

# New bathyal and abyssal arcturids from the western Antarctic and Subantarctic (Crustacea: Isopoda: Arcturidae)

O.G. Kussakin & G.S. Vasina

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*Chaetarcturus tenuispinatus* sp. n., *Acantharcturus brevipleon* sp. n. and *Glaberarcturus stellae* gen. et sp. n. are described from bathyal off the Falkland Islands, *Tuberarcturus pallidoculus* sp. n. from bathyal off the South Sandwich Islands, and *Neoarcturus paxillaris* sp. n. from low abyssal of the Argentine Basin. *Glaberarcturus* is allied to the *Neoarcturus* group of genera because of the short 3-jointed antennal flagellum but is distinguished by the characteristically cleft pleotelson, absence of eyes and lack of dorsal spines or tubercles on pereon segments and pleotelson.

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## Introduction

In this paper, a new genus and five bathyal and abyssal new species of the family Arcturidae from the western Antarctic and Subantarctic off the Falkland Islands and South Sandwich Islands are described. The material described here is drawn from the collections obtained during the voyages of the research ships "Akademik Kurchatov" in 1971-1972 and "Dmitry Mendeleev" in 1989. Two new genera and eleven new hadal and low abyssal species from the South Sandwich Trench and Scotia Sea collected by the 1971-1979 expedition were described by the authors earlier (Kussakin & Vasina, 1994, 1995, 1997, 1998). The type specimens are deposited in the Zoological Institute, St.Petersburg (ZIN).

## Taxonomic account

Genus *Chaetarcturus* Brandt, 1990

*Chaetarcturus tenuispinatus* sp. n.  
(Figs 1-19)

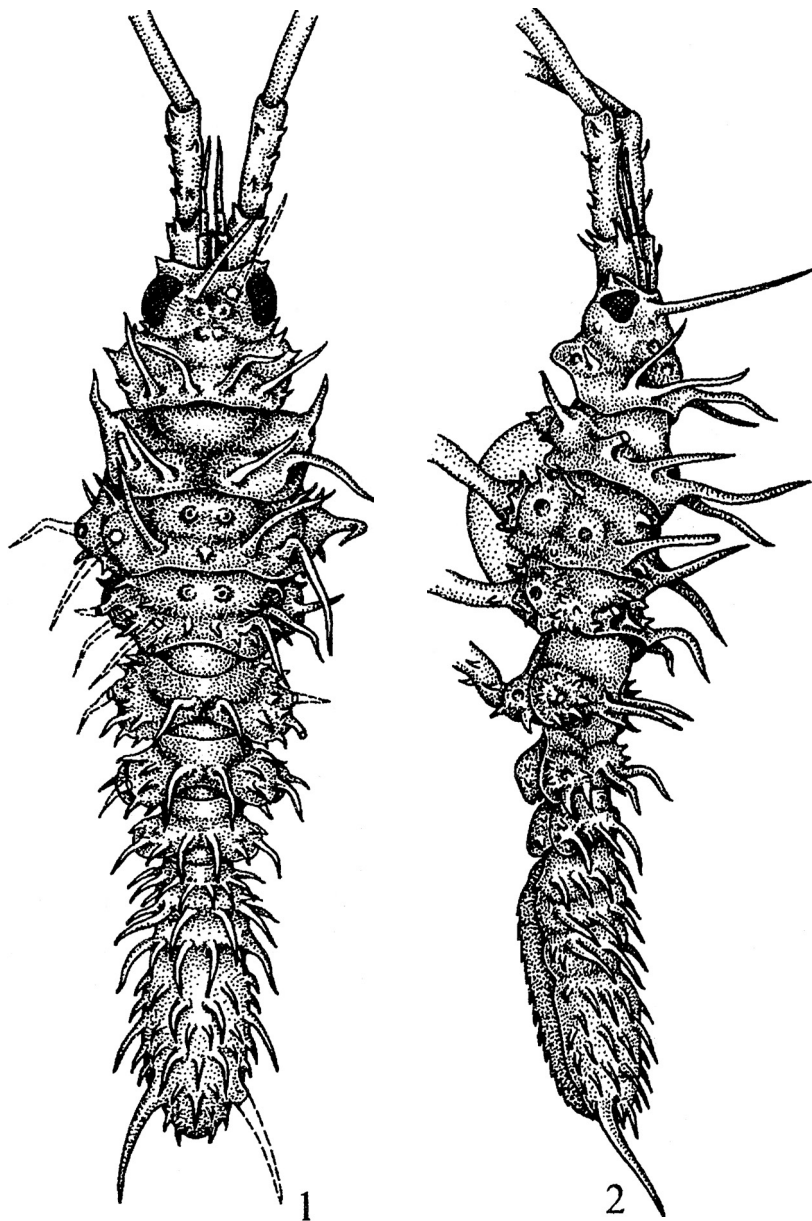
*Holotype*: adult ♀, ZIN, No. 1/69423, length 21.0 mm, R/V "Akad. Kurchatov", St. 930, Falkland Islands, 51° 57' S, 57° 36' W, depth 401 m, 18.XII. 1971, trawl.

*Paratypes*: 2 ♂, ZIN, No. 2/69424, length 14.2 and 19.0 mm, same data as holotype.

*Description of female holotype*. Body elongated, subcylindrical, but pereonites 2-4 broadest; length about 4.1 times body width. Dorsal surface of body covered with very long, thin, acute spines. Eyes large, laterally protruding, rounded, black. Anterolateral angles of cephalothorax with a small pointed spine; dorsal surface with only 1 pair of very long, thin, straight, pointed spines between eyes; behind these spines a pair of low rounded elevations. Pereonite 1 fused with cephalothorax but distinctly demarcated by transverse shallow groove. Posterior half of all pereonites with transverse elevation bearing spines and tubercles. Pereonites 1-5 about equal in length; pereonites 6 and 7 shortest.

All pereonites with dorsally raised posterior portion. On pereonite 1, two pairs of long dorsal spines and a pair of short lateral supracoxal spines; pereonites 2-4 with similar spines but lateral spines much longer than on pereonite 1. Medially between dorsal spines on pereonite 3 one conical tubercle, on pereonite 4 a pair of conical tubercles. Anterior portion of pereonites 2-4 dorsally with 1 pair of submedial tubercles. Dorsal surface of pereonites 5-7 with 2 pairs much shorter spines and additional short spines and tubercles on lateral parts of segments.

Pleotelson about 0.31 times length of body. All pleonites fused but pleonites 1-3



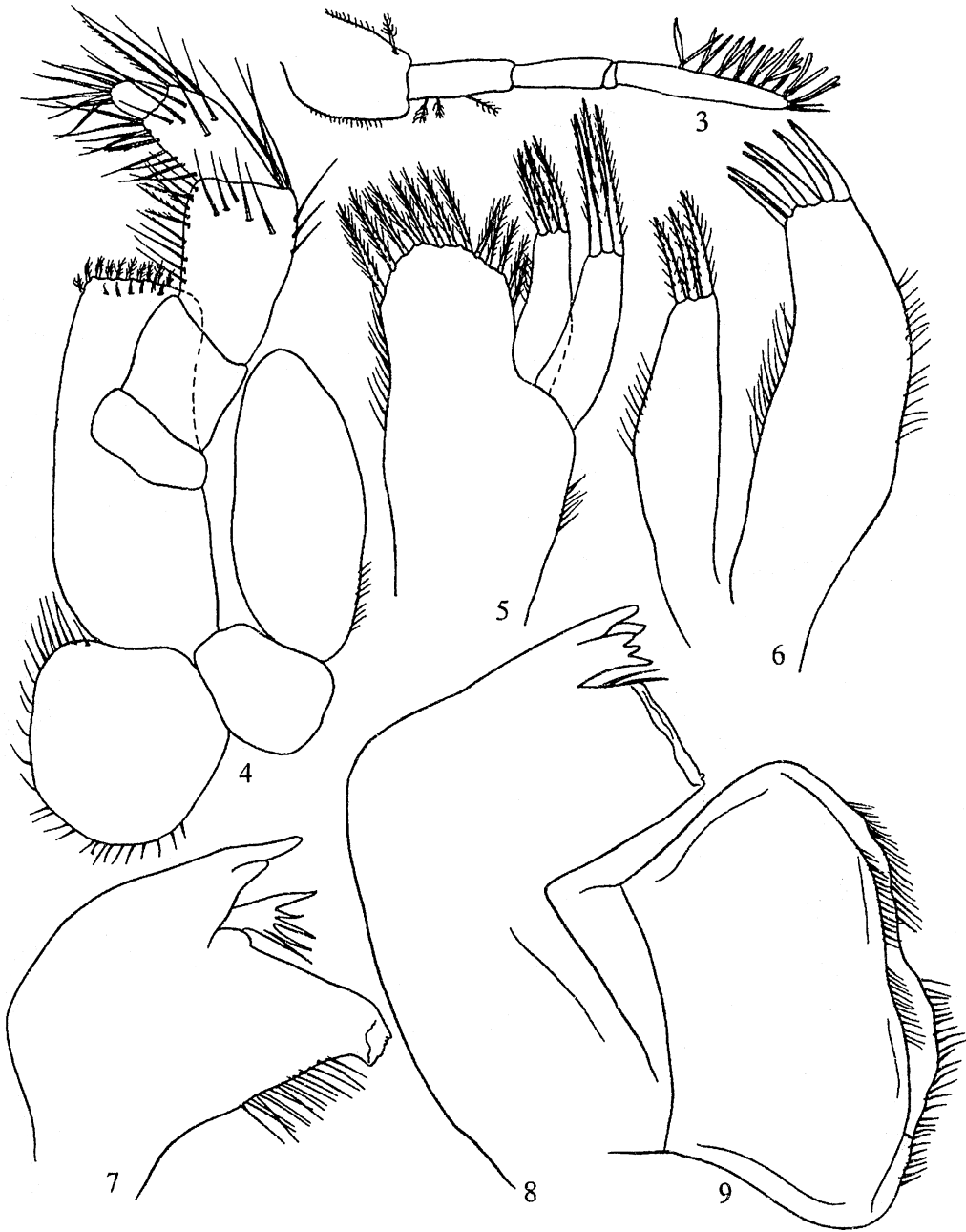
Figs 1, 2. *Chaetarcturus tenuispinatus* sp. n., female, holotype. 1, dorsal view; 2, lateral view.

demarcated by shallow grooves. Dorsal surface of pleonites 1-3 with 3 pairs of long spines. Remaining part of pleotelson with several pairs of long and moderately long slender dorsal spines, one slender small caudomedial spine and a pair of long stout caudolateral spines. Caudal margin of pleotelson rounded.

