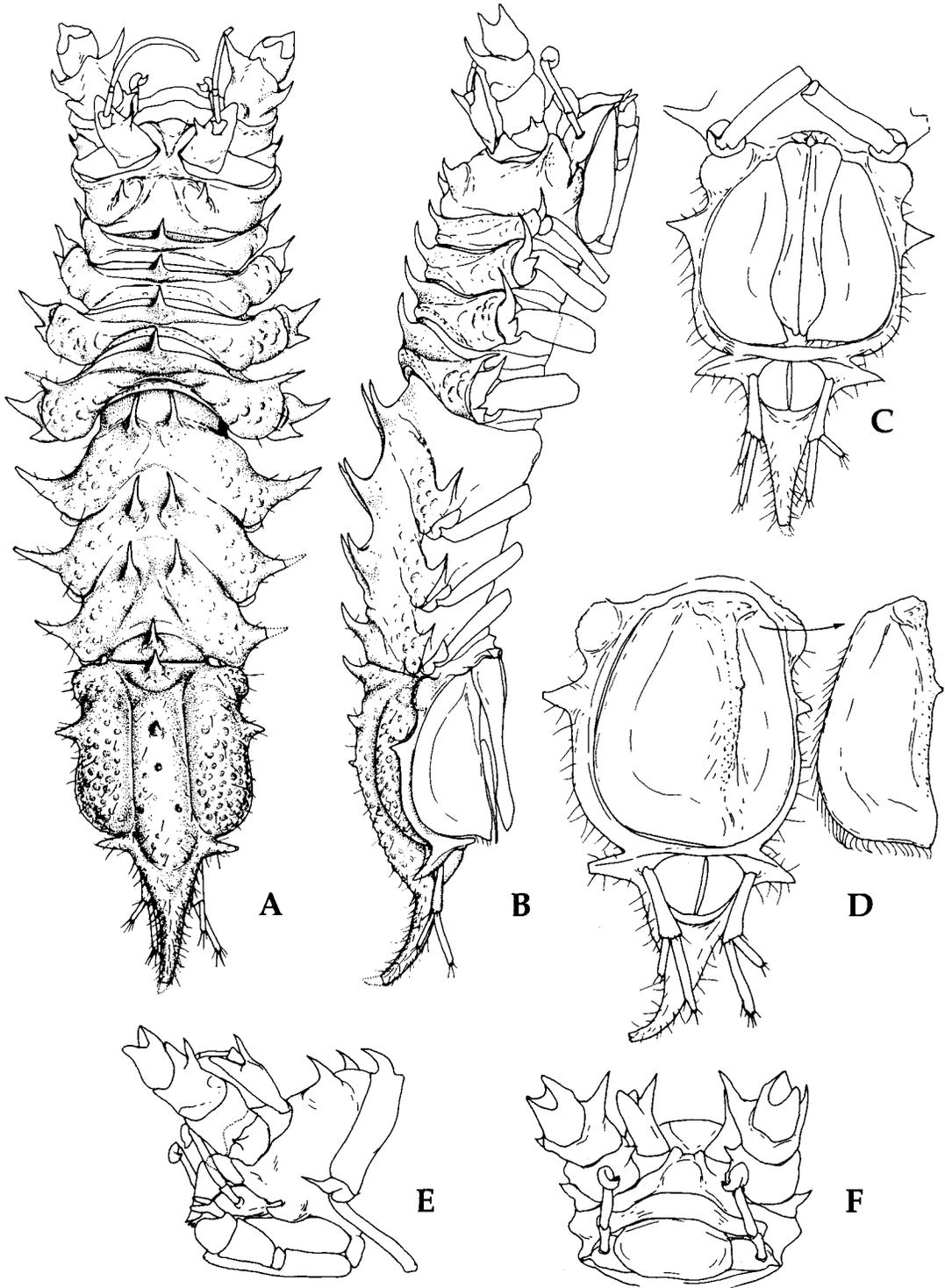


Fig. 12. *Sursumura longicauda* n. sp., male, holotype. A, dorsal and B, lateral total body views. C, pleotelson, ventral view. E, head, lateral view. F, head, frontal view. D, female, paratype, pleotelson, ventral view and pleopod 2, lateral view.

