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RESULTS OF THE DIVA-1 EXPEDITION OF RV “METEOR” (CRUISE M48/1)

Cumacea species (Crustacea: Peracarida) from the deep-sea expedition DIVA-1 with RV “Meteor” to the Angola Basin in July 2000. Family Nannastacidae

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Seven new deep-sea species of the family Nannastacidae from the Angola Basin were observed. In total three species, one in open nomenclature, of the genus *Campylaspis* Sars, 1865, and one *Cumella* Sars, 1865, two *Styloptocuma* Bacescu and Muradian, 1974, and one *Platycuma* Calman, 1905, are described.

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Keywords: Cumacea; Deep sea; Angola Basin; Taxonomy

Introduction

The present study is part of the DIVERSITY of the Abyssal Atlantic (DIVA) project which itself is part of the international DIVERSITAS program analysing the biological resources of the Atlantic. The focus of the expedition DIVA-1 was the Angola Basin.

The two major aims of the project are the analysis of:

- Latitudinal gradient of species richness and the effect of agriculture and climatic changes in Africa.
- Latitudinal gradient of species richness of the deep Atlantic and the influence of natural (biotic and abiotic) factors on diversity.

The systematic analysis of the entire samples, of which the present study is a part, is basis for answering the questions given. As very little work has been done for the Cumacea in this particular part of the Atlantic, many new species were expected. The families Lampro-pidae, Bodotriidae and Leuconidae are analysed elsewhere (Mühlenhardt-Siegel, 2005a, b).

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(U. Mühlenhardt-Siegel).

The present study concentrates on the family Nannastacidae, which is represented by 19 species in the deeper waters (more than 1000 m depth) of the South East Atlantic: seven species of the genus *Campylaspis*, four *Cumella*, one *Floridocuma*, five *Procampylaspis* and two *Styloptocuma* species are known until now, mainly due to the effort of Jones (1974, 1984). The family Diastylidae will be treated in a subsequent paper.

Material and methods

The specimens were collected during the DIVA-1 expedition with R.V. “Meteor” from 6 July to 2 August 2000 from the Angola Basin (Me 48/1). The most efficient gear for collecting cumacean crustaceans was the epibenthic sledge equipped with epi- and supranet, modified after Brandt and Barthel (1995). Very few specimens were collected by box corer and multi-corer (MUC).

Sampling took place at 12 stations on a 700 km long transect across the eastern margin of the Angola Basin in depths of about 5500 m (Table 1). The epibenthic sledge material was fixed and preserved in ethanol after

Table 1. Station list of the epibenthic sledge samples

Date	Area	Station	Sample	Position start	Depth (m)	Position end	Depth (m)	Time (min)	Distance (m)
07/09/00	1	318	EBS 01	22°20.0'S, 003°18.3'E	5125	22°20.2'S, 003°18.4'E	5144	79	2438.47
07/10/00	1	320	EBS 02	22°19.9'S, 003°17.8'E	5127	22°20.0'S, 003°17.9'E	5126	88	2716.27
07/15/00	2	326	EBS 03	19°57.4'S, 002°57.5'E	5448	19°57.5'S, 002°56.9'E	5449	76	2345.87
07/16/00	2	328	EBS 04	19°59.8'S, 002°53.9'E	5450	19°59.9'S, 002°53.9'E	5452	71	2191.33
07/16/00	2	329	EBS 05	19°59.0'S, 002°53.7'E	5450	19°59.3'S, 002°53.6'E	5450	75	2315.00
07/18/00	3	332	EBS 06	19°07.2'S, 003°48.4'E	5427	19°07.6'S, 003°48.1'E	5426	82	2531.07
07/20/00	3	335	EBS 07	19°06.9'S, 003°49.2'E	5425	19°07.8'S, 003°49.8'E	5425	153	4722.60
07/22/00	4	338	EBS 08	18°19.4'S, 004°39.7'E	5397	18°20.8'S, 004°38.6'E	5398	114	3518.80
07/22/00	4	340	EBS 09	18°18.3'S, 004°41.3'E	5395	18°19.4'S, 004°41.9'E	5395	140	4321.33
07/25/00	5	344	EBS 10	17°06.2'S, 004°41.7'E	5415	17°07.5'S, 004°42.3'E	5415	145	4475.66
07/28/00	6	348	EBS 11	16°18.1'S, 005°27.2'E	5390	16°19.3'S, 005°27.2'E	5387	145	4475.66
07/29/00	6	350	EBS 12	16°14.3'S, 005°26.8'E	5389	16°14.9'S, 005°26.7'E	5389	103	3179.27

a quick dip in freshwater. The MUC and box corer samples were fixed in 4% formaldehyde–seawater solution. The material was fixed and preserved in ethanol after a quick dip in freshwater. The type series of the new species are deposited in the Zoological Museum, Hamburg (ZMH), and Museum Senckenberg, Frankfurt (SMF).

Results

Campylaspis sp. A (Fig. 1)

Material: Station 318 (epibenthic sledge, epinet): two subadult females, one subadult male; station 338 (epibenthic sledge, supranet): one female; station 348 (epibenthic sledge, supranet): three subadult females + one subadult male dissected, two juveniles; station 350 (epibenthic sledge, epinet): one ovigerous female (holotype), three subadult females; ZMH: K 40643; station 340 (epibenthic sledge, epinet): one female; SMF 30281; station 344 (epibenthic sledge, epinet): two females; station 348 (epibenthic sledge, epinet): one ovigerous female, three subadult females, one subadult male, SMF 30282.

Holotype: Ovigerous female, ZMH: K 40642.

Date: 29 July 2000.

Leg.: Brandt and Wägele.

Locus typicus: Angola Basin, station 350 (epibenthic sledge, epinet): 16°14.3'S, 05°26.8'E (depth: 5389 m) to 16°14.9'S, 05°26.7'E (depth: 5389 m).

Diagnosis: Two parallel lateral carinae which are slightly serrate in the anterior region, the first starting ventro-anterior of ocular lobe, swinging postero-dorsad to posterior quarter, the second carina starts posterior ventrad of first carina and ends at posterior dorsal region where the left and right carinae meet; two pairs of tiny teeth aside the dorsomedian line at

the anterior part in juvenile and subadult specimens, some additional teeth are present in adult individuals up to the posterior end of the carapace.

Description is based on ovigerous female, 5.5 mm long

Carapace overlapping first two free thoracic segments, with two parallel lateral carinae, which are slightly serrate in the anterior region, the first starting ventro-anterior of ocular lobe, swinging postero-dorsad to posterior quarter, the second carina starts posterior ventrad of first carina and ends at posterior dorsal region where the left and right carinae meet; dorsomedian line of carapace slightly undulating, several pairs of tiny teeth at anterior part alongside the dorsomedian line, several hair-like setae covering the carapace.

Pseudorostral lobes moderately long, siphonal tube small, ocular lobe very small, no eye lenses; antennal notch and anterolateral tooth not distinct, anteroventral margin of carapace slightly serrate, integument calcified, with scaly structure in adults, and with pigment spots especially close to the carinae and at the tip of pseudorostrum; five free thoracic segments visible, dorsomedian part of the first two segments undulating; carapace and free thoracic segments combined 1.5 times longer than pleon; pleonite 6 short, 0.3 times as long as uropods' peduncle.

Description of appendages based on paratype, subadult male

Antenna 1 basal article longest, little bent, following articles getting little shorter; main flagellum three segmented, two aesthetascs from distal margin of second article, terminal article short, with two short setae, accessory flagellum very short with four hair-like setae, two of them compound.

Maxilliped 2 basis stout with one long plumose seta, ischium short, carpus with one tooth at inner distal

