A new species of the genus *Munida* Leach (Crustacea: Decapoda: Galatheidae) from the northeast coast of Brazil

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Abstract

A new species of Galatheidae, genus *Munida,* is described from off northeastern Brazil. The material was collected with a trawl net by a fishing vessel near the Canopus Oceanic Bank, off the coast of the state of Ceará. The new species, *Munida coltroi,* is morphologically similar to *M. chacei* Melo-Filho and Melo, 1992 and *M. robusta* A. Milne-Edwards, 1880.

Key words: Decapoda, Galatheidae, *Munida,* Brazilian coast, new species.

Introduction

Along the continental shelf off northeastern Brazil lies a row of oceanic banks, belonging to the Northern Brazil and Fernando de Noronha chains (Coelho-Filho and Freitas, 2004).

The Northern Chain, of which the Canopus Bank is a part, is located between 1° and 4° S and between 37° and 39° W, off the coast of the state of Ceará. It is formed by a series of shallow, steep-sided banks; the depths of their tops vary between 50 and 350 meters. This chain is directly influenced by the North Brazil Current, with high temperatures and salinities (Medeiros *et al.,* 1999).

On the Banks, three watermasses act. From the surface to 100 meters the Surface Equatorial Water (SEW) predominates, with temperatures above 26°C, and salinities between 35.5 and 36.5. Below this and extending to 200 meters, dominates the Salinity Maximum Subtropical Water (SMSW), with temperatures between 20°C and 26°C and salinities between 36 and 37. Between 200 and 600 meters the South Atlantic Central Water (SACW) occurs, with temperatures between 5°C and 20°C and salinities between 34.3 and 36 (Travassos *et al.,* 1999; Becker, 2001).

In the area of the Banks, the accentuated relief causes turbulence and upwelling events occur frequently. Therefore, fishing boats concentrate in the region.

The shallow waters of the platform and of the ocean banks off the northeast coast have been exhaustively studied in recent decades (Melo-Filho and Melo, 1992b; Melo-Filho and Coelho-Filho, 2004). However, waters deeper than 200 meters remain poorly explored.

For the Brazilian coast, Melo-Filho and Melo (2001) listed 16 species of the genus *Munida: M. angulata* Benedict, 1902; *M. atlantica* Melo-Filho and Melo, 1994; *M. constricta* A. Milne-Edwards, 1880; *M. flinti* Benedict, 1902; *M. forceps* A. Milne-Edwards, 1880; *M. heblingi* Melo-Filho and Melo, 1994; *M. iris* A. Milne-Edwards, 1880; *M. irrasa* A. Milne-Edwards, 1880; *M. longipes* A. Milne-Edwards, 1880; *M. microphthalma* A. Milne-Edwards, 1880; *M. petronioi* Melo-Filho and Melo, 1994; *M. pusilla* Benedict, 1902; *M. sanctipauli* Henderson, 1885; *M. spinifrons* Henderson, 1885; *M. valida* Smith, 1883 and *M. victoria* Melo-Filho, 1996.

The material studied was collected in trawl nets by a fishing vessel, and later sent to the Museum of Zoology of the University of São Paulo. The speci-

mens were measured and sexed, and one of them was illustrated and described.

Taxonomic account

Family Galatheidae Samouelle, 1819
Genus *Munida* Leach, 1820

Munida coltroi n. sp. (Figs. 1A-C; 2A-H)

Material examined: Holotype, female, Canopus Oceanic Bank, 120 miles off Fortaleza, 02°15.3'S-38°16.0'W, Ceará, Brazil, 252-260 m, rocky bottom, Fishing Vessel "Piauí VIII", J. Coltro coll., August 2005 (MZUSP 16837). Paratypes, 2 females and 1 male, same locality and depth (MZUSP 16835). Paratype, 1 male, same locality, 240-260 m, Fishing Vessel "Piauí VIII", J. Coltro coll., November 2005 (MZUSP 16836).

Type-locality: Canopus Oceanic Bank, 02°15.3'S-38°16.0'W, 120 miles off Fortaleza, Ceará, Brazil.

