

# ABYSSICAPRELLA GALATHEAE,

## A NEW GENUS AND SPECIES OF ABYSSAL CAPRELLID (AMPHIPODA: CAPRELLIDAE)

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Published records of the occurrence of Caprellidae at depths greater than 400 m are found mostly in MAYER's (1890, 1903) last two monographs and in STEPHENSEN's (1944) account of the "Ingolf" Caprellidae. Table 1 lists the 18 species reported from below 400 m, 5 being Pacific species and the remainder from the North Atlantic, Mediterranean, and North Sea.

*Abyssicaprella galatheae* n. gen., n. sp. has been

collected at three localities in the Eastern Pacific off Costa Rica and Peru at a depth of 3501-4004 m. This report, therefore, extends the bathymetric record for a caprellid by more than 1000 m. Each of the distinctive characters of the new genus is found in other caprellid genera, but the combination of characters in *Abyssicaprella* is unique. It is closely related to *Liropus*, *Mayerella*, *Perotripus*, and *Triperopus*, differing as follows:

Genus	Articles Pereopod 3	Articles Pereopod 4	Articles Pereopod 5	Mand. palp Setal Formula	Abdominal Appendages	
					♂	♀
<i>Abyssicaprella</i> .....	2	2	5	1-x-y-1	1½	1
<i>Liropus</i> .....	1	1	3	1-x-1	½	½
<i>Mayerella</i> .....	2	2	3	1	1	bristles
<i>Perotripus</i> .....	3	1	3	?	?	?
<i>Triperopus</i> .....	3	3	3	1-3-9-1	?	0

I am indebted to Dr. J. LAURENS BARNARD (United States National Museum) and Dr. TORNEN WOLFF (Zoological Museum, Copenhagen) for making the collections of the "Eltanin", "Vema" and "Galathea" available for study.

### *Abyssicaprella* n. gen.

Eyes absent; flagellum of antenna 2 2-jointed, swimming setae absent; mandible with 3-jointed palp, setal formula for terminal article 1-x-y-1; inner lobe of maxilliped half as long as outer; gills on pereonites 3 and 4; pereopod 3 2-jointed; pereopod 4 2-jointed; pereopod 5 5-jointed (= MAYER's 4½); abdomen of male with 1 pair of appendages and a pair of raised knobs (= MAYER's 1½ pair) female with 1 pair of appendages.

Type-species: *Abyssicaprella galatheae*.<sup>1</sup>

1. Generic name combination of Latin terms, *abyssus* - depth and *caprella* (diminutive of *capra*) - little goat. Specific name in honor of "Galathea" Expedition which collected the holotype.

### *Abyssicaprella galatheae* n. sp.

#### Material:

"Galathea" St. 716. East Pacific off Costa Rico (9° 23'N, 89° 32'W), 3570 m, 6 May 1952. Bottom: Globigerina ooze. Bottom temp.: c. 1.9°C. - 1 ♂ holotype, 2 ♀ paratypes. Copenhagen Mus.

"Vema" St. 15-50. East Pacific off Costa Rico (9° 18'N, 89° 32'W), 3501-3503 m, 22 November 1958. Bottom temp.: 1.9°C. - 1 ♀ allotype. USNM 113339.

"Eltanin" Cruise 3 - St. 48. East Pacific off Peru (14° 11'S, 77° 08'W - 14° 08'S, 77° 09'W), 3883-4004 m, 13 June 1962. - 2 ♀ paratypes (1 lacking pereonites 6-7) + fragments. USNM 113340.

#### Description of male holotype:<sup>2</sup>

Body smooth; length 26.3 mm.

Labrum of 2 simple lobes with no ornamentation.

Mandibles with 3-jointed palp, setal formula for

2. The male specimen was in quite poor condition, the projection at the anterior margins of pereonites 2-5 were

Table 1. Caprellidae reported below 400 m.