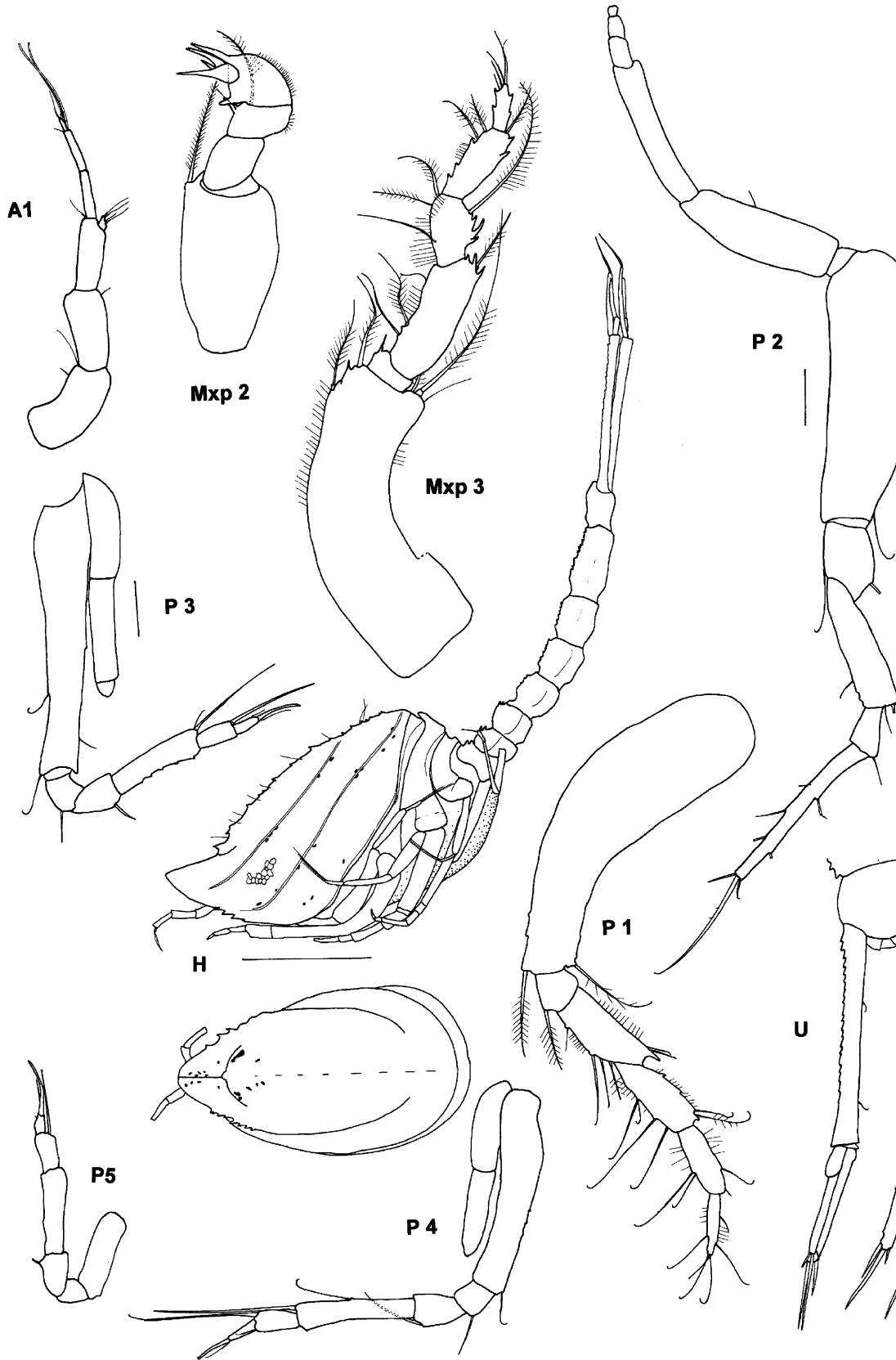


Fig. 1. *Campylaspis* sp. A. H: Habitus ovigerous female, from lateral and carapace from above (scale: 1 mm); appendages from paratype, subadult male; A1: antenna 1 (same scale as in P2), Mxp2: maxilliped 2 (same scale as in P2), Mxp3: maxilliped 3 (same scale as in P2), P1: pereiopod 1 (same scale as in P2), P2: pereiopod 2 (scale: 0.1 mm), P3: pereiopod 3 (same scale as in P2), P4: pereiopod 4 (same scale as in P2), P5: pereiopod 5 (same scale as in P2), U: pleonite 6 and uropods (scale: 0.1 mm).

margin, one plumose seta at distal margin, fine hair-like setae at outer margin, propodus with one tooth at inner proximal margin, crossing tooth of carpus, and three long teeth at distal margin, dactylus with one long tooth.

Maxilliped 3 with one to several teeth at distal inner or outer margin of each article, basis longest article, shorter than rest of appendage, long plumose setae at inner and outer distal margin, ischium present with one tooth at inner margin, merus second longest article with three teeth at outer margin, carpus short with teeth at outer margin, propodus little shorter than merus, with teeth at inner and outer margins, dactylus longer than ischium with four simple distal setae and teeth at outer and inner margin; exopod present.

Pereiopod 1 basis longest article, shorter than rest of appendage, two plumose setae at distal margin, ischium with one plumose seta at distal margin, merus second longest article, with one tooth at distal margin, carpus little shorter than merus, with indistinct teeth, hair-like setae, long simple setae and one plumose seta at margin, propodus without teeth but with long, simple and several fine, hair-like setae, dactylus little shorter than propodus, with three simple setae distally, two subterminally and several hair-like setae at margins; exopod present (not figured).

Pereiopod 2 long and slender, basis longest article, shorter than rest of appendage, ischium very short, carpus relatively long, propodus shorter than merus, dactylus tapering, second longest article after basis, as long as carpus and propodus combined, one long terminal and two shorter subterminal setae, five simple setae at margins; exopod present.

Pereiopod 3 basis little longer than rest of appendage, ischium little shorter than merus, carpus second longest article with one margin little serrate, one long simple distal seta, propodus 0.4 times as long as carpus and equal in length to ischium, with one long simple distal seta, dactylus shortest article, with one strong terminal seta and two fine simple subterminal setae; exopod present, not fully developed in subadult paratype.

Pereiopod 4 similar to pereiopod 3 but basis shorter.

Pereiopod 5 shorter than pereiopods 3 and 4, carpus longest and basis second longest article, dactylus shortest, ischium second shortest article, merus little longer than propodus, dactylus terminal seta strong, longer than propodus and dactylus combined. Uropods' peduncle long and slender, 1.9 times as long as endopod, exopod little shorter than unsegmented endopod, terminal spine of exopod 0.8 times as long as exopod, terminal spine of endopod 0.6 times as long as endopod.

Remarks

The described species resembles *Campylaspis mansa* Jones, 1974, and *C. bicarinata* Jones, 1974, in terms of the two parallel ridges on either side of the carapace.

Jones (1974) stated both species near to *C. undata* Sars, 1865, a species with well-defined eyelobe with lenses.

The species described herein has two pairs of tiny teeth alongside the dorsomedian line at the anterior part in juvenile and subadult specimens, some additional teeth are present in adult individuals up to the posterior end of the carapace, a character not present in the two species described by Jones (1974). The described species is closer to *C. bicarinata* than to *C. mansa* in terms of the ocular lobe's size, the basal article of A1 being curved, one tooth each at carpus and propodus of the second maxilliped, merus of third maxilliped 3 serrate on upper edge and the uropods' endopod being longer than the exopod; *Campylaspis* sp. A resembles more *C. mansa* in terms of the second pereiopod's dactylus being as long as carpus and propodus together. The described species differs from both known species in terms of terminal spines at second pereiopod's dactylus, and the uropods' peduncle being less than twice as long as the endopod. May be these characters are not strong enough to support erection of a new species, so it remains in open nomenclature.

Campylaspis akymata sp. n. (Fig. 2)

Material: Station 338 (epibenthic sledge, supranet): one subadult male; station 344 (epibenthic sledge, supranet): one subadult female, two subadult males; station 348 (epibenthic sledge, epinet): four subadult females (one of these females holotype, one dissected); station 350 (epibenthic sledge, epinet): one subadult male; ZMH: K 40645; station 341 (box corer no. 6): one adult male, strongly decalcified; station 344 (epibenthic sledge, epinet): one subadult female, one subadult male, SMF 30283.

Holotype: Subadult female, ZMH: K 40644.

Date: 28 July 2000.

Leg.: Brandt and Wägele.

Locus typicus: Angola Basin, station 348 (epibenthic sledge, epinet): 16°18.1'S, 05°27.2'E (depth: 5390 m) to 16°19.3'S, 05°27.2'E (depth: 5387 m).

Diagnosis: *Campylaspis* with smooth carapace and a slender maxilliped 3; dactylus of pereiopod 2 second longest article after basis, but shorter than carpus and propodus combined; ischium, merus and carpus of the maxilliped 3 bearing a tooth each.

Etymology: The species is named after its smooth (gr. waveless, calm) carapace.

Description is based on holotype, subadult female, 4 mm long

Carapace smooth, overlapping first two free thoracic segments, pseudorostral lobes meeting in front of ocular lobe for a moderate distance, siphonal tube short, ocular lobe small, eyes reduced, antennal notch wide and

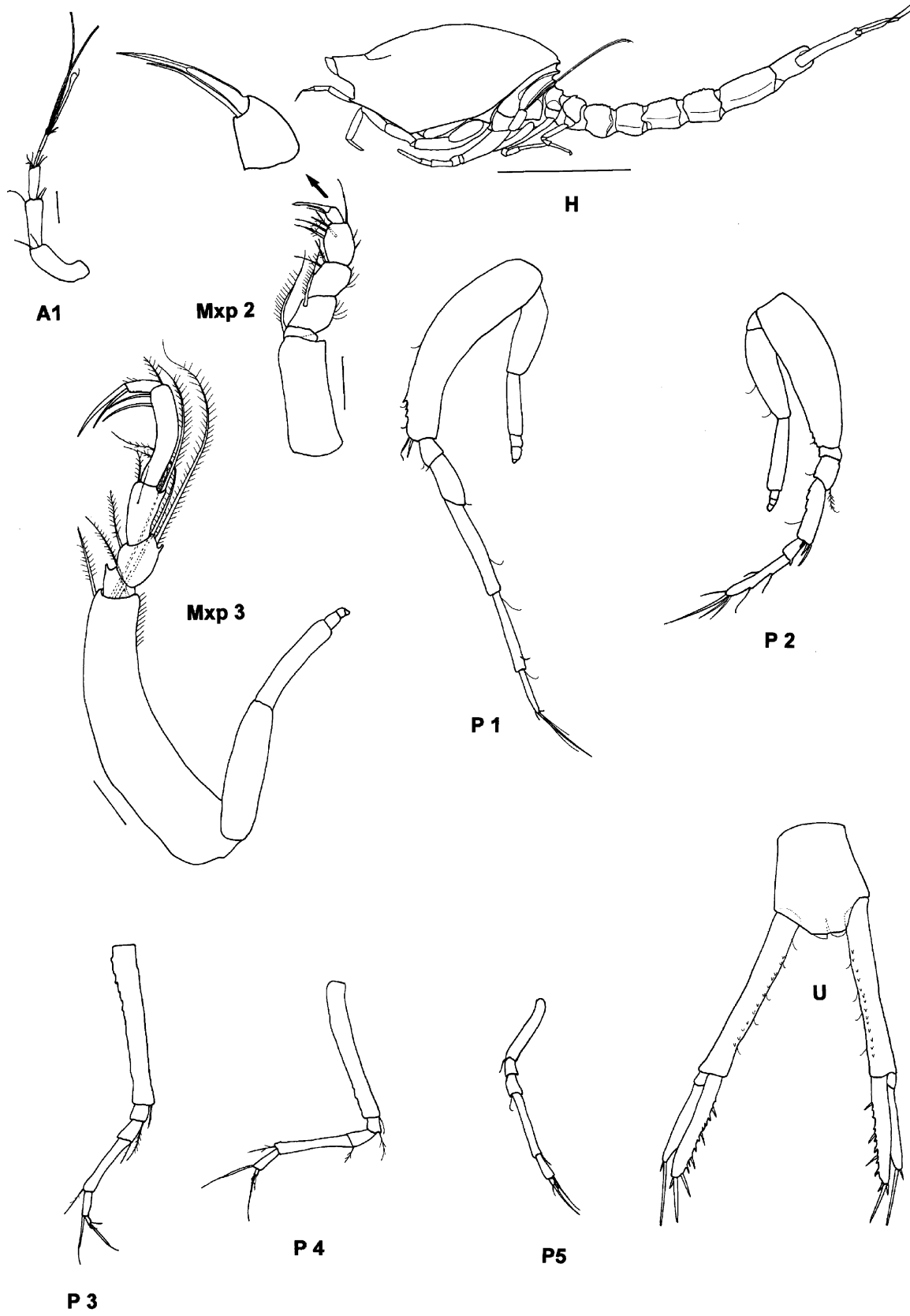


Fig. 2. *C. akymata* sp. n., female. H: Habitus from lateral (scale: 1 mm), A1: antenna 1 (scale: 0.1 mm), Mxp2: maxilliped 2 (scale: 0.1 mm) and its dactylus with terminal setae in higher magnification, Mxp3: maxilliped 3 (same scale as in Mxp2), P1: pereopod 1 (same scale as in A1), P2: pereopod 2 (same scale as in A1), P3: pereopod 3 (same scale as in A1), P4: pereopod 4 (same scale as in A1), P5: pereopod 5 (same scale as in A1), U: pleonite 6 and uropods (same scale as in A1).

shallow, anterolateral tooth short, subacute, anteroventral margin of carapace smooth, five thoracic segments visible, short; pleon little longer than carapace; telsonic segment 0.6 times as long as uropods' peduncle.