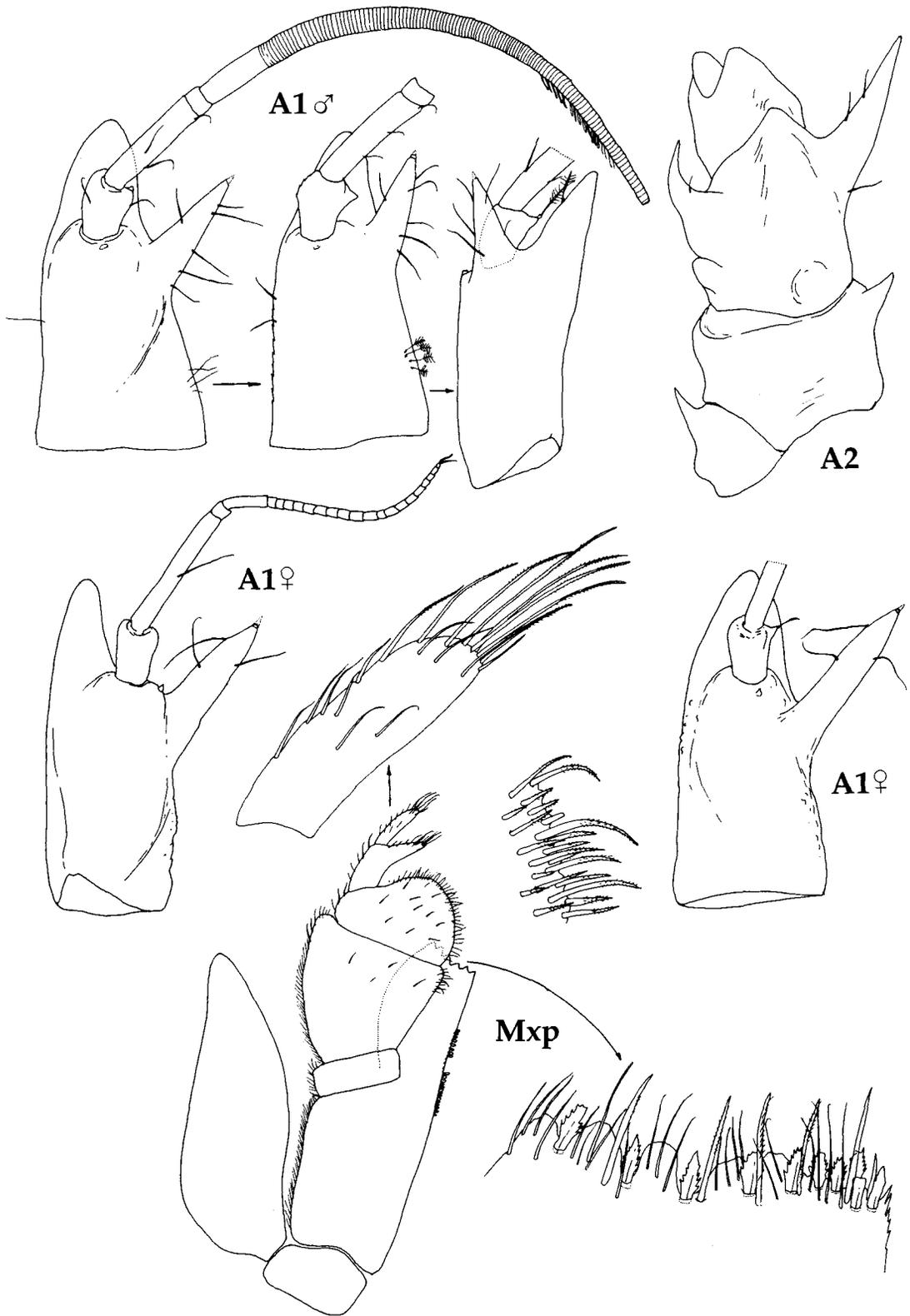


Fig. 13. *Sursumura longicauda* n. sp., male, holotype, antennae 1 and 2 and maxilliped. Female, paratype, antennae 1, lateral and dorsal view.



Fig. 14. *Sursumura longicauda* n. sp., male, holotype, mandibles.



Fig. 15. *Sursumura longicauda* n. sp., male, holotype, maxillae 1 and 2.

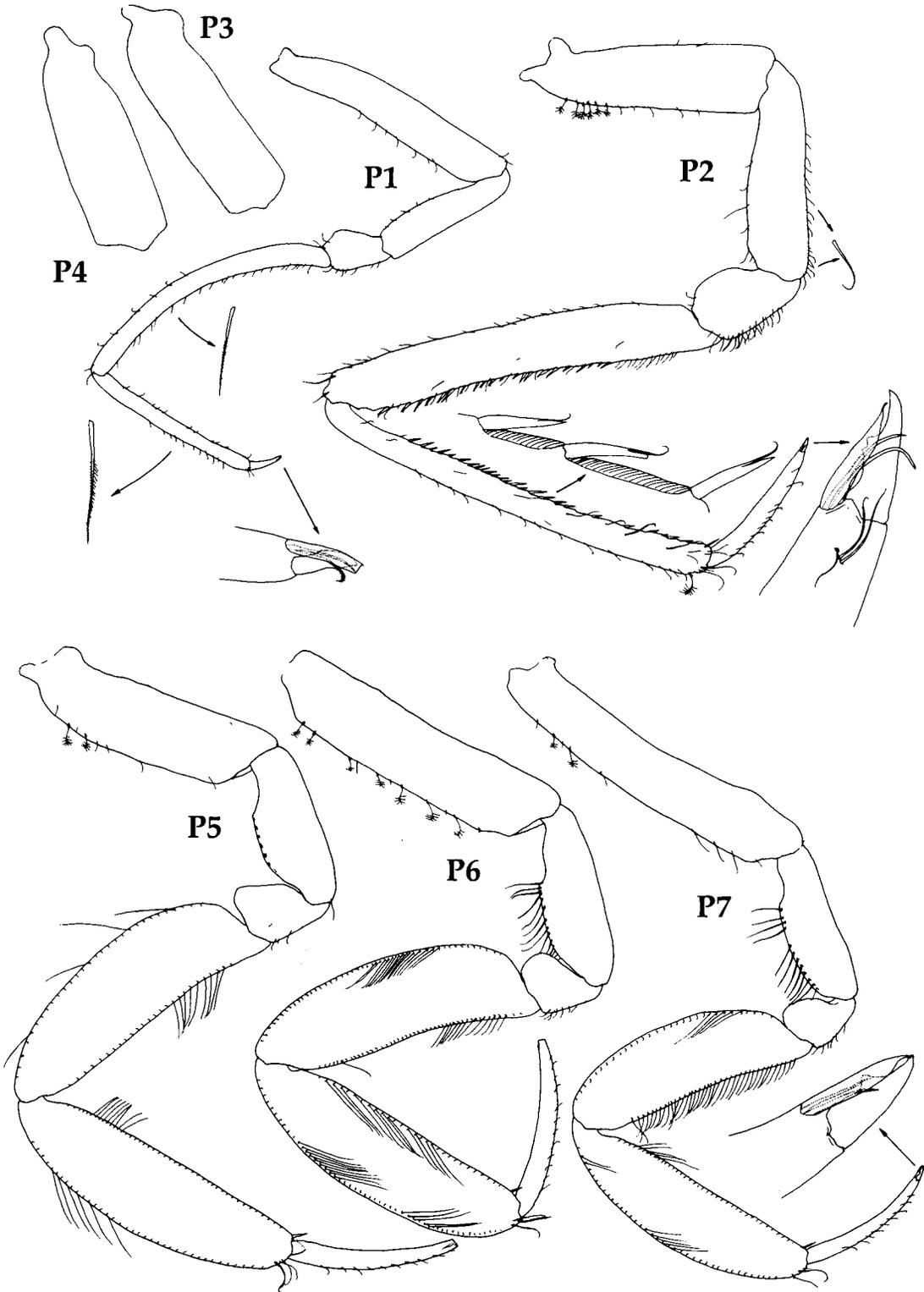


Fig. 16. *Sursumura longicauda* n. sp., male, holotype, pereopods.

