

**FIRST RECORD OF THE GEBIIDEAN GENUS AXIANASSA SCHMITT, 1924  
(CRUSTACEA: DECAPODA: GEBIIDEA: AXIANASSIDAE) IN THE WEST PACIFIC,  
WITH DESCRIPTION OF A NEW SPECIES FROM THE SOUTH CHINA SEA**

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**ABSTRACT.** – A new species, *Axianassa sinica*, from the Beibu Gulf (Gulf of Tonkin), northern South China Sea, is described and illustrated. The new species is readily distinguished from *A. australis* Rodrigues & Shimizu, 1992, by its acute rostrum, merus of pereopod 1 with a tooth distally on lower margin and an elongated telson.

**KEY WORDS.** – Axianassidae, *Axianassa*, new species, northern South China Sea.

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## INTRODUCTION

While working on the systematic study of the gebiidean and axiidean fauna of the China Sea, a new species of the genus *Axianassa* has been found from the Beibu Gulf, northern South China Sea.

Schmitt (1924) established the genus *Axianassa* for *A. intermedia* collected from Curaçao, Lesser Antilles. The genus *Axianassa* is characterized by a short rostrum anteriorly rounded or acute, weakly to moderately developed. Eystalks short, cornea poorly defined, eyes poorly pigmented, generally not, or barely surpassing rostral apex. Antennal scale usually well developed and dagger-like; article 4 of peduncle elongate, slender. Pereopod 1, chelae of similar size but dissimilar in dentition of cutting edges of dactylus and fixed finger. Dactylus of pereopods 3–5 flexed. Pereopod 5 subchelate. Pleopods 2–5 biramous, rami narrowly lanceolate; lacking appendix interna. Uropodal rami both without transverse suture. Telson lacking spination.

Six species are known from the tropical and subtropical waters of the northeastern Pacific (Mexico, Panama) and the western Atlantic (Gulf of Mexico, Caribbean and Brazil) (Table 1).

In this paper a new species of the genus, *Axianassa sinica*, from the Beibu Gulf, northern South China Sea is being

described. It is also the first record of this genus from the West Pacific.

## MATERIALS AND METHODS

Material for this study were collected from the northern South China Sea including Beibu Gulf (1959–1960, 1962). All material examined are deposited in the Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China (IOCAS). The drawings were made with the aid of a drawing tube mounted on a Zeiss Stemi Sv11 compound microscope. The following abbreviations are used throughout the text: cl, length of carapace; tl, total length of body.

## TAXONOMY

### *Axianassidae* Schmitt, 1924

#### *Axianassa* Schmitt, 1924

#### *Axianassa sinica*, new species (Figs. 1–3)

**Material examined.** – Holotype: male (cl 4.0 mm), IOCAS R286A-5, Beibu Gulf, Stn. 6198, 19.87°N 106.96°E, 33 m, soft mud, Zhang coll., 12 Nov.1960.

Table 1. List of *Axianassa* species and their distribution

**West Atlantic species**

*Axianassa intermedia* Schmitt, 1924: Spanish Harbor, Curaçao; Punta Arena, Puerto Rico (Kensley & Heard, 1990)

*Axianassa arenaria* Kensley & Heard, 1990: Gulf of Mexico

*Axianassa jamaicensis* Kensley & Heard, 1990: Montego Bay, Jamaica; Mosquito Cove River, Jamaica (Felder & Manning, 1997)

*Axianassa australis* Rodrigues & Shimizu, 1992: Fazenda Maricultura, Valença, Bahia, Brazil; Guaratuba, Southern Brazil (Melo, Loyola e Silva & Masunari, 2006); northern and northeastern Brazilian coast (Coelho et al., 2007); from Florida, Texas, southwestern Gulf of Mexico to Parana, Brazil (Felder, 2001)

**Eastern Pacific species**

*Axianassa mineri* Boone, 1931: Pacheca Island, Pearl Islands, Bay of Panama (Pacific coast); Pacific Mexico (Hernandez-Aguilera, 1998)

*Axianassa canalis* Kensley & Heard, 1990: Panama Canal

**West Pacific species**

*Axianassa sinica*, new species: Beibu Gulf (Gulf of Tonkin)

Paratype: One male (cl 2.3 mm), IOCAS X303A-5, Beibu Gulf, Stn. 7203, 19.72°N 106.68°E, 42 m, 24 Oct.1962.