Description of appendages based on paratype, female, appendages with scaly structure

Antenna 1 basal article of peduncle geniculated, articles of peduncle successively shortening, two segmented accessory flagellum tiny, main flagellum three segmented, second article distally with two long aesthetascs and two short hair-like setae, third article tiny, tipped with two long, hair-like setae.

Maxilliped 2 stout, basis shorter than rest of appendage, ischium short, merus, carpus and propodus similar in length, dactylus short, its two terminal setae longer than dactylus.

Maxilliped 3 basis longer than rest of appendage, distally with one plumose seta at inner and three at outer margin, ischium with one tooth at inner margin, merus 1.7 times as long as ischium, with one short plumose seta at inner and one tooth and one long plumose seta at outer margin, carpus little longer than merus, at outer distal margin one tooth and one long plumose seta, propodus second longest article after basis, two simple setae at inner, one short plumose seta at outer margin, dactylus shorter than merus, its terminal and subterminal setae longer than distal article; exopod present.

Pereiopod 1 basis shorter than rest of appendage, with three tiny teeth, two simple and three hair-like setae at lower margin, ischium present, with two hair-like setae, merus 1.9 times as long as ischium, with one hair-like seta distally, carpus second longest article, 1.9 times as long as merus, with two hair-like setae, propodus 1.4 times as long as merus, with two hair-like setae, dactylus 0.8 times as long as merus, terminal simple seta 1.5 times as long as dactylus, additionally two long and two short hair-like setae; exopod present.

Pereiopod 2 basis shorter than rest of appendage, ischium present, merus 2.3 times as long as ischium, with one plumose seta, carpus twice as long as merus, with three strong setae distally, propodus short, 0.7 times as long as merus, with one tooth distally, dactylus second longest article after basis, five times as long as propodus but shorter than carpus and propodus combined, one stronger terminal and three simple, shorter setae subterminally; exopod present.

Pereiopod 3 basis longer than rest of appendage, with simple seta at distal inner margin, ischium present, with fine, plumose seta, merus 1.4 times as long as ischium, with hair-like plumose seta, carpus second longest article, with fine, weakly plumose seta at outer distal margin, propodus as long as merus, with terminal annulate seta at outer distal margin, dactylus half as long as propodus, terminal seta longer than dactylus, this article with two hair-like subterminal setae, no

exopod; pereiopod 4 similar to pereiopod 3, but basis little shorter and carpus little longer than in pereiopod 3; pereiopod 5 basis shorter than rest of appendage, ischium little shorter than merus, carpus subequal in length to basis, propodus 1.3 times as long as merus, with seta distally annulated, dactylus a quarter in length of propodus, terminal seta distally annulated and longer than dactylus and propodus combined, two short hair-like subterminal setae.

Uropods' peduncle 1.6 times as long as pleonite 6, 1.7 times as long as endopod, with four (right peduncle) to five (left peduncle) hair-like setae and 12 (left peduncle) to 14 (right peduncle) spines at inner margin; exopod shorter than endopod, terminal seta 0.7 times as long as basal article, one shorter subterminal seta; endopod unsegmented, inner margin with three setae and seven spines (in following arrangement: one seta, three spines, one seta, two spines, one seta, two spines), terminal seta strong, two shorter subterminal setae.

Remarks

A lot of species among the speciose genus *Campylaspis* belong to a subgroup with smooth carapace, only eight of them having a slender maxilliped 3 as in the new species: *C. angularis* Gamô, 1960, from Japan, *C. excavata* Ledoyer, 1993, from the Weddell Sea, *C. glabra* Sars, 1879, from the North Atlantic, *C. latipes* Ledoyer, 1988, from the Mozambique Channel, *C. nitens* Bonnier, 1896, described for the Atlantic, *C. orientalis* Calman, 1911, from the northwestern Pacific, *C. rubicunda* (Lilljeborg, 1855) from the North Atlantic and Arctic, and *C. rufa* Hart, 1930, from the eastern Pacific (Table 2). Five of the known species have a short pseudorostrum unlike the new species; the new species resembles in respect of this character the species *C. latipes*, *C. nitens* and *C. rubicunda*. The dactylus in the pereiopod 2 is shorter than carpus and propodus combined in the new species and *C. nitens*, but equal or longer in *C. latipes* and *C. rubicunda*, respectively. In the new species, the second longest article of maxilliped 3 is the propodus, but in *C. nitens* it is the merus. In the new species ischium, merus and carpus of maxilliped 3 bear a tooth each, in *C. nitens*, additionally to these teeth bearing articles, the propodus has a tooth.

Only the species *C. latipes*, *C. excavata* and *C. nitens* among the group with slender maxilliped 3 have teeth at the inner margin of the uropods' endopod like in the new species, but only the first two species have also setae in addition to the spines. In respect of this character, the new species resembles most *C. excavata*; it differs from this species in terms of the number of spines (seven in the new species, five in *C. excavata*) and setae (three in the new species, two in *C. excavata*).

The new species has 12–14 spines at the inner margin of the uropods' peduncle, only two species — *C. latipes*

Table 2. *Campylaspis* species subgroup out of the *rubicunda* group, with slender maxilliped 3

<i>Campylaspis</i> species Author	<i>akymata</i> sp. n.	<i>angularis</i> Gamô, 1960	<i>excavata</i> Ledoyer, 1993	<i>glabra</i> Sars, 1879	<i>latipes</i> Ledoyer, 1988	<i>nitens</i> Bonnier, 1896	<i>orientalis</i> Calman, 1911	<i>rubicunda</i> (Lilljeborg, 1855)	<i>rufa</i> Hart, 1930
Distribution	Angola Basin	Japan	Weddell Sea	NAtl, NWAtl	Mozambique Channel	Atlantic	NW Pacific	NAtl, Arctic	E Pacific
Dorsomedian line of carapace	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth	Smooth
Pseudorostrum	Normal	Short	Short	Short	Normal	Rel. long	Short	Normal	Short
Antennal notch	Distinct	Small	Rounded	Missing	Tiny	n.d.	Shallow	Missing	Missing
Subrostral tooth	Prominent	Small	2 teeth	Missing	Rounded	n.d.	Rounded	Missing	Missing
Mxp 3 second longest article after basis	P	P	M	n.d.	M	M	P	n.d.	M
Mxp 3 teeth on article	IMC 1 tooth each	I	MC	n.d.	No teeth	I, M, C, P	No teeth	n.d.	No teeth
Denticles or spines on uropods' peduncle	12–14	0	0	0	6	10	0	0	3 setae
Setae at endopod	3	4	2	7	1	0	7	3	6
Spines (serration) at endopod	7	0	5	0	5	8	0	0	0
<i>Length proportions</i>									
P2 dactylus to carpus + propodus	Shorter	Shorter	Shorter	Shorter	Equal	Shorter	n.d.	Longer	Shorter
Uropods' peduncle to pleonite 6	1.6	1.9	1.7	2.1	4.4	3.6	1.8	1.8	2.1
Uropods' endo-to exopod	Endo longer	Equal	Endo longer	Endo longer	Equal	Endo longer	Endo longer	Endo longer	Endo longer

P2: pereopod 2; Mxp3: maxilliped 3; I: ischium; M: merus; C: carpus; P: propodus; n.d.: no data.

and *C. nitens*—do have spines at the uropods' peduncle: only six in *C. latipes* and 10 in *C. nitens*.

***Procampylaspis divae* sp. n. (Fig. 3)**

Material: Station 340 (epibenthic sledge, epinet): two subadult females, one subadult male, damaged; station 348 (epibenthic sledge, epinet): one subadult male (holotype); station 350 (epibenthic sledge, supranet) one subadult male; station 346/1 MUC: one subadult female; ZMH: K 40647; station 350 (epibenthic sledge, epinet): one subadult male, one juvenile, one subadult female, SMF 30285.

Holotype: Subadult male, ZMH: K 40646.

Date: 28 July 2000.

Leg.: Brandt and Wägele.

Locus typicus: Angola Basin, station 348 (epibenthic sledge, epinet), 16°18.1'S, 05°27.2'E (depth: 5390 m) to 16°19.3'S, 05°27.2'E (depth: 5387 m).

Diagnosis: Maxilliped 2 with six dactylar spines; second longest article after basis of the maxilliped 3 is the propodus; uropods' peduncle more than three times as long as the pleonite 6.

Etymology: The new species is named after the expedition DIVA.

Description is based on holotype, subadult male, 3.7 mm long

Carapace not highly elevated, not overlapping the first free thoracic segments, with hair-like setae, especially in the anterior region; one tooth-like prominence at highest elevation of dorsomedian line; pseudorostral lobes moderately long, little upturned; siphonal tube short; ocular lobe rudimentary; eyes absent; antennal notch small, not pronounced; anterolateral tooth rounded; anteroventral margin of carapace smooth; five thoracic segments visible, the first with tooth-like, middorsal, anteriorly directed prominence; pleon 0.7 times as long as carapace and free thoracic segments combined; pleonite 6 short, 0.3 times as long as uropods' peduncle.

Description of appendages based on paratype, subadult male

Antenna 1 straight and slender, first article longest, with a long plumose seta distally, second article with one slightly plumose seta and three compound setae; third article of peduncle with two compound setae, tiny accessory flagellum two segmented, about half as long as first article of main flagellum, three hair-like setae at basal article and two compound setae at distal article of accessory flagellum; main flagellum three segmented, two aesthetascs from second article, last article tiny, with three hair-like setae.