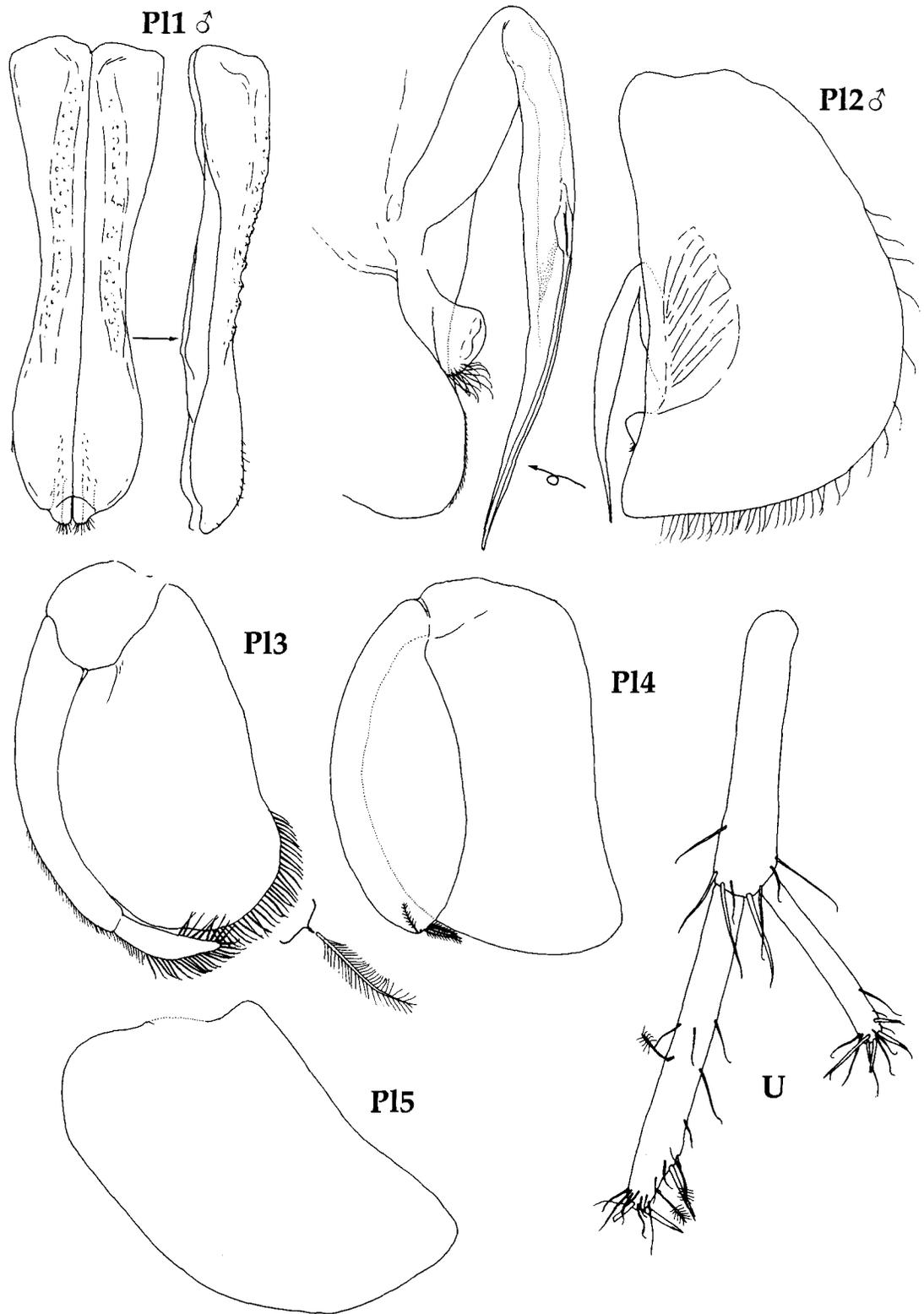


Fig. 17. *Sursumura longicauda* n. sp., male, holotype, pleopods and uropod.

ally and slightly anteriorly, a half as long as pereopod laterally; coxae of pereopod 1 slender, longer than pereonite 1 laterally; anterior coxal spines of pereopods 2-4 subequal in length to pereonites, with broad basis and elongate tip.

Natasome (pereonites 5-7 + pleotelson) more than twice as long as anterior body part (head + ambulosome); pereonites 5-7 fused dorsomedially, with lateral sutures, each pereonite with a pair of dorsal elongate spines, directed anteriorly, slightly longer than dorsomedial spine on pereonite 4, distance between spines subequal in all pairs; anterolateral spines of pereonites 5-7 similar in shape, slightly decreasing in length from 5 to 7; pleonite with dorsomedial spine as long as those of pereonites 5-7; pleotelson 1.6 times as long as wide; anterior large part almost square, posterior triangular part 0.45 times as long as pleotelson, 0.7 times as wide as anterior part; anterolateral corners rounded, broad, somewhat projected, following anterolateral spines almost as long as wide basally, directed laterally, posterolateral spines of the same shape and size as anterolateral ones, directed laterally; lateral margin between antero- and posterolateral spines rounded; terminal projection, measuring from dorsal pore to tip 0.6 times as long as posterior triangular part of pleotelson; preanal ventral process short, rounded; dorsal surface of pleotelson with two medial subequal spines: on anterior margin and on the level of anterolateral spines, three tubercles posteriorly: medial anterior one and a pair of submedial tubercles behind it.

Antenna 1 (Fig. 13) about 0.25 times as long as body, article 1 twice as long as basal width, four small broom setae proximomedially; medial part almost as thick as wide; medial spine subequal in length to distolateral lobe, with a few slender simple setae; article 2 about half as long as distolateral lobe of article 1, 0.2 times as long as article 1, distomedial process with broom setae; lateral margin of articles 1 and 2 serrated; article 3 5 times as long as wide, with few small medial setae, articles 3 1.6 and articles 4 0.25 times as long as article 2, flagellum article 1 as long as peduncle article 2, following about 100 articles of flagellum very short, bearing aesthetascs. Antenna 2 (Fig. 13) broken, only four basal peduncular articles present; article 1 distolateral spine shorter than article; article 2 laterally as long as article 1, dis-

tomedial spine as long as distolateral spine of article 1; article 3 dorsally almost twice as long as article 2, distomedial spine straight, almost twice as long as distolateral curved spine.

Mandibles (Fig. 14) incisors with four distinct teeth; lacinia mobilis of left mandible very slender, 0.4 times as long as incisor, with two distal teeth; spine row with 20 and 22 spines in left and right mandibles, respectively; molar process tapering, obliquely truncated, with long teeth and eight setulated distodorsal setae; proximal narrow acute projection well separated from mandibular body; palp 0.8 times as long as mandibular body, article 2 somewhat curved, 2.3 times as long as article 1, with one small and three stout distolateral spatulate setae and seven simple distomedial setae, article 3 with dense row of relatively short modified marginal setae.

Maxilla 1 (Fig. 15) lateral endite twice as wide as medial endite, 12 distal claw-like setae, especially proximal ones, very slender. Maxilla 2 (Fig. 15) medial endite shortest, lateral one longest; all endites with many marginal slender setae, medial endite with 9-10 sturdy comb-like distal setae, the most proximal one longest; middle endite with additional short stout finger-like distomedial seta.

Maxilliped (Fig. 13) endite with about 25 coupling hooks, distal margin serrated, with 10 fan-setae, five to six long setulated and numerous simple setae; basis, palp articles 1 and 2 with thin hair-like lateral setae; palp article 2 laterally 1.6 times as long as medially, 1.15 times as wide as basis, article 3 0.8 times as wide and 0.9 as long as article 2 medially, with dense medial and sparse lateral and ventral setulated setae; articles 4 and 5 equal in length laterally, article 4 distomedial lobe tapering, shorter than article 5, both with tuft of long setulated distal setae. Epipod narrowing distally, 3 times as long as wide and as long as basis.

Pereopod 1 (Fig. 16) 0.4 times as long as body, basis broadest, ischium 0.6 times as long as basis, carpus 1.1 times as long and half as wide as basis, slightly curved; propodus 0.6 times as long as carpus, both articles about 12 times as long as wide, all articles with sparse small setae along margins; dactylus almost half as long as merus. Pereopod 2 (Fig. 16) basis as long and about half as wide as basis of pereopod 1, with six proximodorsal broom setae; ischium 0.9, carpus 1.6 times as

long as basis, ischium and merus with dense ventral setae; propodus slightly longer and half as wide as carpus, both articles with dense stout ventral setae and simple dorsal setae. Pereopods 3 and 4 missing, only bases present (Fig. 16). Pereopods 5-7 (Fig. 16) of similar shape and size, about 0.8 times as long as pereopod 2; basis of pereopod 5 shortest, of pereopod 7 longest; carpus of pereopod 5 longer, of pereopods 6 and 7 shorter than corresponding basis; propodi 1.1 times as long as carpi, both articles of similar width, slightly broader than bases, length/width ratio for carpi 5-7: 3.2, 3.2, 3.2; for propodi 5-7: 3.8, 3.8, 3.9, marginal plumose setae shorter than articles width. Pereopod 5 ischium-dactylus 0.65, 0.34, 1.2, 1.3, 0.65 times as long as basis. Pereopod 6 ischium-dactylus 0.6, 0.2, 0.9, 1.0, 0.6 times as long as basis. Pereopod 7 ischium-dactylus 0.45, 0.2, 0.7, 0.8, 0.45 times as long as basis.

