A new record of *Caprella ungulina* Mayer, 1903 (Crustacea: Amphipoda) from Brazilian deep water

Daniela J. P. Sittrop and Cristiana S. Serejo

(DJPS, CSS) Museu Nacional/UFRJ, Quinta da Boa Vista s/n, Departamento de Invertebrados, 20940-040, Rio de Janeiro, RJ, Brazil.

(DJPS) E-mail: danielasittrop@globo.com

(CSS) E-mail: csserejo@acd.ufrj.br

Abstract

*Caprella ungulina* Mayer, 1903 is recorded for the first time from deep waters off the Brazilian coast. The material examined was collected by the REVIZEE program that sampled from 11° to 22°S along the Southeastern Brazilian coast with depth range from 200 to 2000 m. In this study, aspects such as living habit, distribution, and differences between others descriptions of *C. ungulina* are provided.

Key words: Amphipoda, Caprellidae, *Caprella ungulina*, Taxonomy, Brazilian deep water.

Introduction

Caprellids are amphipods adapted to the benthos and they possess the habit of grasping to differently kinds of biological substrates, such as algae, sponges and hydroids, which provide refuge and protection to them (Arimoto, 1976). Caprellids present cylindrical body, absence of coxal plate, tendency to reduction of pereopods 3 and 4, well developed and robust pereopods 5 to 7, vestigial abdomen and resultant loss of pleopods (Dahl, 1977).

Recently, Myers and Lowry (2003) proposed a cladistic revision of Corophioidea and modified the status of the suborder Caprellidea as an infraorder of the suborder Corophiidea. This classification corroborate with previous hypothesis where caprellids may have a common ancestral with podocerids, group considered previously within the superfamily Corophioidea.


Recently, Guerra-García (2003) described two new deep sea species of *Parvipalpus* and *Liropus* from northeastern Brazil, giving a list of 43 known species of infraorder Caprellida that were registered bellow 400 m.

This study records *C. ungulina* Mayer, 1903 for the first time from Brazilian deep sea waters. This species of caprellid has the habit of living associated to anomuran lithodid crabs, such as *Neolithodes asperrimus* Barnard 1947; *Paralomis multispina* Benedict, 1895, *Lithodes aequispina* Benedict, 1895 (Griffiths, 1977; Takeuchi et al. 1989) and *Paralomis formosa* Henderson, 1888.

Material and Methods

The project REVIZEE Fisheries – Central Score dredged along the slope (200-2178 m) off the Brazilian coast from the Rio Real (11°S) to Cabo de São Tomé (22°S). Samples were taken by the French vessel N/O *Thalassa* during June-July of 2000 using a fishery net type ARROW, which has a
110 mm net size on the main bag and a 20 mm net size on the smaller bag. All the Crustacea material collected in this project is deposited at the Museu Nacional/UFRJ (MNRJ).

The caprellid material was found together with *Paralomis formosa*, although we do not have information of where the specimens were attached.

**Results**

**Systematics**

Infraorder Caprellida Leach, 1814  
Family Caprellidae Leach, 1814  
Genus *Caprella* Lamarck, 1801  

*Caprella unguillina* Mayer, 1903  
(Figs. 1A-H; 2A-E; 3A-E)

*Caprella unguillina* Mayer, 1903: 127, pl. 5, fig. 36, pl. 8, figs. 30-31; Griffiths, 1977: 104, fig. 6; Takeuchi et al., 1989: 20, figs. 1-4.

Material examined: REVIZEE Program Fisheries, #E-0506, 14°36.579’S-038°49.544’W to 14°39.605’S-038°50.134’W, 1067 m, 2 mature females (18.9 mm and 17.6 mm) and 1 male (9.4 mm) found on *Paralomis formosa* Henderson, 1888, MNRJ 15140.

Diagnosis: Head rounded, without projection. Gnathopod 1, propodus with two proximal stout setae; dactylus ending in three small spines.

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*Figure 2. Caprella unguillina* Mayer, 1903, female, 18.9 mm. MNRJ 15140. A. Gnathopod 1. B. Gnathopod 2. C. Pereopod 5. D. Pereopod 6. E. Pereopod 7. Scale bars 0.5 mm.
Gnathopod 2, propodus with one proximal stout setae; dactylus ending in two spines. Propodus of pereopods 5-7 oval with several stout setae on palm.

Description: Female, 18.9 mm. Head rounded, lacking eyes and projections. Antenna 1 slightly longer than half body length, peduncle with first segment robust; flagellum 23-24 segmented. Antenna 2 slightly longer than peduncle of antenna 1, flagellum 1-2 segmented with short setae on ventral surface. Upper lip (Fig. 1H) concave medially and with fine marginal setae. Inner lobe and outer lobe of lower lip (Fig. 1G) densely setose apically. Mandibles with incisor and lacinia mobilis 5-toothed; setal row with 2 setae on right mandible (Fig. 1F) and one seta on left mandible (Fig. 1E).