Maxilliped 2 basis shorter than rest of appendage, outer distal margin with strong seta, ischium short, merus with hair-like setae at outer margin, carpus little longer than merus, propodus second longest article after basis, dactylus claw like, with five spines, the proximal one bifid, which gave the appearance of six dactylar spines.

Maxilliped 3 basis with hair-like setae along margins, distally with one shorter and three long plumose setae, ischium short, merus with two short plumose setae, carpus shorter than merus, with two plumose setae, propodus second longest article after basis, with five simple setae at inner margin and one plumose seta at outer margin, dactylus as long as carpus, with one strong terminal and three hair-like subterminal setae; exopod present.

Pereiopod 1 usually broken (at least after carpus) in paratypes; exopod present (not figured).

Pereiopod 2 basis longest article, ischium present, merus short, carpus as long as dactylus, second longest article after basis, carpus with strong simple seta and two hair-like setae distally, propodus subequal in length to merus, dactylus with one stronger and three simple terminal setae and three simple setae along margins; exopod present.

Pereiopod 3 damaged.

Pereiopod 4 broken in paratype; developing exopod present.

Pereiopod 5 basis longest article, ischium moderately long, merus little longer than ischium, carpus second longest article after basis, with a long, slightly plumose seta and one simple seta distally, propodus shorter than merus, dactylus tiny, with a terminal simple seta which is longer than dactylus.

Uropods' peduncle of female paratype long and slender, dorsally with row of 19 denticles, 1.7 times as long as uropods' endopod; exopod equal in length to endopod; endopod unsegmented, at distal third with five serrations.

Remarks

Many species in the genus *Procampylaspis* have five spines at the dactylus of the maxilliped 2, a lot of them have the proximal tooth incompletely divided and the proximal part of the tooth being longer. Within these species there are only four with no teeth or strong setae at the maxilliped 3 and the pereiopod 1 like in the new species: *P. acanthomma* Jones, 1984 (Atlantic), *P. lutensis* Jones, 1984 (North Atlantic), *P. procurrans* Jones, 1984 (SW Africa, Argentina) and *P. thalassae* Bacescu and Muradian, 1972 (Mauretania, SW Africa, Spanish Sahara). *P. acanthomma* differs from the new species in having not a single middorsal tooth-like prominence but "its integument is covered with small irregular hexagonal reticulations" (Jones 1984). *P. procurrans* differs from the new species in having a

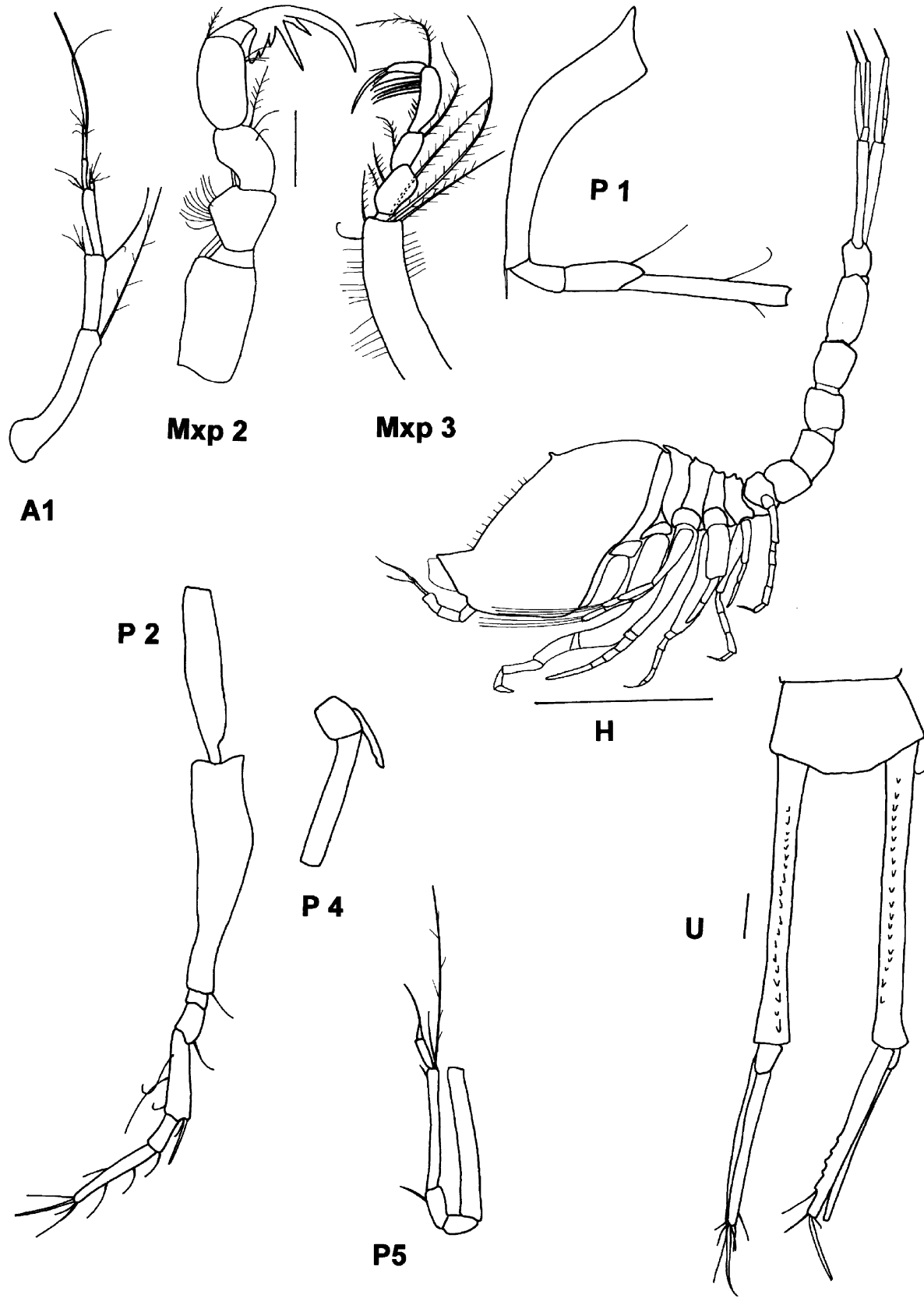


Fig. 3. *P. divae* sp. n., subadult male. H: Habitus from lateral (scale: 1 mm), A1: antenna 1 (same scale as in U), Mxp2: maxilliped 2 (scale bar: 0.1 mm), Mxp3: maxilliped 3 (same scale as in U), P1: pereiopod 1, broken off after carpus (same scale as in U), P2: pereiopod 2 (same scale as in U), P4: pereiopod 4, broken after basis (same scale as in U), P5: pereiopod 5 (same scale as in U), U: pleonite 6 and uropods (scale: 0.1 mm).

forward-pointing spine at the end of the eyelobe. *P. thalassae* differs from the new species in form and proportions of the pleonite 6 and proportion and armature of the uropods. The species resembling most the new species in terms of shape of the carapace is *P. lutensis*. The new species differs from all of the mentioned species in having six dactylar spines.

Cumella parameridionalis sp. n. (Fig. 4)

Material: Station 348 (epibenthic sledge, epinet): one subadult female (holotype); station 350 (epibenthic sledge, epinet); one subadult male (dissected), one subadult male; ZMH: K 40649.

Holotype: Subadult female, ZMH: K 40648.

Date: 28 July 2000.

Leg.: Brandt and Wägele.

Locus typicus: Angola Basin, station 348 (epibenthic sledge, epinet): 16°18.1'S, 05°27.2'E (depth: 5390 m) to 16°19.3'S, 05°27.2'E (depth: 5387 m).

Diagnosis: *Cumella* without eye lenses, carapace dorsomedian line with eight teeth up to the posterior margin, no protuberances on either side of the frontal area; ocular lobe with a pair of tiny teeth at anterior tip; pereopod 1 with only two teeth at lower distal margin of basis; pereopod 2 basis upper margin serrate, lower margin with one tooth at distal part; uropods' peduncle 1.2 times as long as endopod, inner and outer margin with up to four setae; exopod shorter than endopod, endopod unsegmented, with six strong setae at inner margin, one longer strong terminal and two short subterminal setae.

Etymology: The new species is named "*parameridionalis*" because of its resemblance to *C. meridionalis*.

Description is based on holotype, subadult female, 3.9 mm long

Carapace one-third of total length, not overlapping free thoracic segments, dorsomedian line with eight teeth up to the posterior margin, no protuberances on either side of the frontal area, pseudorostral lobes nearly horizontal, moderate length, meeting in front of ocular lobe; siphonal tube short; ocular lobe distinct, with a pair of tiny teeth at anterior tip; no eye lenses; antennal notch wide, extending to level of posterior margin or ocular lobe; anterolateral tooth distinct, reaching the anterior tip of ocular lobe, anteroventral margin of carapace serrate; integument calcified, honeycomb-like structure in higher magnification, five thoracic segments visible; pleon half as long as total length; pleonite 6 shorter (0.7 times) than uropods' peduncle, anal valves visible in dorsal view.

Description of appendages based on paratype, subadult male

Antenna 1 three basal articles moderately long, second is longest, basal article with strong distal seta, second article with tooth-like distal prolongation, terminally beset with three compound setae, accessory flagellum two segmented, half as long as basal article of main flagellum, with four compound setae terminally; main flagellum three segmented, two aesthetascs and one long simple seta from distal margin of second article, terminal article with two shorter simple setae.

Maxilliped 3 basis longer than rest of appendage, with small distal prolongation and two long plumose setae at outer, one short plumose seta at inner margin, ischium short, merus expanded at outer distal margin, with one long plumose seta, carpus little longer than merus but more slender than this, propodus second longest article after basis, with two simple setae at inner distal margin, dactylus second shortest article after ischium, terminal seta strong, 1.3 times longer than dactylus, one short and one little longer seta subterminally; exopod present.

Pereopod 1 basis little curved, shorter than rest of appendage, with two teeth at lower distal margin, ischium as long as merus, carpus second longest article after basis, propodus little shorter than carpus, dactylus half as long as carpus, terminal seta little longer than dactylus; exopod present.