Antenna 1 (Fig. 3) considerably surpassing middle of third article of antenna 2; peduncle almost 1.8 times as long as flagellum; second peduncular article as long as third arti-

cle and shorter than first article; flagellum shorter than second and third peduncular articles combined, with 9 pairs of aesthetascs and two distal simple setae. Only proximal part of second antenna known; second and third peduncular articles with short spines.

Mandibular incisor process comparatively narrow distally, with 2 sclerotized teeth; lacinia mobilis of right mandible (Fig. 8) with 3 stout, of left mandible (Fig. 7) with 5 slender spine-like teeth. Molar process of right mandible (Fig. 8) stout, broad, subcylindrical,



Figs 3-9. *Chaetarcturus tenuispinatus* sp. n., female, holotype. 3, antenna 1; 4, maxilliped; 5, maxilla 2; 6, maxilla 1; 7, left mandible; 8, right mandible; 9, hypopharynx.



Figs 10-19. *Chaetarturus tenuispinatus* sp. n., female, holotype (except 15, 18 and 19). 10, pereopod 1; 11, pereopod 2; 12, pereopod 5; 13, pleopod 2; 14, pereopod 4; 15, pleopod 2, male, paratype; 16, uropod; 17, pereopod 7; 18, genital apophysis, male, paratype; 19, pleopod 1, male, paratype.

with two mediolateral simple setae and broad grinding surface. Molar process of left mandible (Fig. 7) tapering distally.

Lateral endite of maxilla 1 (Fig. 6) with 6 strong curved spines apically; medial endite with 3 long strong setulated setae.

Inner endite of maxilla 2 (Fig. 5) with about 13 strong setulated setae; medial and outer endites with 3 such setae.

Maxilliped (Fig. 4) with oblong-oval epipodite reaching above second palpal article. Endite subrectangular, distally bearing 2 rows of spine-like setae. Third palpal article longest; fourth article about as long as two proximal ones; last article smallest, 0.37 times as long as fourth article.

Pereopod 1 (Fig. 10) much shorter than pereopods 2-7; carpus shortest, trapezoidal; propodus oblong-oval, longest, equal in length to ischium and merus combined and slightly longer than basis; basis with dorsoventral row of very long setae; ventral surface of ischium, merus, carpus and propodus with numerous long setae. Curved dorsolateral surface of propodus with many long feather-like setae arranged in 9 transverse rows of combs; mediodorsal side of propodus forming a slightly concave "spoon". Dactylus about half as long as propodus, with two short distal claws and one seta between; dorsal claw twice as long as ventral claw.

Pereopods 2-4 (Figs 11, 14) similar, long, pereopod 4 longest; numerous long filter setae present along ventral margins of ischium, merus, carpus, propodus and dactylus. Basis of pereopod 2 with 5 stout long spines: ischium shortest, merus slightly longer than ischium, both articles with 1 stout long distodorsal spine-like process each. Carpus longest, nearly 2.5 times as long as merus; dorsal margin with 4 stout spine-like processes and 2 setae. Propodus slightly shorter than carpus, dorsal surface bearing 4 stout short spines and 3 long setae. Dactylus slender, almost as long as propodus, dorsal margin with 4 long and several small setae; ventral claw very short, dorsal claw 5 times as long as ventral claw, nearly 0.2 times as long as the whole dactylus.

Pereopod 5-7 (Figs 12, 17) stronger and much shorter than pereopods 2-4. Ventral surface of pereopod 6 basis with 1 spine-like process; ischium almost as long as merus and carpus combined; propodus 1.2 times as long as ischium; dactylus shorter than ischium; propodus about as long as ischium, with two short claws and one seta between;

dorsal claw stout, 4.4 times as long as the small ventral claw. Ventral margins of merus and carpus with few, propodus with more than 12 long spines; dorsal margins of these articles plus ischium with few (2-5) long setae.

Pleopods 1-2 (Figs 13, 19) similar, with numerous long marginal plumose setae; sympodite bearing a row of 4-5 teeth.

Uropod (Fig. 16) covered with numerous (more than 40) broad spines of varying length on the medial surface; smaller ramus of uropod with 7 long setae.

*Males* similar in morphology to female but body more slender, subcylindrical, 5.8-6.0 times as long as wide. Both rami of pleopods with numerous long setae. Sympodite of pleopod 1 (Fig. 19) with row of 9 tooth-like structures; exopod slightly curved, considerably narrowed in distal half, with a tuft of modified very short setae at the dorsal edge of diagonal ridge. Endopodite of pleopod 2 (Fig. 15) with slender, very long, stiletto-like appendix masculina, which is much longer than endopodite.

*Etymology.* The adjective "*tenuispinatus*" is formed from two Latin words and means "provided with slender spines".

*Remarks.* *Chaetarcturus tenuispinatus* sp. n. can be easily distinguished from all species of this genus by the very long and slender dorsal spines. The spine pattern is more similar to that of *C. brunneus* (Beddard) and *C. longispinosus* Brandt, but in contrast to these species *C. tenuispinatus* has only 2 long dorsal spines on cephalothorax, not at least 4 spines. In this respect, *C. tenuispinatus* is most similar to *C. aculeatus* (Kussakin) but can be easily distinguished by the much longer and more slender dorsal spines. The smaller of the two uropodal rami in *C. aculeatus* with 7 setae, in *C. tenuispinatus* with 3 setae.

## Genus *Tubararcturus* Brandt, 1990

### *Tubararcturus pallidoculus* sp. n.

(Figs 20-34)

*Holotype:* adult ♂, ZIN, No. 1/69425, length 8.2 mm, R/V "Akad. Kurchatov", St. 880, South Sandwich Islands, 57° 07' 3" S, 26° 40' 2" W, depths 562-582 m, 29.XI.1971, trawl, coll. Andriashev & Averinzev.

*Description of holotype.* Body linear, subcylindrical, very slender, about 6.6 times as long as wide, without tubercles across pereonite 2. Tergum covered with low knob-

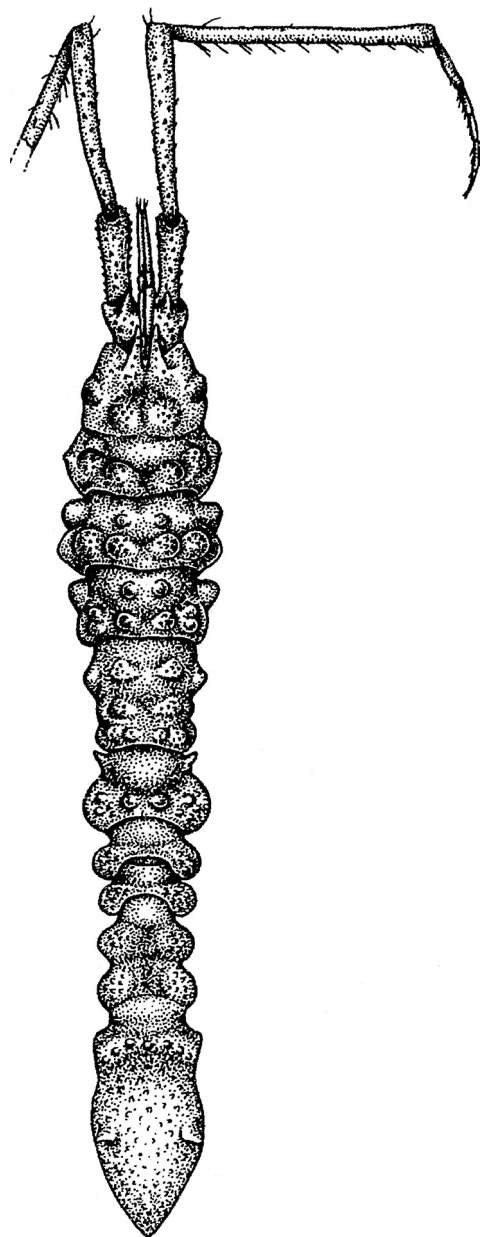


Fig. 20. *Tuberarcturus pallidoculus* sp. n., male, holotype, dorsal view.

like processes with flat apices bearing tiny tubercles. On cephalothorax behind antennae, a pair of flattened narrow triangular spines directed anteriorly and slightly upwards. Behind these spines a pair of round, broad elevations divided medially by longi-

