



A new species of the genus *Austinogebia* Ngoc-Ho, 2001 (Crustacea, Decapoda, Gebiidea, Upogebiidae) from northern China

WENLIANG LIU¹ & RUIYU LIU (J. Y. LIU)^{2,3}

¹Chongxi Wetland Research Center, The State Key Laboratory of Estuarine and Coastal Research, East China Normal University, Shanghai 200062, China. E-mail: xlef@tom.com

²Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China

³Corresponding author. E-mail: jyliu@ms.qdio.ac.cn

Abstract

A new species of the genus *Austinogebia* Ngoc-Ho, 2001, *A. monospina* n. sp., collected from the Bohai Sea and the Yellow Sea, is described and illustrated. It is closely allied to *A. spinifrons* (Haswell, 1881) but differs markedly in the rostral ornamentation, with one infrarostral spine and the unarmed lower margin of antennal peduncle.

Key words: Crustacea, Decapoda, Gebiidea, Upogebiidae, *Austinogebia*, new species, Bohai Sea, Yellow Sea

Introduction

While working on the taxonomic study of the gebiidean fauna (Crustacea, Decapoda) of the China Sea, an undescribed species of the genus *Austinogebia* Ngoc-Ho, 2001 was found from the Bohai Sea and the Yellow Sea.

The genus *Austinogebia* Ngoc-Ho, 2001 is characteristic in having: one to four infrarostral spines, several spines on the anterolateral border of carapace; the lateral ridge of the gastric region projecting forwards; the upper distal half thickened and densely setose, with 1–3 lower distal spines; the pereopod 1 propodus with spines and spinules on the upper border and the lower border unarmed; and the latero-external border of the uropodal endopod with a prominent knob on the proximal shoulder.

Six species are known, all from the Indo-West Pacific: *A. edulis* (Ngoc-Ho & Chan, 1992), *A. narutensis* (Sakai, 1986), *A. nobilii* (Sakai & Türkay, 1995), *A. spinifrons* (Haswell, 1881), *A. takaoensis* (Sakai & Türkay, 1995), *A. wuhsienweni* (Yu, 1931).

The status of the genus has been subject to disagreement. *Austinogebia* Ngoc-Ho, 2001 and *Gebiacantha* Ngoc-Ho, 1989 are treated as a synonyms of *Upogebia* Leach, 1814 by Sakai (2006), but the genus *Gebiacantha* is recognized by Robles *et al.* (2009). In this study, we follow Ngoc-Ho (2001) in recognising the genus *Austinogebia* since its diagnostic characteristics are distinct from the remaining genera of the Upogebiidae.

The higher taxonomy of the Upogebiidae (13 genera, 163 species according to Ahyong *et al.* 2011) is not discussed here, which is beyond the scope of this paper. In this paper we describe and illustrate a new species of *Austinogebia* from the Bohai Sea and the Yellow Sea.

Material and methods

All material examined is deposited in the Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China (IOCAS). The drawings were made with the aid of drawing tube mounted on a Zeiss Stemi Sv11 compound microscope. The following abbreviations are used throughout the text: cl., length of carapace.

Systematics

Family Upogebiidae Borradaile, 1903

Genus *Austinogebia* Ngoc-Ho, 2001

Austinogebia monospina sp. nov.

(Figs 1–4)

Material examined. *Holotype*: ♂ (cl. 8.5 mm), stn 130-6, Bohai Sea, 20 m, medium sand, coll. Guangyu Lin, 1 Nov 1958. *Paratype*: ♀ (cl. 8.0 mm), stn 080720-1, Jiaozhou Bay, Yellow Sea, 22 m, muddy sand, coll. Wei Jiang, Wenliang Liu & Junlong Zhang, 20 Jul 2008; 2♀♀ (cl. 6.2–8.0 mm), stn 080720-1, Jiaozhou Bay, Yellow Sea, 22 m, muddy sand, coll. Wei Jiang, Wenliang Liu & Junlong Zhang, 20 Jul 2008; ♂ (cl. 7.8 mm), stn 130-6, Bohai Sea, 20 m, medium sand, coll. Guangyu Lin, 1 Nov 1958.

Description. Rostrum (Fig. 2A, B) triangular, about 1.8 times as long as basal width; tip blunt, projecting far beyond eyes, with 1 infrarostral spine; dorsal surface with dense setae but without small tubercles. Carapace with gastric region covered with dense setae and many small tubercles; lateral ridges terminating in small spine distally; dorsal surface with dense setae but without conspicuous tubercles; anterolateral border with 5 spines; cervical groove long and deep, with 3 or 4 small spines laterally; postorbital region with 2 small spines.