Pereopod 2 basis longest article, shorter than rest of appendage, upper margin serrate, lower margin with one tooth at distal part, ischium short but distinct, merus wider than carpus, which is second longest article after basis, its distal margin with two strong tooth-like setae, propodus shorter than merus, dactylus little shorter than carpus, with one strong, long terminal seta and four shorter setae subterminally; exopod present.

Pereopod 3 basis longer than rest of appendage, ischium little shorter than merus, carpus second longest article after basis, propodus little longer than dactylus, the latter with one strong terminal and a shorter subterminal seta; exopod developing in subadult male.

Pereopod 4 similar to pereopod 3 but basis shorter than rest of appendage; exopod developing in subadult male.

Pereopod 5 similar to pereopod 4 but basis even shorter, no exopod.

Uropods' peduncle 1.2 times as long as endopod, inner and outer margin with up to four setae; exopod shorter than endopod, endopod unsegmented, with six strong setae at inner margin, one longer strong terminal and two short subterminal setae.

Remarks

The three specimens resemble the description for *Cumella meridionalis* given by Jones (1984), but there are some differences: the Angola Basin specimens do not have the basis of pereopod 1 strongly (as in *C.*

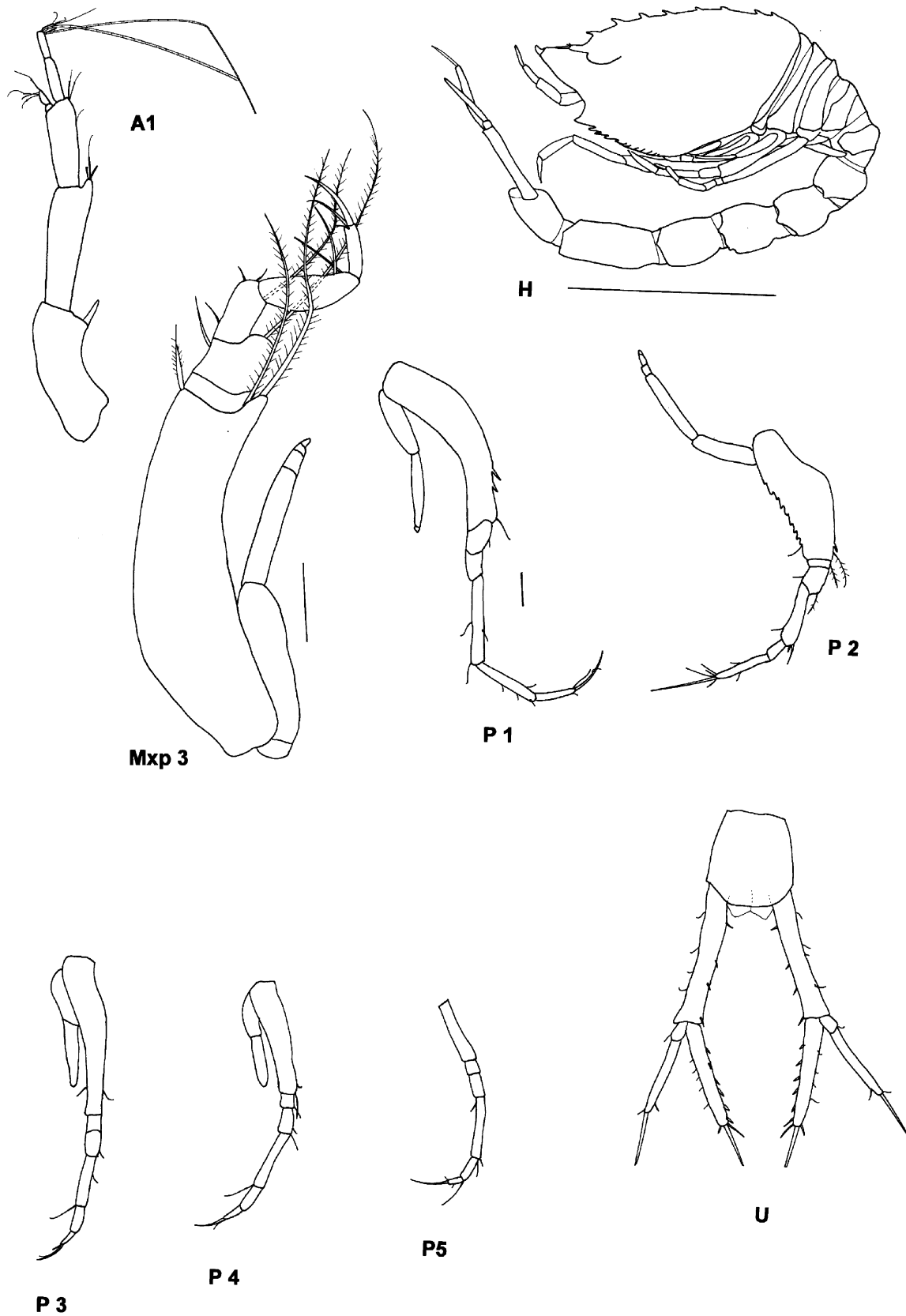


Fig. 4. *C. parameridionalis* sp. n. H: Habitus from subadult female from lateral (scale: 1 mm), appendages from subadult male A1: antenna 1 (same scale as in Mxp3), Mxp3: maxilliped 3 (scale: 0.1 mm), P1: pereiopod 1 (scale: 0.1 mm), P2: pereiopod 2 (same scale as in P1), P3: pereiopod 3 (same scale as in P1), P4: pereiopod 4 (same scale as in P1), P5: pereiopod 5 (same scale as in P1), U: pleonite 6 and uropods (same scale as in P1).

meridionalis) curved and this article has no several teeth at upper and lower margin but only two teeth at the lower distal margin. On the other hand, the basis of the pereopod 2 of *C. meridionalis* is unarmed, whereas in the Angola Basin specimens the basis of this appendage has its upper margin serrate, and the lower margin with one tooth at distal part; the uropods' peduncles are twice as long as the endopod and both, peduncle and endopod, are strongly serrate on their inner edge in *C. meridionalis* but in the Angola Basin specimens the peduncle is only 1.2 times as long as the endopod and there is no serration at the inner margin of the peduncle and endopod, but six strong spines at the inner margin of the endopod.

The number of dorsomedian teeth of carapace is less in the new species and there are no protuberances on either side of the frontal area like in *C. meridionalis*.

The new species is close to *C. meridionalis* but the given differences justify the erection of a new species.

***Styloptocuma pleonserrata* sp. n. (Fig. 5)**

Material: Station 318 (epibenthic sledge, epinet): two subadult females, one juvenile; station 338 (epibenthic sledge, supranet): one juvenile; station 344 (epibenthic sledge, epinet): one ovigerous female (holotype), one adult male, two juvenile; station 344 (epibenthic sledge, supranet): seven ovigerous females, one male; station 348 (epibenthic sledge, epinet): eight ovigerous females, one male, two juveniles; station 348 (epibenthic sledge, supranet): two ovigerous females, two nonovigerous females, two juveniles; station 350 (epibenthic sledge, epinet): five ovigerous females, three nonovigerous females, one juvenile; ZMH: K 40653a + b; station 330 (box corer no. 6): one subadult female; station 340 (epibenthic sledge, epinet): three nonovigerous females, six males, two juveniles; SMF 30287; station 340 (epibenthic sledge, supranet): one ovigerous female, one female with developing oostegites, one juvenile, SMF 30288.

Holotype: Ovigerous female, ZMH: K 40652.

Date: 25 July 2000.

Leg.: Brandt and Wägele.

Locus typicus: Angola Basin, station 344 (epibenthic sledge, epinet): 17°06.2'S, 04°41.7'E (depth: 5415 m) to 17°07.5'S, 04°42.3'E (depth: 5415 m).

Diagnosis: Carapace in female with notch in front of posterior margin, and eight long teeth getting shorter in posterior part, long siphonal tube; ocular lobe long and styliform, reaching the end of pseudorostrum, with terminal tooth; anterolateral corner with distinct tooth; pleon dorsal serrate.

Etymology: The new species is named after its dorsally serrate pleon.

Description based on holotype, ovigerous female, carrying seven eggs, 4 mm long

Carapace with few hair-like setae, dorsomedian line with notch in front of posterior margin, and eight long teeth getting shorter in posterior part, pseudorostrum truncate, 0.2 times as long as carapace, directed upwards, with terminal tooth dorsally; siphonal tube 1.6 times longer than pseudorostrum; ocular lobe long and styliform, reaching end of pseudorostrum, with terminal tooth; lenses missing; antennal notch rectangular; anterolateral tooth acute; anteroventral margin of carapace serrate; integument calcified; five free thoracic segments visible, shorter than carapace, dorsally with spines; pleon dorsally serrate, little (1.1 times) longer than carapace and free thoracic segments combined; pleonite 6 produced backwards, 0.7 times as long as peduncle.

Description of appendages based on paratype, female

Antenna 1 basis slender, articles successively shortening distally, distal tubercle at second article not distinct; accessory flagellum terminally with three setae, tiny, with three articles shorter than $\frac{1}{4}$ of basal article of main flagellum; main flagellum with three articles, the last very tiny, second article with two aesthetascs and one long simple seta.

Maxilliped 2 basis longer than rest of appendage, ischium short with one strong plumose seta at inner margin, merus round with hair-like setae at outer margin, carpus little longer than merus with three subterminal setae at inner margin, propodus and dactylus combined subequal in length to carpus, terminal seta of dactylus long, claw like, propodus with two distal and three subterminal setae.

Maxilliped 3 basis longer than rest of appendage, with two plumose setae distally, ischium short, with one plumose and one simple seta, merus little longer than wide with one plumose and two simple setae, carpus slender, longer than merus, propodus second longest article after basis, dactylus half as long as propodus, terminal seta longer than dactylus, two slender subterminal simple setae.

Pereopod 1 slender, basis shorter than rest of appendage, two teeth at distal inner margin, two strong setae at distal inner terminal margin, ischium only little shorter than merus, carpus second longest article after basis, propodus little shorter than preceding article, dactylus less than half as long as carpus, terminal seta longer than dactylus; exopod present.

Pereopod 2 basis shorter than rest of appendage, ischium short, merus more than twice as long as ischium, little bent, carpus second longest article, propodus half as long as preceding article, dactylus tapering, only little shorter than carpus (broken in paratype); exopod present.