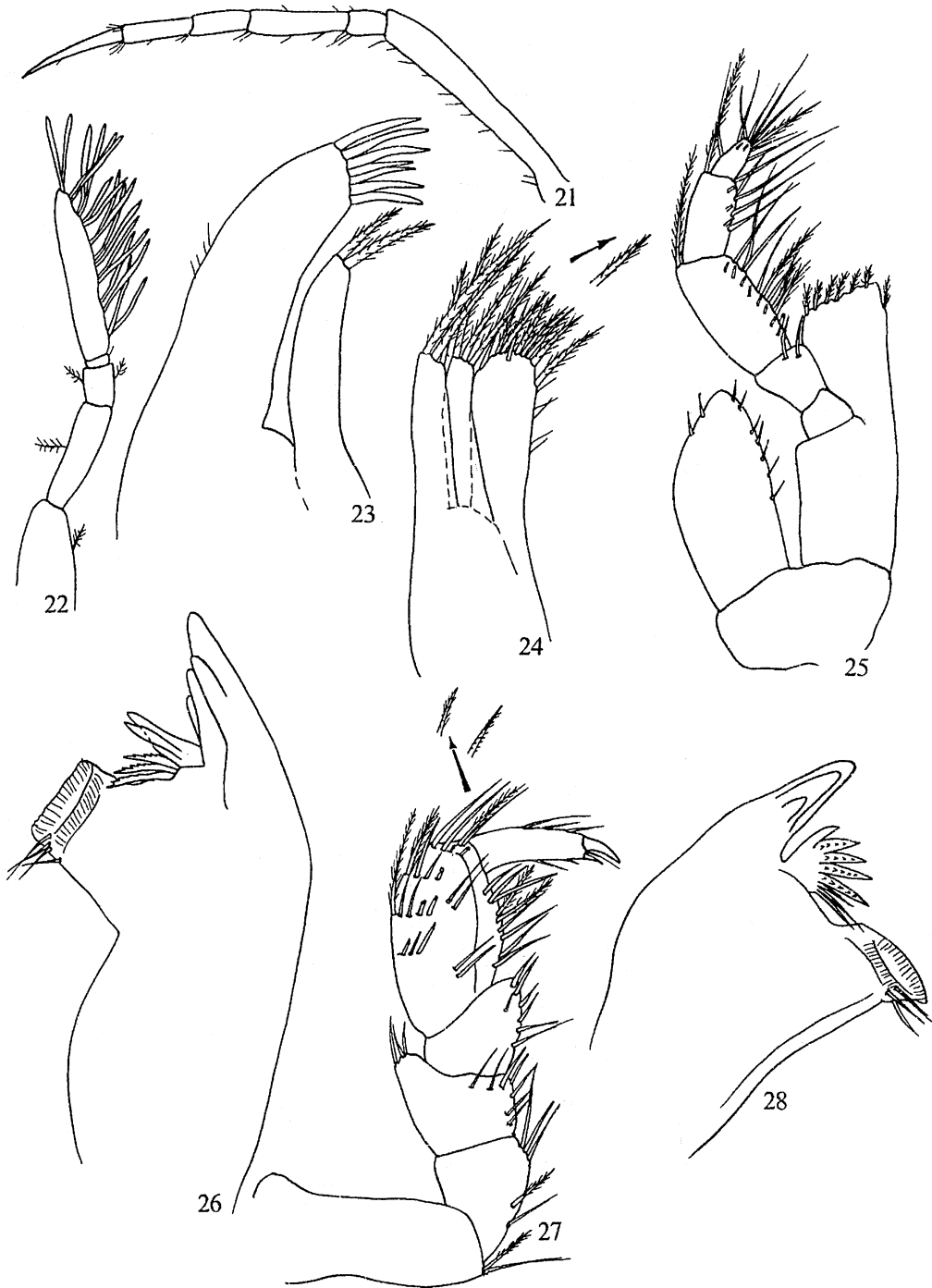
tudinal groove; anterolateral angles of cephalothorax rounded. Eyes present, round, but almost indistinguishable in colour from usual dorsal tubercles. Pereonite 1 fused with cephalothorax but demarcated by obvious transverse depression and short lateral incisions, bearing 2 pairs of dorsolateral knob-like processes; anterolateral corners slightly produced and pointed. Pereonites 2, 3 and 5 about equal in length; pereonite 4 longest, nearly 1.5 times as long as pereonite 5; pereonites 6 and 7 shortest. Posterior margins of all pereonites with large elevations bearing transverse row of round, knob-like processes. Anterior half of pereonites 2-4 with a pair of round submedial dorsal processes. Pleotelson with pleonites about 0.4 times as long as body. Dorsal surface of pleotelson covered with numerous small tubercles; all pleonites fused with pleotelson; the first three pleonites indicated by transverse grooves. Pleonites 1-2 elevated; pleonite 3 widest. Remaining part of pleotelson convex but not voluminous; dorsal surface in addition to numerous small tubercles bearing a pair of short stout dorsolateral spines; tip of pleotelson subacute.

Antenna 1 (Fig. 22) reaching distal margin of third peduncular article of antenna 2; basal article not very broad, less than twice as broad as second article, with 1 distolateral bristle; second article about 3 times as long as the shortest third article. Flagellum about 1.2 times as long as two distal peduncular articles combined; first flagellar article minute, ring-shaped; second article long, with 18 paired aesthetascs. Antenna 2 (Fig. 21) shorter than body, with 5 peduncular and 5 flagellar articles; peduncular article 5 longest, nearly as long as articles 3 and 4 combined and 1.6 times as long as flagellum.

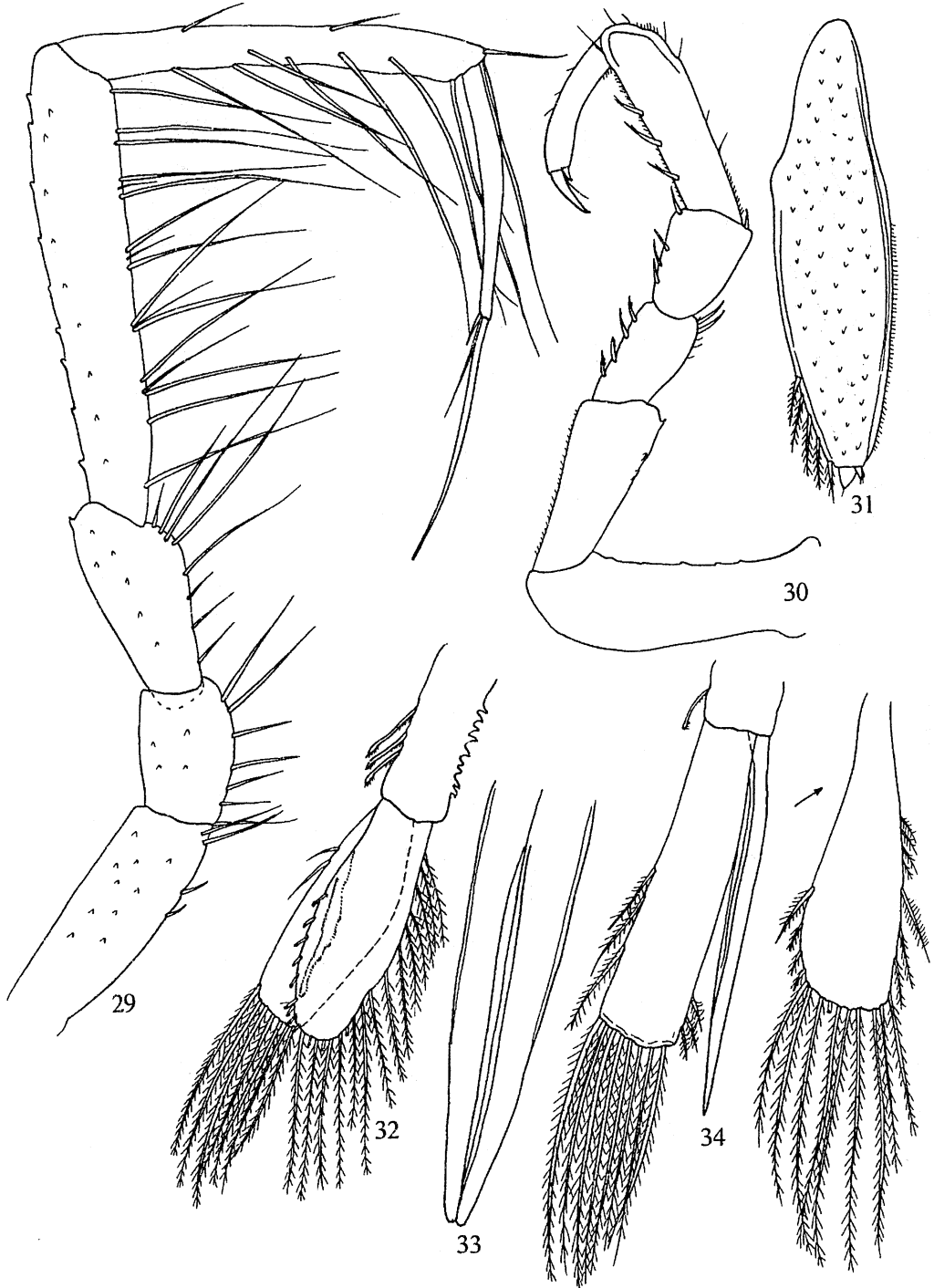
Pars incisiva of left mandible (Fig. 26) with 4 sclerotized teeth; lacinia mobilis much smaller than pars incisiva, with 2 distal teeth and 3 setae; pars molaris stout, broad, with 5 setae. Pars incisiva of right mandible (Fig. 28) with 3 teeth; lacinia mobilis with 1 tooth and a row of 5 stout setae; pars molaris as in left mandible but a little smaller and only with 3 setae.

Lateral endite of maxilla 1 (Fig. 23) apically with 7 strong curved spines; medial endite shorter, with 2 setulated stout setae.

Inner endite of maxilla 2 (Fig. 24) broad, with 8 setae covered with long setules; medial and outer endites each with 3 long setulated setae.