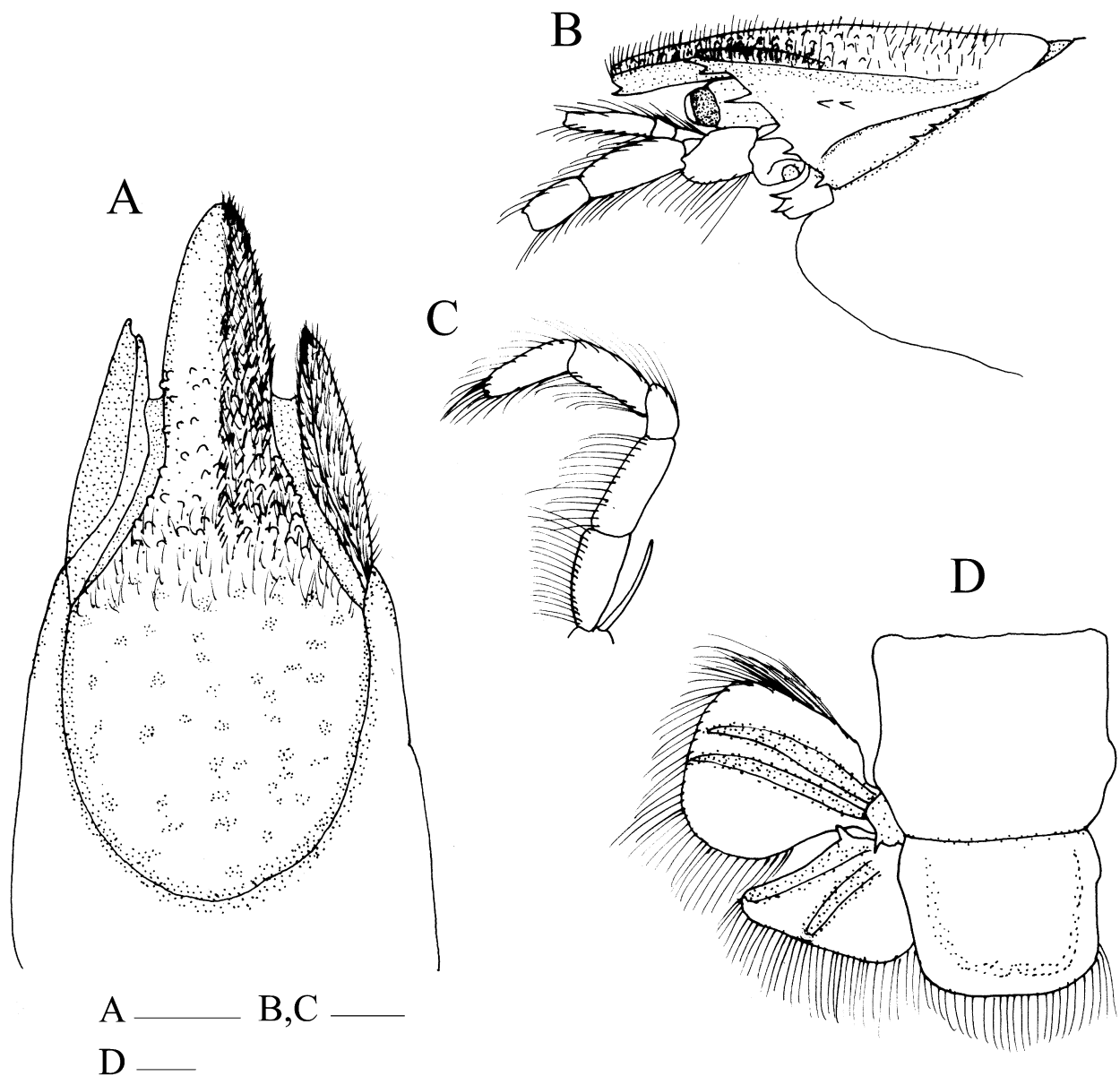
Eyestalks stout, unarmed; cornea darkly pigmented. Antennular peduncle reaching article 4 of antennal peduncle, unarmed. Antennal peduncle unarmed; article 3 with ovate scale on upper surface.

Maxilliped 3 (Fig. 2C) moderately stout; exopod consisting of 1 article, reaching to distal margin of ischium.

