



Two New Records of Decapod Crustaceans in Korea

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From the central East China Sea, a solenocerid shrimp (*Haliporoides sibogae sibogae*) and a nephropid lobster (*Metanephrops armatus*) are newly recorded into the Korean fauna. The former is the only member of the genus recorded in Korea. The latter extends its range from Taiwan, northward to the central East China Sea. Brief comments on to fisheries interests and coloration are given for the two species.

Key words: *Haliporoides sibogae sibogae*, *Metanephrops armatus*, East China Sea, Korea, New record

Introduction

Korean decapod crustaceans are known 372 species of 50 families (Kim and Kim, 1997; Kim, 1998; Ko and Takeda, 1999, 2000; Yang and Ko, 2000; Park and Han, 2000; Cha et al., 2001; Kim et al., 2002, 2003; Yarg and Anker, 2003; Ko, 2003; Koo and Kim, 2003a, b, c, d). Although the families Solenoceridae and Nephropidae include many commercially important species in the world, only one species of each family has been reported from Korea. In the Busan Cooperative Fish Market, Busan, one additional species of each family was recently found: *Haliporoides sibogae sibogae* (De Man, 1907) and *Metanephrops armatus* (Chan and Yu, 1991). They were commercially exploited in the central East China Sea (30°15'N, 127°45'E) at depths of 150-200 m by a trawl. Of these, a solenocerid shrimp (*H. sibogae sibogae*) is usually common in the East China Sea, but has never been recorded in Korea. A nephropid lobster (*M. armatus*) was originally described from the Pacific side of Taiwanese waters and the present find extends the northern range of this species to the central East China Sea. Morphological descriptions and illustrations are given with coloration for the two species.

Specimens examined are deposited in the Laboratory of Invertebrate Zoology, Department of Marine Biology, Pukyong National University (PUIZ). Postorbital carapace length (CL) is used as an indication of the size of the specimens. Terminology

was mainly followed Pérez Farfante and Kensley (1997) for *H. sibogae sibogae* and Holthuis (1991) for *M. armatus*.

Systematic Accounts

Infraorder Penaeidea

Family Solenoceridae Wood-Mason, 1891

Haliporoides sibogae sibogae (De Man, 1907)
(Figs. 1, 3A)

New Korean name: Gin-suyeom-saewoo
(긴수염새우)

Restricted synonymy

Haliporus sibogae De Man, 1907: 138 [type locality: Indonesia]; 1911: 38, pl. 3, fig. 10, 10a, b, pl. 4, fig. 10c-q; Yokoya, 1933: 3.

Parahaliporus sibogae - Kubo, 1949: 208, figs. 10, 8C, 9A, 14D, 23I, J, 36A-D, 44E, F, 66Q, R, 68O, 72E, K, 81D, 90.

Haliporoides sibogae - Hayashi, 1986: 43, fig. 3, 232; 1992: 176, figs. 95-97; Yu and Chan, 1986: 77, unnumbered fig.; Liu and Zhong, 1988: 73, fig. 31.

Haliporoides sibogae sibogae - Pérez Farfante and Kensley, 1997: 167 (list).

Material examined

East China Sea, 30°15'N, 127°45'E, 150-200 m, commercial trawl, 12 June 2003, coll. H.K. Cha, 2 males (CL 26.9, 29.1 mm), 2 females (CL 32.0, 39.3 mm), PUIZ 160.