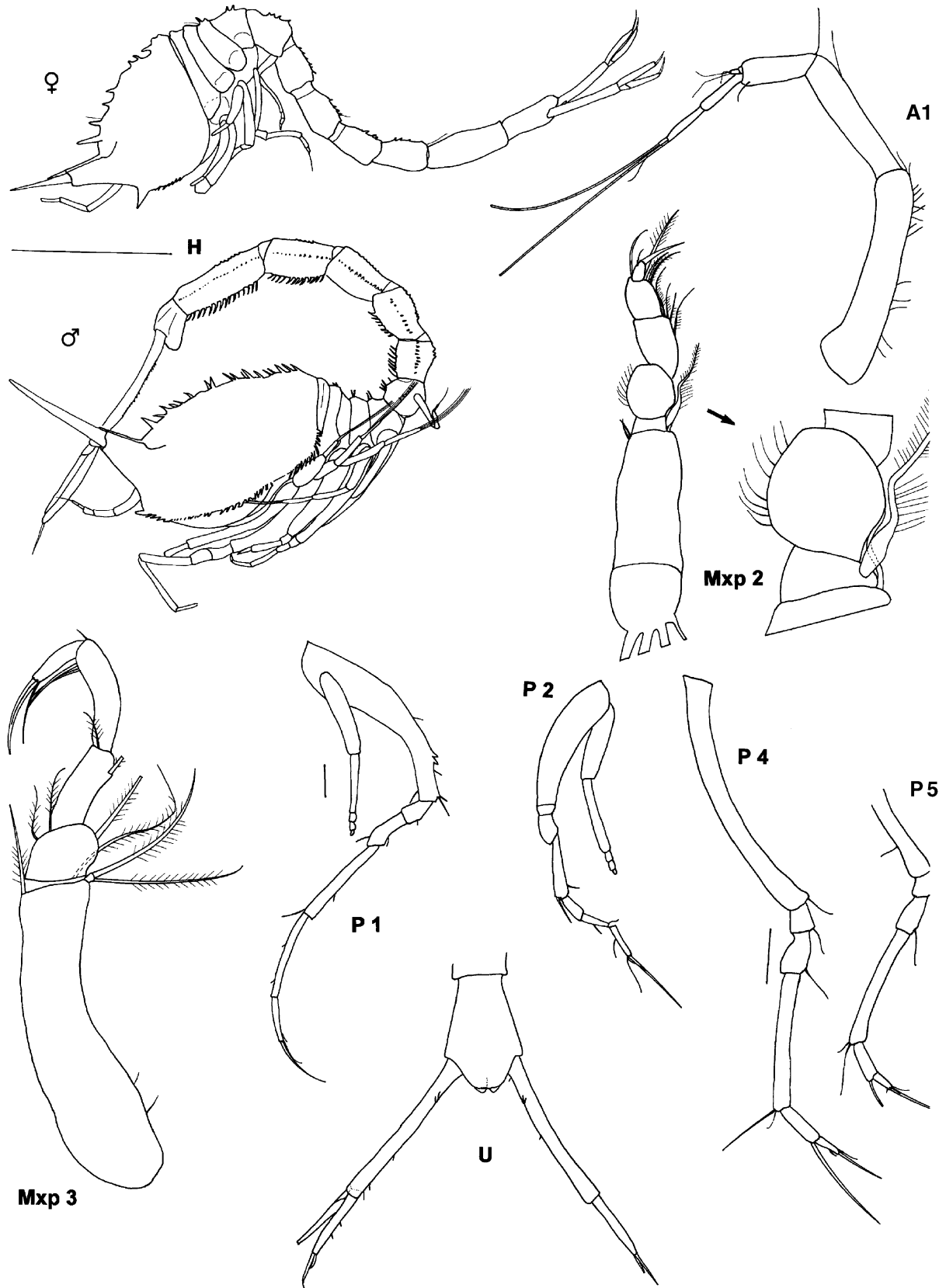


Fig. 5. *S. pleonserrata* sp. n. H: Habitus from lateral, male and female (scale: 1 mm), appendages from female; A1: antenna 1 (scale: 0.1 mm), Mxp2: maxilliped 2 (same scale as in A1), Mxp3: maxilliped 3 (same scale as in A1), P1: pereiopod 1 (scale: 0.1 mm), P2: pereiopod 2 (dactylus broken) (same scale as in P1), P4: pereiopod 4 (scale: 0.1 mm), P5: pereiopod 5 (same scale as in P4), U: pleonite 6 and uropods (same scale as in P1).

Pereiopod 4 slender, basis shorter than rest of appendage, ischium present, merus 1.4 times longer than ischium, carpus second longest article, 2.9 times longer than propodus, which is twice as long as dactylus, each article bearing a distal seta twice as long as respective article.

Pereiopod 5 basis broken, ischium short, merus little longer than ischium, carpus longest article, three times longer than merus, propodus as long as merus, with strong distal seta, dactylus 0.6 times as long as propodus, terminal seta three times longer than dactylus.

Uropods' peduncle slender, 2.3 times longer than endopod, 1.4 times longer than pleonite 6 with three hair-like setae at inner margin; exopod as long as unsegmented endopod; endopod with strong terminal and short subterminal seta.

Male's differences to female: More teeth at dorsomedian line, notch at posterior part of dorsomedian carapace missing, antennal notch wider than in female, siphonal tube longer, teeth on pleon longer, pleon laterally serrate.

Remarks

The important diagnostic characters given by [Bacescu and Muradian \(1974\)](#) and [Petrescu \(2000\)](#) for the genus are: elongate cumaceans with numerous spines, at least on carapace, long upturned pseudorostrum and long styliform ocular lobe, no visual elements; Petrescu emended the diagnosis, mentioning characters which are not only typical for the genus *Styloptocuma*, but also for other genera within the family Nannastacidae, e.g. characters of the first antenna, the mouthparts and maxillipeds.

The new species has all the important diagnostic characters given by [Bacescu and Muradian \(1974\)](#), but the tubercle at the first antenna's second article, mentioned to be a diagnostic character for the genus by [Petrescu \(2000\)](#), is not visible.

Within the genus *Styloptocuma*, containing 18 species ([Petrescu 2000](#)), a subgroup of 10 species has teeth or serrations on the pleon segments, these are: *S. aculeatum* ([Jones, 1984](#)) (off Recife, Surinam, Biscay), *S. antipai* ([Bacescu and Muradian, 1974](#)) (north western Atlantic), *S. bishopi* ([Jones, 1984](#)) (Surinam), *S. concinna* ([Jones, 1984](#)) (Biscay), *S. cristatum* ([Jones, 1984](#)) (Biscay), *S. echinatum* ([Jones, 1984](#)) (north eastern Atlantic), *S. egregium* ([Hansen, 1920](#)) (northern Atlantic), *S. erecta* ([Jones, 1984](#)) (north eastern Atlantic), *S. exstans* ([Jones, 1984](#)) (tropical northern Atlantic) and *S. formosum* ([Jones, 1984](#)) (off Argentina). Only the last species out of this subgroup is described for the southern Atlantic. There are two more species described for the southern Atlantic: *S. angustata* ([Jones, 1984](#)) (Brazil) and *S. dayae* ([Jones, 1984](#)) (off south western Africa and Argentina),

but these two species do not have teeth or serrations on the pleon segments.

The new species described herein has a distinct anterolateral tooth, which out of the mentioned *Styloptocuma* subgroup only the species *S. echinatum* has. The new species differs from *S. echinatum* in that it has a shorter pseudorostrum and carapace spines; the lateral row of spines mentioned for the female in *S. echinatum* is missing in the female of the new species but is present with shorter but more numerous spines in the male; pereiopod 1 in the new species has only two spines at the lower margin but no row of slender spines at upper and lower margin as in *S. echinatum*, the second pereiopod's exopod has a row of spines at the basis but this is not the case in the new species. The length proportion of the uropods' peduncle to pleonite 6 in the female is 2.8 in *S. echinatum*, but only 1.4 in the new species, i.e., in the new species the peduncle is relatively shorter than in *S. echinatum*.

Styloptocuma minima sp. n. (Fig. 6)

Material: Station 318 (epibenthic sledge, epinet): one ovigerous female, one nonovigerous female; station 338 (epibenthic sledge, supranet): two ovigerous females, one juvenile; station 344 (epibenthic sledge, epinet): three ovigerous females (one of them holotype, one of them dissected); station 344 (epibenthic sledge, supranet): six subadult females; station 348 (epibenthic sledge, epinet): four ovigerous females, 20 subadult females, four subadult males; station 348 (epibenthic sledge, supranet): three ovigerous females, 14 subadult females, two subadult males; station 350 (epibenthic sledge, epinet): seven ovigerous females, five subadult females, two subadult males; station 350 (epibenthic sledge, supranet): two ovigerous females, three subadult females, one subadult male; station 346/11 MUC: one subadult female; ZMH: K 40651; station 340 (epibenthic sledge, epinet): two ovigerous females, two nonovigerous females with developing oostegites, two subadult males, four subadult females, two juveniles; SMF 30289; station 340 (epibenthic sledge, supranet): one ovigerous female, three subadult females, SMF 30290.

Holotype: Ovigerous female, ZMH: K 40650.

Date: 25 July 2000.

Leg.: Brandt and Wägele.

Locus typicus: Angola Basin, station 344 (epibenthic sledge, epinet): 17°06.2'S, 04°41.7'E (depth: 5415 m) to 17°07.5'S, 04°42.3'E (depth: 5415 m).