Pleopod 1 (Fig. 17) 3 times as long as wide, midlength waist 0.55 times as wide as broadest basal part; distal part somewhat damaged, disto-medial lobes with a dense row of setae; proximal two thirds with granulated longitudinal ventral keels, distoventral part with two rows of small ventral setae. Pleopod 2 (Fig. 17) 1.7 times as long as wide, distal margin with dense, lateral margin with sparse short plumose setae, stylet 0.6 times as long as protopod, exopod short, stout. Pleopod 3 (Fig. 17) endopod 1.7 times as long as wide, with 32 distal plumose setae, exopod slightly longer than endopod, with row of hair-like lateral setae, both articles slender, proximal article 0.2 times as wide as endopod, distal article slightly narrower and 0.33 times as long as proximal article, tapering distally, with 28 distal plumose setae. Pleopod 4 (Fig. 17) endopod 1.7 times as long as wide, exopod about half as wide and 0.85 times as long as endopod, with six distal plumose setae. Pleopod 5 (Fig. 17) similar in size and in shape to endopod of pleopod 4. Uropod (Fig. 17) 0.35 times as long as pleotelson, not reaching tip of pleotelson; protopod slightly broadening distally, with eight to nine distal setae; endopod about one third as wide as protopod, 1.1 times as long as protopod, with three strong unequally bifid, two to three broom and more 10 whip distal setae; exopod 0.6 times as long and half as wide as endopod.

FEMALE. - Similar to the male, but slightly broader in ambulosome; differences are: antenna 1 (Fig. 13) conspicuously shorter than in male, medial spine of article 1 relatively longer than that in male, article 2 and following articles narrower than those in male, articles 3-5 2.25, 0.25, 0.7 times as long as article 2 respectively, the rest 19 flagellar articles subequal or longer than article 4.

Pleopod 2 (Fig. 12) slightly longer than wide; keel low, finely granulated, with small spine on proximal third.

ETYMOLOGY. - The species name is derived from Latin *longi-* and *cauda*, which means 'long tail' and refers to long terminal spine of pleotelson.

REMARKS. - *Sursumura longicauda* n. sp. is similar to *S. argenticca*, *S. falcata* and *S. praegrans*. The main differences of *S. longicauda* n. sp. from this group of species are the elongate pleotelson with the long terminal spine and the long dorsal spines on the natasome.

DISTRIBUTION. - Antarctica: southern Scotia Sea off the South Orkney Islands, 3700-3970 m, and northern Weddell Sea, 4743-4748 m.

Sursumura praegrans (George & Menzies, 1968).

Storhyngura praegrans George & Menzies, 1968a: 291, figs. 9, 10.

Sursumura praegrans Malyutina, 2003: 250.

MATERIAL. - 4 females, 2 males, RV 'Polarstern', cruise 61, 132-3 AGT, 6-III-2002, 65°17'35"-88°S 53°22'88"-89°W, 2084-2087 m.

DIAGNOSIS. - Pleotelson as long as wide and as long as the rest of natasome, with narrow terminal tip; two dorsomedial spines anteriorly; anterolateral corners well projected, rounded; posterolateral spines more acute and longer than anterolateral ones, directed laterally; lateral margin in between lateral spines rounded; anterolateral spines of pereonite 4 almost as long as length of pereonite laterally; dorsal spines of natasome less than a half as long as pereonites, directed anteromedially; antenna 1 article 1 with medial spine twice as long as article 2.

DISTRIBUTION. - Antarctica: Drake Passage, Scotia Sea, and western Weddell Sea, 1105 - 5631 m.

The following two species were studied for comparison with the new species although they were not sampled during the ANDEEP expeditions into the Antarctic deep sea.

Sursumura argentica (George & Menzies, 1968)

Figs. 18, 19

Storthingura argentica George & Menzies, 1968a: 287, fig. 7.

Sursumura argentica; Malyutina, 2003: 250.

MATERIAL. - Male 22 mm long, holotype (USNM cat. N 120545), RV 'Eltanin', cruise 9, 12-IX-63, St. 734, to the north South Georgia. 53°22'7"-23°4'S 37°11'1"-20°9'W, 1372-1399 m.

DIAGNOSIS. - Pleotelson as long as wide and 0.9 times as long as the rest of natasome, with short terminal tip; one dorsomedial spine anteriorly; anterolateral corners weakly projected, rectangular; posterolateral spines more acute than and as long as anterolateral ones, directed laterally; lateral margin in between lateral spines rounded; anterolateral spines of pereonite 4 slender, half as long as pereonite laterally; dorsal spines of natasome less than half as long as pereonites, directed anteriorly; medial spine of antenna 1 article 1 as long as article 2. Stylet of male pleopod 2 0.85 times as long as protopod.

DESCRIPTION OF MALE, HOLOTYPE. - Body (Figs. 18) 2.5 times as long as width of pereonite 5; dorsal surfaces of body very finely granulated, with short setae on pleotelson. Head from point between antennae to posterior margin 0.6 times as long as wide; interantennular gap 0.55 times as wide as antenna 1 basally; dorsal spines stout, directed anteriorly, distance between spines 0.38 times as wide as head; frontal arch short, with thick lateral and rounded medial bulges; clypeus 1.4 times as wide as labrum, in frontal view 0.3 times as long as labrum.

Pereonite 1 shortest, subequal pereonites 3 and 4 longest among pereonites 1-4; dorsomedial spines of pereonites 1-4 subequal in length,

almost a half as long as pereonites; anterolateral spines of pereonite 4 slender, a half as long as pereonite laterally; coxae of pereopod 1 as long as pereonite 1 laterally; anterior coxal spines of pereopods 2-4 shorter than pereonites laterally.

Natasome about twice as long as anterior body part; pereonites 5-7 fused with sutures, each pereonite with a pair of dorsal elongate spines, directed anteriorly, spines on pereonite 5 slightly longer than spines on pereonites 6 and 7, distance between spines subequal in all pairs; anterolateral spines of pereonites 5-7 similar in shape, slightly decreasing in length from 5 to 7; pleonite with dorsomedial spine slightly shorter than those of pereonites 5-7; pleotelson almost as long as wide; posterior triangular part 0.3 times as long as pleotelson, 0.66 as wide as anterior part; anterolateral corners rectangular, almost not projected, antero- and posterolateral spines of the same length, directed laterally, posterolateral ones more acute; lateral margin between antero- and posterolateral spines rounded; terminal projection tip broken off; preanal ventral process rounded; only one dorsomedial spine subequal to the spine on pleonite a pair of tiny tubercles posteriorly.