Species	Greatest Depth	Reported by
<i>Aeginella spinosa</i> Boeck	1026 m	STEPHENSEN, 1944
<i>Aeginina longicornis</i> (Krøyer)	2258 m <sup>1</sup>	STEPHENSEN, 1944
<i>Caprella equilibra</i> Say	? 3000 m <sup>2</sup>	SCHELLENBERG, 1926
<i>Caprella horrida</i> Sars	1359 m	MAYER, 1890
<i>Caprella microtuberculata</i> Sars	1026 m	STEPHENSEN, 1944
<i>Caprella punctata</i> Boeck	1026 m	STEPHENSEN, 1944
<i>Caprella rinki</i> Stephensen	1416 m	STEPHENSEN, 1944
<i>Caprella unguina</i> Mayer	1602 m	MAYER, 1903
<i>Paedaridium miserum</i> Mayer	2081 m	MAYER, 1903
<i>Parvipalpina verrucosa</i> Stephensen	1505 m	STEPHENSEN, 1944
<i>Phthisica marina</i> Slabber	660 m	STEPHENSEN, 1927
<i>Proaeginina norwegica</i> (Stephensen)	2702 m	STEPHENSEN, 1944
<i>Protellina ingolfi</i> Stephensen	1435 m	STEPHENSEN, 1944
<i>Protoplesius enigma</i> Mayer	2798 m	MAYER, 1903
<i>Protoplesius falx</i> Mayer	2796 m	MAYER, 1903
<i>Pseudoprotella phasma</i> (Montagu)	753 m	SEXTON, 1911
<i>Thorina spinosa</i> Stephensen	900 m	STEPHENSEN, 1944
<i>Tritella tenuissima</i> Dougherty and Steinberg	? 1166 m <sup>3</sup>	DOUGHERTY and STEINBERG, 1953

1. I have examined the dubious specimen from "Ingolf" St. 24 (2258 m). It is a juvenile ♀ and agrees well with *Aeginina longicornis*.
2. Vertical tow, 0-3000 m.
3. Several dredges, 552 to 1166 m.

terminal article 1-12-34-1. Left mandible lacking. Right mandible with 5-toothed incisor; lacina mobilis serrate; setal row of 2 large setae which are serrate on one margin; molar with short marginal row of pointed teeth and many rounded teeth. Outer lobe of *labium* winglike; inner lobe small, rounded, with short fringe of setae. Palp of *maxilla 1* with 4 apical setae and 1 medial seta; outer lobe with 7 apical setae. Outer lobe of *maxilla 2* with 10 apical setae; inner lobe with 11 apical setae. Outer lobe of *maxilliped* twice as large as inner lobe, margin with 1 apical and several more proximal setae; inner lobe with 4 large setae, margin produced into several unequal teeth; palp normal, terminal article only minutely serrate on cutting edge.

*Antenna 1* approximately  $\frac{1}{3}$  of body length; flagellum of 15 articles, basal article of 3 fused articles. *Antenna 2* approximately  $\frac{1}{2}$  length of antenna 1; flagellum of 2 articles.

*Gnathopod 1* triangular, quite setose; grasping edge of dactylus and propodus extremely serrate; propodus with 2 proximal grasping spines on the inner surface. Distal 4 articles of *gnathopod 2* lacking.

twisted and their occurrence in the position figured can only be inferred. The abdomen was in extremely poor shape and its lack of symmetry may be due to regeneration of the left side.

*Pereopods 3 and 4* 2-jointed. *Pereopod 5* 5-jointed; terminal article minute; entire appendage reduced in length and diameter compared to more posterior pereopods. *Pereopod 6* lacking. *Pereopod 7* normal; propodus with a pair of proximal grasping spines, palmar surface with 2 rows of spines; dactylus bearing a plumose seta proximally.

*Abdomen* with a pair of 2-jointed appendages and a more posterior pair of raised knobs; terminal article of appendage serrate on medial margin, bearing a single seta at its tip and 2 pairs of more proximal setae; penes medial.

Female allotype:

*Body* with several spines on pereonites 1-4; length 11.8.

*Mouth parts* as in male except: Setal formula for terminal article of *mandibular palp* 1-19-18-1. *Left mandible* with 5-toothed incisor and 5-toothed lacina mobilis; setal row of 3 setae, each with distal portion of one margin serrate. Outer lobe of *maxilla 2* with 8 apical setae and inner lobe with 7.

