

## NOTES AND NEWS

### A NEW RECORD OF *UPOGEBIA SPINIFRONS* (HASWELL, 1882) (DECAPODA, THALASSINIDEA) FROM NARUTO, JAPAN, SHOWING POSSIBLE HERMAPHRODITISM

BY

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One large specimen of *Upogebia spinifrons* (Haswell, 1882) from Naruto, Japan, is described. This material, measuring 96 mm in total length, proves to constitute the first record of *U. spinifrons* from Japan; it also shows hermaphroditism, as the coxae of the 3rd and the 5th pereopods both bear a genital opening (fig. 3), but the 1st pleopod is not present as in males. This may be the second example of possible hermaphroditism in a species of the genus *Upogebia*, the first concerned *U. wushienweni* Yu from Taiwan (Sakai, 1982: 59).

I wish to thank Prof. Dr. Masatoshi Shimoizumi of the University of Tokushima for allowing me the opportunity of studying this material, and also Dr. Isabella Gordon, London for her criticism of and suggestions for the manuscript.

The following abbreviations are used: AMS = Australian Museum, Sydney; BLT = Biological Laboratory, Shikoku Women's University, Japan; MNB = Museum für Naturkunde an der Humboldt-Universität zu Berlin; QMB = Queensland Museum, Brisbane.

#### ***Upogebia spinifrons* (Haswell, 1882)**

*Gebia spinifrons* Haswell, 1882: 165, pl. 3 fig. 5.

*Upogebia (Upogebia) spinifrons* - De Man, 1927: 53, pl. 6 figs. 20-20e; Sakai, 1982: 58, text-figs. 11c, 12c-e, 13e-f, pls. F1, F3.

Material examined: 1 ♀?, BLT 1066; 96 mm in total length, 26 mm in carapace length including rostrum; collected by Prof. M. Shimoizumi; from the rocky shore of Ryuguno-Iso, Ohge-Jima, Naruto, Japan.

Diagnosis. — Rostrum triangular, hirsute, provided with an apical tooth, ventral margin with five teeth. Lateral frontal process of carapace also hirsute and apically with two teeth. Linea thalassinica defined only at anterior and

posterior parts of posterior thoracic region. Endopod of uropod with a proximal knob on outer margin.

First pereopod subchelate. Dorsal margin of palm with 11 to 14 teeth. Cutting edge of fixed finger with a median tooth. Upper exterior plate of dactylus sulcate, and upper interior margin with a row of 23 to 25 granules.

Description. — The rostrum (fig. 1a-b) is broadly triangular with an apical tooth, and bears no lateral denticles. The dorsal surface is thickly hirsute; the median furrow is distinct extending backward from near the rostral tip to the anterior fifth of the dorsomedian region. The ventral surface is medially carinate and armed with five teeth, the distal and the proximal teeth are small, but the three median are sharp. Behind the dorsal surface of rostrum the dorsomedian region is also hirsute in the anterior part, with two denticles along the median furrow, and with 8 along the lateral longitudinal groove; the mid-