Antenna 1 (Fig. 19) article 1 twice as long as basal width, with small marginal setae; medial spine a half as long as distolateral lobe; article 2 0.2 times as long as article 1, about half as long as distolateral lobe of article 1, a half as wide (greatest distal width together with distomedial process) as article 1; articles 3 1.9 and article 4 0.3 times as long as article 2, first flagellar article 0.8 as long as peduncle article 2, the rest flagellum of numerous very short articles with aestetasc.

Maxilliped (Fig. 19) endite with about 24 coupling hooks, distal margin serrated, with seven fan-setae, five-six long setulated setae and numerous simple setae; palp article 2 1.25 times as wide as basis, rounded lateral margin 1.3 times as long as straight medial margin; article 3 0.8 times as wide and as long medially as article 2; article 4 and article 5 subequal in length; article 4 distomedial lobe 0.8 as long as article 5, both with small lateral and tuft of distal setae; epipod narrowing distally, 3.1 times as long as wide.

Pleopod 2 (Fig. 18C) 1.8 times as long as wide, lateral and distal margins with short plumose setae; stylet 0.85 times as long as protopod, exo-

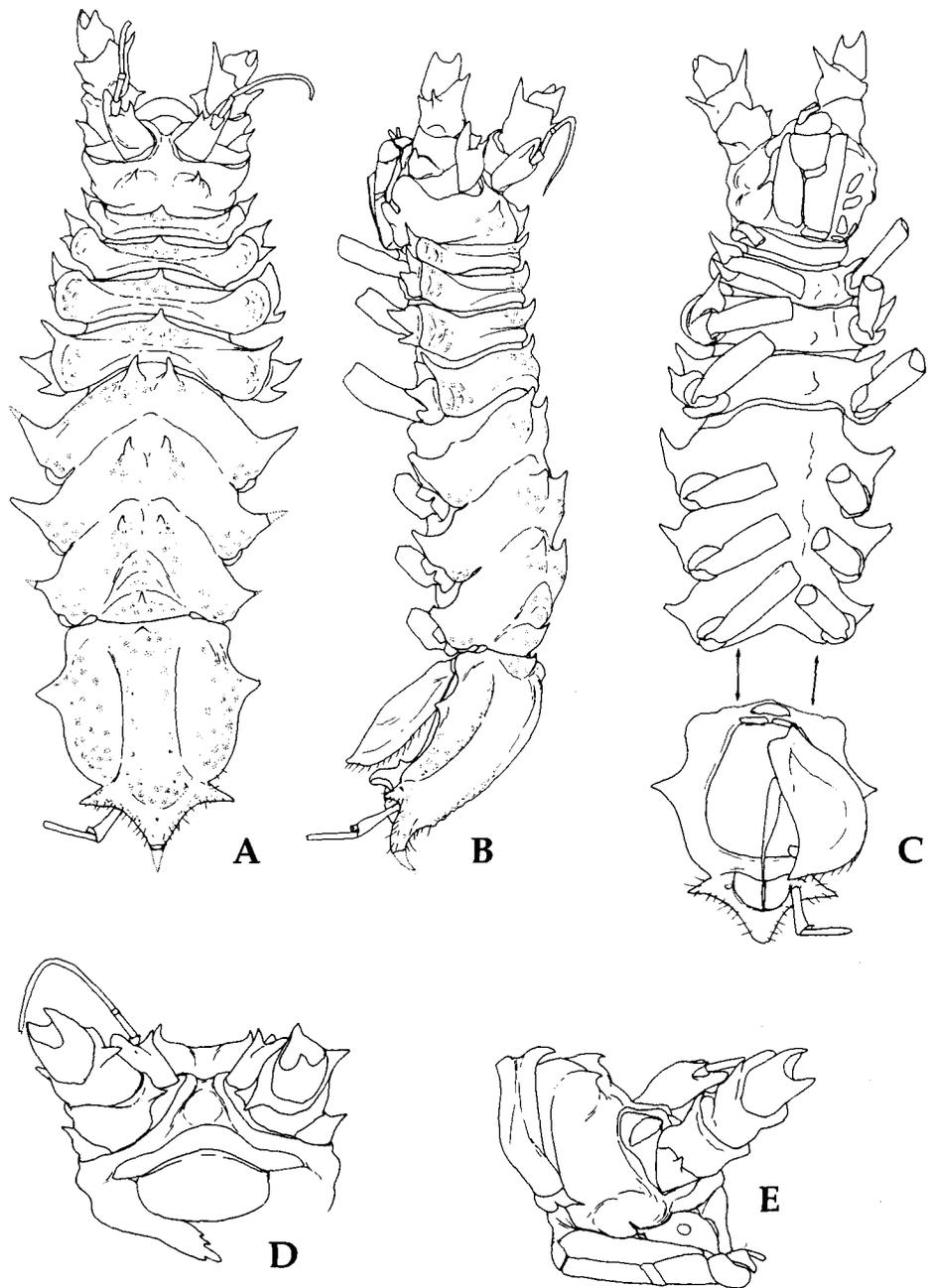


Fig. 18. *Sursumura argantica* (George & Menzies, 1968), male, holotype. A, dorsal, B, lateral, C, ventral body views. D, head, frontal view. E, head, lateral view.

