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New record of hymenosomatid crab, *Elamenopsis ariakensis* (Sakai, 1969) (Decapoda, Brachyura, Hymenosomatidae) from Korean waters

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Abstract

Newly reported hymenosomatid crab, *Elamenopsis ariakensis* (Sakai, 1969) from Korean waters is briefly described here. The hymenosomatid crabs currently comprise six species in six genera, and *E. ariakensis* is the seventh hymenosomatid species known from South Korea. Brief descriptions and illustrations of selected parts with color photographs are given for this species as evidence supporting their correct identifications.

Keywords: *Elamenopsis ariakensis*, New record, Taxonomy, Korea

Introduction

The genus *Elamenopsis* Milne-Edwards, 1872 is represented by six species worldwide: *E. ariakensis* (Sakai, 1969), *E. comosa* (Ng & Chuang, 1996), *E. gracilipes* (Rahayu & Ng, 2019), *E. guinotae* (Poore, 2010), *E. lineata* (Milne-Edwards, 1872), *E. rotunda* (Naruse & Ng, 2007) (Ng et al., 1999; Poore, 2010; Rahayu & Ng, 2019). The taxonomy of the genus *Elamenopsis* was currently established for Lucas (1980) and Ng & Chuang (1996). In Korean waters, however, *Elamenopsis* has not been reported so far.

The family Hymenosomatidae in Korean waters has been represented by six genera: *Elamena* (Milne-Edwards, 1834), *Lucascinus* (Poore et al., 2016), *Neohymenicus* (Lucas, 1981), *Rhynchoplax* (Stimpson, 1858), *Stimpsoplax* (Poore et al., 2016), *Trigonoplax* (Milne-Edwards, 1853) (Kim, 1973, 1985, 1992). *Elamenopsis ariakensis* is the only member of the genus *Elamenopsis* and seventh hymenosomatidae species known from South Korea. *Elamenopsis ariakensis* is generally known as commensal with holothurian, *Protankyra bidentata* (Woodwards & Barrett, 1858) (Kai & Henmi, 2008; Sakai, 1969). However, this species (*E. ariakensis*) was collected from a shelly sand/mud bottom at 50 m depth of Korean waters. Ng et al. (1999) and Kosuge et al. (2002) reported that *E. ariakensis*, collected from Fujian, China and Ariake Sea, Japan was free-living. In this article, we report *E. ariakensis* as a new record from Korean waters.

Specimens examined in this study have been deposited in the Korea Benthos Research Center (KOBE-104), Busan. Car-

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apace length (CL) and carapace width (CW) in millimeters are used as the standard length of this specimen for measurements. Abbreviations P2-P5 are used for first to fourth ambulatory legs in the description.

Family Hymenosomatidae (MacLeay, 1838)
Genus *Elamenopsis* Milne-Edwards, 1872
Elamenopsis ariakensis (Sakai, 1969) (Figs. 1 and 2)
[Korean name: Dung-gun-mal-rang-ge]

Restricted synonymy

Neorhynchoplax ariakensis Sakai (1969: 250, figs. 2, 3a–d); Sakai (1976: 150, figs. 79, 80a–d, pl. 47, fig. 1).

Elamenopsis ariakensis Lucas (1980: 159; in key); Ng et al. (1999: 85, fig. 3); Kosuge et al., 2002: 104, fig. 2); Naruse & Ng (2007: 122; in key); Kai & Henmi (2008: 347, fig. 5); Poore (2010: 266; in table); Maenosono (2017: 23, fig. 1); Rahayu & Ng (2019: 543; in key).

Material examined

Korea: East China sea, 31°30'00″N 125°17'06″E, 50.0 m depth, van Veen grab sampler, August, 2022, 1 female (CL 3.1 × CW 3.9 mm) (KOBE-104).

Description

Carapace (Figs. 1A, 2A, 2B) slightly convex, oval, about 1.25 times as wide as long; dorsal rim subcircular; dorsal surface of carapace with clear cut grooves and slightly concave; gastric region largest; anterolateral margin of carapace with 2 distinct teeth; rostrum unilobate and triangular and deflexed downwards; eyestalks very short; carapace covered with short hairs.