Diagnosis: Carapace slightly longer than broad; transverse ridges mostly uninterrupted; cervical groove distinct. Margins of carapace anterior to cervical groove with 2 spines (including anterolateral); with 4 spines posterior to cervical groove. Epigastric area with longitudinal row of 3 spines, aligned with rostrum; and transverse row of 10 spines parallel with frontal margin. Central pair of transverse epigastric row located behind supraoculars. Protogastric area with 1 pair of spines behind supraoculars, aligned with a few small spines and one parahepatic spine on each side. Mesogastric area with 1 pair of small spines. Anterior branchial region with 2 spines each, directly behind anterior cervical groove. Two pairs of postcervical spines. Remainder of carapace unarmed. Rostrum about twice as long as supraocular spines and about half remaining carapace length. Supraocular spines long, divergent, overreaching distal margin of corneas. Sternites unarmed; second to third sternites with 2 short striae; fourth to fifth sternites with 1 long transverse striae; sixth sternite with 1 short striae on each side. Remainder of sternites smooth. Second abdominal tergite with 6 spines (2-2-2); third tergite with 4 spines (1-2-1), and fourth with 2 spines (0-2-0). Remainder of tergites unarmed. Eyes with rounded corneas, broader than peduncles; maximal corneal diameter about 0.3 carapace length excluding rostrum. Basal antennular segment elongate, slightly overreaching cornea; with 2 terminal spines, mesial longer. Basal segment of antennal peduncle with short mesial spine; second segment of antenna with 2 terminal spines, mesial slightly overreaching distal segment of peduncle. Merus of third maxilliped with 1 long median spine on flexor margin. Chelipeds similar, about 3 times length of carapace excluding rostrum. Length of palm slightly shorter than fingers. Propodus of pereopods 2, 3 and 4 with extensor margin unarmed and flexor margin with movable spines; dactylus with movable spines along distal three quarters of flexor margin.

Description (Holotype, MZUSP 16837): Carapace slightly longer than broad, widest at posterior third; transverse ridges mostly uninterrupted; cervical groove distinct; anterolateral spine long, followed by 5 lateral spines: 1 on hepatic margin, 2 on margin of anterior branchial region, and 2 behind posterior branch of cervical groove. Epigastric area with longitudinal row of 3 small spines, aligned with rostrum, and transverse row of 10 spines parallel to frontal margin. Central pair of transverse epigastric row of spines long, curved upwards and forwards, located directly behind supraoculars. Protogastric area with 1 pair of spines behind supraoculars, aligned with a few small spines and one parahepatic spine on each side. Mesogastric area with 1 pair of small spines. Anterior branchial region with 2 spines each, behind anterior cervical groove. Two pairs of postcervical spines. Remainder of carapace unarmed. Rostrum straight horizontal, about twice as long as supraocular spines and about half remaining carapace length; distal third with indistinct serrations. Supraocular spines long, divergent, overreaching distal margin of corneas.

Sternum: Sternites unarmed; second to third sternites with 2 short striae; fourth to fifth sternites with 1 long transverse striae; sixth sternite with 1 short striae on each side. Remainder of sternites smooth, without striae and carinae; no granules on sternites 6 and 7.

Abdomen: Second tergite with 6 spines (2-2-2); third tergite with 4 spines (1-2-1) and fourth with 2 spines (0-2-0). Remainder of tergites unarmed. Second and third tergites with 3 uninterrupted transverse striae. Fourth tergite with one uninterrupted transverse striae.

Eyes: Large, with rounded corneas, broader than peduncles which have margins covered by small setae; maximal corneal diameter about 0.3 carapace length excluding rostrum.