Diagnosis: Carapace short, with three (sometimes four) teeth at dorsomedian line, ocular lobe elongate, reaching tip of pseudorostrum, with short tooth on tip; eye lenses missing; antennal notch not pronounced; anterolateral tooth short, not projecting;

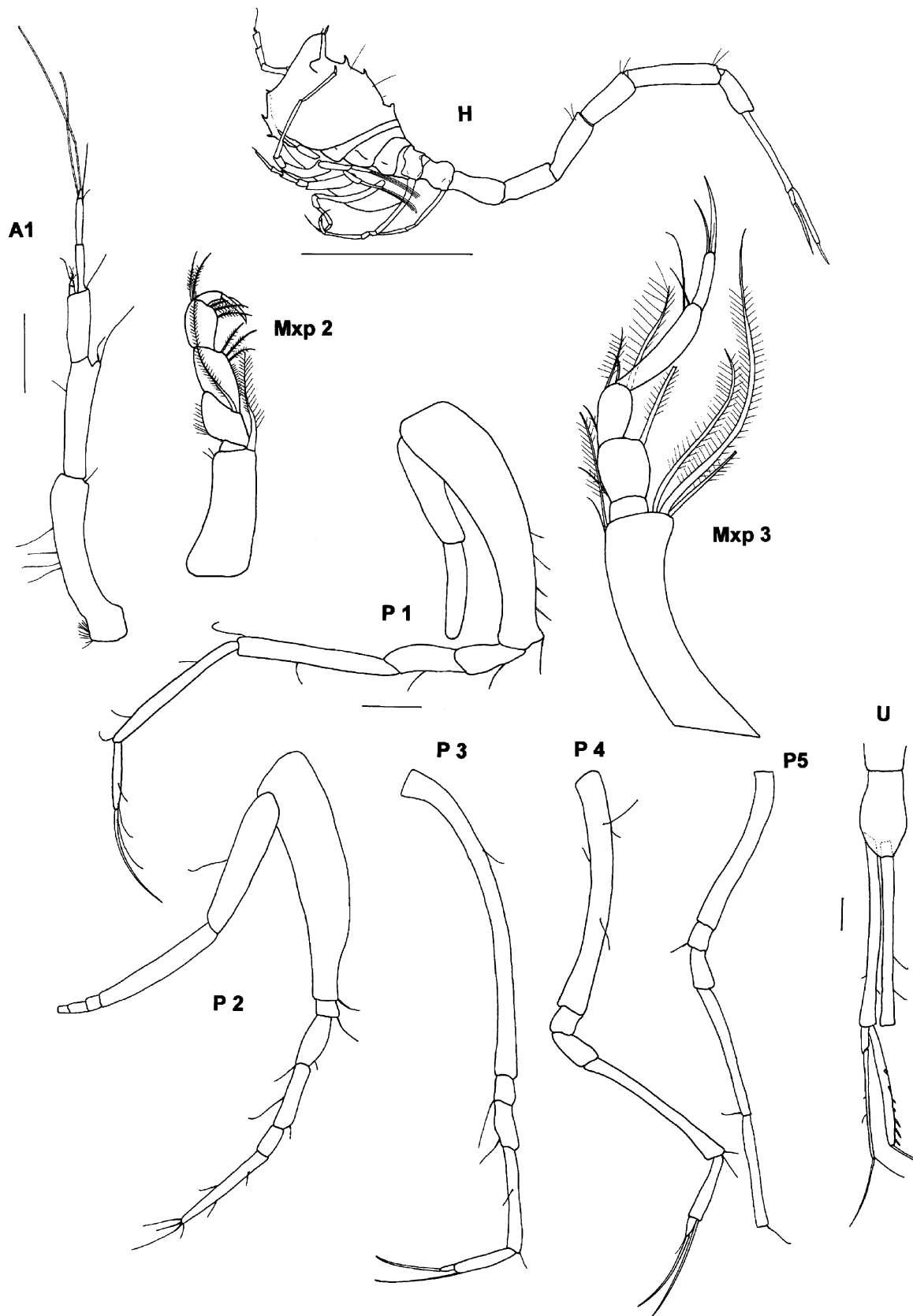


Fig. 6. *S. minima* sp. n., female. H: Habitus from lateral (scale: 1 mm), A1: antenna 1 (scale: 0.1 mm), Mxp2: maxilliped 2 (same scale as in A1), Mxp3: maxilliped 3 (same scale as in A1), P1: pereopod 1 (scale: 0.1 mm), P2: pereopod 2 (same scale as in P1), P3: pereopod 3 (same scale as in P1), P4: pereopod 4 (same scale as in P1), P5: pereopod 5 (same scale as in P1), U: pleonite 6 and uropods (scale: 0.1 mm).

anteroventral margin of carapace with two teeth; long and slender pleon without serration, teeth or denticles but a pair of hair-like setae at posterior dorsolateral part of the pleonites. Appendages long and slender.

Etymology: The species is named after its small body size.

Description based on holotype, ovigerous female, 3.4 mm long

Carapace short, with three (sometimes four) teeth at dorsomedian line: two (sometimes three) in the middle and one behind a dorsomedian notch close to posterior margin of carapace, few hair-like setae on carapace; pseudorostrum 0.4 times as long as carapace, directed dorsally at nearly right angle (70°), lobes not meeting; siphonal tube long; ocular lobe elongate, reaching tip of pseudorostrum, with short tooth on tip; eye lenses missing; antennal notch not pronounced; anterolateral tooth short, not projecting; anteroventral margin of carapace with two teeth; integument weakly calcified; five thoracic segments visible, combined shorter than carapace; pleon slender, 1.8 times longer than carapace and free thoracic segments combined, no teeth, spines or serration on pleon segments, occasionally with a pair of long hair-like setae latero-dorsally, close to the posterior margin of the pleonites; pleonite 6 1.8 times longer than wide and 0.4 times as long as uropods' peduncle.

Description of long and slender appendages based on paratype, female

Antenna 1 straight, basal article of peduncle longest, proximal with numerous short hair-like setae, median article with laterodistal prolongation carrying two hair-like setae, accessory flagellum two segmented, a third of basal article of main flagellum in length, main flagellum three segmented with two aesthetascs and one seta distally.

Maxilliped 2 basis longest article, shorter than rest of appendage, distal inner margin with strong plumose seta, ischium short, merus with plumose seta at inner margin, outer margin with distal prolongation, carpus second longest article with three plumose setae distally, propodus little shorter than carpus, distally with three plumose setae at inner and two at outer margin, dactylus short terminal seta strong and claw like.

Maxilliped 3 basis longest article, outer margin with three strong plumose setae, ischium short, merus about three times longer than ischium, outer margin with one strong plumose seta, inner margin with two shorter plumose setae, carpus shorter than merus, with two plumose setae at distal inner and one at distal outer margin, propodus second longest article, dactylus half as long as propodus, distal strong seta, one shorter subterminal seta; exopod present (not figured).

Pereiopod 1 basis longest article, shorter than rest of appendage, ischium subequal in length to merus, carpus and propodus equal in length, second longest articles, propodus more slender than carpus, dactylus little shorter than merus with one terminal spine longer than last article, two subterminal shorter setae; exopod present.

Pereiopod 2 basis longest article, shorter than rest of appendage, ischium short, merus little shorter than carpus, which is four times as long as ischium, propodus half as long as carpus, dactylus second longest article, longer than carpus and propodus combined; exopod present.

Pereiopod 3 basis longest article, longer than rest of appendage, ischium half as long as merus, carpus second longest article, twice as long as merus, propodus little longer than merus, distal seta as long as dactylus and its terminal seta combined, dactylus very short.

Pereiopod 4 basis longest article, shorter than rest of appendage, ischium more than half as long as merus (factor 0.6), carpus second longest article (0.6 times as long as basis), propodus 0.4 times as long as carpus, distal seta as long as dactylus and its terminal seta combined, dactylus short, 0.3 times as long as propodus.

Pereiopod 5 basis longest article, shorter than rest of appendage, ischium little shorter than merus, carpus second longest article (0.8 times as long as basis), propodus 0.8 times as long as carpus, dactylus broken in this paratype.

Uropods' peduncle slender, 2.2 times as long as pleonite 6, 1.6 times as long as endopod, exopod slender, longer than endopod; endopod unsegmented, one long terminal seta, seven short setae at inner margin of distal half.

Remarks

The new species has—additionally to the important characters mentioned before for the genus *Styloptocuma*—the prolongation of the second article of the antenna 1. The new species is smaller than the species described above, has less teeth at the dorsomedian line of carapace and no serration on the pleonites. The subgroup without serrations or comparable armature on the pleonites contains eight species: *S. acuminatum* (Jones, 1984) (Atlantic), *S. angustata* (Jones, 1984) (Brazil), *S. dayae* (Jones, 1984) (south west of Africa, off Argentina), *S. gracillimum* (Calman, 1905) (Atlantic), *S. heardi* (Bacescu, 1979) (Gulf of Mexico), *S. inermis* (Ledoyer, 1997) (tropical Atlantic), *S. longisipho* (Jones, 1984) (Biscay) and *S. subductum* (Jones, 1984) (north eastern Atlantic). Four of these species have at least five spines on the dorsomedian line of the carapace, two do not have any spines. For *S. heardi* there is no information about the carapace armature but it differs from the new species by the length proportions of the uropods, the endopod being longer than the peduncle

and the peduncle two times longer than the pleonite 6. The pleonite 6 is 1.3 times longer than wide in *S. heardi* but 1.8 times longer than wide in the new species. The new species resembles most *S. gracillimum* in terms of carapace armature and habitus. It differs from *S. gracillimum* in the uropods' rami: the exopod is the longest in the new species but subequal to the endopod in *S. gracillimum*. The uropods' peduncle is three times longer than the pleonite 6, and the proportion length to width of the pleonite 6 is 1.5 in *S. gracillimum*, in the new species the peduncle is only 2.3 times longer than the pleonite 6 and the length to width proportion of this article is 1.8.

Platycuma triangularis sp. n. (Fig. 7)

Material: Station 318 (epibenthic sledge, epinet): two nonovigerous females; station 338 (epibenthic sledge, supranet): one subadult male, one subadult female, damaged, three juveniles; station 340 (epibenthic sledge, epinet): two subadult females, three juvenile females, one subadult male, five juvenile males; station 344 (epibenthic sledge, epinet): one nonovigerous female (holotype), three juvenile females (one of them damaged), two subadult males; station 344 (epibenthic sledge, supranet): one subadult female, one juvenile male; station 348 (epibenthic sledge, supranet): one juvenile; station 350 (epibenthic sledge, epinet): one subadult female, one subadult male, six juveniles; ZMH: K 40655a + b; station 340 (epibenthic sledge, supranet): two subadult females, two subadult males; SMF 30291; station 348 (epibenthic sledge, epinet): two subadult females, two subadult males, six juveniles, SMF 30292.

Holotype: Nonovigerous female, ZMH: K 40654.

Date: 25 July 2000.

Leg.: Brandt and Wägele.