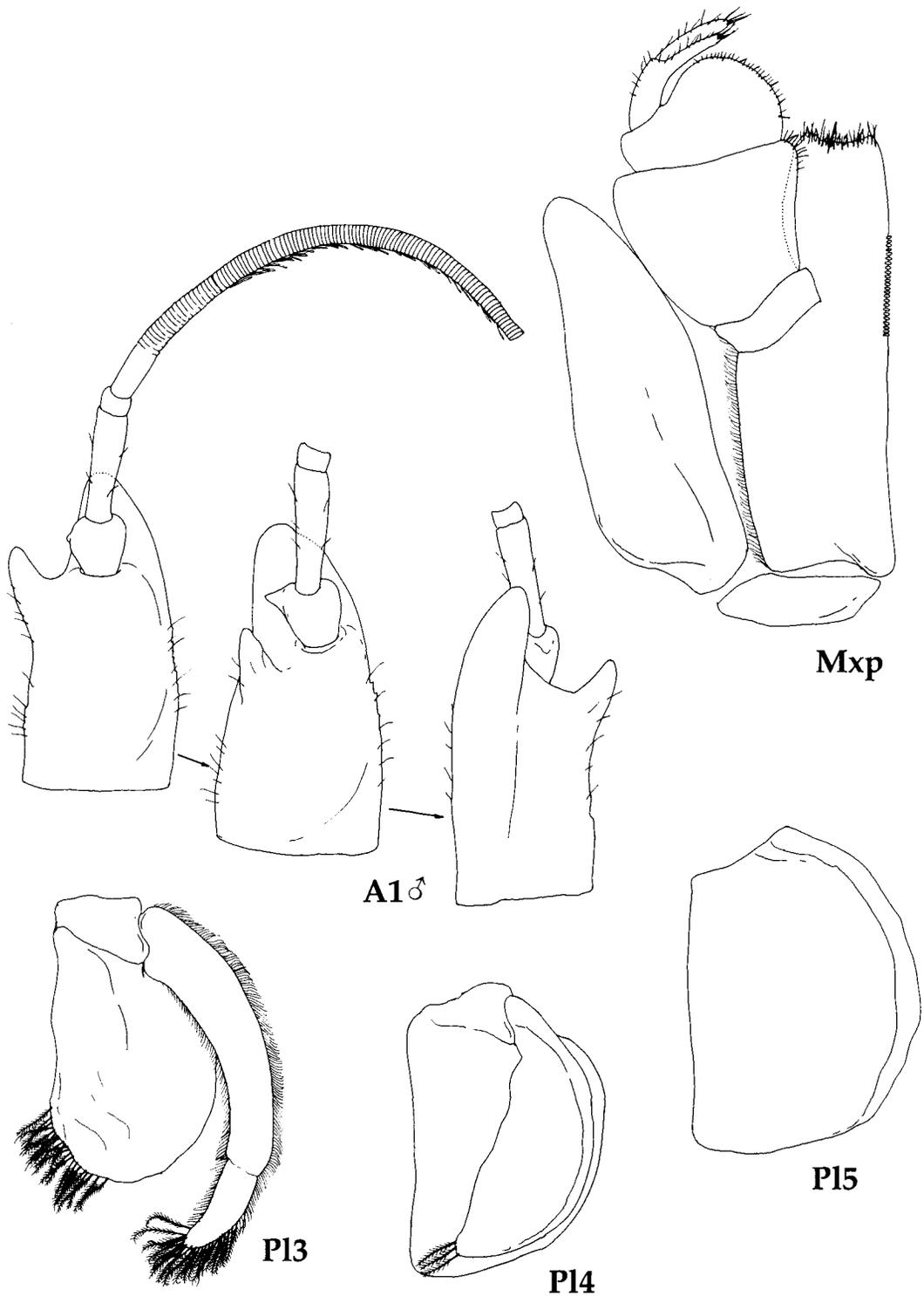


Fig. 19. *Sursumura argantica* (George & Menzies, 1968), male, holotype, antenna 1, maxilliped and pleopods 3-5.

pod short, stout. Pleopod 3 (Fig. 19) endopod 1.6 times as long as wide, with 22 distomedial plumose setae; exopod 1.5 times as long as endopod, with row of hair-like marginal setae, proximal article 0.4 times as wide as endopod, distal 0.54 times as wide and 0.33 times as long as proximal article, tapering distally, with 24 distal plumose setae. Pleopod 4 (Fig. 19) endopod 1.4 times as long as wide, exopod slightly shorter and half as wide as endopod, with three distal plumose setae. Pleopod 5 (Fig. 19) similar in shape and visibly larger than endopod of pleopod 4.

REMARKS. - George & Menzies (1968) had compared *Sursumura argentica* with *Storhyngurella benti* (Wolff, 1956) and *Sursumura abyssalis* (Wolff, 1962) instead of the most similar species from the same material: *Sursumura falcata* and *S. praegrandis* (George & Menzies, 1968). From these last species *S. argentica* differs in a less granulated body, in having only one dorsomedial spine on pleotelson and a shorter medial spine of antenna 1 article 1. George & Menzies (1968) illustrated the mandible on fig. 7b (l.c.: 288) and described the incisor as massive, "stronger than molar" (l.c.: 289). We had no opportunity to examine the mandibles of the holotype, but as their morphology is very similar in all studied species of *Sursumura*, we assume that the illustrated mandible was compressed due to the cover glass. In general, the incisors of all species of *Sursumura* are very thin and slender in frontal view and appear broad only on dorsal or ventral views.

DISTRIBUTION. - Antarctic: to the north off South Georgia, 1372-1399 m.

Sursumura falcata (George & Menzies, 1968).
Figs. 20-22

Storhyngura falcata George & Menzies, 1968a: 279,
fig. 2

Sursumura falcata; Malyutina, 2003: 250.

MATERIAL. - Male 30 mm long, holotype (USNM cat. N 120541), RV 'Eltanin', cruise 5, 20-X-62, St. 268-25, Drake Passage off the South Shetland Islands 64°01'2"-07°8'S 64°44'7"-44°3'W, 2761-2816 m.

DIAGNOSIS. - Pleotelson 1.2 times as long as wide and as long as the rest of natasome, terminal tip strongly curved dorsally; two dorsomedial spines anteriorly; anterolateral corners well projected, rounded; antero- posterolateral spines subequal, rectangular; lateral margin in between angular; anterolateral spines of pereonite 4 stout, less than a half as long as pereonite laterally; dorsal spines of natasome less than a half as long as pereonites, directed anteriorly, pereonite 5 with additional low, rhombic tubercle in between a pair of the spines; antenna 1 article 1 with medial spine shorter than distolateral lobe. Stylet of male pleopod 2 0.55 times as long as protopod.

DESCRIPTION OF MALE, HOLOTYPE. - Body (Figs. 20, 21A, B) 2.8 times as long as width of pereonite 5; dorsal surfaces of body, especially of pleotelson, finely granulated, with short setae. Head from point between antennae to posterior margin 0.4 times as long as wide; interantennular gap 0.3 times as wide as antenna 1 basally; dorsal spines stout, directed anteriorly, distance between spines 0.4 times as wide as head; frontal arch short, with thick lateral and rounded medial bulges; clypeus 1.4 times as wide as labrum, in frontal view 0.3 times as long as labrum.

Pereonite 1 shortest, subequal pereonites 3 and 4 longest among pereonites 1-4; dorsomedial spines of pereonites 1-4 almost a half as long as pereonites; anterolateral spines of pereonite 4 stout, directed laterally and slightly anteriorly, less than a half as long as pereonite laterally; coxae of pereopod 1 slender, longer than pereonite 1 laterally; anterior coxal spines of pereopods 2-4 shorter than pereonites laterally.