*Antenna 1* approximately  $\frac{1}{2}$  body length; flagellum of 14 articles with basal 3 fused. *Antenna 2* approximately  $\frac{1}{2}$  length of antenna 1; flagellum of 2 articles.

*Gnathopod 1* as in male. Propodus of *gnathopod 2* approximately length of pereonite 1, palm serrate

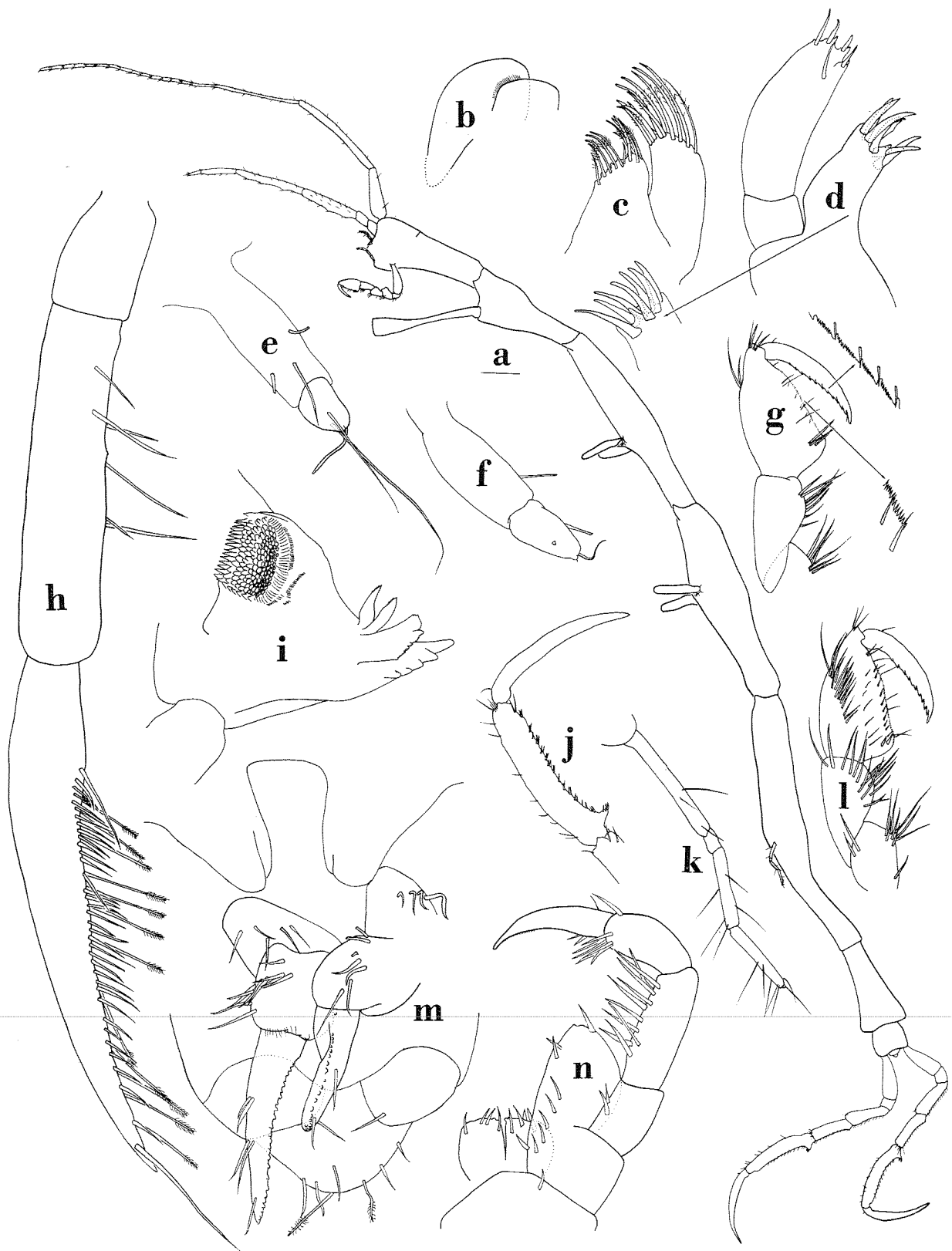


Fig. 1. *Abyssicaprella galathea*, ♂ holotype; a, pereonites 1-7; b, labium; c, maxilla 2; d, maxilla 1; e, pereopod 3; f, pereopod 4; g, gnathopod 1, outer view; h, right mandibular palp; i, right mandible; j, pereopod 7; k, pereopod 5; l, gnathopod 1, inner view; m, abdomen; n, maxilliped.

