

A New Record of *Lysmata amboinensis* (De Man) (Decapoda: Hippolytidae) from Jeju-do Island, Korea

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The hippolytid shrimp *Lysmata amboinensis* (De Man, 1888) is recorded in Korean waters for the first time, based on specimens collected from Jeju-do Island in southern Korea. *L. amboinensis* is distinguished from *L. vittata*, previously the only known species of *Lysmata* in Korea by the color in life. The Korean Hippolytidae now includes 25 species in nine genera.

Key words: New record, *Lysmata amboinensis*, Hippolytidae, Korean fauna

Introduction

In Kim's (1977) major publication on the Korean shrimp fauna, there were nine hippolytid species in seven genera: one species of *Birulia*, one species of *Eualus*, two species of *Heptacarpus*, two species of *Latreutes*, one species of *Lebbeus*, one species of *Lysmata* (as *Hippolysmata*), and one species of *Spirontocaris*. Recently, Park and Han (2000) newly recorded *Latreutes anoplonyx* Kemp, 1914 collected from Kangwha Island in western Korea. Subsequently, Cha et al. (2001) provided color photographs of whole animals in lateral views and illustrations of the carapaces of *Eualus middendorffi* Brashnikov, 1907; *Eualus spathulirostris* (Yokoya, 1933); *Heptacarpus camtschaticus* (Stimpson, 1860); *Heptacarpus pandaloides* (Stimpson, 1860); *Latreutes laminirostris* Ortmann, 1890; *Lebbeus polaris* (Sabine, 1824); and *Tozeuma tomentosum* (Baker, 1904). These seven species were new to the Korean hippolytid fauna. Most recently, further new records of six species belonging to *Eualus*, *Heptacarpus*, *Hippolyte*, and *Latreutes* as well as a redescription of *Heptacarpus geniculatus* (Stimpson, 1860) from Korean waters have been reported by several authors (Yang and Kim, 2004, 2005; Kim and Choi, 2006; Kim et al., 2006). Thus, twenty four hippolytid species in nine genera were previously known from Korea.

During an ongoing study of the Korean hippolytid fauna, two specimens of the white-banded cleaner shrimp *Lysmata amboinensis* (De Man, 1888) were collected from Jeju-do Island in southern Korea. This

species is a new record for the Korean hippolytid fauna. The Korean *L. amboinensis* is described and illustrated herein.

The specimens used in this study were deposited in the Invertebrate Resources Bank of Korea (IRBK), Seoul National University, Korea, under accession number IRBKAR003493. Postorbital carapace length is abbreviated as cl.

Systematic Account

Lysmata amboinensis (De Man, 1888)
(Figs. 1, 2)

Korean name: Yeppeuni-julmuni-kkoma-sewoo

Restricted synonymy

Hippolysmata vittata var. *amboinensis* De Man, 1888: 495.

Hippolysmata (Hippolysmata) amboinensis - Holthuis, 1947: 19, 70, figs. 12-14; Zarenkov, 1971: 180.

Hippolysmata amboinensis - De Man, 1907: 426.

Lysmata grabhami - Bruce, 1974: 107, pl. 1 (not *Hippolysmata grabhami* Gordon, 1935).

Lysmata amboinensis - Hayashi, 1975: 286, figs. 1-4, pl. 5 (part); Manning and Chace, 1990: 112; Hayashi, 1994: 271 (in key), 272, figs. 261a, d, f; Chace, 1997: 53 (list), 72 (in key), 74.

Material examined

Supseum (Jeju-do Island), July 02, 1993, coll. S. H. Kim - 1 ovig. ♀ (cl 14.0 mm); Moonseum (Jeju-do Island), July 22, 1993, coll. S. H. Kim - 1 ♀ (cl 17.5 mm).