Natasome twice as long as anterior body part; pereonites 5-7 fused with sutures, each pereonite with a pair of dorsal elongate spines, directed anteriorly, spines on pereonite 6 slightly longer than spines on pereonites 5 and 7, distance between spines subequal in all pairs, pereonite 5 with additional low, rhombic tubercle in between a pair of the spines; anterolateral spines of pereonites 5-7 similar in shape, slightly decreasing in length from 5 to 7; pleonite with dorsomedial spine as long as those of pereonites 5-7; pleotelson 1.2 times as long as wide; posterior triangular part 0.35 times as long as pleotelson, 0.65 as wide as anterior part; anterolateral corners rounded,

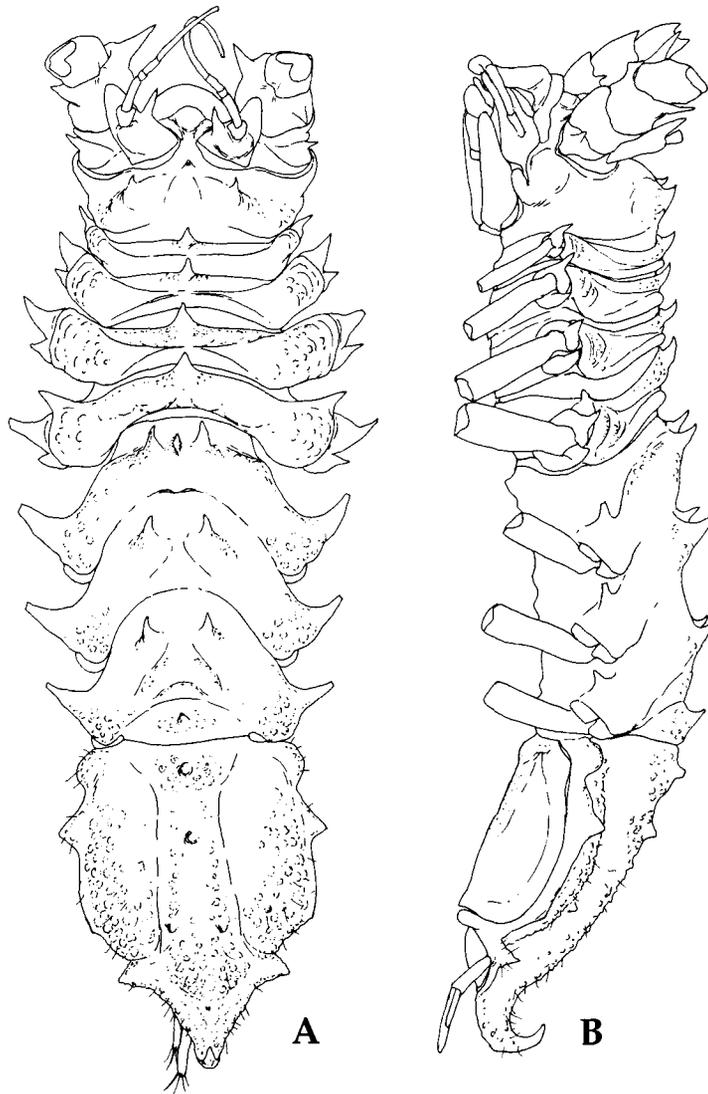


Fig. 20. *Sursumura falcata* (George & Menzies, 1968), male, holotype. A, dorsal and B, lateral body views.

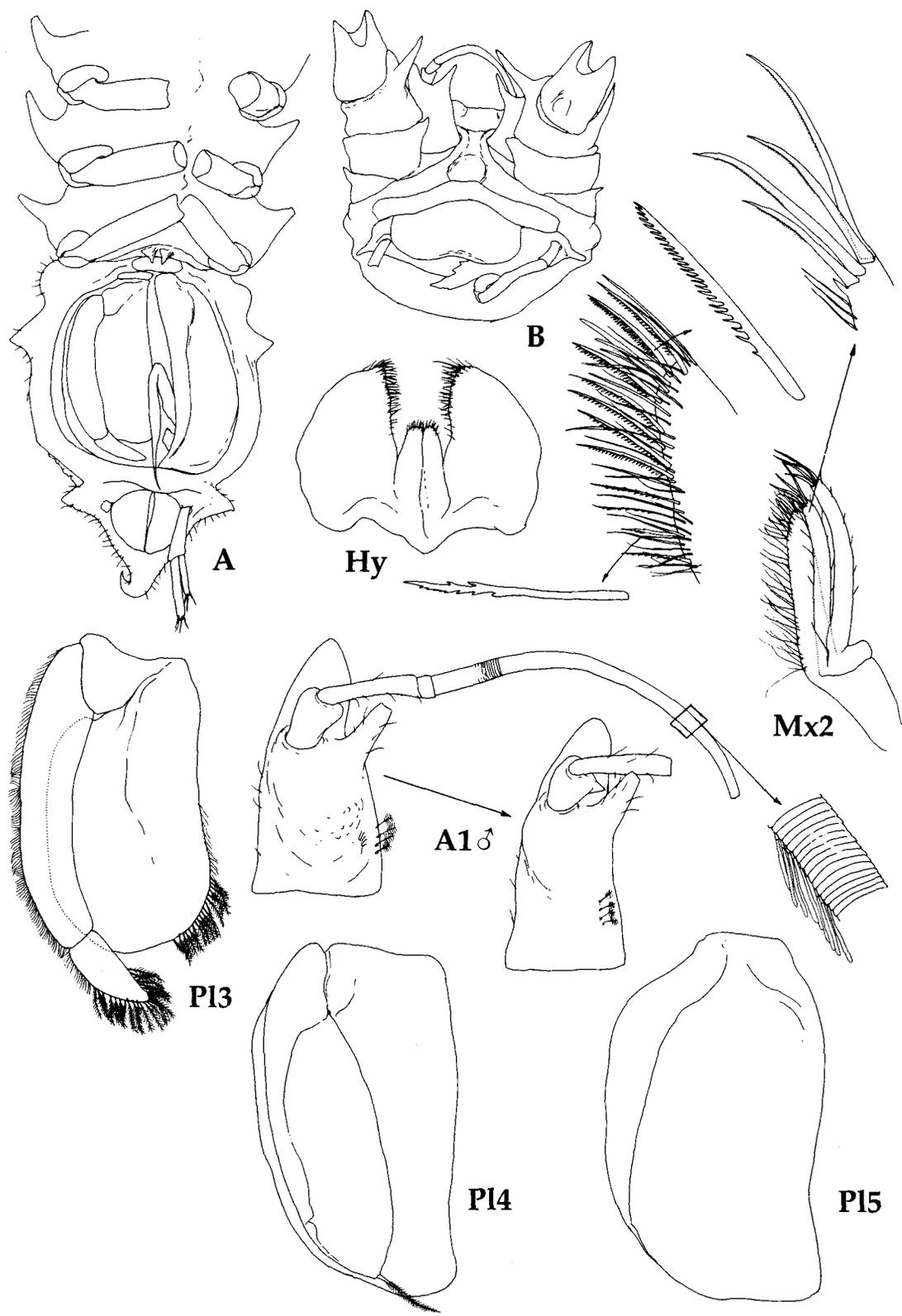


Fig. 21. *Sursumura falcata* (George & Menzies, 1968), male, holotype. A, natasome, ventral view. B, head, frontal view, antenna 1, hypopharynx, maxilla 2, pleopods 3-5.



Fig. 22. *Sursumura falcata* (George & Menzies, 1968), male, holotype, mandibles and maxilla I.

