한국동물분류학회지 제16권 제1호
The Korean Journal of Systematic Zoology
Vol. 16, No. 1: 31-37 (April 2000)

New Records of Three Xanthoid Crabs (Decapoda, Brachyura) collected from Chejudo Island in Korea

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ABSTRACT

Three xanthoid crabs *Novactaea pulchella* (A. Milne Edwards, 1865), *Calvactaea tumida* Ward, 1933, and *Pilumnopeus granulatus* Balss, 1933, from Chejudo Island are recorded as new to the Korean fauna. Up to date the Korean crabs of the superfamily Xanthoidea consist of 29 species belonging to 3 families.

Key words: new records, Xanthoidea, *Novactaea pulchella*, *Calvactaea tumida*, *Pilumnopeus granulatus*, Korea

INTRODUCTION

Kim (1973) reported 18 species of the Korean xanthid crabs. Recent workers had realized that the Xanthidae *s. lat.* was a complex assemblage, therefore, Guinot (1978) elevated the Xanthidae *s. lat.* to superfamily level (the Xanthoidea) including the eight families: Carpiliidae, Menippidae, Platyxanthidae, Xanthidae, Pilumnidae, Trapeziidae, Panopeidae, and the Geryonidae. However, Serène (1984) recognized Guinot's classification to be incomplete. He divided crabs of the superfamily Xanthoidea into the five families: Xanthidae, Trapeziidae, Pilumnidae, Carpiliidae and Menippidae. Hence, in Korean waters, 15 species of the family Xanthidae *s. restr.* (see Kim and Kim, 1997; Ko and Takeda, 1999) and 9 species of the family Pilumnidae have been so far reported.

The specimens dealt with in this work were collected from the intertidal and infralittoral regions

This work was supported by a grant from Silla University in 1999.

in Chejudo Island. All the specimens are deposited in author's collection of Silla University, Pusan.

DESCRIPTION

Family Xanthidae MacLeay, 1838

Subfamily Actaeinae Alcock, 1898

Genus *Novactaea* Guinot, 1976

***Novactaea pulchella* (A. Milne Edwards, 1865)** 작은옴부채게 (신칭) **(Fig. 1)**

Actaea pulchella A. Milne Edwards, 1865, p. 273, pl. 17, fig. 5.

Novactaea pulchella: Guinot 1976, p. 269, pl. 18, fig. 6; Serène, 1984, p. 105, pl. 14, fig. A.

Material examined. 1♀, carapace length 9 mm, carapace breadth 14 mm, Chejudo Is., 23 July 1998, H. S. Ko. 1♀, carapace length 9 mm, carapace breadth 15 mm, Chejudo Is., 17 August 1998, S. M. Ko.

Description. Carapace (Fig. 1A) about 1.6 times as broad as long. Dorsal surface covered in rounded granules and minute, stiff black setae. Regions not distinct in posterior half. Protogastric region not longitudinally divided, other lobules obscurely demarcated. Front notched in middle. Anterolateral margin indistinct, with irregular tubercles.

Chelipeds (Fig. 1A, B) symmetrical, carpus and palm thickly covered with larger granules and interspersed with setae of various lengths on dorsal outer surfaces. Fingers bearing acute granules and longitudinal grooves on dorsal surface and in proximal half of outer surface; armed with 3-4 strong teeth on each inner edge; spoon-shaped at tip. Ambulatory legs relatively short and stout. Dorsal exposed faced of all segments coarsely granular and interspersed with long setae. Merus serrated along its superior margin. Dactyli curved, terminating in acute recurved tips.

Female abdomen (Fig. 1C) 7-segmented; telson semicircular.

Color. Dark purple-violet in life.

Habitat. Inhabits the crevices of rock or under stones; low tidal mark.