Male pereopod 1 subchelate, slender (Fig. 3A, B). Basis unarmed. Ischium with 2 ventral spines. Merus about 2.8 times as long as high, with row of about 5–7 ventral spines and 1 subterminal spine on dorsal margin. Carpus triangular, about 0.4 length of merus, with 1 small upper and 1 strong lower subdistal spines, mesial face with 1 upper spine near to basal third and two strong upper spines near to distal end. Propodus 3.0 times as long as high, 1.7 length of carpus, with row of 5 or 6 spines on upper margin; fixed finger triangular, narrow and sharply pointed; cutting edge slightly curved, with an inconspicuous tooth. Dactylus slender, terminating in corneous tip, about 0.7 length of palm; opposable margin slightly arched, smooth, unarmed; lateral surface carinate medially. Female pereopod 1 (Fig. 3C, D) generally similar to male, but more slender.



FIGURES 1. *Austinogebia monospina* sp. nov. Holotype male, 130-6, entire animal, lateral view. Scale = 1 mm.



A _____ B,C _____
D _____

FIGURES 2. *Austinogebia monospina* sp. nov. Holotype male, 130-6. A. anterior carapace, dorsal view; B. anterior carapace, lateral view; C. maxilliped 3, outer view; D. abdominal somite 6, telson and uropods, dorsal view. Scale = 1mm.

Pereopod 2 (Fig. 4A) with ischium unarmed; merus with 6 lower spines and 2 upper subdistal spines; carpus with 1 spine each on lower and upper margin; propodus about 2 times as long as high, unarmed; dactylus slender, 0.8 length of propodus.

Pereopod 3 (Fig. 4B) with ischium unarmed; merus with 3 lower spines, 5 rows of small corneous spines on outer face; carpus unarmed; propodus about 0.75 length of carpus, outer face with two rows of longitudinal setae; dactylus slender and elongate, slightly longer than propodus.

Pereopod 4 (Fig. 4C) unarmed; dactylus elongate, 1.5 length of propodus.

Pereopod 5 (Fig. 4D) subchelate, unarmed; dactylus elongate and curved.

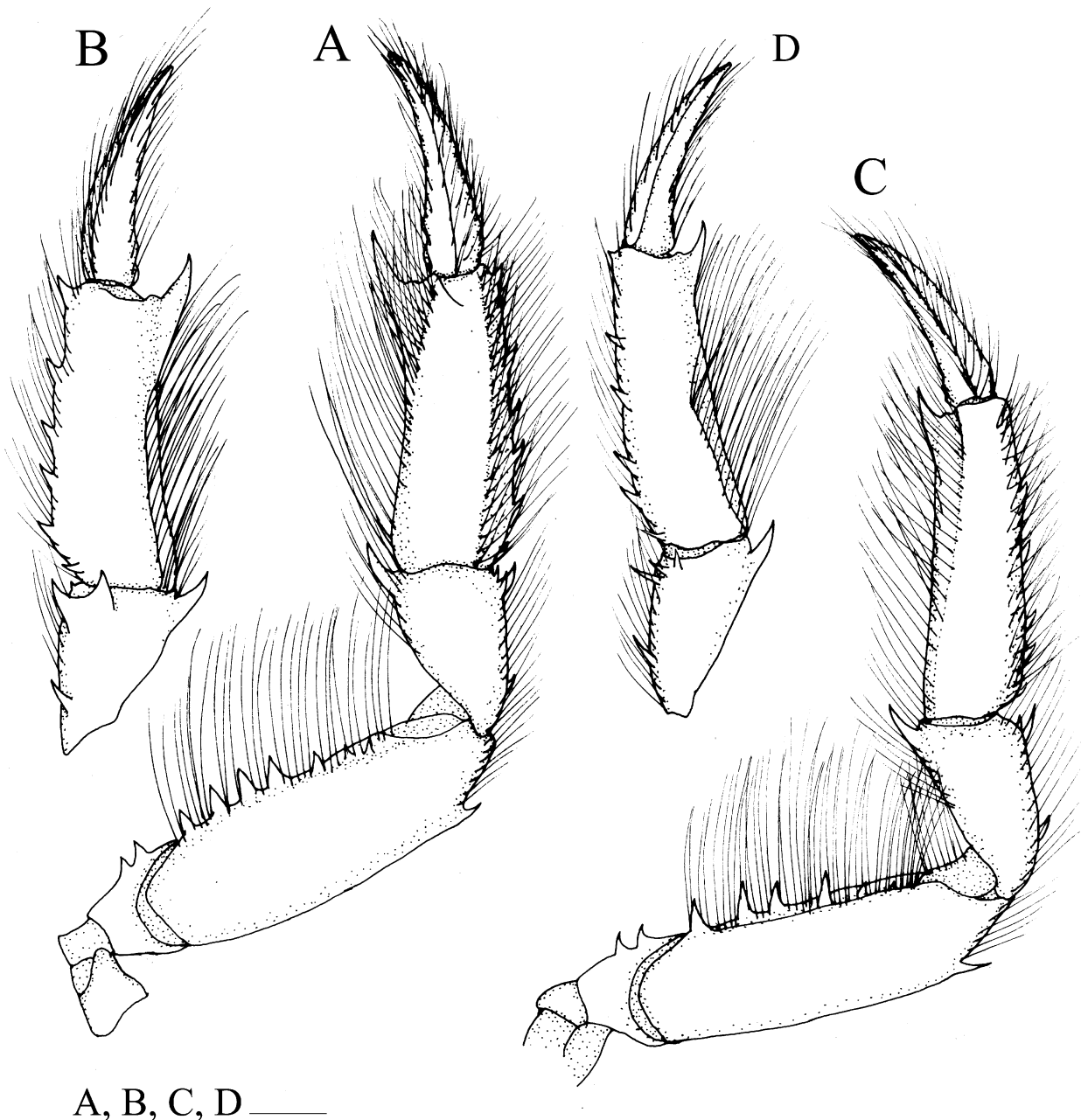
Abdominal tergites smooth. Telson (Fig. 2D) subrectangular, slightly wider than long, 0.75 times as wide as long and about 0.8 length of abdominal somite 6; posterior margin broadly convex, unarmed.