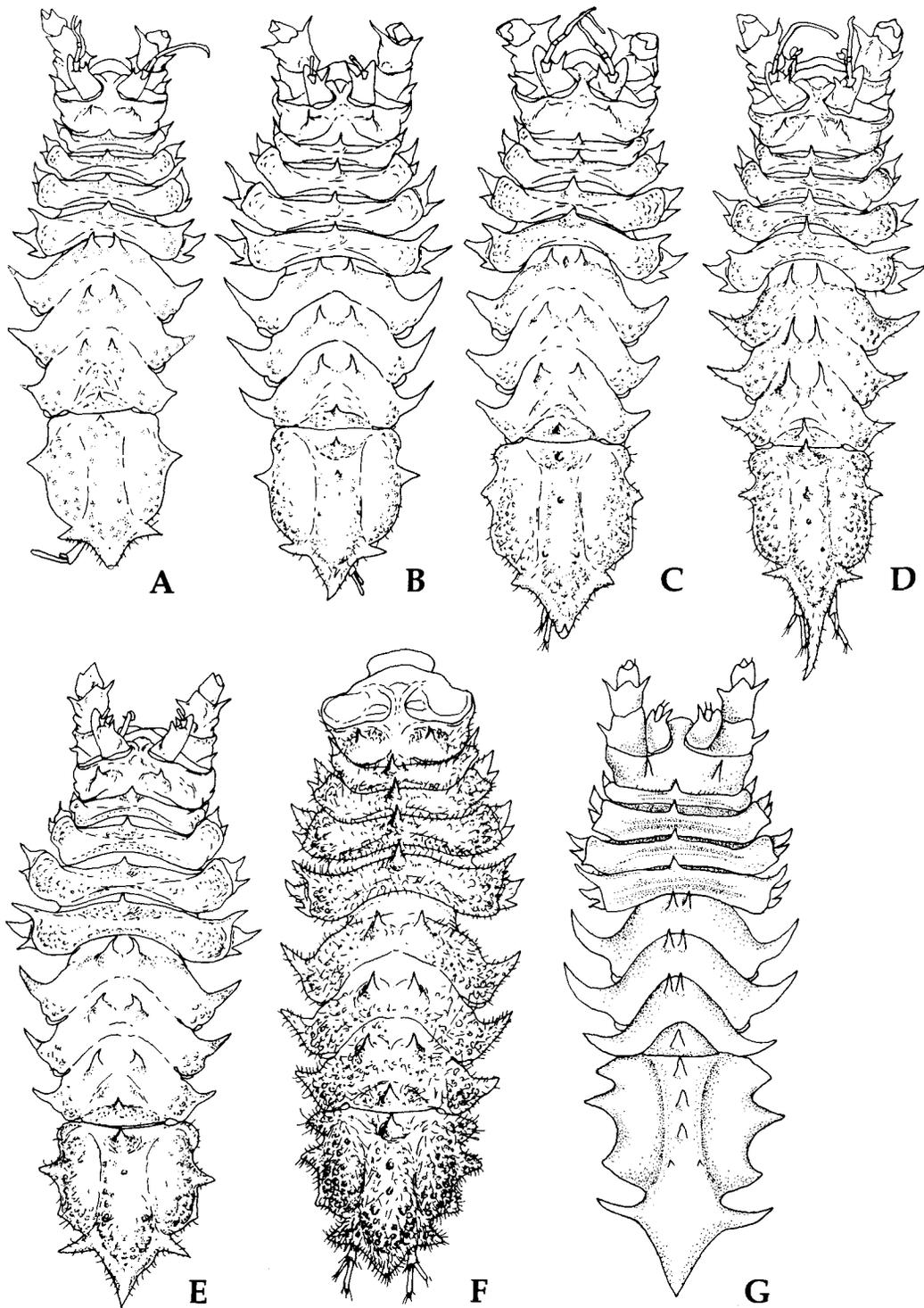


Fig. 23. Dorsal view of similar species of *Sursumura*. A, *S. argentica* (George & Menzies, 1968), male. B, *S. praegrans* (George & Menzies, 1968), female. C, *S. falcata* (George & Menzies, 1968), male. D, *S. longicauda* n. sp., male. E, *S. angulata* n. sp., female. F, *S. spinosissima* Brandt, 2002, male. G, *S. robustissima* (Monod, 1925), male. (F, from Brandt, 2002. G, from George & Menzies, 1968).

somewhat projected, following anterolateral spines rectangular, almost a half as long as wide basally, directed laterally, posterolateral spines of the same size as anterolateral ones, slightly more acute, directed laterally; lateral margin between antero- and posterolateral spines angular; terminal projection strongly curved dorsally; preanal ventral process short, rounded; dorsal surface of pleotelson with two medial subequal spines: on anterior margin and on the level of anterolateral spines, a pair of tubercles posteriorly.

Antenna 1 (Fig. 21) article 1 2.1 times as long as basal width, with four small dorsal broom setae; medial spine slightly shorter than distolateral lobe with small setae; article 2 0.23 times as long as article 1, about half as long as distolateral lobe of article 1, a half as wide (distal width together with distomedial process) as article 1 medially; articles 3 1.6 and article 4 0.2 times as long as article 2, first flagellar article 0.7 as long as peduncle article 2; the rest flagellum of numerous very short articles with aestascs.

Left mandible (Fig. 22) incisors with two distal and two proximal acute teeth; lacinia mobilis slender, less than a half as long as incisor, with two distal teeth, spine row with 25 spines; molar process tapering, obliquely truncated, with acute denticles and 11 setulated setae distally; palp 0.8 times as long as mandibular body, article 2 third as long as article 1, with three stout spatulate distolateral and six slender simple distomedial setae, article 3 much curled, with palmate marginal setae.

Pleopod 3 (Fig. 21) endopod twice as long as wide, with 18 distomedial plumose setae; exopod 1.4 times as long as endopod, with row of hear-like lateral setae, proximal article 0.4 times as wide as endopod, distal 0.6 times as wide and 0.3 times as long as proximal article, tapering distally, with 25 distal plumose setae. Pleopod 4 (Fig. 21) endopod 1.6 times as long as wide, exopod slightly longer and half as wide as endopod, with one distal plumose seta. Pleopod 5 (Fig. 21) similar in shape and slightly larger than endopod of pleopod 4.

Uropod (Fig. 21A) 0.33 times as long as pleotelson, reaching behind the tip of pleotelson; protopod broadening distally; endopod about a half as wide and 1.15 times as long as protopod, with 6 distal setae; exopod 0.65 times as long as and

slightly narrower than endopod, with few distal setae.

REMARKS. - Our study of the holotype reveals some differences to George & Menzies' (1968) illustrations and description. There is no conspicuous difference between dorsal spines on pereonites 1-4 and 5-7, as authors illustrated in fig. 2, (l.c.: 280), all body dorsal spines are subequal in size, the lateral margins of pleotelson between lateral spines are not rounded, but angular. "Three dorsal spines on the fifth pereon somite", mentioned by the authors (l.c.: 280) are only two spines and a low, rhombic tubercle in between. "Second article with a stout long spine on inner distal angle" in the authors' diagnosis (l.c.: 279) and fig. 2 actually is the third article. Further similar species of *Sursumura* are presented in Fig. 23 for comparison.

DISTRIBUTION. - Antarctic: Drake Passage off the South Shetland Islands and eastern Scotia Sea, 2761 - 3237 m.

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