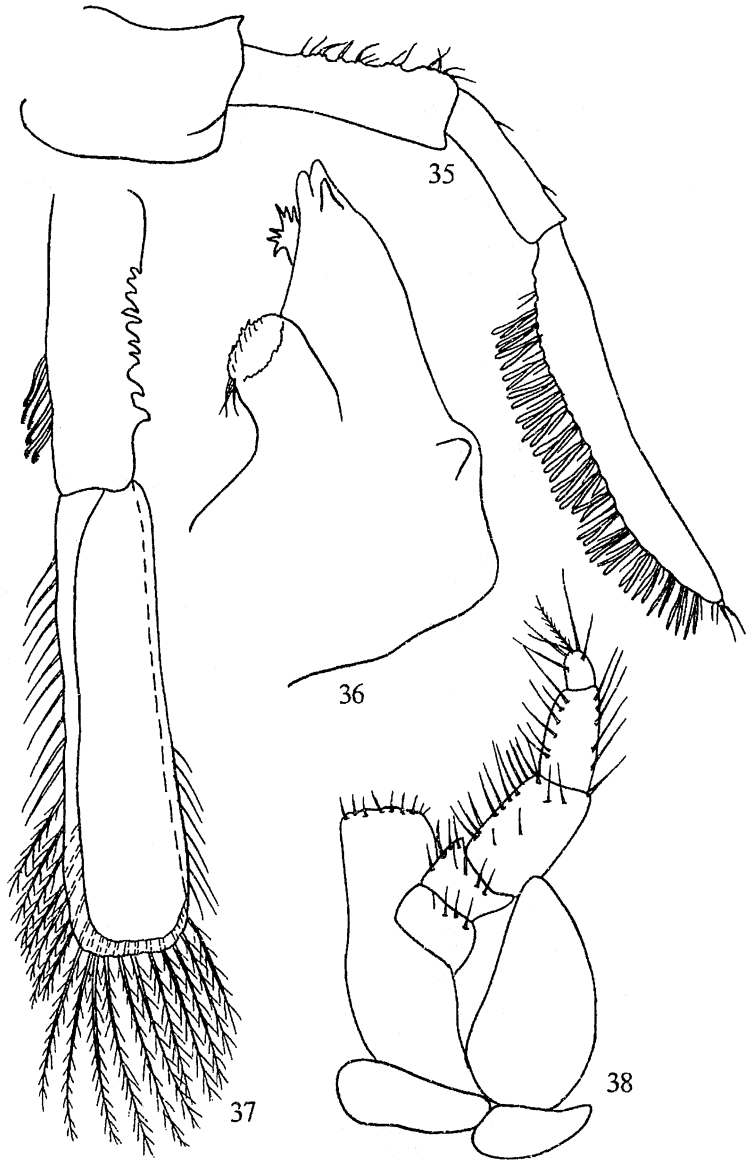


Figs 21-28. *Tuberarcturus pallidoculus* sp. n., male, holotype. 21, flagellum of antenna 2; 22, antenna 1; 23, maxilla 1; 24, maxilla 2; 25, maxilliped; 26, left mandible; 27, pereopod 1; 28, right mandible.



Figs 29-34. *Tuberarcturus pallidoculus* sp. n., male, holotype. 29, pereopod 2; 30, pereopod 7; 31, uropod; 32, pleopod 1; 33, genital apophysis; 34, pleopod 2.





Figs 35-38. *Tuberarcturus drygalskii* (Vanhoffen). 35, antenna 1; 36, right mandible; 37, pleopod 1; 38, maxilliped.

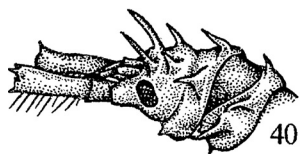
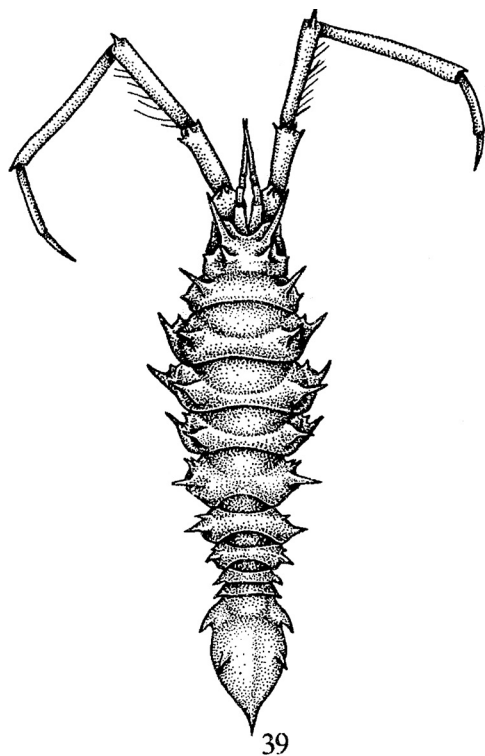
Maxilliped (Fig. 25) with long-oval epipodite nearly reaching distal margin of second palpal article; endite subrectangular, distally bearing a row of 7 short spine-like setae covered with setules. Palp comparatively slender; third palpal article longest, fourth shorter than third, about as long as palpal articles 1 and 2 combined and twice as long as the shortest distal article.

Pereopod 1 (Fig. 27) stout, shorter than pereopods 2-7, with long basis bearing 3 long distal setae; broad-oval propodus subchelate, slightly shorter than basis and as long as ischium and merus combined; dacty-

lus slightly shorter than propodus, with 2 short claws.

Pereopods 2-4 (Fig. 29) long, similar. Pereopod 2 shortest, with long setae on posteromedial margin; long filter setae present on ischium, merus, carpus and propodus, absent on dactylus. Carpus longest, nearly 1.5 times as long as ischium and merus combined; propodus slender, a little shorter than carpus and slightly longer than dactylus with claw; dorsal claw long, more than half as long as dactylus with claw.

Pereopods 5-7 (Fig. 30) shorter than pereopods 2-4; basis longest; propodus 1.3 times



Figs 39-40. *Acantharcturus brevipleon* sp. n., female, holotype. 39, body, dorsal view; 40, cephalon.

as long as dactylus or ischium; merus and carpus shortest, subequal in length; dorsal claw not very short, about 5 times as long as ventral claw.

Symphodite of male pleopod 1 (Fig. 32) with a lateral row of about 8 pointed teeth and a row of 4 coupling setae on opposite side. Exopod of pleopod 1 with medially protruding lateral lobe and a ridge diagonally to distolateral margin. Symphodite of pleopod 2 (Fig. 34) rather short; endopodite with long, stiletto-like, slightly curved appendix masculina.

Uropod (Fig. 31) densely covered with small tubercles all over the smaller ramus, with 4 setae.

*Etymology.* This name is formed from the Latin "pallidus" (pale) and "oculus" (eye).

*Remarks.* *T. pallidoculus* differs from all species of this genus in the oblong-ovate pleotelson with long, strongly tapering distally posterior half, in apically pointed supraocular spines and shape of dorsal tuberculated knob-like protuberances. Furthermore, *T. pallidoculus* is uniquely characterized by the absence of dark pigment of eyes.

As the type species of this genus was described and figured inadequately, we give some additional figures (Figs 35-38) of appendages from a male specimen collected by the Soviet Antarctic Expedition in the Davis Sea (Kussakin, 1967).

#### Genus *Acantharcturus* Schultz, 1981

#### *Acantharcturus brevipleon* sp. n.

(Figs 39-53)

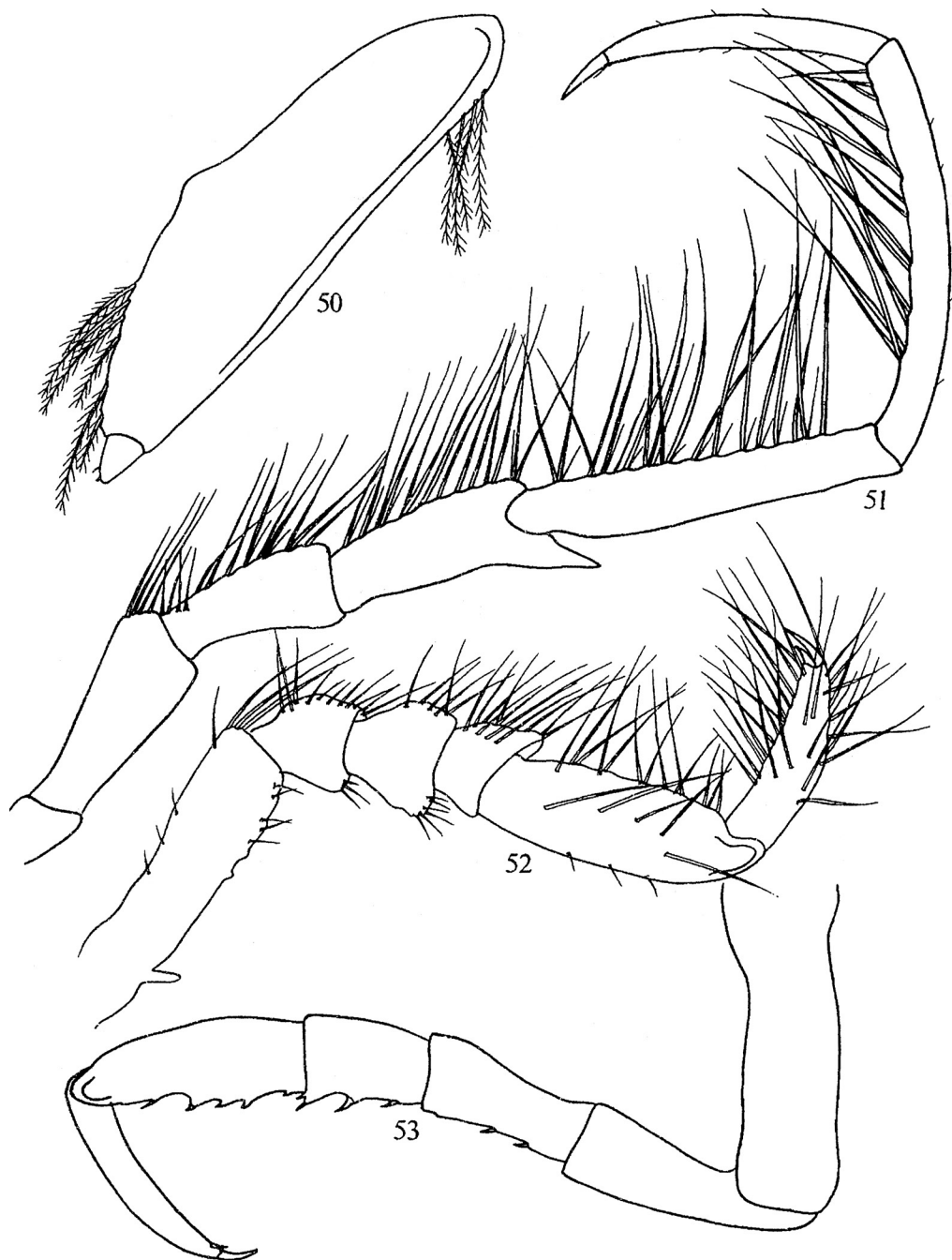
*Holotype:* ♀, ZIN, No. 1/69421, length 12.6 mm, R/V "Akad. Kurchatov", St. 928, off Falkland Islands, 52° 15' S, 56° 51' W, depth 1105 m, 17.XII. 1971, grab.

