

First Report of the Stylodactylid Shrimp *Parastylodactylus bimaxillaris* (Decapoda: Caridea: Stylodactylidae) from Korea

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ABSTRACT

As a result of recent taxonomic study on shrimps collected from Korean waters, one species turned out to belong to the family Stylodactylidae unreported from Korea. *Parastylodactylus bimaxillaris* is redescribed and reported for the first time from Korea.

Key words: Stylodactylidae, *Parastylodactylus bimaxillaris*, Korea

INTRODUCTION

In Korea, 87 species (including 4 *Neocaridina* subspecies) belonging to 10 families (7 in Atyidae, 2 in Pasiphaeidae, 1 in Rhynchocinetidae, 19 in Palaemonidae, 15 in Alpheidae, 17 in Hippolytidae, 1 in Ogyridae, 10 in Pandalidae, 14 in Crangonidae, 1 in Processidae) in the infraorder Caridea have been reported (The Korean Society of Systematic Zoology, 1997; Kim, 1998; Yang, 1999, 2003; National Fisheries Research and Development Institute, 2001; Yang and Anker, 2003; Koo and Kim, 2003). Of these, 29 species (3 in Palaemonidae, 8 in Hippolytidae, 1 in Processidae, 4 in Pandalidae, 4 in Crangonidae) were reported with short diagnosis and whole animal picture, and two species of *Athanas* were reported through the larval studies without description of adult morphology. In recent taxonomic study on shrimps collected Korean waters, it is revealed that one species collected from Nogdong, Goheung-gun, Jeollanam-

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do belongs to the family Stylodactylidae unreported from Korea. Therefore, the present *Parastylodactylus bimaxillaris* increases Korean caridean fauna to 88 species of 11 families. A provisional key to the known caridean families reported from Korean waters is prepared.

MATERIAL AND METHODS

The specimen was collected from fishing boat. The abbreviation "cl" refers to carapace length from tip of rostrum to the posterior dorsal margin. Drawings were made with the aid of a camera lucida.

SYSTEMATIC ACCOUNTS

Key to the families of Korean Caridea

1. First pair of pereopods subchelate Crangonidae
 First pair of pereopods chelate or simple 2
2. First and second pereopods similar, with fingers long, slender, pectinate by presence of long, narrow teeth on cutting edge. Second maxilliped without exopod Pasiphaeidae
 Fingers of first and second pereopods not all pectinate with long slender teeth; those legs often very dissimilar 3
3. Carpus of second pair of pereopods entire, not subdivided. First pair of pereopods always with well developed chelae 4
 Carpus of second pair of pereopods usually subdivided into two or more segments; if not, first pair of pereopods not chelate 7
4. Last two segments of second maxilliped implanted side by side at end of antepenultimate segment. First and second pereopods similar; fingers extremely long and slender, more than 10 times as long as high, and more than 5 times as long as short palm, without teeth but with long hairs Stylodactylidae
 Last segment of second maxilliped attached to penultimate, not touching antepenultimate. Fingers of first and second pereopods not extremely long 5
5. First and second pereopods with chelae similar; fingers usually with a dense tuft of setae at apex Atyidae
 First and second pereopods without dense tufts of setae at end of fingers 6
6. First pair of pereopods stronger and heavier, though often shorter, than second Rhynchocinetidae
 First pair of pereopods usually more slender than, rarely subequal to second pair Palaemonidae
7. Right first pereopod chelate, left usually simple, terminating in a plain claw-like dactylus; if both first legs chelate, rostrum showing distal setose notch formed by a subdistal dorsal tooth; no other teeth on rostrum. First maxilliped with exopod abutting endite, displacing palp

- Processidae
- Both first pereopods either simple or chelate. First maxilliped with exopod far removed from endite 8
8. First pair of pereopods distinctly chelate 9
- First pair of pereopods with chela microscopically small or absent Pandalidae
9. Eyes unusually elongate, reaching nearly to distal end of antennular peduncle. First pair of pereopods about as robust as second pair Ogyrididae
- Eyes normal in shape, short, not reaching beyond end of first segment of antennular peduncle, sometimes covered by carapace. First pair of pereopods more robust than second pair 10
10. Carapace with cardiac notch in posterior margin. Eyes often partly or entirely covered by carapace. First pair of pereopods often unequal and swollen Alpheidae
- Carapace without cardiac notch. Eyes free. First pair of pereopods usually equal, not swollen Hippolytidae

Family Stylodactylidae Bate, 1888 긴손가락새우과 (신칭)

Genus *Parastylodactylus* Figueira, 1971 긴손가락새우속 (신칭)

***Parastylodactylus bimaxillaris* (Bate, 1888) 긴손가락새우 (신칭) (Fig. 1)**

Stylodactylus bimaxillaris Bate, 1888, p. 855, pl. 138, fig. 3; Hayashi and Miyake, 1968, p. 599, fig. 5; Miyake, 1982, p. 175.

Parastylodactylus bimaxillaris: Chace, 1983, p. 8, fig. 4.

Material examined. Nogdong, Goheung-gun, Jeollanam-do: 1 ♀, cl 5 mm, 22 April 1996, S. H. Kim.

Description. Rostrum (Fig. 1A) concave in lateral view, about 1.4 times as long as carapace; dorsal margin armed with 23 movable spines decreasing in size distally, proximal 7 spines situated on carapace each with very long plumose setae at base; ventral margin armed with 6 movable spines in middle, unarmed on proximal and distal third. Carapace with supraorbital spine small and short. Antennal spine acute. Anterior margin of carapace rather convex between antennal and pterygostomial spines.