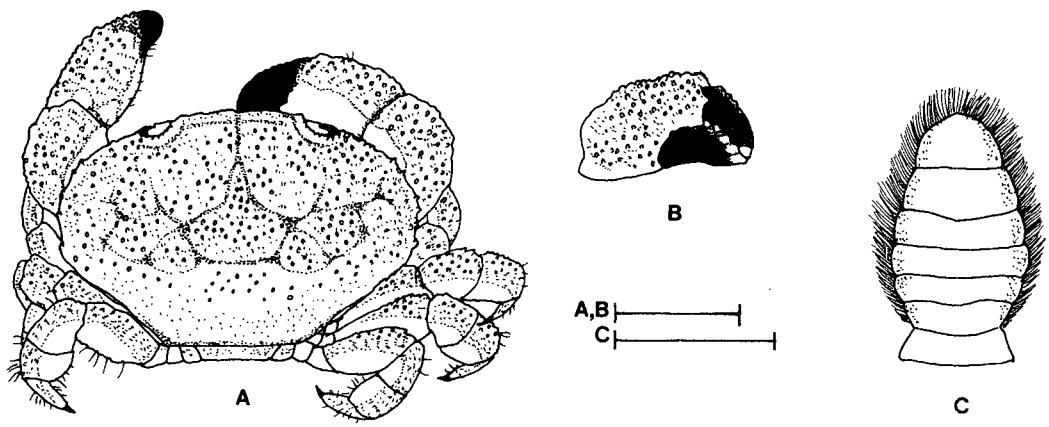

Fig. 1. *Novactaea pulchella* (A. Milne Edwards), female. A: dorsal view; B: right cheliped; C: abdomen. Scales for A, B and C are 5 and 0.5 mm, respectively.

Remarks. In the extensive revision by Guinot (1976), the genus *Actaea* de Haan, 1833 was restricted with the characters emended, the genera *Actaeodes* Dana, 1851 and *Paractaea* Guinot, 1969 were adopted, and four new genera *Gaillardiellus*, *Forestia*, *Serenius* and *Novactaea* were erected. Seréne (1984) later proposed four new genera *Meractaea*, *Epiactaea*, *Paractaeopsis* and *Epiactaeodes*.

The genus *Novactaea* was erected to accommodate three Indo-West Pacific species, *Actaea pulchella* A. Milne Edwards, 1865, *A. michaelseni* Odhner, 1925 and *N. bella* Guinot, 1976, the last of which was designated as the type species. The present specimen agrees well with N. pulchella in having that the dorsal areolae are evenly convex and rather indistinct, divided by shallow and narrow furrows, covered with very short setae, and the anterolateral margin are without sharp teeth. According to Dai and Yang's (1991) photograph of *N. pulchella*, it seems to be close to *N. michaelseni* which has been known from western Australia, because the dorsal areolae distinct and the anterolateral teeth are well demarcated and obtuse at tips.

This species is probably distributed in the whole Indo-West Pacific with the close congener *N. bella*.

Distribution. Singapore, Indonesia, Vietnam, Taiwan, China, and Japan.

Subfamily Trichiinae De Haan, 1841

Genus *Calvactaea* Ward, 1933

***Calvactaea tumida* Ward, 1933** 산호숨어부채게 (신칭) **(Fig. 2)**

Calvactaea tumida Ward, 1933, p. 384, pl. 23, fig. 9; Sakai, 1939, p. 497, fig. 39, pl. 94, fig. 7; 1965, p. 148, pl. 73, fig. 3; 1976, p. 520, fig. 279, pl. 187, fig. 3; Takeda and Miyake, 1968, p. 556, fig. 2a; Griffin, 1972, p. 79; Guinot, 1976, p. 185, figs 25E, 26C, 27E, 33E, F, 34F, G,