**Description.** – Carapace with linea thalassinica and cervical groove clearly defined (Fig.1A); rostrum tapering (Fig. 2A), anteriorly acute, reaching well beyond cornea of eyes. Abdomen thin-walled (Fig. 1A), terga bearing minute setae; somite 1 somewhat shorter than half length of somite 2, pleuron produced ventrally into strong, calcified spiniform process; somite 2 longer than somites 3–6, terga with minute setae, pleuron ventrally broad; somites 3–5 subequal in length, almost naked, terga with minute setae; somite 6 longer than somites 3–5, almost naked, terga with minute setae, ventral margins sinuous. Telson (Fig. 2B) distinctly longer than greatest width, about 1.3 times as long as wide, posteriorly broadly rounded, bearing numerous long plumose setae.

Cornea not clearly demarcated (Fig. 2A), moderately pigmented. Article 3 of antennular peduncle slender (Fig. 2A), elongate-cylindrical, twice length of combined length of articles 1 and 2; inferior flagellum about 2/3 length of superior flagellum. Antennal acicle slender, dagger-like;

peduncle article 4 slender, elongate-cylindrical, with a small tooth on mesial margin.

Mouthparts typical of genus (e.g., Kenseley & Heard, 1990). Maxilliped 3 unarmed (Fig. 2C), mesial dentate crest of ischium bearing some small teeth; merus, carpus and propodus with bands of fusiform setae, lower margin of dactylus strongly setose.

Pereopods 1 unequal. Larger cheliped (left) (Fig. 3A, B) with lower margin of ischium bearing 2 sharp teeth, merus 2.0 times as long as ischium, lower margin of merus bearing 6 small teeth and one strong tooth distally; carpus triangular, about 0.67 times as long as merus; chela heavy, about 1.4 times as long as high; fixed finger slightly shorter than palm, cutting edge with small rounded teeth and one large triangular tooth on proximal 1/3; dactylus slender and slightly longer than fixed finger, cutting edge with two large rounded teeth and a row of small rounded teeth on distal 1/3. Smaller cheliped (right) (Fig. 3C) with lower margin of ischium bearing 2 sharp teeth, merus 1.6 times as long as ischium, lower margin of merus bearing one strong tooth distally;