Third maxilliped (Fig. 2C) with merus longer than ischium along lateral edge (Fig. 2C).

Cheliped (Figs. 1, 2D) symmetrical; movable finger and immovable finger with small teeth on cutting edge; movable finger with large blunt tooth on proximal third of cutting edge.

Ambulatory legs (Figs. 1, 2A, 2E, 2F) dissimilar, covered with short hairs; P3 largest, P5 smallest; stout P2–P4 without teeth on the dactylus, P5 merus wide about 3.2 times as long as wide.

Abdomen (Figs. 1B, 2G) subpentagonal with 3-segmented including telson; 2–5 segment fused.

Distribution

Shimabara, Nagasaki, Japan (Sakai, 1969); Ariake Sea, Japan (Kosuge et al., 2002); Ryukyu Islands, Japan (Maenosono, 2017); Fujian, China (Ng et al., 1999); now also from Korea (this study).

Remarks

The holotype morphological characteristics of *E. ariakensis* were described by Sakai (1969). However, there was no comparison because it simply described the male. The present specimen at hand is female, but it agrees well with Ng et al. (1999) who reviewed the morphology of the *E. ariakensis*.

Rahayu & Ng (2019) provided a revised key to all *Elamenopsis* species. Of the six known species of *Elamenopsis*, *E. ariakensis* closely resembles *E. rotunda* in having the carapace teeth at the anterolateral margin and unilobate rostrum. However, *E. ariakensis* differs from *E. rotunda* in having the anterolateral margin of carapace with two distinct teeth. In *E. rotunda*, the anterolateral margin of carapace has one low tooth. In addition, *E. ariakensis* has relatively thick fourth ambulatory leg compared to *E. rotunda*. The merus of the fourth ambulatory leg of *E. ariakensis* is 3.2 times as long as broad, whereas that of *E. rotunda* is 3.8 times as long as broad.

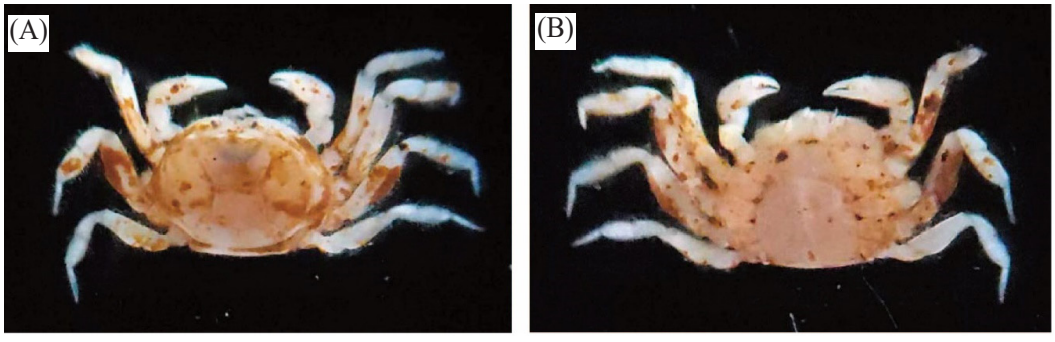

Fig. 1. *Elamenopsis ariakensis* (Sakai, 1969). Female (KOBE-104; CL 3.1 mm, CW 3.9 mm). (A) dorsal view, (B) abdominal view.

