A NEW SPECIES OF *EUPROGNATHA* STIMPSON, 1871
(Crustacea, Brachyura, Inachoididae) FROM OFF COAST OF NORTHEASTERN BRAZIL

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ABSTRACT

*A new species of Euprognatha Stimpson, 1871 from off coast of Brazil (Canopus Bank, 02°15.3′00″S - 38°16.0′00″W) is described and illustrated, namely Euprognatha limatula n. sp. The new species is compared to its congeners. Lectotypes are designated for E. acuta A. Milne-Edwards, 1880 and E. granulata Faxon, 1893. A key to the species of Euprognatha is provided.*

Keywords: Seamounts; Brazil; Fishery; Euprognatha; Inachoididae; Spider crab.

INTRODUCTION

Seamounts are common features to all ocean basins and many are subject to intense commercial fisheries world-wide, which results in serious impact to its fauna (e.g., Koslow & Gowlet-Homes, 1998; de Forges *et al.*, 2000; Clark & O’Driscoll, 2003; Morato *et al.*, 2004; Morato *et al.*, 2006). The seamounts contribution to the ocean’s biodiversity is likely to be significant and, indeed, a number of them have been documented to present high levels of endemcity (Stocks, 2004). Although there are thousands of seamounts in the world’s oceans, only a few have been adequately sampled and studied. While widely regarded as a threat to seamount benthic communities, the fishing trawling fleet can play a role in helping to understand the seamount fauna. When biological material obtained as side catch during fishing cruises are secured and sent to sorting centers for study, much can be learned about the taxonomic composition and endemcity of seamounts communities. After all, it is well known that the discovery of many rare or new species world-wide has been made possible through the collaboration of the fishing industry. Fishing activities recently conducted in the Canopus Bank, off coast of northeastern Brazil, have yielded many interesting crustacean and mollusk specimens (Costa & Simone, 2006; Melo-Filho & Melo, 2006; Simone, 2005; 2006; Simone & Abatte, 2005). Among the material sent to the Zoological Museum in São Paulo for study is a new species of spider crab of the genus *Euprognatha* Stimpson, 1871. The new species is described herein and compared with its congeners. Abbreviations are as follows: cl, carapace length, rostrum included; cw, carapace width; P2-P5, second to fifth pereiopods, P1 is the cheliped. The material herein

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studied has been deposited in or belongs to the collections of the Museu de Zoolgia, Universidade de São Paulo (MZUSP); National Museum of Natural History, Smithsonian Institution, Washington D.C. (USNM); and Museum of Comparative Zoology, Harvard (MCZ).

RESULTS AND DISCUSSION

Inachoididae Dana, 1851

**Euprognatha** Stimpson, 1871

*Type species: Euprognatha rastellifera* Stimpson, 1871, by monotypy.

*Included species: Euprognatha* includes five recent species: *Euprognatha bifida* Rathbun, 1893; *E. gracilipes* A. Milne-Edwards, 1878; *E. granulata* Faxon, 1893; *E. rastellifera* Stimpson, 1871; *E. limatula* n. sp.; and one fossil species from the Pliocene of southeastern Virginia (Blow, 2003): *E. ricei* Blow, 2003. Additionally, the fossil record of *Euprognatha* includes two left dactili of chelae of *Euprognatha* sp. from the Miocene of Florida (Rathbun, 1935: 112, pl. 24, figs. 16-19).

*Euprognatha limatula* n. sp.  
(Figures 1 A-E; 2 A, e; 3 d; 6 B)

*Type material:* Brazil, Ceará, Canopus Bank, 02°15.3′00″S - 38°16.0′00″W, Fishing Vessel “Piauí VIII”, J. Coltro coll., viii.2005, rocky bottom, 252-260 m: male holotype cl 8.5, cw 7.0 mm (MZUSP 16940).

*Comparative material*

*Euprognatha bifida* – United States, Baja California, Gulf of California, San Jose Island, “Albatross”, station 3001, gray sand and broken shells, 24°55′15″N - 110°39′00″W, 16.iii.1889, M. J. Rathbun det., 60 m: male holotype cl 8.7, cw 7.2 mm (USNM 17335).


*Euprognatha granulata* – Costa Rica, Cocos Island, “Albatross”, station 3369, 05°32′45″N - 86°55′20″W, 28.ii.1891, Faxon det., 95 m: ovigerous female lectotype cl 7.7, cw 6.0 mm and 1 ovigerous female paralectotype (MCZ 4477).

FIGURE 1: *Euprognatha limatula* n. sp. male holotype 8.5 x 7.0 mm (MZUSP 16940). A, lateral view of the left cheliped. B, *habitus*, dorsal view. C, dorsal view of carapace, cephalotorax and abdomen. D, ventral view of carapace, cephalotorax and abdomen. E, lateral view of carapace, cephalotorax and abdomen. Scales A-E, 4 mm.