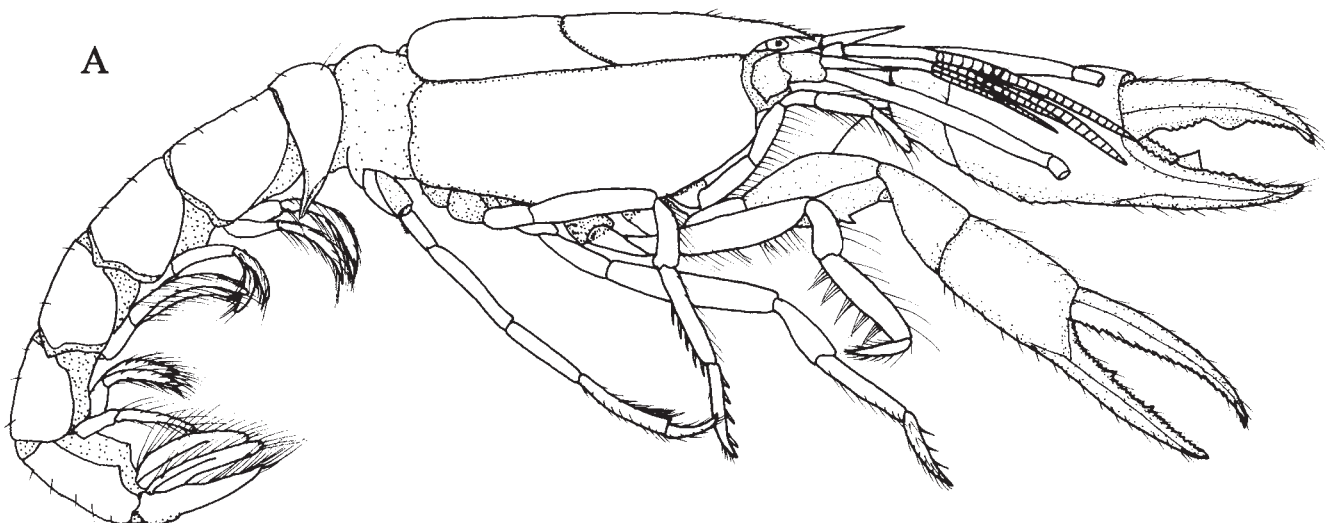


Fig. 1. *Axianassa sinica*, new species. Holotype male, IOCAS R258A-5. Entire animal, lateral view. Scale = 1 mm.