Antennule: Basal segment elongate, slightly overreaching cornea; with 2 terminal spines, mesial

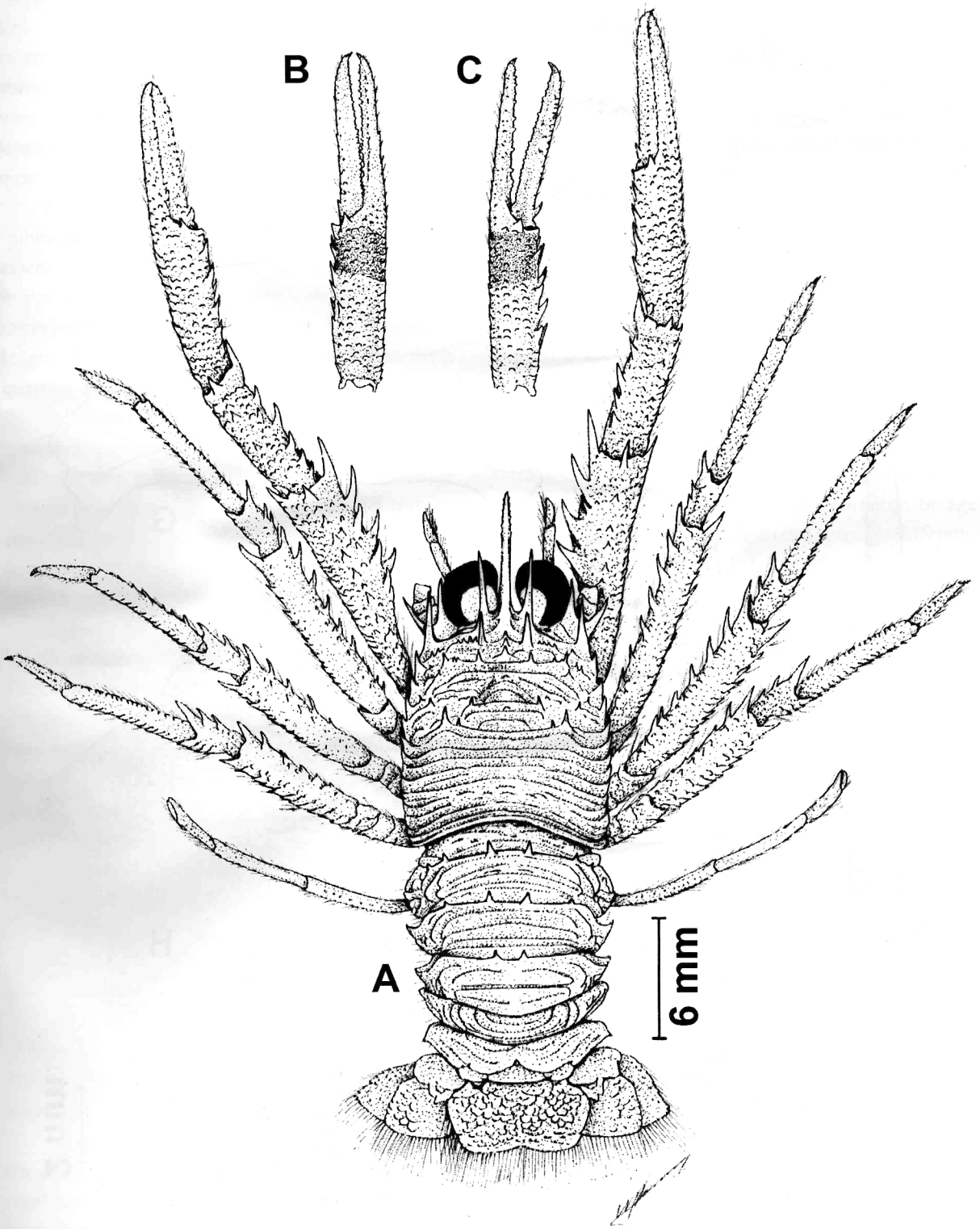

Figure 1. *Munida coltroi* n. sp., holotype female (MZUSP 1683). A. Dorsal view. B. Left cheliped, mesial surface. C. Right cheliped, mesial surface.

spine longer than outer. Lateral margin with 2 spines, distal spine longer.

Antenna: Basal segment of peduncle with short mesial spine. Second segment of antenna with 2 terminal spines, mesial slightly overreaching distal segment of peduncle. Third and fourth segments of antenal peduncle unarmed.

Third maxilliped: Ischium with strong distal flexor spine. Merus with 1 long median spine on flexor margin; extensor margin of merus and remaining articles unarmed.