**Description:** Carapace pyriform, little longer than wide; regions well demarcated, strongly inflated. Carapace covered with minute granules, sub-equal in size, mostly concentrated on flanks; hooked setae sparsely distributed, more dense near base of rostrum, between orbits and in hepatic, gastric, and branchial regions. Carapace with 8 strong spines arranged as follows: 1 meta gastric; 1 cardiac; 2 protobranchial, one of each side; 4 mesobranchial, two of each side. Antero-lateral margin of mesobranchial region with small spines and tubercles. Thoracic pleurites 5–8 ginnopleura, consisting of narrow plates densely ornamented with minute, uniformly distributed granules; coxal margin of pleurites spinulose. Rostrum short, bifurcated, ending in two strong, smooth, acute, directed upward, spines. Supraorbital spines long; orbital margin granulated dorsally. Postorbital spine smooth, markedly long, curved forward, slightly longer than ocular peduncle. Ocular peduncle constricted medially, armed with blunt tubercle distally.

Antennular fossae longitudinally ovate; anterior margins crenulated. Interantennular septum elongated, strongly compressed laterally, forming distinct lobe ventrally directed. Antennal flagella long; third and fourth antennal articles long, slender, exceeding rostrum. First and second antennal articles fused to epistome; second article with long spine in anterolateral angle, slightly directed upward; ventro-lateral margin of second article with row of sub-equal tubercles.

Epistome slightly wider than long. Epistomial spine and interantennular septa separated by small gap. Mouthfield trapezoidal, strongly produced anteriorly. Pterygostomian region subtriangular, with small tubercles, separated from subhepatic region by shallow groove. Subhepatic region with strong tubercle.

Third maxillipeds completely covering buccal frame. Exopod long, nearly reaching distal margin of merus; dorsal face with small, uniformly distributed tubercles. Ischia longer than broad; mesial margins slightly curved, leaving distinct gap; crista dentata with row of short setae and small teeth; dorsal face of ischium concave longitudinally, with small, well-spaced tubercles. Merus faintly longer than half of ischium, ornamented with small, well-spaced tubercles; anterolateral margin strongly expanded. Palp cylindrical, longer than merus; propodus and dactyl unarmored; carpus ornamented with spinules dorsally.


Chelipeds equals, subcylindrical, distinctly long. Dactyl and fixed finger distinctly shorter than palm, cutting edges consisting of sub-equal calcareous teeth; when closed fingers leaving gap in proximal half; dactyl with small, blunt, distinct basal tooth. Movable and fixed fingers smooth on mesial and lateral faces, inconspicuous carina on lateral face of dactyl. Propodus slender, weakly inflated, with minute, almost imperceptible granules. Carpus with minute granules on mesial and lateral surfaces, almost smooth dorsally. Merus with minute granules. Ischium coarsely granulated. Pereiopods slender, cylindrical. First ambulatory leg longer, remaining legs decreasing in length posteriorly. Dactyl slightly curved, densely setose, small tubercles on lower edge. Carpus with sparse, minute granules on upper and lower surfaces. Merus with dorsal, strong, backward curved spines; smaller spines on lateral and ventral faces; mesial face of pereiopods smooth. Ischium with spinules on lateral surface.

First abdominal segment densely covered with granules, bearing strong spine densely granulated
proximally, otherwise smooth; segments 2 and 3 densely tuberculated, remaining segments paved with small, rounded granules medially concentrated. Abdominal segments 1-5 free, slightly raised medially forming low longitudinal ridge. Segment 6 fused to telson. Pleotelson subtriangular, termining in rounded apex.

Type locality: Brazil, Ceará, Canopus Bank, 02°15.3′00″S - 38°16.0′00″W, between 252 and 260 meters depth.

Distribution: Known so far only from the type locality.

Etymology: From the Latin limatula (diminutive feminine), polish, scrape, in allusion to the aspect of the chelipeds.

Remarks: Euprognatha limatula n. sp. differs from all its congeners by the (i) presence of distinct, subequal protobranchial and anterior mesobranchial spines (versus protobranchial and anterior mesobranchial spines absent, figs. 3-6); (ii) dactyl, propodus, and merus of the cheliped minutely granulated, granules almost imperceptible (versus coarsely granulated, fig. 1A); (iii) dactyl of P4 only slightly longer than half of the maximal length of propodus (versus much longer than half of the propodus, almost reaching proximal end of carpus, figs. 2B-E); (iv) gastric and cardiac regions of the carapace almost smooth, carapace finely granulated on the flanks (versus carapace coarsely granulated or strongly tuberculated all over, figs. 3-6). Additionally, Euprognatha limatula n. sp. is promptly distinguished from E. gracilipes by its second antennal spine much longer than rostrum in dorsal view (versus shorter than rostrum in dorsal view, figs. 3B, D); from E. ricei and E. bifida by the absence of intestinal spine (versus one or two strong intestinal spines, respectively, figs. 3A, D); and from E. granulata by the meri of P2-P4 armed with sparse, strong, backward curved spines (versus densely distributed, short, straight spines, figs. 1B and 2A). Euprognatha limatula n. sp. is further differentiated from E. bifida, E. ricei, and E. gracilipes by its strong interantenular spine (versus interantenular spine absent, fig. 1E).