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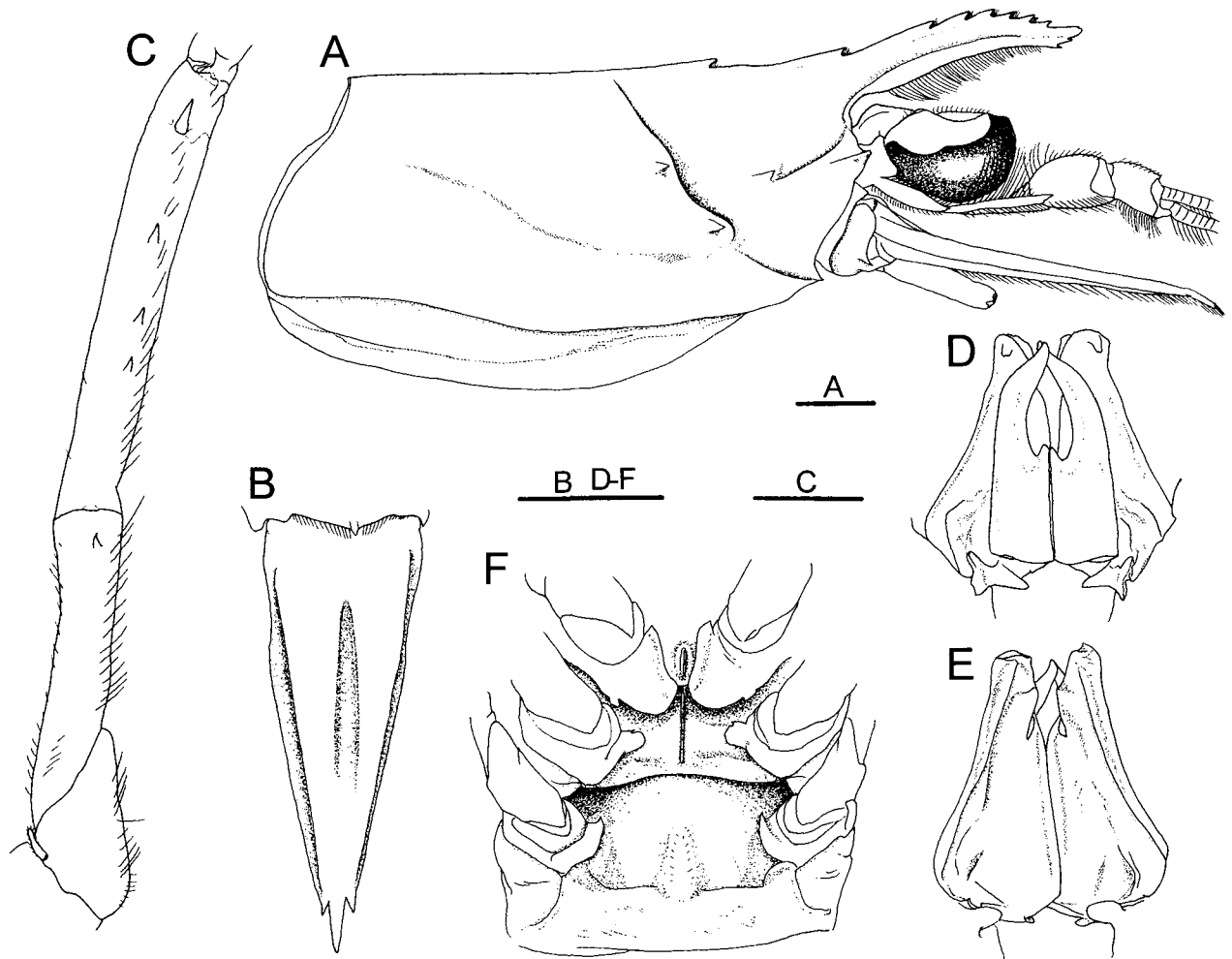


Fig. 1. *Haliporoides sibogae sibogae* (De Man, 1907). A, B, F, female (CL 32.0 mm, PUIZ 160), C-E, male (CL 29.1 mm, same lot) from the East China Sea. A, carapace and cephalic appendages, lateral; B, telson, dorsal; C, posterior four segments of right first pereopod, lateral; D, petasma, dorsal; E, same, ventral; F, thelycum, ventral. Scales: A, B, D-F, 5 mm; C, 2 mm.