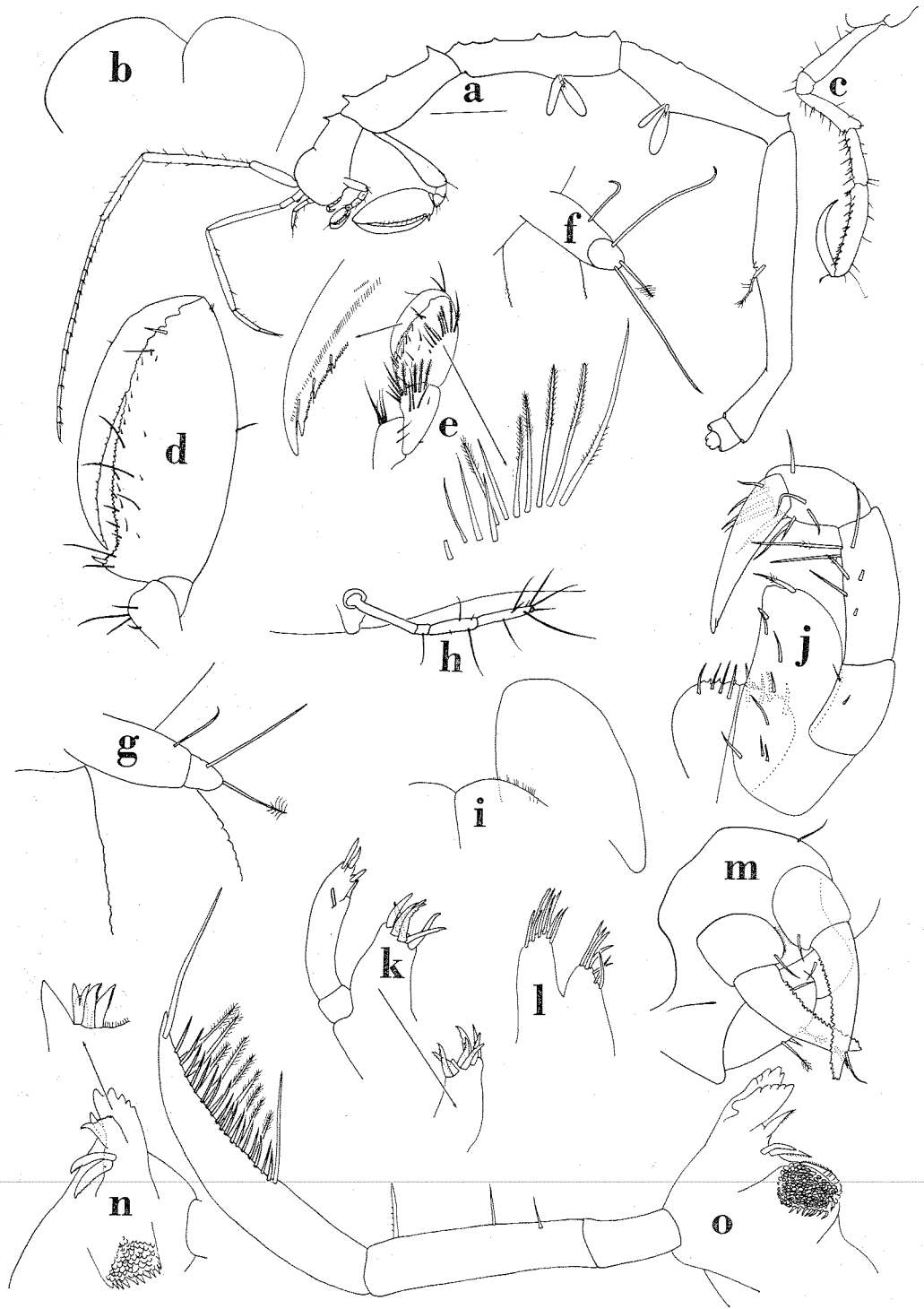
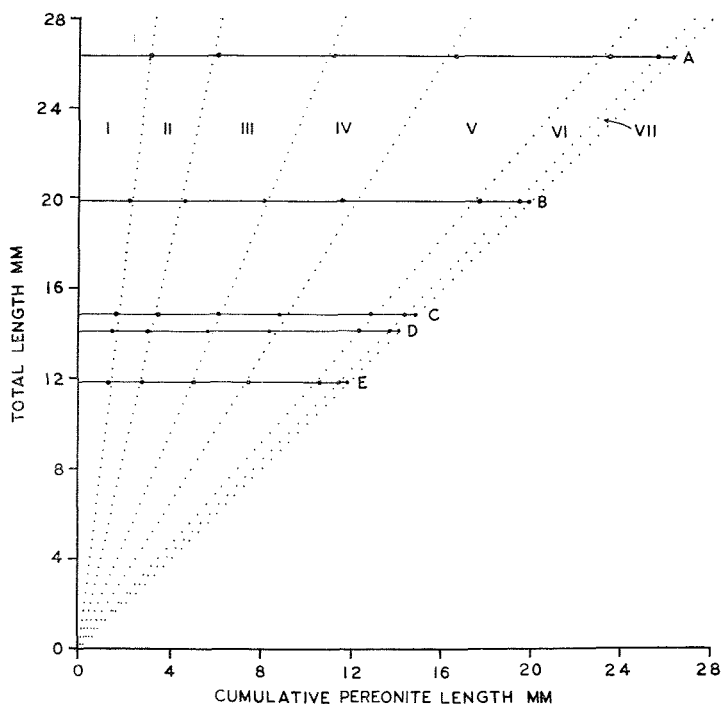