Pereopod 1 (cheliped): Chelipeds similar, about 3 times length of carapace, excluding rostrum; scaly, sparsely hairy and spiny. One row of strong for-

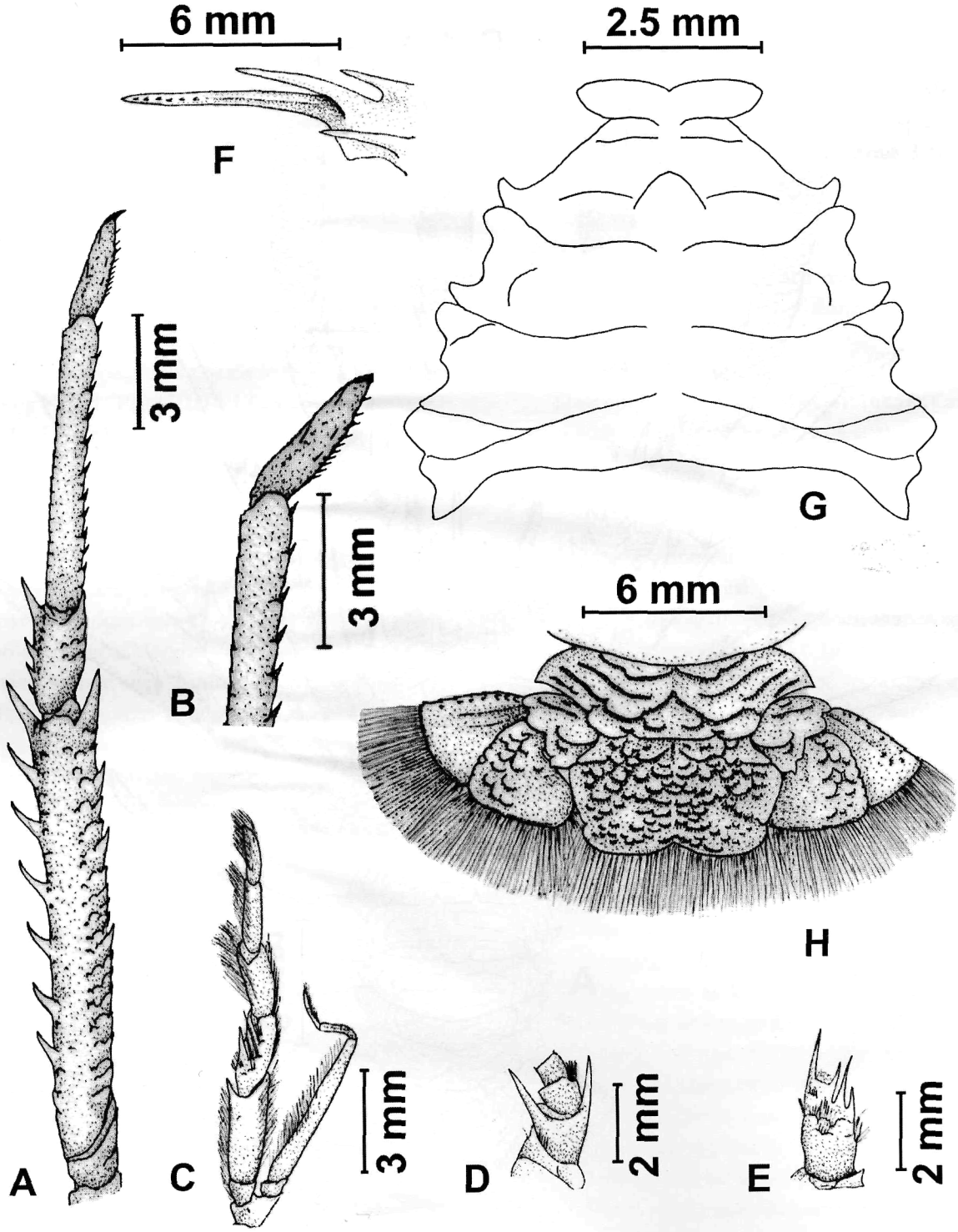

Figure 2. *Munida coltroi* n. sp. holotype female (MZUSP 16837). A-B. Right pereopod 2. C. Third maxilliped. D. Antennal peduncle. E. Antennular peduncle. F. Rostrum in lateral view. G. Sternal plastron. H. Telson.

ward-curved spines on mesial surface of merus, carpus and palm. Length of palm slightly shorter than fingers. Entire cutting surface of both fingers denticulate. Curved terminal spines crossing at tips of fingers. No proximal hiatus. Movable finger with distinct spine on mesial proximal margin.