Description

Rostrum (Fig. 1A) not overreaching antennular

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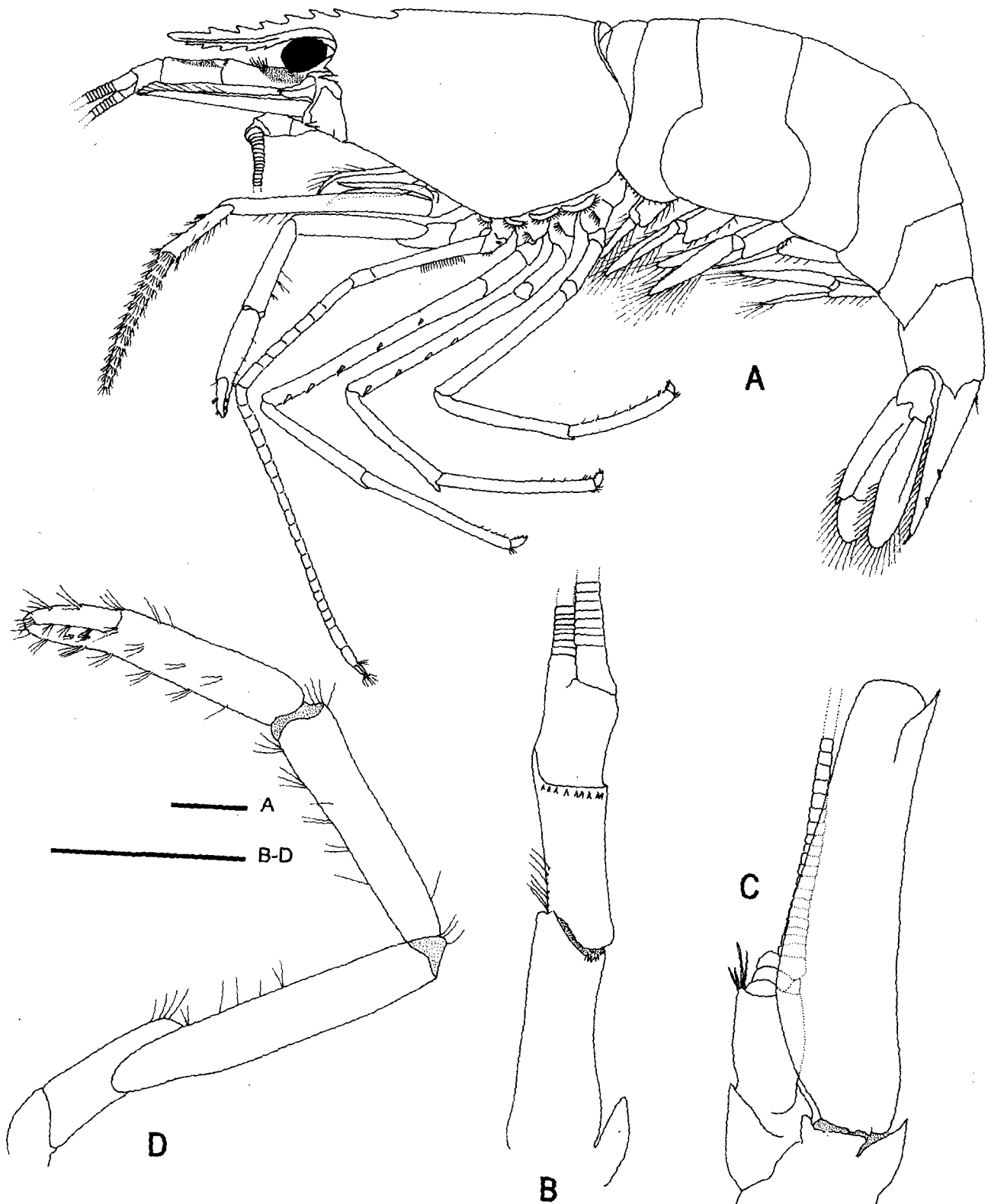


Fig. 1. *Lysmata amboinensis* (De Man, 1888), female (cl 17.5 mm, catalog number IRBKAR003493). A, habitus, lateral view; B, right antennule, dorsal view; C, right antenna, dorsal view; D, left first pereopod, dorsal view. Scale bars = 5 mm.