Description

Integument pubescent densely. Rostrum (Fig. 1A) markedly convex, about half of carapace length, reaching distal margin of second segment of antennular peduncle; dorsal margin with 8 teeth, ventral margin with 2 teeth near apex; epigastric tooth separated from rostral teeth by long interval; no distinct middorsal carina behind epigastric spine. Carapace (Fig. 1A) with antennal spine large, postorbital, pterygostomian, hepatic, and suprahepatic spines small; cervical sulcus deep, long, extending to middorsal line. Abdomen with middorsal carina on posterior 3 somites, each with small terminal spine. Telson (Fig. 1B) with pair of fixed lateral spines near end. Dorsolateral and ventrolateral antennular flagella not flattened, con-

siderably longer than carapace; antennal flagellum about 3 times as long as body length. First pereopod (Fig. 1C) with 2-4 spinules on posterior margin of merus, 1 small spine on ischium and basis. Posterior 3 pereopods (Fig. 1F) with coxa bearing 1 small spine. Rudimentary exopod (Fig. 1C) on each pereopod. Petasma (Fig. 1D, E) with ventromedian lobule distally narrowed, curved mesially, slightly falling short of distal margin of ventrolateral lobule. Thelycum (Fig. 1F) with 6th thoracic sternite bearing short median crest; 7th sternite with strong acute median spine and ridge; 8th sternite swelling, with median longitudinal ridge.