*Paratype:* ♀, ZIN, No. 2/69422, length 17 mm, the same station.

*Description of holotype.* Body elongated, subcylindrical, about 4.4 times as long as its width across pereonite 3 (length 12.6 mm, width 2.9 mm). Dorsal surface of cephalothorax and dorsolateral surface of pereonites with spines. Eyes lateral, round, brown, medium-sized. Cephalothorax with two pairs of long acute spines; anterior part situated between eyes longest, frontal margin broadly rounded medially; anterolateral angles nearly straight, not produced. Pereonite 1 fused with cephalothorax but demarcated by short lateral incisions and dorsal transverse groove; anterolateral angle rounded, with 3 short stout spines, dorsal surface with 2 pairs of spines; dorsolateral spines longer than short distal part. Pereonites 1-4 each with 1 dorsal, 1 dorsolateral and 2 lateral pairs of spines; dorsolateral and anterolateral spines longest, diminishing from pereonite 2 to 4; dorsal spines very short. Pereonites 5-7 without dorsal pair of spines. Pleotelson length slightly less than one-third of body length. Pleonites 1-2 narrower than pleonite 3 and pereonites, with stout lateral spines. Pleonites 1-3 fused with pleotelson



Figs 41-49. *Acantharcturus brevipleon* sp. n., female, holotype; 41, antenna 1; 42, antenna 2; 43, flagellum of antenna 2; 44, maxilla 1; 45, maxilla 2; 46, left mandible; 47, right mandible; 48, epipodite of maxilliped; 49, maxilliped.



**Figs 50-53.** *Acantharcturus brevipleon* sp. n., female, holotype. 50, uropod; 51, pereopod 2; 52, pereopod 1; 53, pereopod 7.

but pleonite 1 demarcated by a suture and pleonites 2 and 3 by a groove. Pleonite 3 with larger lateral spines and a pair of dorsomedial conical tubercles. Caudal part of pleotelson behind pleonite 3 about 0.6 times as long as pleotelson, gradually narrowing to the strongly produced, pointed, spine-like apex much shorter than remaining caudal part of pleotelson; dorsal surface and lateral margin with several short spines, the caudal lateral pair longest.

Flagellum and peduncle of antenna 1 (Fig. 41) subequal in length; first peduncular article broadest, about 2.5 times as broad as article 2; article 2 longest, 1.3 times as long as article 1 and 2.8 times as long as article 3. First flagellar segment minute, forming a very short ring; last article long, with 8 groups of aesthetascs, each with a simple seta. Antenna 2 (Fig. 42) about as long as body. Peduncular articles increasing in length from 1 to 5; article 5 about 1.5 times as long as flagellum and almost 1.3 times as long as peduncular article 4; articles 2-5 with 1 stout distal spine each; first flagellar article 1.7 times as long as second article, with minute distal claw.

Incisor process of mandibles with 4 short, obtuse, sclerotized teeth; molar process stout, broad, only slightly tapering distally; broad grinding surface with indented lower margin. Lacinia mobilis of left mandible (Fig. 46) with 3 sclerotized obtuse teeth; lacinia mobilis of right mandible (Fig. 47) without sclerotized teeth and with 4 acute spine-like structures.

Lateral endite of maxilla 1 (Fig. 44) moderately broad, distally curved medially, apically with 7 strong spines; medial endite shorter, with 3 setulated long thick setae.

Inner endite of maxilla 2 (Fig. 45) broad, with rounded distal margin bearing about 9-10 thick setulated setae; medial endite with 3, outer endite with 2 long setulated setae.

Maxilliped epipodite (Fig. 48) oblong-oval, with convex outer and inner margins bearing sparse simple setae; palp very long and narrow; third and fourth articles longest, equal in length; distal article 0.4 times as long as fourth article; subrectangular endite bearing distally and distolaterally 7 spine-like setae covered with setules.

Pereopod 1 (Fig. 52) much shorter than pereopods 2-4; basis shorter than dactylus, without spines, with distoventral wisp of long simple setae; ischium and merus combined about as long as the longest article, propodus; ischium slightly longer than

merus, with stout short spine on distoventral angle; merus, carpus trapezoidal, shortest, distoventral angle produced in thick conical spine-like process; propodus oblong; dactylus moderately dilated, subchelate, with nearly straight ventral and convex, broadly rounded dorsal margin and with short claws.

Pereopods 2-4 (Fig. 51) similar; pereopod 4 longest; long filter setae present on ischium, merus, carpus and propodus but absent on dactylus. Ventral margins of pereopods 2-4 with long setae. Pereopod 2 merus about 1.4 times as long as ischium; basis almost twice as long as ischium; carpus and propodus longest, equal in length to each other or merus and ischium combined; dactylus slightly longer than merus, with two short claws; dorsal claw about 0.2 times as long as the whole dactylus. Basis with 2 stout lateral spines, ischium with 2, merus with 1 stout distal spine, carpus without spines. Filter setae present on ischium, merus, carpus and propodus, absent on dactylus; distal third of dactylus bearing only short setae.

Pereopods 5-7 (Fig. 53) about as long as pereopod 1. Pereopod 7 basis and propodus longest, equal in length; dactylus about as long as ischium and merus combined; merus shortest. Ventral margin of merus with two, carpus and propodus with four triangular protrusions, each bearing short stout spine; ischium with 1 stout distal spine.

Pleopods 1 and 2 modified. Exopod of pleopod 1 with parallel margins, only slightly dilated in proximal half, with short, subquadrate, distolaterally protruding lobe; diagonal ridge ends distally under lobe; sympodite without lateral tooth-like structure. Endopodite of pleopod 2 with long, stiletto-like, slightly incurved distally appendix masculina much longer than endopodite.

Uropod (Fig. 50) smooth, without spines or tubercles on medial surface.

*Mature female paratype.* Body broader than in adult male, length about 3 times body width across pereonite 3 (length 10.4 mm, width 3.5 mm).

*Etymology.* The specific epithet is formed from the Latin "brevis" (short) and the Greek "pleon" (abdomen).

*Remarks.* The new species is easily distinguished from the type species, *A. acutipleon* Schultz, 1981, by the much shorter dorsolateral and lateral spines, absence of dorsal medial and submedial spines, and much shorter distal process of pleotelson. *A. acanthurus* (Monod, 1902) also has spines that are

Genus *Neoarcturus* Barnard, 1914*Neoarcturus paxillaris* sp. n.

(Figs 54-68)

*Holotype*: adult ♂, ZIN, No. 1/69418, length 11 mm, "Dmitry Mendeleev". St. 4109, Argentine Basin, 38° 04' S, 48° 05' 6" - 48° 10' 4" W, depth 5225 m, 14.IV.1989, mud, trawl.

*Paratype*: ♀, ZIN, No. 2/69419, length 12.5 mm, the same station.

*Description of holotype*. Body straight, subcylindrical, only slightly dilated anteriorly; length almost 4.7 times second pereonal segment width. Dorsal surface of body with short, stout, obtuse, conical, cylindrical or slightly bulbous spines and tubercles. All surface of body spines and appendages finely granulate. Eyes absent. Cephalothorax immovably fused with pereonite 1, but distinctly demarcated by dorsal transverse depression and lateral incisions. Cephalothorax nearly twice as long as wide; frontal margin slightly concave, anterolateral angles each with short obtuse spine; lateral margins behind this spine with obtuse spine in anterior half and 2-3-toothed projections in posterior half; dorsal surface with a pair of short, cylindrical, obtuse anterior "supraocular" spines, a pair of short conical dorsolateral spines, a pair of short conical submedial spines in posterior part of cephalothorax and a pair of small dorsolateral spines near posterolateral angles. Pereonites 1, 2, 6 and 7 subequal in length; pereonite 4 longest, about 1.25 times as long as pereonite 2 or 6. Pereonites 2 and 3 widest. Dorsal surface of pereonites 1-4 each with a pair of small obtuse anterior spines and three pairs of obtuse conical or slightly bulbous posterior spines. Inflated posterolateral part of pereonite 4 bearing in addition two pairs of small spines. Dorsal surface of pereonites 5-7 and pleonites 1-3 without anterior pair of tubercles, with 3-6 pairs of short spines and tubercles on posterior half; anterolateral angles of pereonite 5 produced into short triangular spines. All pereonites with lateral supracoxal serrated expansions. All pleonites immovably fused with pleotelson, but anterior pleonite distinctly separated by faint dorsal suture, and second and third pleonites indicated by shallow transverse grooves. Remaining posterior part of pleotelson short, about as long as three anterior pleonites combined. Caudal margin of pleotelson a little produced, narrowly rounded. Dorsal surface of posterior half of