Euprognatha rastellifera Stimpson, 1860

In E. rastellifera the ornamentation of the carapace is strongly variable, giving rise to the recognition of several new species or subspecies (figs. 4A-D and 6C-D): E. acuta A. Milne-Edwards, 1880 (figs. 4A and 6D) (type-localities: Saint Kitts, Saint Vincent, and Barbados); E. inermis A. Milne-Edwards, 1878 (type-locality: Guadeloupe); E. rastellifera marthae Rathbun, 1925 (figs. 4B and 6C) (type-locality: Southwest off Marthas Vineyard); E. rastellifera rastellifera Stimpson, 1871 (fig. 4D) (type-locality: Florida Keys); and E. rastellifera spinosa Rathbun, 1894 (fig. 4C) (type-locality: off Havana). Rathbun (1925: 97) noticed that “None of these forms is entirely restricted to its own range, they overlap one another, and two forms may occur in the same haul”. Indeed, when long series of individuals from different areas are examined, there is no longer clear cut distinction between them. Therefore we recognize only one species, E. rastellifera Stimpson, 1871 (see also Nizinski, 2003: 129; Mclaughlin et al., 2005: 311). E. rastellifera is widely distributed in the Western Atlantic, ranging from off Georges Bank to Uruguay, including Antilles (Williams, 1984: 298; Melo, 1996: 204 as E. acuta; Nizinski, 2003: 129; Campos et al., 2005: 210). The type of E. rastellifera Stimpson, 1871 is not extant (Rathbun, 1925: 96).

Lectotypes designations

Euprognatha acuta A. Milne-Edwards, 1880: The specimens upon which A. Milne-Edwards (1880) based the description of E. acuta were obtained by the steamer “Blake” (Peirce & Patterson, 1879) in Saint Kitts, Grenadines, Saint Vincent, and Barbados. A. Milne-Edwards (1880: 7) did not mention how many individuals were available to him. The “Blake” collections were kept in the MCZ, where three males and one female syntypes of E. acuta are well preserved. They are as follows: one male from Saint Kitts, two males from Saint Vincent, and one female from Barbados (for details see above under comparative material). There is no material of E. acuta from the Grenadines in the MCZ. When available A. Milne-Edwards used to retain a few specimens in the Muséum national d’Histoire naturelle, in Paris. It is then well possible that the material from the Grenadines be housed there. In order to ensure that the name Euprognatha acuta A. Milne Edwards, 1880, be properly and consistently applied, the male MCZ 2580, cl 6.6, cw 5.3 mm, from Saint Vincent, “Blake”, station 269, 13°07′55″N - 61°05′36″W, A. Agassiz coll., 3.iii.1879, 227 m, is selected herein as the lectotype. The second male from Saint Vincent, the male from Saint Kitts (MCZ 2728), and the female from Barbados (MCZ 2600) are the paralectotypes.
**Key to the species of *Euprognatha***

1. Two strong intestinal spines....*Euprognatha bifida*
   One strong intestinal spine or intestinal spine lacking ........................................2
2. One strong intestinal spine ...... *Euprognatha ricei*
   Intestinal spine lacking .........................................................3
3. Protobranchial and anterior mesobranchial spines present ............ *Euprognatha limatula* n. sp.
   Protobranchial and anterior mesobranchial spines absent ........................................4
4. Second antennal article with strong subdistal, sharp spine in ventral view .... *Euprognatha rastellifera*
   Second antennal article smooth subdistally or at most with a blunt subdistal tubercle in ventral view ..........................................................5
5. Second antennal spine much longer than rostrum in dorsal view ............ *Euprognatha granulata*
   Second antennal spine shorter than rostrum in dorsal view ............................ *Euprognatha gracilipes*

**RESUMO**

Uma nova espécie do gênero *Euprognatha* Stimpson, 1871 coligida ao largo da costa brasileira (monte submarino *Canopus*, 02°15.3’00”S - 38°16.0’00”W) é descrita e ilustrada, nomeadamente *Euprognatha limatula* n. sp. A nova espécie é comparada às suas congêneres. Lectótipos são designados para *E. granulata*.

**ACKNOWLEDGEMENTS**

We are sincerely grateful to José Coltro for entrusting the present material for study and to Rafael Lemaître for critically reviewing the manuscript; to Adam Baldinger (MCZ) and Rafael Lemaître (USNM) for making the material from their institutions available for study and for providing working space. Rose Gulledge, Karen Reed (both from the USNM) and Ardis Johnston and Laura Leibensperger (both from the MCZ) were very instrumental in helping us to locate specimens and literature. WS thanks CAPES, Brasilia, for continued financial support through fellowship number 330021002/7P5; and the Museum of Comparative Zoology, Harvard, for financial support through the Ernst Mayr Travel Grant in Animal Systematics. MT thanks CNPq, Brasilia, for supporting studies on the systematics of decapod crustaceans in the form of ongoing grants 302065/2007-5 and 471293/2006-7; and the Pró-Reitoria de Pesquisa of the University of São Paulo for financial support (Projeto I 2007).

**REFERENCES**