Antennular peduncle reaching to middle of rostrum. First segment about 4.3 times as long as second segment which longer than third. Stylocerite ending in a spine reaching to middle of first segment.

Scaphocerite about eight times as long as broad, and reaching far short of tip of rostrum; lateral margin concave without any spines and ending in a strong spine far overreaching distal margin of inner blade. Basicerite armed with a sharp spine on outer distal end at base of scaphocerite. Carpocerite small and extending to proximal fifth of scaphocerite.

Mandible (Fig. 1B) with no palp. Third maxilliped (Fig. 1C) regenerating in present specimen.

First pereopod (Fig. 1D) overreaching antennal scale by slightly more than combined length of chela and half of carpus. Chela almost as long as carpus (distal part of chela in present specimen partially broken). Carpus bearing about 11 spinules on inferior outer face. Merus bearing about 13 spinules on inferior outer face.

Second pereopod missing in present specimen.

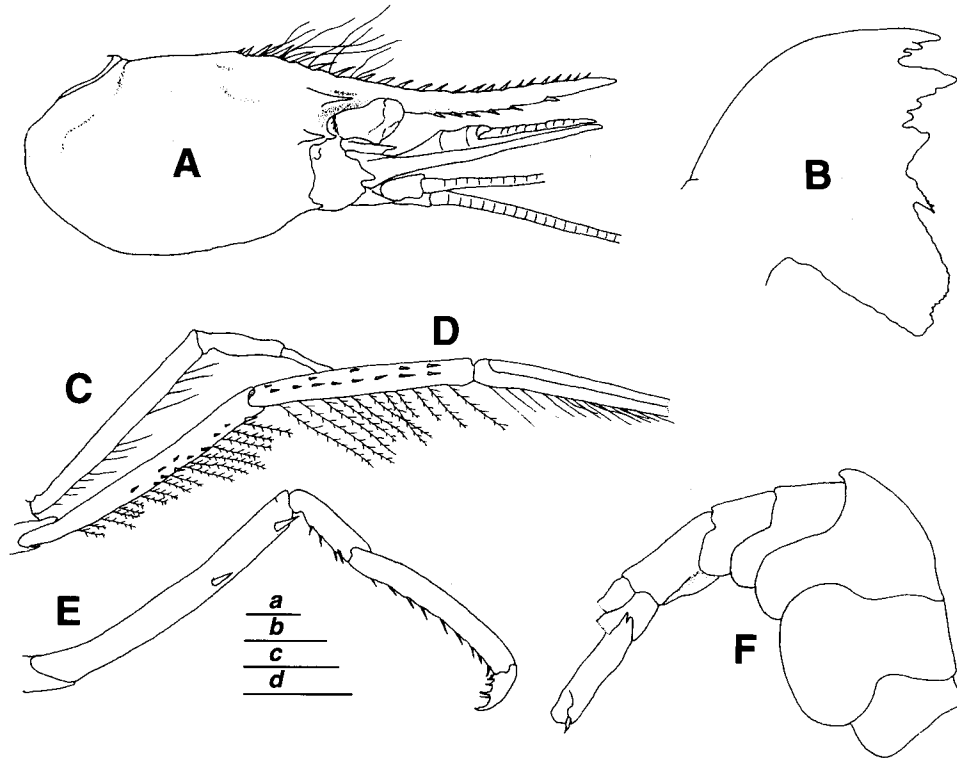


Fig. 1. *Parastylodactylus bimaxillaris*, female, cl 5 mm: A, anterior region, lateral view; B, right mandible; C, right third maxilliped; D, right first pereopod, outer face; E, right third pereopod; F, abdomen (Scale bar, a = 1.5 mm; F; scale bar, b = 1.5 mm: A; scale bar, c = 1.5 mm: C-E; scale bar, d = 0.25 mm: B).

Third pereopod (Fig. 1E) falling far short of tip of antennal scale. Dactylus armed with 4 spines excluding terminal claw on inferior margin. Propodus about 2.4 times as long as carpus, nearly 4.3 times as long as dactylus, with 9 spinules on inferior margin. Carpus with 4 small spinules on inferior margin. Merus long, armed with two long movable spines on outer surface.

Fourth and fifth pereopods almost same as third in general form.

Fourth pereopod with merus bearing two movable spines on outer face.

Fifth pereopod with merus bearing two movable spines on outer face.

Abdomen (Fig. 1F) with all pleura broadly rounded, third somite with dorsal margin produced posteriorly. Pleopods partially broken in present specimen.

Telson and uropods partially broken in present specimen.

Type locality. Off Admiralty Islands, Bismarck Archipelago; 1° 54'00"S, 146° 39'40" E; 274 m.

Distribution. The species has been recorded from widely scattered localities from southern Japan and the East China Sea to the Bismarck Archipelago in the east and off the east coast of Africa from Zanzibar to South Africa in the west, in depths of 106 to 463 m; the Albatross materials extends the bathymetric range to 481 m (Chace, 1983). The South Sea of Korea.

Remarks. The present specimen agrees very well to the description of *Stylodactylus bimaxillaris*

of Hayashi and Miyake (1968), but differs from that of Chace (1983) in having a minute supraorbital spine.

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한국미기록 긴손가락새우 (*Parastylodactylus bimaxillaris*)
(십각목: 생이절: 긴손가락새우과)의 보고

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최근의 새우류 분류학적 연구 결과 새우류 1종이 국내에서는 처음 보고 되는 가는손가락새우과 (Stylodactylidae)에 속하는 것으로 밝혀졌다. 가는손가락새우 (*Parastylodactylus bimaxillaris*)를 재기재하고 국내에서 처음 보고한다.