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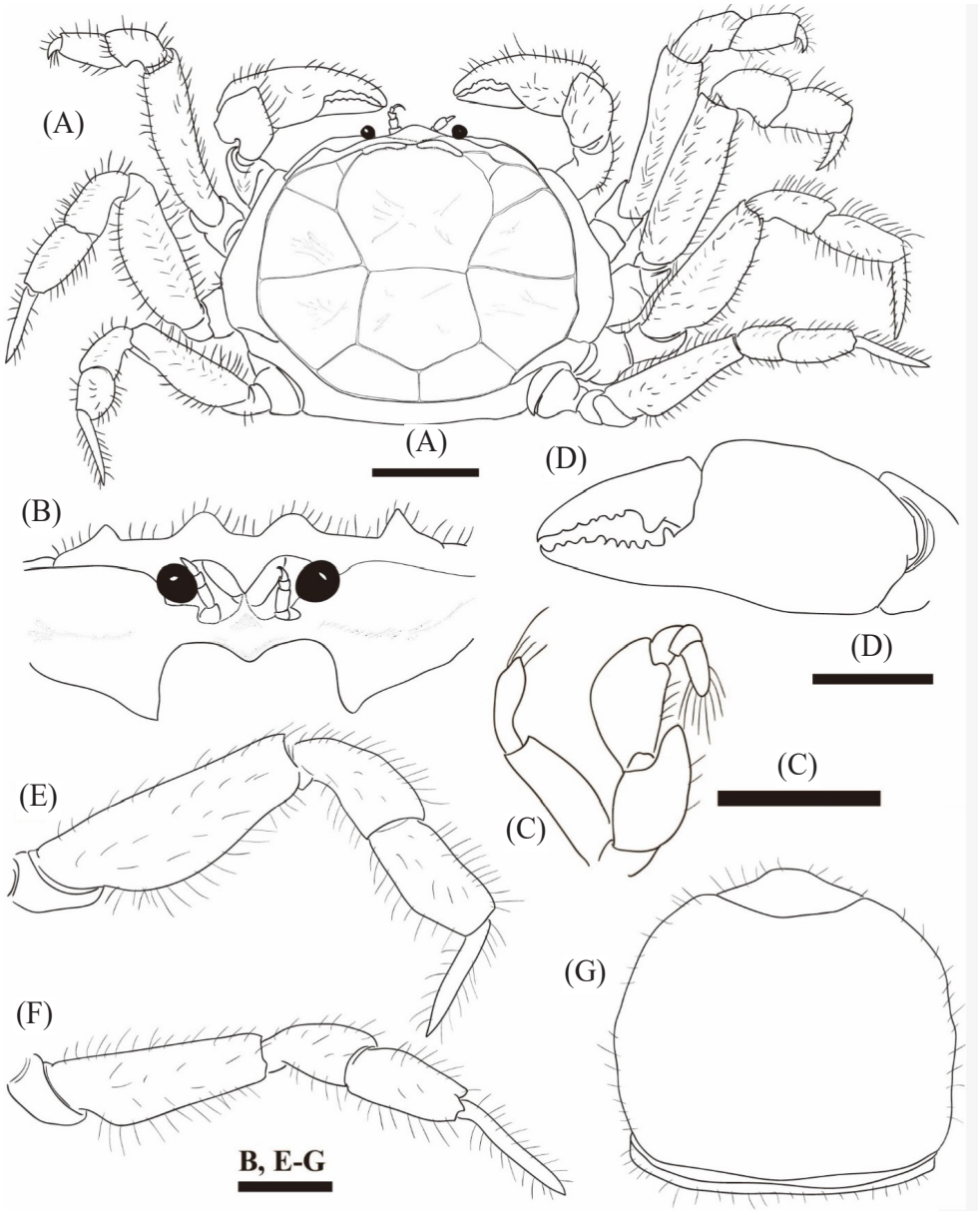

Fig. 2. *Elamenopsis ariakensis* (Sakai, 1969). Female (KOBE-104; CL 3.1 mm, CW 3.9 mm). (A) dorsal view, (B) frontal view, (C) left third maxilliped, (D) left chela, outer view, (C) right third ambulatory leg, (F) right fourth ambulatory leg, (G) abdomen. Scales: A = 1.0 mm, B-G = 0.5 mm.

Competing interests

No potential conflict of interest relevant to this article was reported.

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Not applicable.

Availability of data and materials

Upon reasonable request, the datasets used in this study can be made available from the corresponding author.

Ethics approval and consent to participate

Not applicable.

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