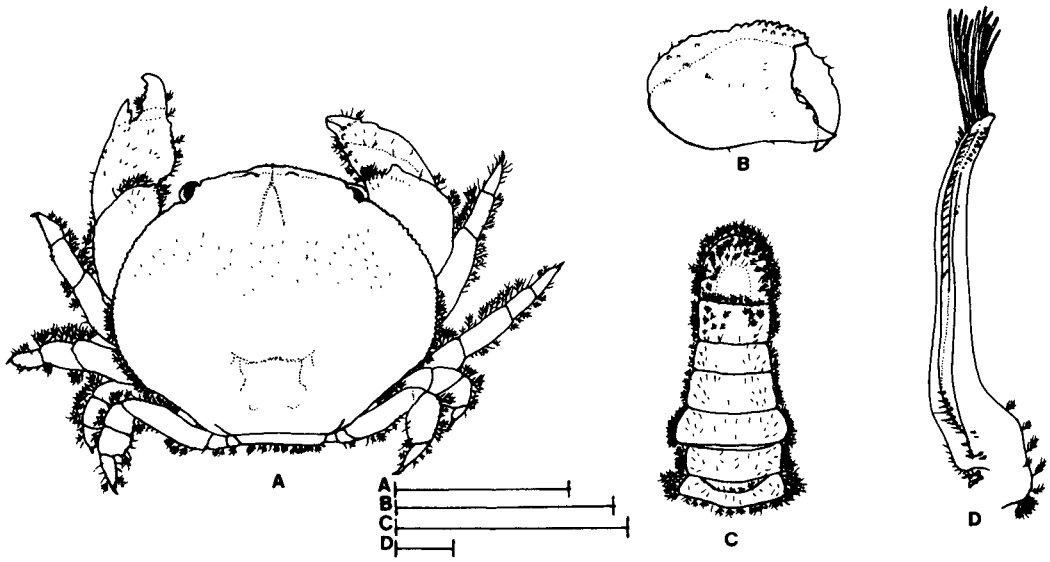

Fig. 2. *Calvactaea tumida* Ward, male. A: dorsal view; B: cheliped; C: abdomen; D: pleopod. Scales for A, B and C are 5 mm; D is 0.5 mm.

pl. 7, figs 4, 5; Dai and Yang, 1991, p. 391, pl. 53, fig. 2.

Atergatopsis (?) *globosa* Balss, 1935, p. 137, pl. 13, fig. 4.

Banareia inconspicua, Campbell and Stephensen (not Miers, 1884), 1970, p. 280, fig. 39.

Material examined. 1 ♂, carapace length 7.6 mm, carapace breadth 9.3 mm, Chejudo Is. (Mosulpo), 15 July 1999, H. S. Ko.

Description. Carapace (Fig. 2A) quite convex, globular; surface marked with small fine setae; regions ill defined. Front deflected, anterior margin slightly serrated. Orbit small, dorsal margin with 2 fissures. Anterolateral margin serrated. Posterolateral margin concave and plumose setae.

Chelipeds (Fig. 2A, B) symmetrical. Surface of carpus and palm with granules and short setae and long plumose setae. Movable finger with granules and short setae on dorsal surface, immovable finger with 3 teeth at base of inner margin. Ambulatory legs short, furnished with long plumose setae.

Male abdomen (Fig. 2C) narrow, elongate, 7-segmented; telson semicircular, much longer than sixth segment. First pleopod (Fig. 2D) with 11 simple setae distally.

Color. Pale pink in life.

Habitat. Commensally living with *Alcyonarians*; shallow water.

Remarks. Ng and Chia (1995) suggested that the genera *Banareia* and *Calvactaea* should be removed from the Trichiinae and placed in the other subfamily, because the genus *Trichia* is very peculiar in having the highly modified third maxilliped compared to the former two genera.

Distribution. Southeastern and southwestern coasts of Australia, Sri Lanka, China and Japan.

Family Pilumnidae Samouelle, 1819

Subfamily Heteropanopeinae Alcock, 1898

Genus *Pilumnopeus* A. Milne Edwards, 1863

***Pilumnopeus granulatus* Balss, 1933** 털손네톱니부채게 (신칭) **(Fig. 3)**

Pilumnopeus serratifrons granulatus Balss, 1933, p. 34.