Percopod 2: Merus extensor margin with 7 spines; flexor margin with 4 spines. Carpus with 4 extensor and 1 flexor spine. Propodus extensor margin unarmed; flexor margin with 11 minute movable spines. Dactylus about 0.4 propodus length; with 10 movable spines along distal three quarters of flexor margin.

Pereopod 3: Merus extensor margin with 7 spines; flexor margin with 5 spines. Carpus with 3 extensor and 1 flexor spine. Propodus extensor margin unarmed; flexor margin with 12-15 minute movable spines. Dactylus about 0.4 propodus length; with 9 movable spines along distal three quarters of flexor margin.

Pereopod 4: Merus extensor margin with 6 spines; flexor margin with 4 spines. Carpus with 4 extensor and 1 flexor spine. Propodus extensor margin unarmed; flexor margin with 13 minute movable spines. Dactylus about 0,4 propodus length; with 8-9 movable spines along distal three quarters of flexor margin.

Measurements (mm): Holotype: Carapace length excluding rostrum 11.5; carapace breadth 10.5; rostrum length 6.2; supraocular spines length 3.1; maximal corneal diameter 3.3; right cheliped: total length 35.5, carpus length 7.5, palm length 6.8, palm height 2.5, fingers length 7.9; left cheliped: total length 35.1, carpus length 7.3 palm length 7.7, palm height 2.5, fingers length 8.0.

Holotype and Paratypes: Carapace length excluding rostrum 8.0-12.0; carapace breadth 7.4-11.0.

Coloration: Holotype and paratypes with carapace and abdominal somites light orange.

Etymology: This species is named for José Coltro, in recognition of his continuous efforts to secure crustacean specimens caught during commercial fishing operations.

Remarks: *Munida coltroi* is the first species of the genus described from the deep waters off the northeast coast of Brazil. Together with the specimens of *Munida* examined were several specimens of *Uroptychus nitidus,* associated with gorgonians (Octocorallia: Gorgonacea). The new species is morphologically related to *Munida chacei* Melo-Filho and Melo, 1992 and *Munida robusta* A. Milne-Edwards, 1880, by the presence of the row of spines aligned with the rostrum. This is a rare characteristic in the Atlantic species of the genus. *M. chacei,* according to the description and figure furnished by Melo-Filho and Melo (1992a), is easily distinguished by the presence of spines in the meso-cardiac sulcus, the intestinal region, and the posterior margin of the carapace, all of which are absent in *M. coltroi.* The most morphologically similar species is *M. robusta.* From the descriptions and figures (Milne-Edwards, 1880; Milne Edwards and Bouvier, 1897; Melo-Filho, 1997) it is apparent that the position of the spines of the longitudinal gastric row is different, extending through the protogastric region in *M. robusta* and strictly epigastric in *M. coltroi.* In this species, the supraoculars reach beyond the distal margin of the cornea, which is not the case in *M. robusta.* The large pair of epigastric spines, behind the supraoculars, is much longer in *M. coltroi* than in *M. robusta;* but there may be a possibility that these differences are caused by allometric or age variations. The number of lateral spines is different: 1 + 6 in *M. robusta* and 1 + 5 in *M. coltroi.* There are also differences in the chelipeds: in *M. robusta* the palms are longer than the fingers; whereas in *M. coltroi* the palms are shorter than the fingers, or, rarely, equal to them in length. In *M. robusta* the junction between palm and fingers has a clearly visible angle. This angle does not exist in *M. coltroi,* in which the palm and fingers are rectilinear. There is no distinct difference between the holotype and paratypes. There is no gap in the cheliped fingers of paratype males.

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