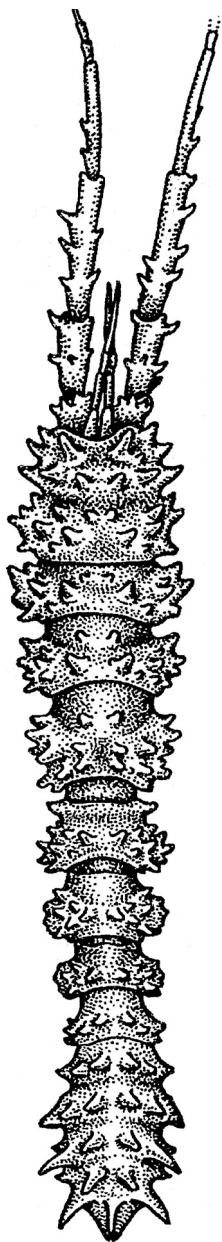
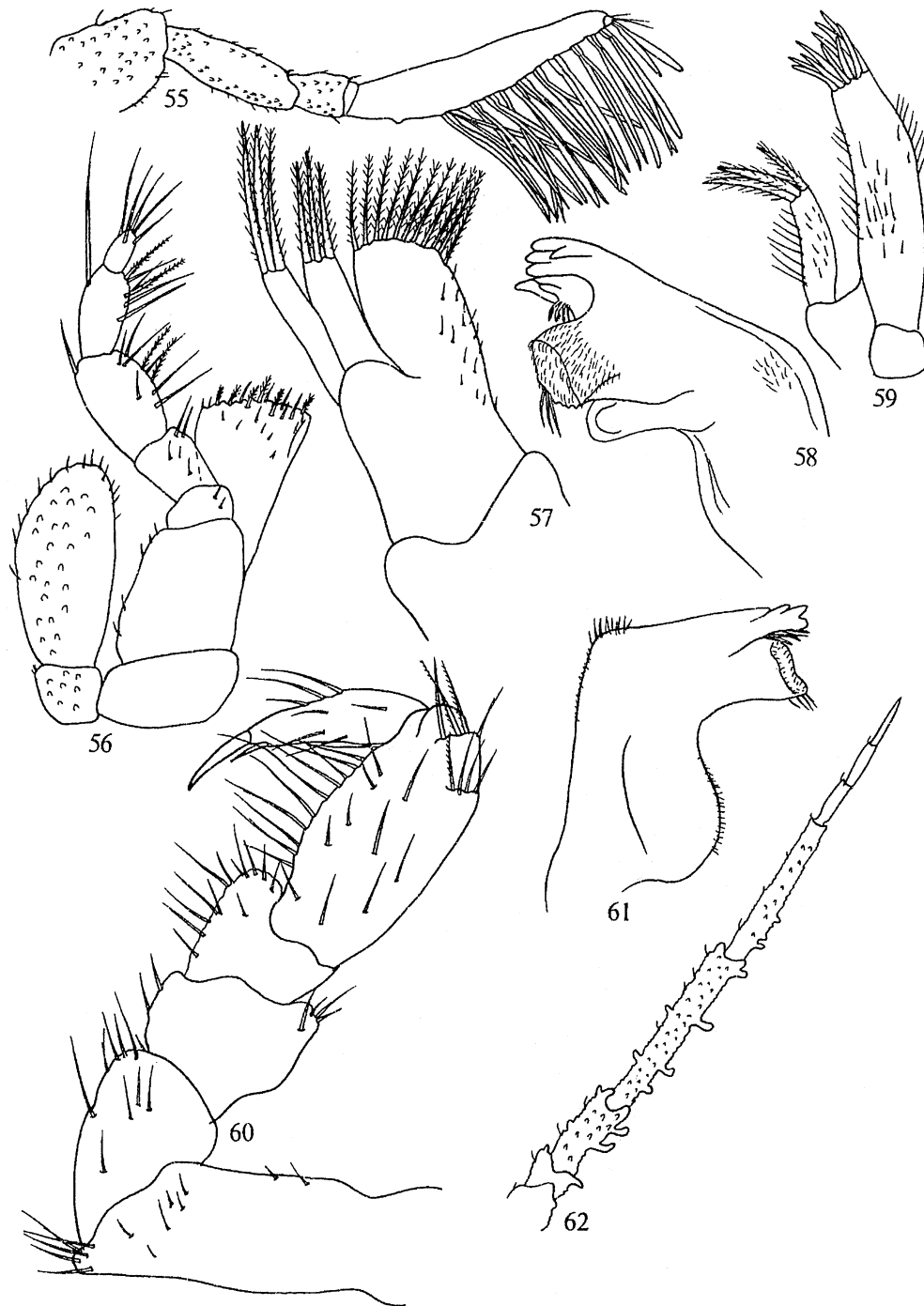
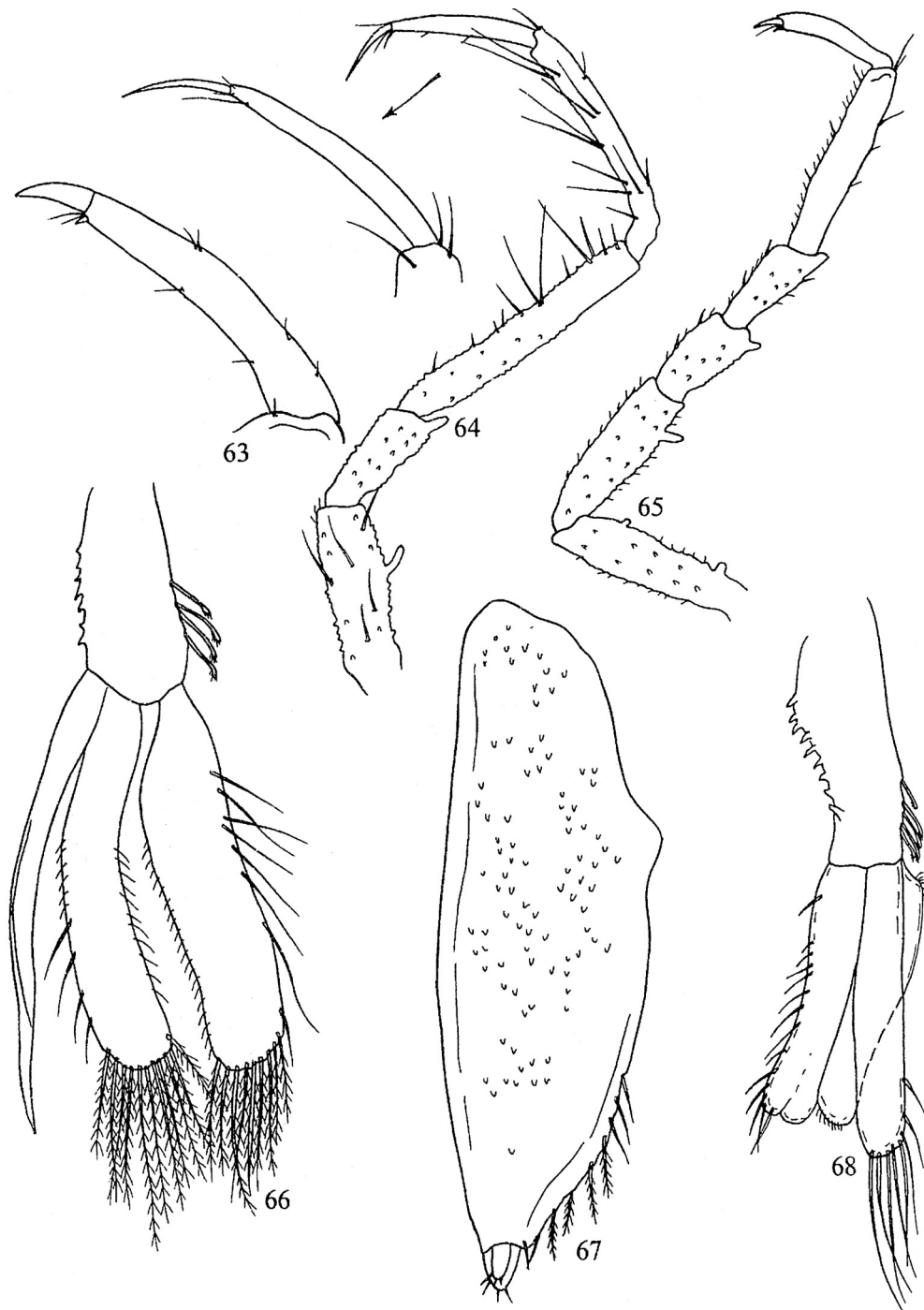


Fig. 54. *Neoarcturus paxillaris* sp. n., male, holotype, dorsal view.

thicker and shorter than those described by Schultz for *A. acutipleon*. But this species is distinguished from *A. brevipleon* by the bifurcated distal tip of pleotelson, presence of dorsal pairs of spines on pereonites 1-3 and of large lateral spines on pleonite 3.



Figs 55-62. *Neoarcturus paxillaris* sp. n., male, holotype. 55, antenna 1; 56, maxilliped; 57, maxilla 2; 58, left mandible; 59, maxilla 1; 60, pereopod 1; 61, right mandible; 62, flagellum of antenna 2.



Figs 63-68. *Neoarcturus paxillaris* sp. n., male, holotype. 63, dactylus of pereopod 7; 64, pereopod 4; 65, pereopod 7; 66, pleopod 2; 67, uropod; 68, pleopod 1.



pleotelson behind pleonite 3 with moderately long stout conical spines: two pairs of dorsolateral spines and one posterior medial spine hanging over caudal part; lateral margins each with two small spines.