Male pleopod 1 absent; pleopod 2–5 biramous, with exopods larger than endopods. Female pleopod 1 present, uniramous, consisting of 2 articles. Uropodal protopod bearing posterolateral spine; exopod subtriangular, about

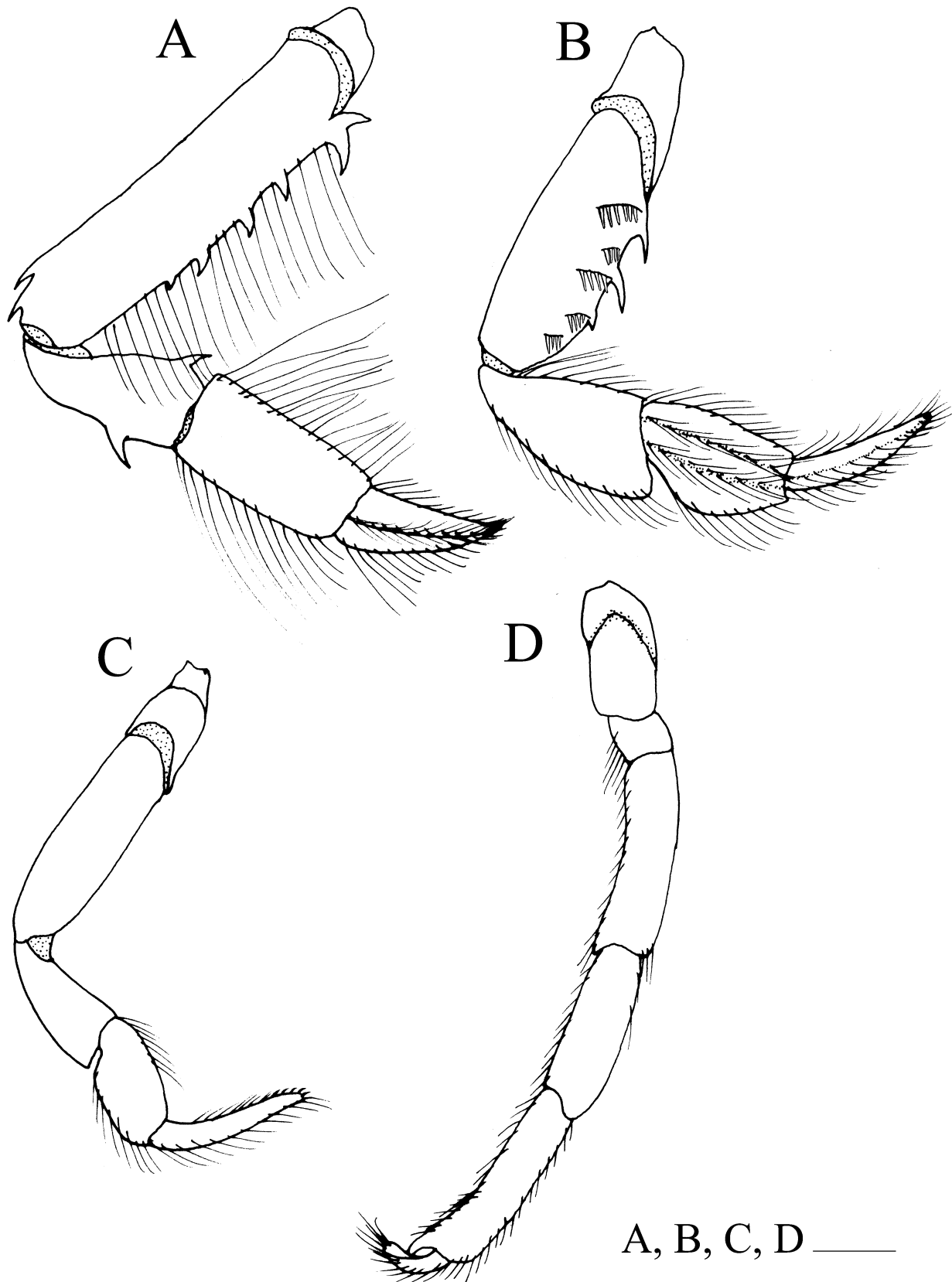
1.1 times as long as wide, truncate on posterior margin; endopod shorter than exopod, about 0.75 times as long as wide, with prominent knob on proximal shoulder.