Maxilla 1 (Fig. 1D), outer lobe with 4 bifurcate stout setae and 2 simple stout setae; palp with a row of facial setae and seven stout setae distally. Maxilla 2 (Fig. 1C) outer and inner lobes with numerous setae on distal margin. Maxilliped (Fig. 1B), outer lobe with 16 spiniform stout setae on inner margin; palp segment 2 wide with numerous long setae on inner surface and margin; segment 3 with facial and marginal setae; segment 4 falcate and lacking setae.

Gnathopod 1 (Fig. 2A), merus and carpus with marginal setae; propodus triangular with a pair of proximal grasping spines, palm with short setae; dactylus ending in three spines and slightly shorter than palm. Gnathopod 2 (Fig. 2B) inserted on half of pereonite 2; basis slightly longer than half of pereonite 2; ischium with an anterodistal projec-

Figure 3. *Caprella ungulina* Mayer, 1903, male, 9.4 mm. MNRJ 15140. A. Gnathopod 1. B. Gnathopod 2. C. Pereopod 5. D. Pereopod 6. E. Pereopod 7. F. Abdomen. Scale bars 0.5 mm.
tions; propodus oval, palm setose with a proximal protuberance, a stout and slender setae on the inner side of that protuberance, and two triangular distal humps; dactylus ending in two spines and almost fitting palm. Gills thin and elliptical. Oostegites 3-4 with short marginal setae. Pereonite 4 lacking setae on margin. Pereonite 5 with a pair of ventral rounded projections with six marginal setae. Pereopods 5-7 very similar, propodus oval with two proximal stout setae, palm with several stout setae. Pereopods 5 (Fig. 2C) and 7 (Fig. 2E) subequal in length; pereopod 6 (Fig. 2D) slightly shorter than others.

Male, 9.4 mm. Antenna 1, 1/2 size of body length. Antenna 2, 1/2 size of antenna 1. Compound eyes present. Pereonite 5 lacking ventral projections. Distal end of abdomen rounded. Lobes round with few slender setae. Gnathopod 1 (Fig. 3A) merus and carpus setose; propodus triangular, palm setosas and with 2 proximal stout setae; dactylus ending in two spines and almost fitting palm. Gnathopod 2 (Fig. 3B) 2/3 of pereonite 2 length and inserted on half of pereonite 2. Propodus oval with a proximal stout and a slender seta inserted beside each other.

Habitat: The material examined was found attached to *Paralomis formosa* at 1067 m.

Distribution (Fig. 4): Type localities: Pacific Ocean – Galapagos Islands (Ecuador) and British Columbia (Canada). Atlantic Ocean – York Bay, Staten Islands off Tierra del Fuego (Takeuchi et al., 1989). Additional localities: Pacific Ocean: off Heda (Japan), Sea of Okhotsk (Russia); off southern California (USA) (Takeuchi et al., 1989). Atlantic Ocean: West of Cape Point, South Africa (Griffiths, 1977), Puerto Pantalon (Falkland Island) Takeuchi et al., 1989). Brazil: Bahia state (present study).

Remarks: Some differences were observed when comparing the Brazilian specimens with other descriptions of *C. ungulina*. The most conspicuous one is that the females examined have a pair of ventral rounded projections on pereonite 5. The dactylus of gnathopod 1 ends in three spines and the dactylus of gnathopod 2 ends in two spines. These characteristics have never been reported to this species. Other interesting variation is the presence of eyes. According to original description of Mayer (1903), *C. ungulina* has eyes. Griffiths (1977) did not men-

Figure 4. World distribution of *Caprella ungulina*. 
tion the state of eyes in his description, but figured his specimens without eyes. Takeuchi et al. (1989), who observed part of the type series from off British Columbia, stated that neither males nor females had eyes, but they mentioned the variability in this character state in previous descriptions. The largest female and male of this study present little visible ommatидial eyes, while the smallest female lacks visible eyes. One explanation to this variation could be the pressure of the deep sea environment to loose eyes, as this species has been found only below 200 m. Thurston and Bett (1993) stated that “species with wide depth ranges in various families have oculate population at the shallow end of the range, but exhibit eyelessness at greater depths”. This pattern was observed in gammaridean genera as: *Ampelisca* Kroyer, 1842; *Byblis* Boeck, 1871; *Argissa* Boeck, 1871; *Listriella* Barnard, 1959; *Schisturella* Norman, 1900; and *Heterophoxus* Shoemaker, 1925 (Thurston and Bett, 1993).

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**References**


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