Antenna 1 (Fig. 55) comparatively long, considerably exceeding distal end of third peduncular article of antenna 2. Peduncle 1.1 times as long as flagellum; first peduncular article broadest; second article longest, 1.1 times as long as basal article and twice as long as third article, without feather-like bristles. First flagellar article minute, without bristles, second article 1.3 times as long as peduncular articles 2 and 3 combined, with 13 groups of two aesthetascs accompanied by two simple setae.

Antenna 2 much shorter than body, about 0.56 body length; peduncular articles 2-4 with stout spines; articles 4 and 5 longest, about the same length, but article 5 much more slender than article 4, without stout spines, bearing only 1 small spine near basal end and several setae. Flagellum with 3 articles, about half as long as distal articles of peduncle; apical article longest, pointed.

Pars incisiva of left mandible (Fig. 58) with 4 comparatively narrow sclerotized teeth; lacinia mobilis with 3 sclerotized teeth, setal row with 4 seta-like structures. Pars incisiva of right mandible (Fig. 61) with 3 sclerotized teeth; lacinia mobilis with 2 small teeth and a row of 5 seta-like structures. Pars molaris stout with broad nearly smooth grinding surface without lateromedial setae.

Lateral endite of maxilla 1 (Fig. 59) apically with about 10 strong curved spines; medial endite shorter, slender, with 3 setulated long setae.

Maxilla 2 (Fig. 57) consisting of three endites, the inner broad, with about 10 slender setae covered with small setules all around, the outer strongest setae bear the longest setules; medial endite and outer endite each with three long setulated setae.

Epipodite of maxilliped (Fig. 56) oblong-oval, its inner margin almost straight; endite strong, broad, subrectangular, distally bearing two rows of short spine-like setae; third palpal article longest, about as long as articles 1 and 2 combined and slightly longer than fourth article; distal article smallest, half as long as fourth article; all palpal articles bearing long setae, mainly on medioventral surface and medial margin.

Pereopod 1 (Fig. 60) much shorter than pereopods 2-4; basis longest, twice as long as ischium and 3 times as long as merus; merus

about half as long as propodus and 1.2 times as long as the shortest article, carpus; dactylus slightly shorter than propodus. All articles bearing long strong setae. Carpus trapezoidal: propodus oval, subchelate; dorsal claw comparatively long, about one-third as long as the whole dactylus.

Pereopods 2-4 (Fig. 64) similar to each other, pereopod 4 longest; anterolateral margins of basis, ischium, merus and carpus with 1-2 short conical blunt spines, the largest on distal angle of merus; long setae on posteromedial margins. Long filter spines present on ischium, merus, carpus and propodus, absent on dactylus. Pereopod 3 basis about as long as ischium and merus combined and slightly longer than propodus; carpus longest, 1.2 times as long as propodus; dactylus with claw nearly as long as propodus, thin claw 0.4 times as long as the whole dactylus.

Pereopods 5-7 (Fig. 65) slightly shorter and stronger than pereopods 2-4; basis longest, slightly longer than ischium and merus combined, bearing short obtuse spines; ischium and short carpus with one, merus with two short obtuse dorsal spines; ventral side of merus, carpus and propodus with row of 3-5 spine-like setae. Propodus of pereopod 6 nearly twice as long as carpus and 1.2 times as long as dactylus with claw; dorsal claw short, 0.2 times as long as the whole dactylus.

Symphodite of pleopod 1 (Fig. 68) longer than of pleopod 2 (Fig. 66), lateral row of 8 tooth-like structures; inner margin with about 9 retinacles.

Uropod (Fig. 67) covered with scale-like structures all over the surface and several short blunt spines; the smallest ramus with 3 bristles.

*Etymology.* The specific epithet is derived from the Latin "paxillus" (peg). It refers to the form of the dorsal spines.

*Remarks.* The described species is most similar to *N. caecus* (Kussakin & Vasina, 1995) in the absence of eyes, and partially in the dorsal ornamentation consisting of many short obtuse spines, but the new species has much smaller dorsal spines on the pleon and much longer posterolateral spines.

#### Genus *Glaberarcturus* gen. n.

Type species *Glaberarcturus stellae* sp. n.

*Description.* Small eyeless arcturids without dorsal spines or tubercles except 1 pair of supraocular spines on cephalothorax and

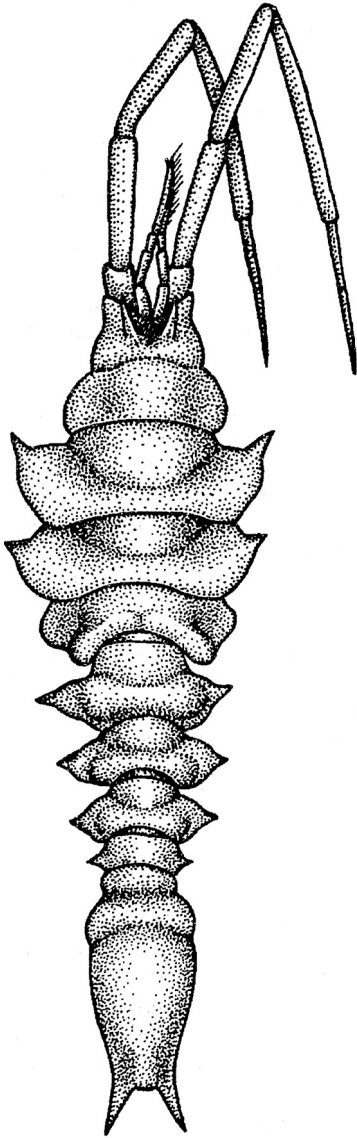


Fig. 69. *Glaberarcturus stellae* sp. n., female, holotype, dorsal view.

stout spine-like lateral processes on pereonites 2, 3, 5-7 and pleonite 1. Tip of pleotelson cleft, forming 2 diverging, long, stout spines. Body slightly flattened; pereonites 2-4 much broader in females. All pleonites separated by dorsal suture. Pleonites 1 and 2 considerably narrower than last pereonite and pleonite 3. Antenna 2 shorter than body; flagellum short, of 3 articles. All pereopods without spines or tubercles. Dactylus of pereopod 1 not swollen.

Dactylus of pereopods 2-4 with relatively few setae and comparatively short distal claws.

*Remarks.* This genus is close to the *Neoarcturus* group of genera because of the short 3-jointed antennal flagellum, but can easily be identified by the characteristically cleft pleotelson. Only the genus *Fissarcturus* Brandt, 1990 also has a cleft pleotelson, but the genus *Glaberarcturus* is characterized by the absence of eyes and lack of dorsal spines or tubercles on pereonal segment and on pleotelson.

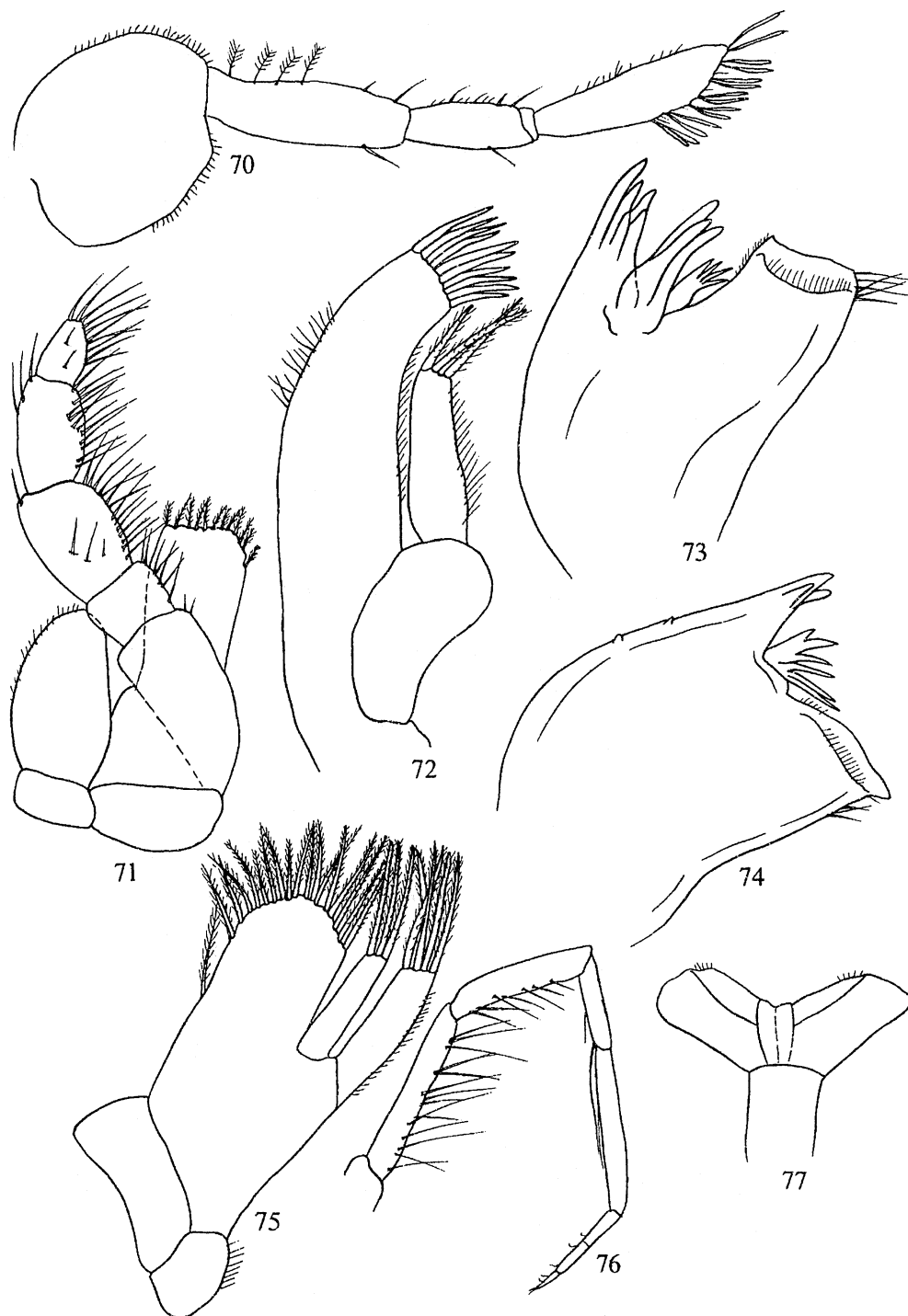
*Etymology.* This name is formed from the Latin "glaber" (glabrous, smooth) and the generic name *Arcturus*. It refers to the absence of dorsal spines or tubercles which often occur in other genera of the "*Antarcturus*" group.