Coloration

Body pale red to pink; antennular flagella, pleopods

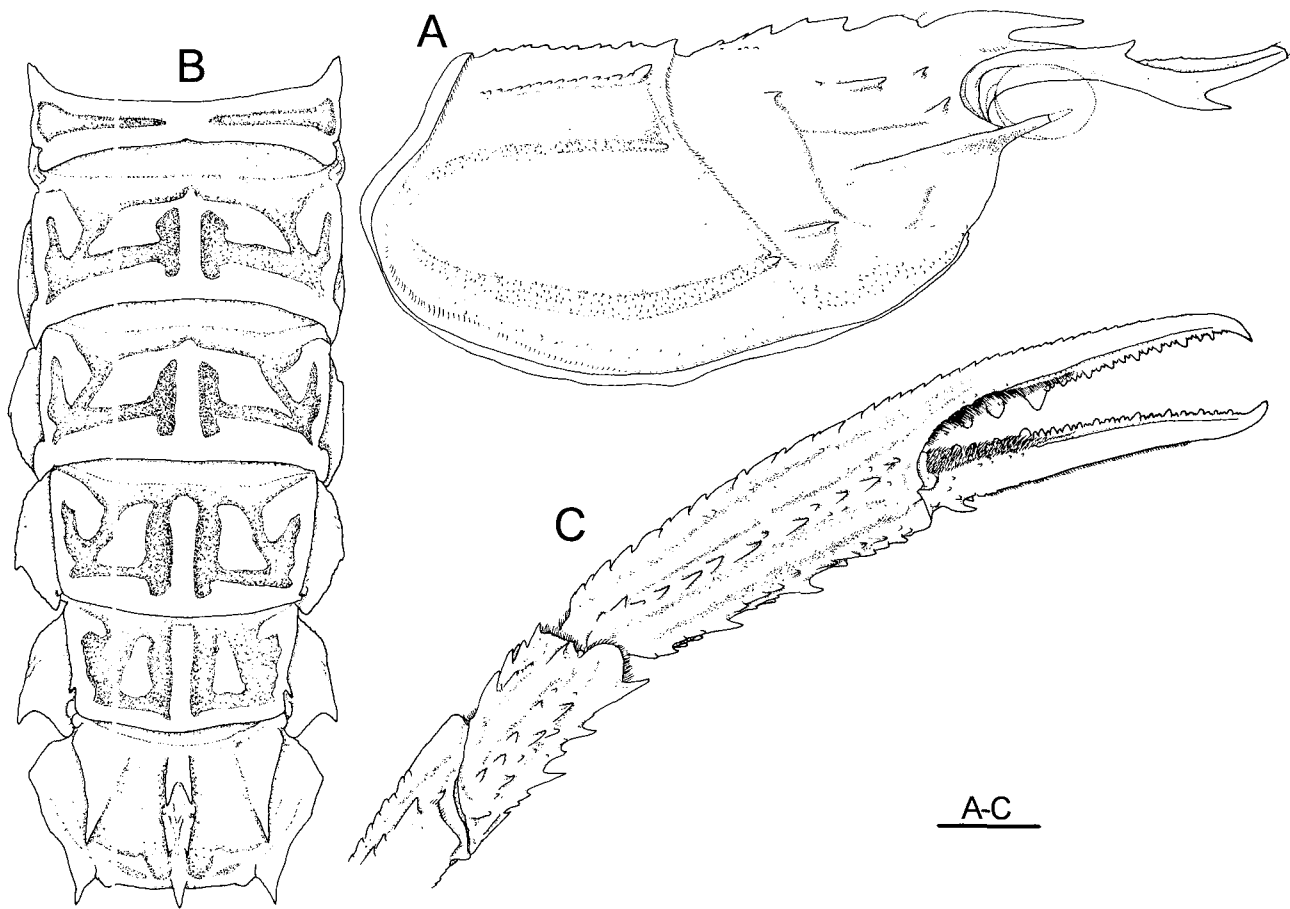


Fig. 2. *Metanephrops armatus* Chan and Yu, 1991. Female (CL 46.0 mm, PUIZ 161) from the East China Sea. A, carapace, lateral; B, abdominal somites, dorsal; C, distal four segments of left first pereopod, dorsal. Scales: 10 mm.

and distal half of uropods deep red (Fig. 3A).

Distribution

Indonesia, Malaysia, South China Sea, East China Sea, Taiwan, Philippines, Japan, Australia, New Zealand; 100-535 m (Liu and Zhong, 1988; Pérez Farfante and Kensley, 1997).

Fisheries

Japan, Taiwan, East China Sea, and New Zealand; less than 500 m (Holthuis, 1980, Hayashi, 1986, Chan and Yu, 1986; the present study). In Korea this shrimp is found in the fish market from May to July.

Remarks

Recently, two subspecies of *Haliporoides sibogae* were described: *H. sibogae madagascariensis* Crosnier, 1978 from Madagascar and *H. sibogae australiensis* Kensley, Tranter and Griffin, 1987 from off the southeastern Australia. The three subspecies

are mainly distinguished from each other by the following features. The postrostral carina ends anterior to the cervical groove in *H. sibogae sibogae* and *H. sibogae australiensis*, while it is extending beyond the cervical groove in *H. sibogae madagascariensis*. The suprahepatic spine is somewhat smaller than the hepatic spine in *H. sibogae sibogae* and *H. madagascariensis*, while it is as large as the hepatic spine in *H. sibogae australiensis*. In females the median longitudinal ridge is present on the eighth thoracic sternite in *H. sibogae sibogae* and *H. sibogae madagascariensis*, but absent in *H. sibogae australiensis*. The ventromedian lobule of the petasma is as long as or slightly shorter than the ventrolateral lobule in *H. sibogae sibogae*, while it is much longer in *H. sibogae madagascariensis* and *H. sibogae australiensis*. The present specimens agree well with *H. sibogae sibogae* in these features.

Infraorder Astacidea

Family Nephropidae Dana, 1852

Metanephrops armatus Chan and Yu, 1991
(Figs. 2, 3B)

New Korean name: Keun-gasi-bal-seawoo
(큰가시발새우)

Metanephrops japonicus - Chan and Yu, 1987: 172, 184; 1988: 9, pl. 1B. [not *M. japonicus* (Tapparone-Canefri, 1873)].

Metanephrops armatus Chan and Yu, 1991: 22, 25, pls. 1b, 3d, 5b, d, 7b, 9a, b [type locality: Taiwan]; 1993: 65, 92, 2 figs.; Holthuis, 1991: 67, fig. 132.

Material examined

East China Sea, 30°15'N, 127°45'E, 150-200 m, commercial trawl, 12 June 2003, coll. H.K. Cha, 1 male (CL 58.5 mm), 1 female (CL 46.0 mm), 1 ovigerous female (CL 64.4 mm), PUIZ 161.