Locus typicus: Angola Basin, station 344 (epibenthic sledge, epinet): 17°06.2'S, 04°41.7'E (depth: 5415 m) to 17°07.5'S, 04°42.3'E (depth: 5415 m).

Diagnosis: Carapace smooth, triangular if seen from above, in lateral view with vault in middle part; pleonite 6 shorter than wide.

Etymology: The new species is named after its triangular shape in dorsal view.

Description based on holotype, nonovigerous female, 5 mm long

Carapace smooth, in lateral view with vault in middle part, little overlapping first two free thoracic segments in dorsal view, proportions length to height: 1.5, and length to width: 1, widest posteriorly, giving the carapace a triangular shape seen from above; pseudorostral lobes meeting in front of ocular lobe; siphonal tube short, ocular lobe small, eyes reduced, no lenses;

antennal notch wide and shallow; anterolateral corner not pronounced, with teeth; anteroventral margin of carapace with teeth in anterior part; integument calcified, little translucent, coiled gut visible; five short thoracic segments visible.

Pleon as long as carapace and free thoracic segments combined, scaly structure, dorsomediolateral with two keels, a row of scales, with processes directing anteriorly; pleonite 6 small, shorter than wide ($L:W = 0.7$), 0.4 times as long as uropods' peduncle.

Description of appendages based on paratype, nonovigerous female

Antenna 1 straight, basal article of peduncle longest, with short hair-like setae at inner and outer margins, distally with two longer hair-like, and one plumose setae, following articles of peduncle successively shortening; accessory flagellum very short, with two articles, terminally with five hair-like setae, main flagellum with three articles, last article minute, two aesthetascs from second article.

Maxilliped 2 basis as long as rest of appendage, inner distal margin with hair-like setae, ischium short, with long, strong plumose seta at inner distal margin, merus more than twice as long as ischium, distally with one tooth-like prolongation, hair-like setae at outer margin, one long plumose seta at distal inner margin; carpus second longest article after basis, four plumose setae at inner margin, propodus little shorter than merus, hair-like setae at outer margin, three plumose setae at distal inner margin, two plumose setae at outer distal margin, one long, more proximal plumose seta, dactylus as long as ischium, its terminal strong seta 1.7 times as long as dactylus, two short, simple setae subterminally.

Maxilliped 3 basis longer than rest of appendage, distal inner and outer margins with hair-like setae, subdistal inner and distal outer margins with two and three long plumose setae, respectively, ischium short, merus little expanded distally, with two moderately long plumose setae at inner and one long plumose seta at outer margin, the latter between two "teeth", carpus with one long plumose seta at outer and two shorter at inner distal margin, propodus second longest article with three setae, beset with short setulae, at inner margin, and one plumose seta at outer distal margin, dactylus half as long as propodus, terminal seta longer than dactylus, subterminally with fine, long, simple seta; exopod present.

Pereiopod 1 basis shorter than rest of appendage, distally with two short spine-like setae, ischium present, merus 1.8 times as long as ischium, carpus more slender than merus, 1.8 times as long as merus, propodus slender, little shorter than carpus, dactylus less than half (0.4) as long as propodus; merus, carpus, propodus and dactylus each with distal plumose seta at lower margin,

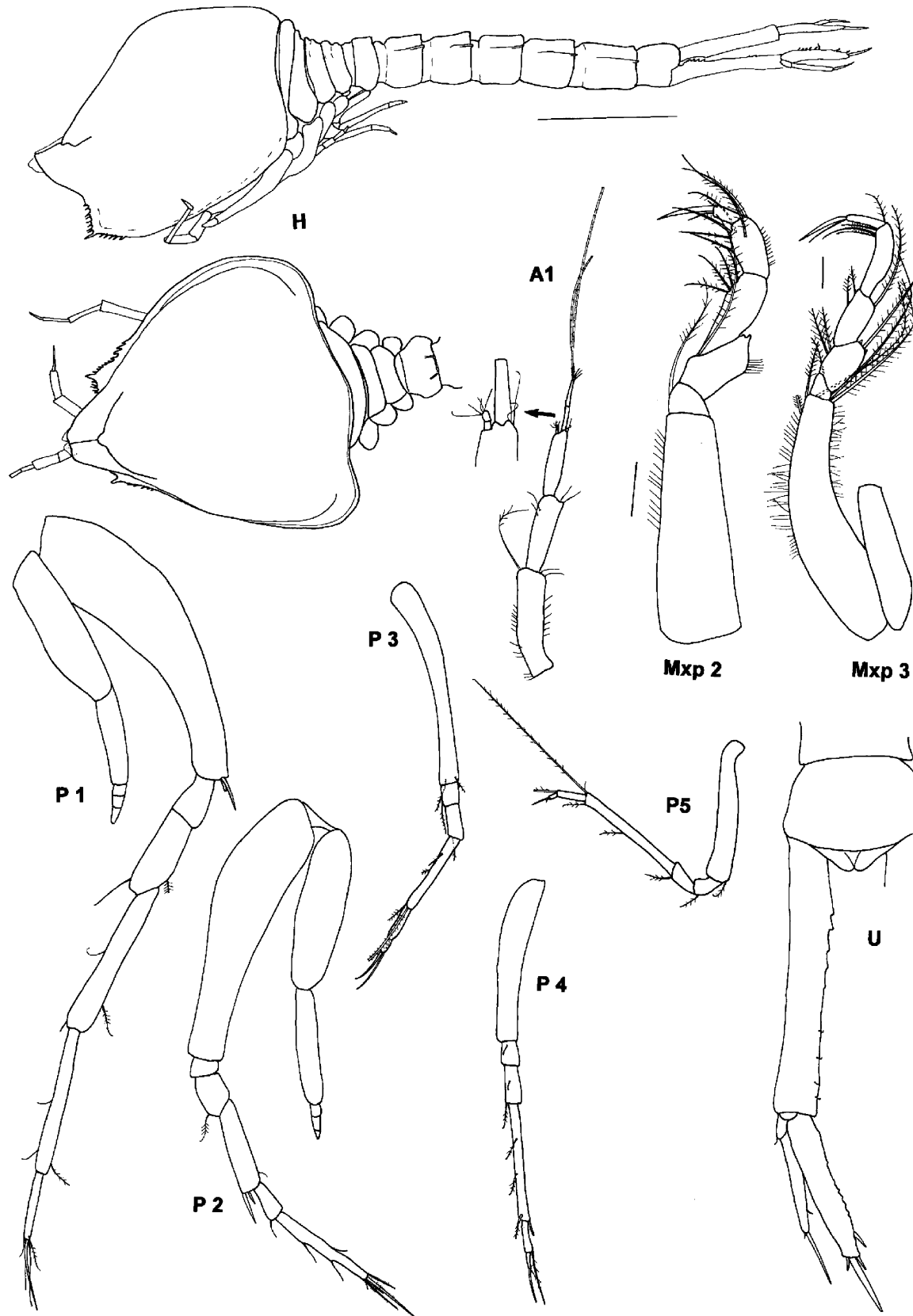


Fig. 7. *P. triangularis* sp. n., female. H: Habitus from lateral and carapace from above (scale: 1 mm), A1: antenna 1 (same scale as in Mxp3), accessory flagellum and basal article of main flagellum in higher magnification, Mxp2: maxilliped 2 (scale: 0.1 mm), Mxp3: maxilliped 3 (scale: 0.1 mm), P1: pereiopod 1 (same scale as in Mxp3), P2: pereiopod 2 (same scale as in Mxp3), P3: pereiopod 3 (same scale as in Mxp3), P4: pereiopod 4 (same scale as in Mxp3), P5: pereiopod 5 (same scale as in Mxp3), U: pleonite 6 and left uropod (same scale as in Mxp3).

dactylus with one strong terminal and three hair-like setae subdistally; exopod present.

Pereiopod 2 basis shorter than rest of appendage, ischium present, merus more than twice as long as ischium, carpus twice as long as merus, with two strong spine-like setae distally, propodus short, dactylus second longest article after basis, with strong, finely plumose terminal seta, two shorter fine plumose setae subterminally and one simple and one short terminally annulated seta; exopod present.

Pereiopod 3 slender, much shorter than pereiopod 2, basis longer than rest of appendage, ischium present, 0.6 times as long as merus, carpus second longest article, 2.3 times as long as merus, with long plumose seta distally, propodus as long as merus, with long terminally annulated seta, dactylus short, 0.4 times as long as propodus, terminal seta longer than dactylus.

Pereiopod 4 basis shorter than rest of appendage, ischium longer than in pereiopod 3, merus 1.5 times as long as ischium, carpus second longest article, 0.7 times as long as basis, distal seta broken in paratype, propodus shorter than ischium, propodus and dactylus combined shorter than merus.

Pereiopod 5 basis shorter than rest of appendage, ischium as long as merus, carpus second longest article, 0.8 times as long as basis, its distal plumose seta 1.4 times as long as article, propodus as long as ischium, distal plumose seta broken, dactylus short, one-third in length of merus.

Uropods' peduncle 2.5 times as long as pleonite 6, 1.8 times as long as endopod, inner margin little serrate at proximal part, four small hair-like setae at distal inner margin; exopod shorter than endopod, basal article with small hair-like seta at distal margin, endopod unsegmented, terminal spine strong, 0.4 times as long as endopod, two subterminal shorter spines, one strong, short spine at distal third of inner margin.

Remarks

Five *Platycuma* species are known so far: *P. candidum* Jones, 1984 (northeastern Atlantic), *P. hessleri* Jones, 1973 (east and west Atlantic), *P. holti* Calman, 1905 (north and western south Atlantic), *P. marginale* Zimmer, 1943 (western north Atlantic), *P. sandersi* Jones, 1973 (north and western south Atlantic).

The new species resembles *P. sandersi*, *P. holti* and *P. marginale* in terms of proportions of the pleonite 6; it differs from *P. holti* because of the proportion length to height of the carapace, which is 2.7 in *P. holti*, because the carapace of this species is dorsoventral compressed, but only 1.5 in the new species. This new species differs from the two species *P. sandersi* and *P. marginale* in the carapace proportion length to width, which is 1 in the new species with a triangular shape, but 1.4 in *P. sandersi*, with the widest part in the middle, and 1.2 in *P. marginale* with an oval shape seen from above. These

differences in the characters justify the erection of a new species.

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