New Report of Majoid Crab, *Pugettia intermedia* (Crustacea: Decapoda: Majoidea) from Korea

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ABSTRACT

As a result of continuous taxonomic investigations of Korean crabs, *Pugettia intermedia* Sakai, 1938 is newly reported from Korean waters. *Pugettia intermedia* had previously been reported in Korean fauna, but the previous reports of *P. intermedia* were resulted in misidentification of *P. quadridens* (De Haan, 1839). *Pugettia intermedia* differs from *P. quadridens* in having two subequal medial lobes of the first pleopod in male. In *P. quadridens*, one of the two medial lobes is about half-length of the other. *Pugettia intermedia* occurs on the southern coast of the Korean peninsula. The descriptions and illustrations of this species are provided herein.

Keywords: new report, *Pugettia intermedia*, Majoidea, Decapoda, Korean fauna

INTRODUCTION

The species of the genus *Pugettia* belonging to the superfam-

ily Majoidea utilizes algae and sponges for camouflage, and

occurs commonly on the rocky shores or in the tide pools of

the coast. The genus *Pugettia* presently contains 19 species

in the worldwide. Among them, twelve species occur in the

West Pacific (Griffin and Tranter, 1986; Ng et al., 2008):

*Pugettia elongata* Yokoya, 1933, *P. incisa* (De Haan, 1839),

*P. intermedia* Sakai, 1938, *P. kahoshimensis* Rathbun, 1933,

*P. leytensis* Rathbun, 1916, *P. marissinica* Takeda and Miyake,


1893, *P. nipponensis* Rathbun, 1932, *P. quadridens* (De Haan,

1839), *P. pellucens* Rathbun, 1883, and *P. similis* Rathbun,

1932. Of these, only five species have been report-

ed in Korean fauna: *Pugettia incisa*, *P. intermedia*, *P. minor*,

*P. quadridens*, and *P. pellucens* (Kim, 1973; Kim and Kim,

1986, 1998). *Pugettia quadridens intermedia* Sakai, 1938 was

elevated to *P. intermedia* by Griffin and Tranter (1986)

based on several features, such as the first pleopod of male

having the subequal length of two medial lobes, and a row of

four tubercles above the epimeral ridge.

In Korea, *Pugettia intermedia* was firstly reported without

description (Kim and Kim, 1986). Then, this species was de-

scribed with illustrations (Kim and Kim, 1998). Careful

examination of previously reported specimens revealed that those specimens were *P. quadridens*. Now, we report firstly *P. intermedia* in Korea based on the observation of specimens collected from Geoje Island.

All specimens were preserved in 70% ethyl alcohol and were deposited in the “Marine Arthropod Depository Bank of Korea,” Seoul National University. All drawings were prepared using a camera lucida on a Nikon SMZ800 (Nikon, Tokyo, Japan). All characters were measured using a slide caliper (Wiha, Monticello, MN, USA) to the nearest 0.1 mm. Images were recorded using a digital SLR camera (D7000; Nikon), and were adjusted to provide a more descriptive image with software (Helicon Focus, Kharkov, Ukraine). The abbreviation “cl” and “cw” refer to carapace length from the tip of the rostrum to the posterior dorsal margin of the carapace and to the width of the carapace at the widest part, respectively.

SYSTEMATIC ACCOUNTS

Order Decapoda Latreille, 1802

Family Epialtidae MacLeay, 1838

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Genus *Pugettia* Dana, 1851

*Pugettia intermedia* Sakai, 1938 (Figs. 1, 2)

*Pugettia quadridens intermedia* Sakai, 1938: 258; 1976: 197.  


**Description.** Carapace (Figs. 1A, 2A) broadly triangular, naked; dorsal surface depressed; regions with distinctly deep grooves; gastric region with four tubercles, two median in...
transverse line between anterior and posterior ones, with series of curled hair on either side; cardiac region conical and mounted with tubercle; intestinal tubercle also distinct; branchial region with series of curled hair on either side. Rostrum (Figs. 1A, C, D, 2A) divergent at angle of about 50 degree; bases of rostrum flattened, tips acuminate, curved outwards, series of curled hair on either side. Hepatic spine slender, curved forwards at tip. Lateral brachial spine very prominent, projecting backwards, upward and forwards at tip; two tubercles on epibranchial region, another on inner side of lateral spin. Preocular spine very acuminate. Posterior angle of supraocular eave rounded angle. Postocular tooth

Fig. 2. Pugettia intermedia Sakai, 1938, male, cl 30.5 × cw 20 mm. A, Whole animal, dorsal view, omitted club-shaped hair on anterior and posterior of ambulatory legs; B, Outer view of left cheliped; C, Posterior view of fourth ambulatory leg; D, Male abdomen; E, Right first pleopod, outer view; F, Tip of right first pleopod, outer view. cl, carapace length from the rostrum to the posterior margin of the carapace; cw, width of the carapace at the widest part. Scale bars: A, B, D = 5 mm, C = 2.5 mm, E = 1.5 mm, F = 0.5 mm.
as strong as hepatic spine. Pterygostomian ridge (Fig. 1C) with four or five tubercles. Sub-branchial margin (Fig. 1B) above epimeral ridge with irregular row of three or four tubercles.

Chelipeds (Figs. 1A, D, 2A, B) stout, ischium with two lobular on anterior border; merus with strong ridge or row of tubercles halfway down, and slightly outward in distal portion.

Ambulatory legs (Figs. 1A, D, 2A, C) with velvet-like tomentum, fringed with club-shaped hairs on anterior and posterior edges.

Abdomen of male (Fig. 2D) consisting of 7 segments with fine seta; third sternite widest; telson broad triangular.

First pleopod of male (Fig. 2E, F) slender, length of two medial lobes subequal.

Habitat. Rocky and weedy bottoms.

Distribution. Korea, Japan, Northern China, and Taiwan Strait (type locality: Shimoda, Japan).

Remarks. The authors carefully examined the same specimens of *P. intermedia* of Kim and Kim (1986), as well as the specimens and the description about *P. intermedia* of Kim and Kim (1998). As a result, those specimens were identified as *Pugettia quadridens* because of the following characteristics: 1) the two medial lobes of the first pleopod of the male *P. intermedia* are subequal, while in *P. quadridens* one of the two medial lobes is about half length of the other one (Figs. 2E, F, 3A); 2) there are three or four small tubercles on the branchial submargin above the epimeral ridge of *P. intermedia* (Fig. 2E, F), but that of *P. quadridens* exhibits just one or two such tubercles (Fig. 1B).
In regard to the male first pleopod of Korean species belonging to the genus *Pugettia*, that of *P. quadridens* is similar to that of *P. pellucens* but they have different seta patterns on the carapace (Fig. 3A, B), and *P. pellucens* is smaller than *P. quadridens* (Fig. 4). *Pugettia incisa* has a long slender medial lobe and a small triangular lobe on the ventral surface at the tip (Fig. 3C), and this species has the postorbital lobe and the hepatic spine fused as a sing plate with the lateral margin of the carapace. This character distinguishes it from all other species in the genus.

In regard to the distribution of Korean species in the genus *Pugettia* based on the examined specimens, *P. quadridens* and *P. pellucens* occur throughout all coasts of the peninsula while *P. intermedia* and *P. incisa* occur only on the southern coast. *Pugettia minor* was only collected from Isl. Beomseom, Jeju-do, in 1971, and since then, this species has not been collected (Fig. 5).

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**REFERENCES**