Fig. 2. *Abyssicaprella galathea*, ♀ allotype; a, pereonites 1-7; b, labrum; c, pereopod 6; d, gnathopod 2; e, gnathopod 1, inner view; f, pereopod 4; g, pereopod 3; h, pereopod 5; i, labium; j, maxilliped; k, maxilla 1; l, maxilla 2; m, abdomen; n, right mandible; o, left mandible.

Fig. 3. Relation of pereonite lengths to total length. a, ♂ holotype; b, ♀ "Galathea"; c, ♀ "Eltanin"; d, ♀ "Galathea"; e, ♀ allotype ("Vema"). Roman numerals refer to pereonites.



with proximal spine and numerous smaller setae; dactylus without serrations.

*Pereopods 3 and 4* bearing a plumose seta at tip. *Pereopods 5-7* as in male.

*Abdomen* with 1 pair of 2-jointed appendages; terminal article serrate on medial margin and bearing near its tip a single seta; proximal article with fringe of very short setae on medial margin.

#### Variation:

Lengths of females from 11.8 to 19.9 mm. Setal formula for terminal article of mandibular palp varies from 1-9-18-1 to 1-16-28-1. No variation present in setation of maxilla 1. Maxilla 2 outer lobe with from 8 to 10 apical setae, inner lobe 7 to 8. Setation of inner lobe of maxilliped constant, outer lobe with either 1 or 2 apical setae along with several more proximal setae. Terminal article of abdominal appendages of older females with single medial seta and single seta near its tip.

#### Remarks:

Fig. 3 shows the relation of pereonite length to the total length of the individual. It is apparent from the table that the relation of the length of the pereonites to total length is linear. An average ratio for the five complete specimens of the lengths of pereonites 2-7 to the length of pereonite 1 is 1:1.13:1.70:1.75:2.62:0.83:0.26.

WOLFF (1961) gives an excellent account of the organisms collected at "Galathea" St. 716. This caprellid could easily have been grasping the hydroids, alcyonarians, pennatularians, or the stalked sponge *Hyalonema*.

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