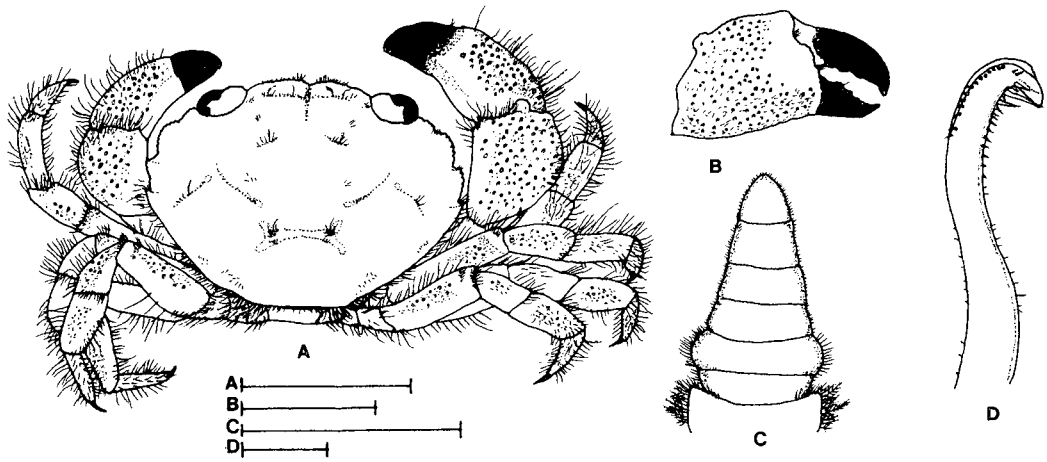

Fig. 3. *Pilumnopeus granulatus* Balss, male. A: dorsal view; B: cheliped; C: abdomen; D: pleopod. Scales for A, B and C are 5 mm; D is 0.5 mm.

Pilumnopeus granulatus: Takeda and Miyake, 1969, p. 127, fig. 12c-f.

Material examined. 1 ♀, carapace length 6.8 mm, carapace breadth 9.5 mm, Chejudo Is. (Mosulpo), 28 July 1994, H. S. Ko, 1 ♀, carapace length 10.8 mm, carapace breadth 14.3 mm, Chejudo Is. (Mosulpo), 27 July 1998, S. M. Ko.

Description. Carapace (Fig. 3A) strongly convex, covered with short setae and longish hairs; surface very smooth except for some granular ridges on which hairs arise. Front divided into 2 truncated lobes by a small median notch. Eye large. Anterolateral margin with a granulated ridge and 3 teeth; first ridge confluent with external orbital angle; first tooth bordered with granules, not spine-tipped; second and third teeth acute, latter being smallest of series.

Chelipeds (Fig. 3A, B) asymmetrical. Carpus and palm covered with sharp granules interspaced with short setae and longish hairs on dorsal outer surface. Fingers of larger chela stout and bluntly toothed on base of inner margin. Ambulatory legs rather slender, smooth and covered with short setae and longish hairs, but not armed with any spines.

Male abdomen (Fig. 3C) narrow-triangular shaped, 7-segmented; telson coniform.

First pleopod (Fig. 3D) with hook-shaped end distally.

Color. Brown in life.

Habitat. Inhabits the crevices of rock or under stones; low tidal mark.

Remarks. This species originally referred to the subspecies of *Pilumnopeus serratifrons* (Kinahan) from New Zealand and southeastern coast of Australia, and later was treated as a distinct species level by Takeda and Miyake (1969). It seems very close to *P. indicus* originally described by de Man (1887) as the genus *Heteropanope* Stimpson, but differs in that the anterolateral teeth are fringed with a series of granules and the chelipedal carpus and palm are densely covered with granules.

Distribution. Japan (Ryukyu Islands), Fiji and New Mecklenburg.

ACKNOWLEDGEMENTS

The authors thank Ko, Suk Moon for providing some specimens for this work. This work was supported by a grant from Silla University in 1999.

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RECEIVED: 6 December 1999
ACCEPTED: 7 March 2000

제주도의 한국미기록 부채게상과(십각목, 단미아목) 3종

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요 약

제주도에서 채집된 부채게류에서 3종, 작은옴부채게(*Novactaea pulchella*), 산호숨이부채게(*Calvactaea tumida*), 털손네톱니부채게(*Pilumnopeus granulatus*)가 한국 미기록종으로 판명되어 재기재하고 보고한다. 지금까지 기록된 한국산 부채게상과의 종은 모두 3과 29종이 된다.