Description

Rostrum (Fig. 2A) long, about 3/5 of carapace length, distinctly exceeding antennal peduncle; dorsal carina well developed; supraorbital horn with dorsal margin convex, nearly or completely reaching distal margin of eyes, curving inwards and directed slightly upward or downward; post-rostral spine 6 or 7. Carapace (Fig. 2A) with postorbital, upper-hepatic, and postcervical spines prominent; intermediate carina spinulate; branchial and lateral carinae granular, branchial carina usually with conspicuous anterior spine. Abdomen (Fig. 2B) with broad middorsal carina on 2nd to 6th somites; raised portions of dorsal surface smooth, not subdivided; posterior facades of tergites of 2nd to 4th somites with moderately large anterior submedian notches; 5th somite with prominent lateral spines; median carina of 6th somite dorsally armed with 2 pairs of large spines as well as some additional spinules and tubercles. First pereopod (Fig. 2C) robust, strongly ridged and covered with large and small spines; inner margin of palm armed with 2 or 3 large spines and numerous small spines; outer base of movable finger armed with 1 large spine; palm and carpus with 6 rows of large and small spines.

Coloration

Body generally orange-red; tips of large spines on carapace, orbital margin and lateral parts of cervical groove whitish; antennal flagella red; first pereopods somewhat covered with pale bands and distal parts of fingers whitish; hinges at abdomen whitish (Fig.

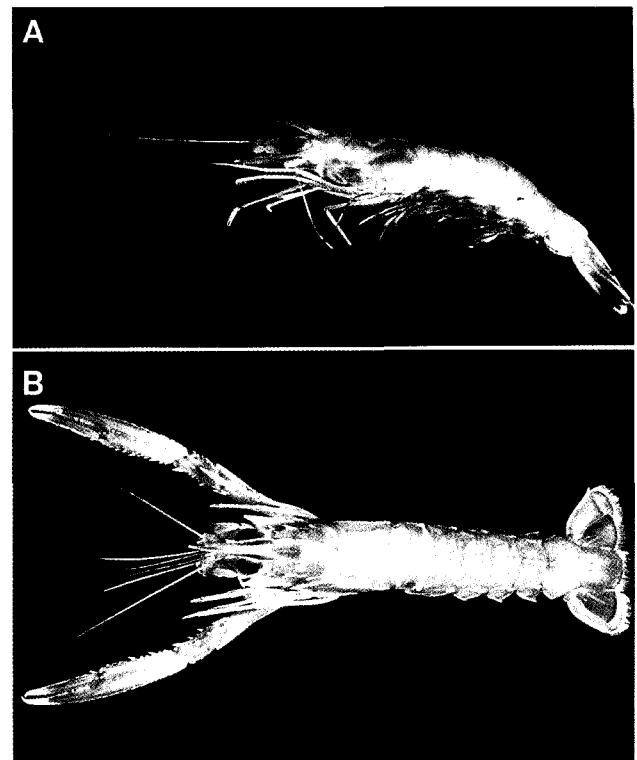


Fig. 3. A, *Haliporoides sibogae sibogae* (De Man, 1907), female (CL 32.0 mm, PUIZ 160); B, *Metanephrops armatus* Chan and Yu, 1991, female (CL 46.0 mm, PUIZ 161).

3B).

Distribution

Taiwan and East China Sea; 150-450 m (Chan and Yu, 1991; the present study).

Fisheries

The species is sold at the Taiwan markets and of higher price than other Taiwanese lobsters as the specimens are larger. However, its catch is small because it is usually found in deeper and more rocky areas which are not easily accessible to bottom trawlers (Chan and Yu, 1993). The lobster is found in the Korean fish market from April to July.

Remarks

Present specimens agree well with the original description of *M. armatus*, especially type specimens collected from Su-Ao, northeastern Taiwan, in having the larger anterior submedian notches at the posterior facades of the second to fourth abdominal somites.

In the genus *Metanephrops* of Korea, only *M. thomsoni* (Bate, 1888) has been reported from Jeju

Island (Kim, 1977; Cha et al., 2001). *Metanephrops armatus* is easily distinguished from *M. thomsoni* by having the heavily ridged and spinulose chela of the first pereopod and no distinct red bands on the first pereopods. In *M. thomsoni*, the chela of the first pereopod is feebly ridged and finely granular and the first pereopods is covered with distinct broad red bands.

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