Remarks. *Austinogebia monospina* **sp. nov.** is readily distinguished from the other species of the genus by having only one infrarostral spine. In the other congeneric species, there are 2–4 infrarostral spines. It is closely related to *A. spinifrons* (Haswell, 1881) in the form of rostrum, pereopod 1 and telson. *Austinogebia monospina* differs markedly from the *A. spinifrons*, however, in the lower margin of antennal peduncle being unarmed (versus armed with numerous ventral spines on the third and fourth segments), lower spines on the ischium of pereopod 1 relatively broad and short; and the posterior margin of telson broadly convex (versus slightly concave).

Etymology. The species name is based on the presence of only one infrarostral spine of rostrum.



FIGURES 3. *Austinogebia monospina* **sp. nov.** A, B. Holotype male, 130-6. C, D. Paratype female, 080720-1. A. male pereopod 1, outer view; B. male pereopod 1, inner view; C. female pereopod 1, outer view; D. female pereopod 1, inner view. Scale = 1mm.



A, B, C, D _____

FIGURES 4. *Austinogebia monospina* sp. nov. Holotype male, Holotype male, 130-6. A. pereopod 2, outer view; B. pereopod 3, outer view; C. pereopod 4, outer view; D. pereopod 5, outer view. Scale = 1mm.

Coloration. Body whitish overall; first pereopod ivory white; corneal spot brown; setae on appendages light brown.

Distribution and habitat. Presently only known from Bohai Sea and Yellow Sea. At depths of 20–22 m on medium sand and muddy sand.

Key to the species of the genus *Austinogebia* Ngoc-Ho, 2001

1. Anterior half of rostrum and anterior half of gastric ridges unarmed dorsally 2
- Anterior half of rostrum with teeth, anterior half of gastric ridge with or without teeth 6
2. Rostrum narrow, about 2.5 times as long as broad at base. Lower border of antennular and antennal peduncles unarmed
- *A. takaoensis* (Sakai & Türkay, 1995)
- Rostrum about 1.2–1.8 times as long as broad at base 3
3. Telson approximately quadrate *A. nobilii* (Sakai & Türkay, 1995)
- Telson broader than long 4
4. Rostrum 1.3 times as long as broad *A. narutensis* (Sakai, 1986)
- Rostrum 1.7–1.8 times as long as broad 5
5. Lower margin of antennal peduncle with row of spines *A. spinifrons* (Haswell, 1881)
- Lower margin of antennal peduncle unarmed *A. monospina* **sp. nov.**
6. Anterior half of gastric ridge with 6–9 spiniform teeth, basis of pereopod 1 with sharp spine *A. wuhsienweni* (Yu, 1931)
- Anterior half of gastric ridge unarmed or with 1 or 2 tubercles, basis of pereopod 1 with blunt tooth
- *A. edulis* (Ngoc-Ho & Chan, 1992)

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