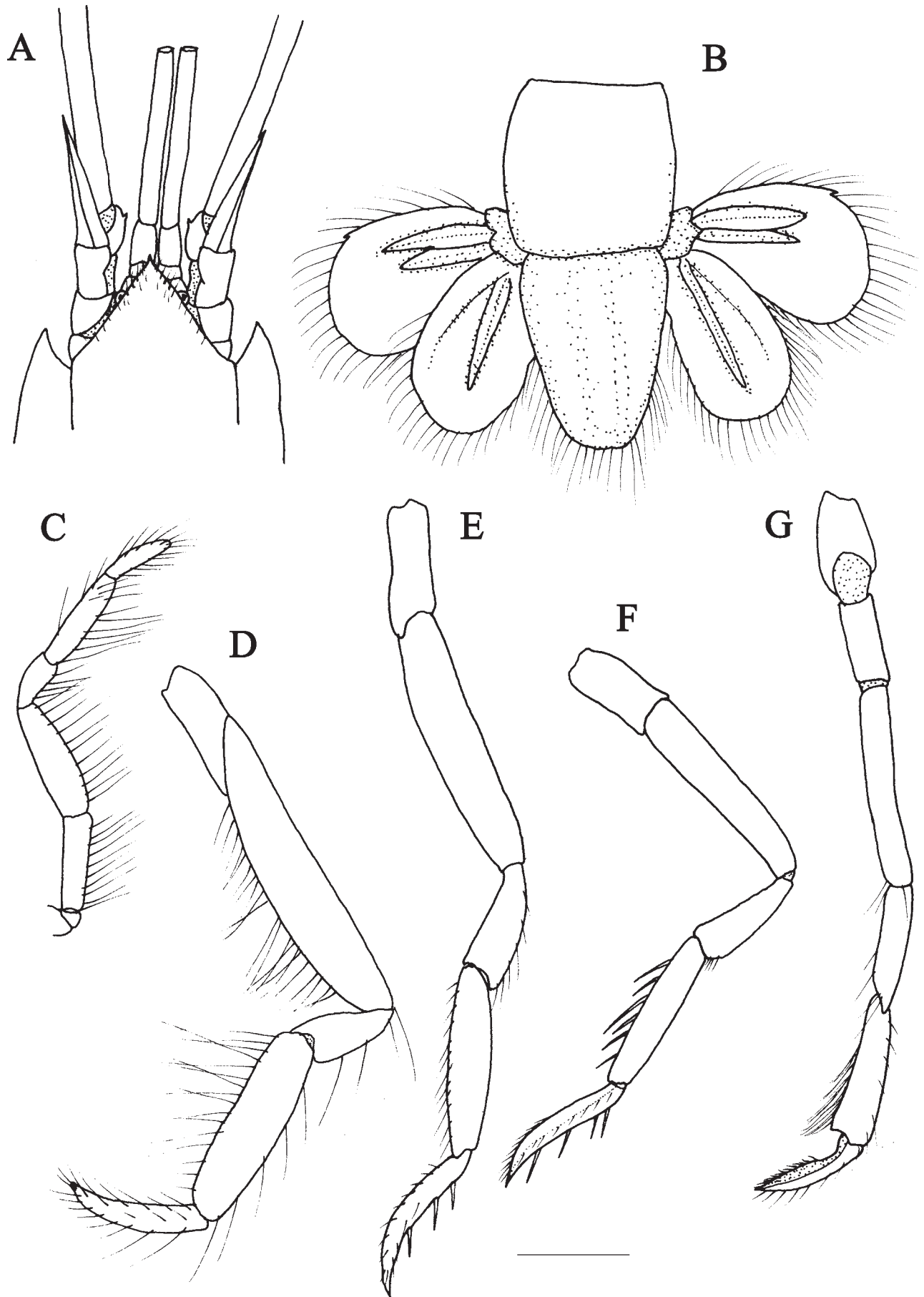


Fig. 2. *Axianassa sinica*, new species. Holotype male, IOCAS R258A-5. A. carapace, dorsal view; B. telson and uropods, dorsal view; C. right maxilliped 3, outer view; D. pereopod 2, lateral view; E. pereopod 3, lateral view; F. pereopod 4, lateral view; G. pereopod 5, lateral view. Scale = 1 mm.