Fig. 2. *Lysmata amboinensis* (De Man, 1888), female (cl 17.5 mm, catalog number IRBKAR003493), lateral view.

peduncle; rostral formula 2+5/5. Carapace (Fig. 1A) with prominent antennal spine; anterolateral margin with pterygostomian spine. Abdomen (Fig. 1A) rounded dorsally; pleura of first to third somites rounded; pleura of fourth to sixth somites sharply pointed posteriorly; sixth somite 1.4 times as long as fifth somite. Telson (Fig. 1A) 1.6 times as long as sixth somite, with 2 pairs of dorsal spines. Antennule (Fig. 1B) with peduncle slender; stylocerite very short and pointed, not reaching middle of basal segment; second segment with 9 subdistal spinules on dorsal margin; dorsal flagellum without accessory branch. Antenna (Fig. 1A, C) with scaphocerite not reaching distal end of antennular peduncle, about 3.5 times as long as wide; distolateral tooth overreaching distal end of blade. Third maxilliped (Fig. 1A) with exopod, not reaching middle of antepenultimate segment. First pereopod (Fig. 1A, D) with chela slender, about 1.1 times as long as carpus; palm about 2.2 times as long as finger; carpus about 1.3 times as long as palm; merus about 1.3 times as long as carpus. Second pereopod (Fig. 1A) slender; carpus composed of 19 articles; merus subdivided into 7 joints; ischium subdivided into 2 joints. Third pereopod (Fig. 1A) with dactylus biunguiculate, bearing 2 spines on posterior margin; merus with 5 spines on outer surface. Fourth pereopod (Fig. 1A) with dactylus biunguiculate, bearing 2 spines on posterior margin; merus with 4 spines on outer surface. Fifth pereopod (Fig. 1A) with dactylus biunguiculate, bearing 2 spines on posterior margin; merus with 1 spine on

outer surface. Epipods (Fig. 1A) present on third maxilliped and first to fourth pereopods.

Remarks

Holthuis (1993) separated the genera of *Lysmata* and *Hippolysmata* from each other by the presence (in *Lysmata*) or absence (in *Hippolysmata*) of an accessory branch on the dorsal flagellum of the antennule. On the other hand, Chace (1972) had synonymized *Hippolysmata* with *Lysmata* because the accessory branch was variable. At this time there seems to be no strong justification for distinguishing *Hippolysmata* from *Lysmata*.

Chace (1997) noted that the length of the scaphocerite of the antenna in *L. amboinensis* was usually 4.5 to 5.3 times as long as wide. However, we found that the scaphocerite in the Korean specimens of *L. amboinensis* was only about 3.5 times as long as wide.

The only member of the genus *Lysmata* reported from Korean waters is *L. vittata* (Stimpson, 1860). *Lysmata amboinensis* shares the following morphological characteristics with *L. vittata*: dorsal antennular flagellum with accessory branch lacking; antennular peduncle with stylocerite not reaching middle of basal segment; and second pereopod with fewer than 25 carpal articles. However, these two species can be easily distinguished by their color in life. In *L. vittata*, the entire body is semitransparent with numerous fine red longitudinal lines. According to Chace (1997), the color of *L. amboinensis* is not translucent, with paired, longitudinal red bands on the

carapace and abdomen. Moreover, a median white stripe on the abdomen of *L. amboinensis* is expanded laterally to a broad white band near the posterior end of the sixth abdominal somite and is interrupted on the anterior third of the telson. The presence of two prominent white spots on the lateral branch of the uropod is characteristic of *L. amboinensis* (Fig. 2).

With this record of *L. amboinensis* from Jeju-do Island, the Hippolytidae known from Korea include 25 species in nine genera: *Birulia* (one species), *Eualus* (six species), *Heptacarpus* (six species), *Hippolyte* (one species), *Latreutes* (five species), *Lebbeus* (two species), *Lysmata* (two species), *Spirontocaris* (one species), and *Tozeuma* (one species) (Kim, 1977; Park and Han, 2000; Cha et al., 2001; Yang and Kim 2004, 2005; Kim and Choi, 2006; Kim et al., in press).

Type locality

Ambon, Indonesia.

Color

Paired, longitudinal red bands present on carapace and abdomen; median white stripe on abdomen and telson; and two prominent white spots on lateral branch of uropod (Chace, 1997).

Biology

Lysmata amboinensis is well known as a cleaner shrimp for moray eels (Hayashi, 1975).

Development

Larval development of *Lysmata amboinensis* is described by Wunsch (1996).

Distribution

Widely distributed in the Red Sea, Mombasa, Gulf of Tonkin, Okinawa, Japan, and from the Philippines and Indonesia to Hawaii and the Society Islands (Chace, 1997). Reported here from Korean waters (Jeju-do Island) for the first time.

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