#### ***Glaberarcturus stellae* sp. n.**

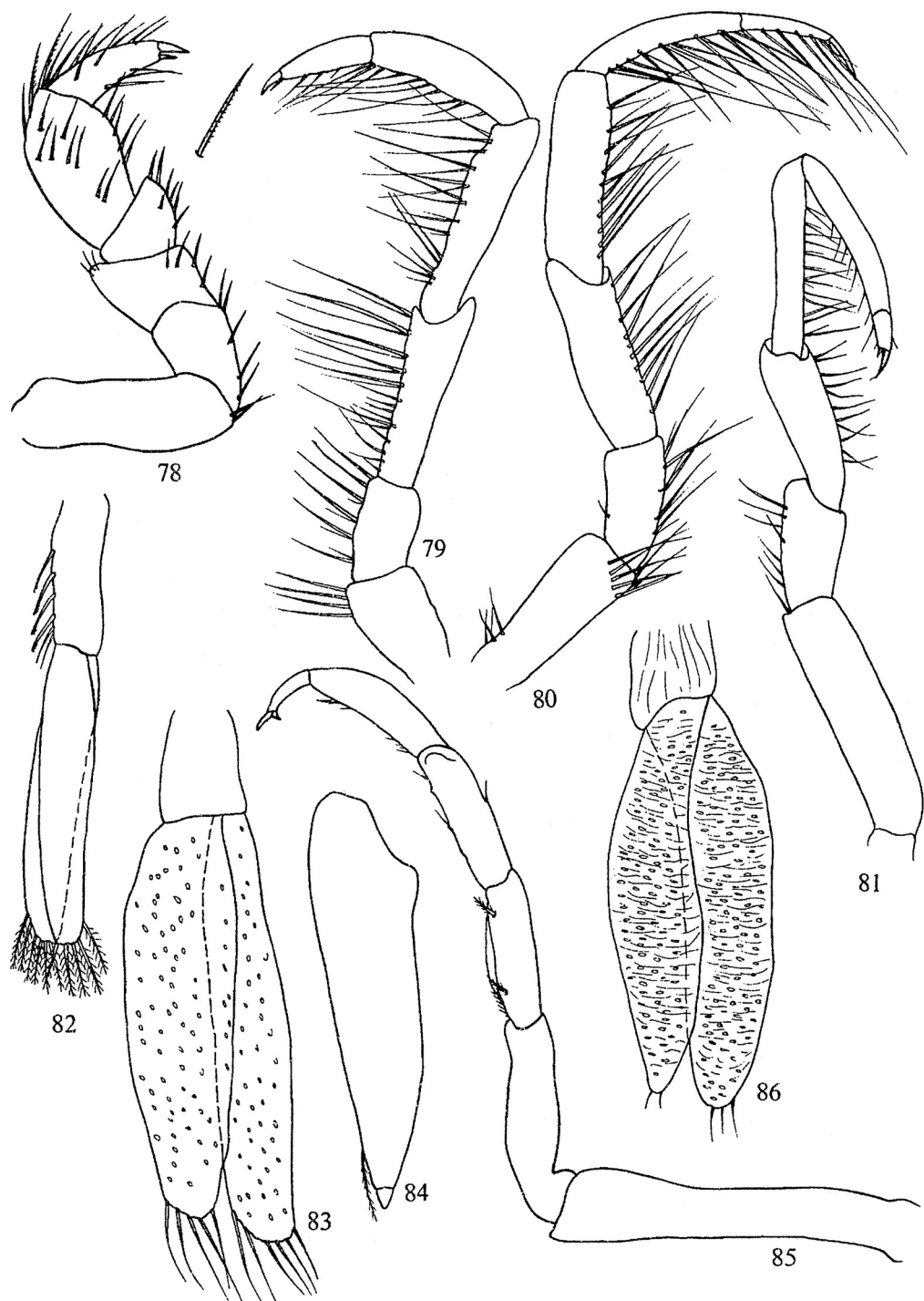
(Figs 69-86)

*Holotype.* ♀, ZIN, No. 1/69420, length 12 mm, R/V "Akad. Kurchatov", St. 926, off Falkland Islands, 52° 56' – 52° 52' S, 55° 36' – 55° 30' W, depth 1966-2016 m, 17.XII.1971, trawl.

*Description of holotype.* Body elongated, moderately slender, with considerably dilated pereonites 1-3; about 3.7 times as long as wide. Dorsal surface of body without spines or tubercles, except for 1 pair of thick, relatively short, acute "supraocular" spines on cephalothorax directed anterolaterally. Cephalothorax immovably fused with pereonite 1, but distinctly separated by suture dorsally and by incisions laterally; frontal margin not deeply concave; anterolateral angles pointed; lateral margins straight. Eyes absent. Pereonites 2 and 3 longest and widest, pereonites 4 and 7 shortest. Anterolateral angles of pereonite 1 slightly produced in short triangular acute lobes. Lateral parts of pereonites 2-7 swollen; pereonites 2 and 3 with stout, acute lateral supracoxal spines. Pereonites 5-7 and pleonite 1 with acute lateral spines. Tergites of pereonites 4-6 with concave posterior borders into which the following segments are inserted. Pleonites 1 and 2 much narrower than pereonite 7 and pleonite 3. All pleonites fused with pleotelson; fusion lines distinct by suture between pleonites 1 and 2, obvious narrow groove between pleonites 2 and 3, and shallow wide groove between pleonite 3 and remaining part of pleotelson. This caudal part with glabrous dorsal surface and lateral margins. Tip of pleotelson forming 2 stout, long



Figs 70-77. *Glaberarcturus stellae* sp. n., female, holotype. 70, antenna 1; 71, maxilliped; 72, maxilla 1; 73, left mandible; 74, right mandible; 75, maxilla 2; 76, antenna 2; 77, hypopharynx.



Figs 78-86. *Glaberacturus stellae* sp. n., female, holotype. 78, pereopod 1; 79, pereopod 2; 80, pereopod 3; 81, pereopod 4; 82, pleopod 1; 83, pleopod 2; 84, uropod; 85, pereopod 5; 86, pleopod 3.

acute, diverging, spine-like processes; between them the tip nearly straight, slightly convex medially:

Antenna 1 (Fig. 70) comparatively long, a little not reaching distal end of third joint of antenna 2; basal article broadest, nearly trapezoidal, second peduncular article longest, slightly longer than basal article and twice as long as third peduncular article; flagellum longer than second and third peduncular articles combined; first flagellar article very short; second article long, with 5 groups each of 2 aesthetascs and 2 simple setae.

Antenna 2 considerably shorter than body; third peduncular article a little longer than fourth article; fifth article longest, almost 1.6 times as long as fourth article; flagellum half as long as fifth article, consisting of 2 large and the third small distal claw-like articles.

Pars incisiva of left mandible (Fig. 73) with 4 poorly sclerotized light-coloured teeth; lacinia mobilis a little smaller than pars incisiva, with 3 teeth and 3 seta-like structures; pars molaris stout, broad grinding surface with feebly indented lower margin.

Pars incisiva of right mandible (Fig. 74) with 4 teeth, lacinia mobilis much smaller than pars incisiva, with 2 small teeth and 4 seta-like spines.

Lateral endite of maxilla 1 (Fig. 72) distally curved medially, with 9 curved teeth; medial endite shorter, strongly tapering distally, with 3 setulated long setae.

Inner endite of maxilla 2 (Fig. 75) with about 14 slender setae covered with setules all around; medial and outer endites each with 3 long setulated setae.

Maxilliped (Fig. 71) with oval epipodite bearing 4 small setae on lateral margin; endite short, bearing only 7 spine-like setae distally. Third and fourth palpal articles longest, about the same length; last article smallest; all articles with a dense brush of mostly setulated setae on medioventral surface and medial margin.

Pereopod 1 (Fig. 78) comparatively slender, much shorter than pereopods 2-4; basis longest, slightly longer than propodus and twice as long as ischium; carpus shortest, trapezoidal, slightly shorter than merus; dactylus elongate, shorter than propodus, with short claws. All articles without spines or tubercles, bearing only numerous long setae especially abundant on dactylus. Pereopods

2-4 (Figs 79-81) similar, filtering, without spines; pereopod 4 longest; carpus and basis equal in length, each slightly longer than merus and 1.75 times as long as ischium; propodus longest, 1-2 times as long as carpus and 20 times as long as the minute dactylus; filter setae present on all articles.

Pereopods 5-7 (Fig. 85) about as long as pereopod 4; basis the longest, on pereopod 7 this article 1.5 times as long as propodus and equal in length to merus and carpus combined; dactylus shortest, 0.42 times as long as propodus, with 2 short claws; dorsal claw 2.4 times as long as ventral one; ventral surface on carpus with 4 spines; propodus with 1 distoventral spine.

Both branches of pleopod 1 (Fig. 82) long and very narrow, with few long distal plumose setae. Branches of pleopod 2 (Fig. 83) broader than of pleopod 1, with many long marginal plumose setae.

Uropod (Fig. 84) with long setae along lateral margin; both distal rami without setae.

*Etymology.* This species is named in honour of the well-known carcinologist Dr. Stella V. Vassilenko of the Zoological Institute, St. Petersburg, Russia.

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