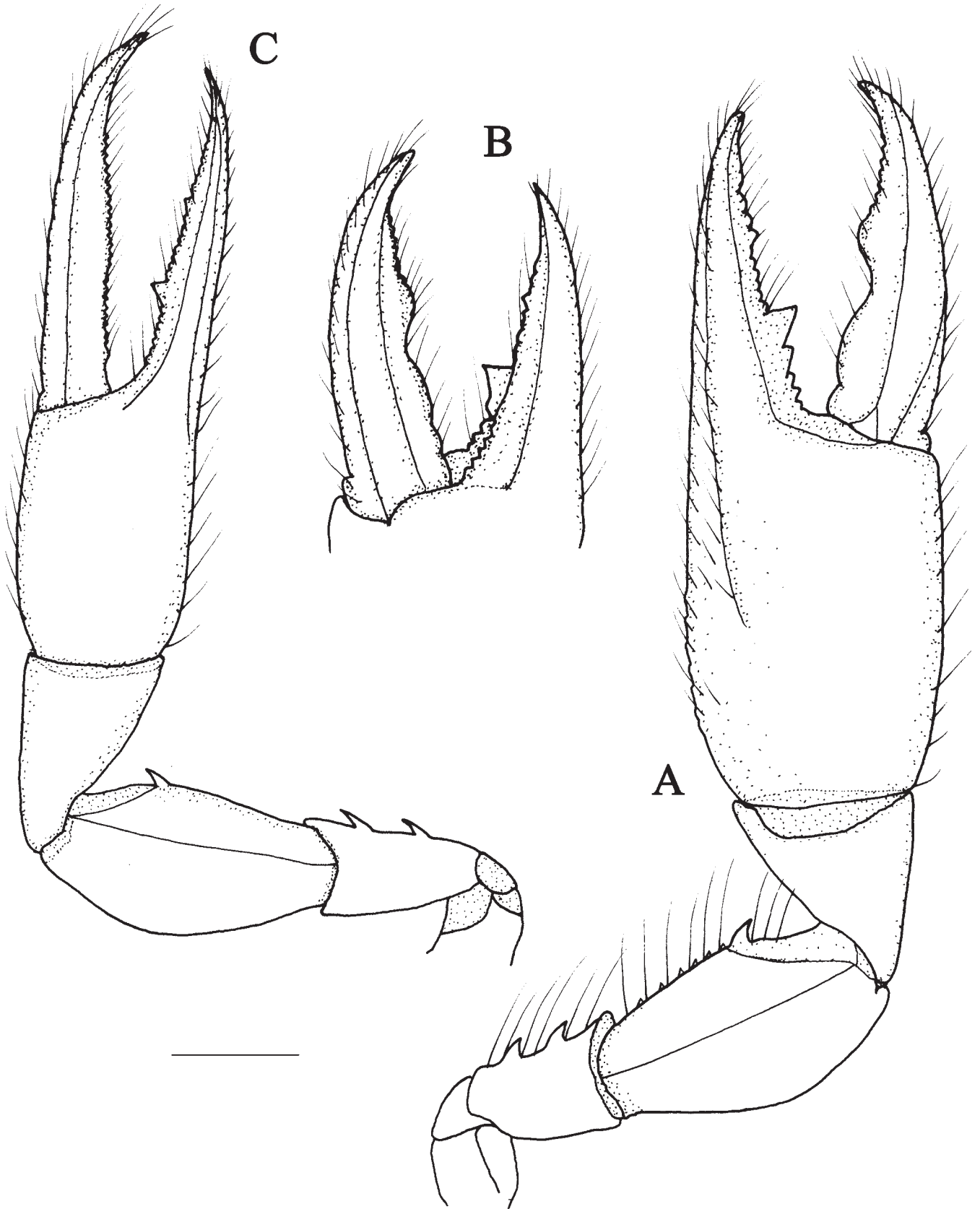


Fig. 3. *Axianassa sinica*, new species. Holotype male, IOCAS R258A-5. A. left larger cheliped, outer view; B. left larger cheliped, inner view; C. right smaller cheliped, outer view. Scale = 1 mm.

carpus triangular, about 0.73 times as long as merus; chela slender, about 1.5 times as long as high; fixed finger about 1.4 times as long as plam, cutting edge with a row of small teeth and one large triangular tooth on proximal 1/3; dactylus slender and slightly longer than fixed finger, cutting edge with a row of small teeth.

Pereopod 2 (Fig. 2D), merus with long setae on lower margin, carpus with long setae on upper margin, propodus and dactylus with setae on upper and lower margins.

Pereopod 3 (Fig. 2E), carpus with long setae on upper margin, propodus with dense setae on lower margin; dactylus flexed, with single row of 3 corneous spines on upper margin and row of fine spines in sinuous row on lower margin.

Pereopod 4 (Fig. 2F) similar to pereopod 3, but merus relatively shorter; propodus with single row of about 6 corneous spines on lower margin; flexed dactylus with single row of 4 corneous spines on upper margin and row of fine spines in sinuous row on distal half of lower margin.

Pereopod 5 (Fig. 2G) sub-chelate, propodus with band of dense short setae; dactylus flexed, with fine spines along lower margin

Pleopod 1 of male absent. Pleopods 2–5 similar, endopod and exopod oval-shaped.

Uropodal ramus ovate (Fig. 2B), elongate, uropodal exopod with a tooth on outer margin; uropodal endopod and exopod bearing dense fringe of plumose setae.

**Size.** – Holotype (male) cl 4.0 mm, tl 12.0 mm; paratype (male) cl 2.3 mm, tl 9.3 mm.

**Remarks.** – The new species is similar to *Axianassa australis* Rodrigues & Shimizu, 1992, known from Brazil, in somite 1 pleuron produced ventrally into strong, calcified spiniform process and the shape of chelipeds. It differs from the latter in: 1) rostrum acute distally (versus rounded); 2) merus of pereopod 1 with a tooth distally on lower margin (versus unarmed); 3) telson elongate, about 1.3 times as long as wide (versus short and about 1.1 times as long as wide).

**Etymology.** – The species name is from the type locality.

**Distribution and habitat.** – Presently only known from the type locality. At depths of 32–42 m; bottom: soft mud.

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