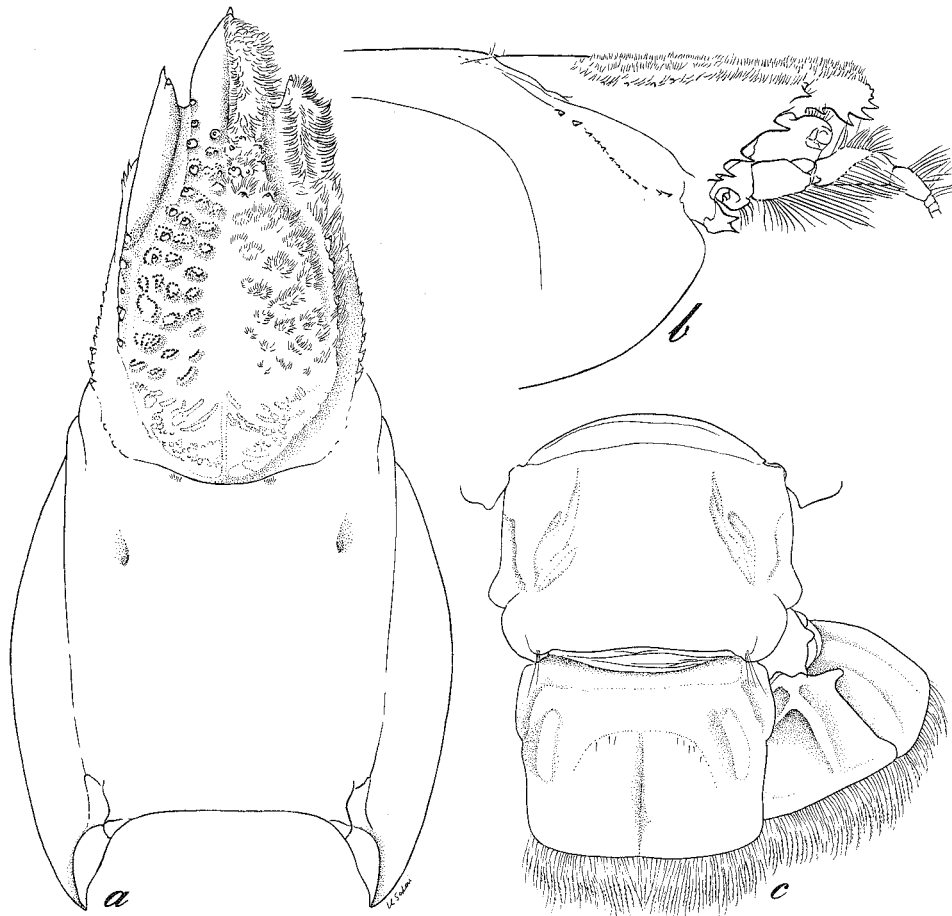


Fig. 1. *Upogebia spinifrons* (Haswell). a, carapace in dorsal view; b, anterior part of body in lateral view; c, distal part of abdomen in dorsal view.

dle part is provided with scattered tufts of hair. The lateral frontal process of the carapace is lanceolate in the anterior half, hirsute, and unarmed on the dorsal surface, apically bearing two teeth, the inner one small with a yellow tip and the anterior sharp; the posterior half is narrow, with five denticles. The cervical groove is situated at the posterior two-fifths of carapace (including rostrum). The anterolateral margin of the carapace is provided with four stout teeth. The lateral surface of the posterior thoracic region bears a row of 12 or 13 denticles along the cervical groove. The *linea thalassinica* is visible on the lateral surface of the anterior thoracic region, extending for a short distance to the anterior part of the posterior thoracic region; it also is visible as a short line on the posterior part of the carapace.

The telson (fig. 1c) is about one third broader than long, and distinctly shorter than the 6th abdominal somite. The dorsal surface is indistinctly depressed in the middle part of the posterior three-fourths, in which the median groove is marked. The lateral margins are divergent posteriorly in the anterior two-fifths, and then convergent in the posterior three-fifths, showing a notch at the proximal two-fifths. The endopod of the uropod is shorter than the telson. The outer lateral margin bears a distinct knob at the proximal angle, and forms a rounded projection at the posterior corner. The posterior margin is broadly rounded. The exopod is slightly longer than the endopod.

The antennular peduncle reaches the middle of the terminal segment of the antennal peduncle. The third segment is about as long as the first, and four times as long as the second. The flagella are about 1.7 times as long as the third segment. The third segment of the antennal peduncle terminates in a sharp spine. The scaphocerite is rounded. The epistome is bispinose.

The 1st pereopod (fig. 2a-b) is subchelate. The ischium bears three teeth on the ventral margin. The merus is provided with a distinct subterminal spine on the dorsal margin, and with 7 or 8 teeth on the ventral margin. The carpus bears two strong teeth on the inner distal margin, 3 or 4 teeth on the outer distal margin, and one small tooth in the middle of the dorsal margin. The outer surface shows a series of seven teeth along its ventral margin. The ventrodistal tooth is sharp. The palm is twice as long as the carpus. The dorsal margin bears 11 to 14 teeth, the distal of which is subterminally situated, and slightly better developed than the others. The outer surface is provided in the upper half with a broad longitudinal band of short tufts of hair and in the ventral third with a longitudinal row of tufts of short hairs. The outer ventral surface bears a longitudinal row of denticles in the distal two-thirds, and a terminal tooth on the distal margin. The inner surface is provided with a longitudinal row of long hairs near the dorsal margin. The inner proximal margin shows a single tooth dorsally, and a thick ridge in the ventral two-thirds. The fixed finger is distinct and directed forward from the ventral margin of the palm. The cutting edge bears a tooth in the middle. The dactylus is about three-fourths the length of the palm. The upper part of the exterior

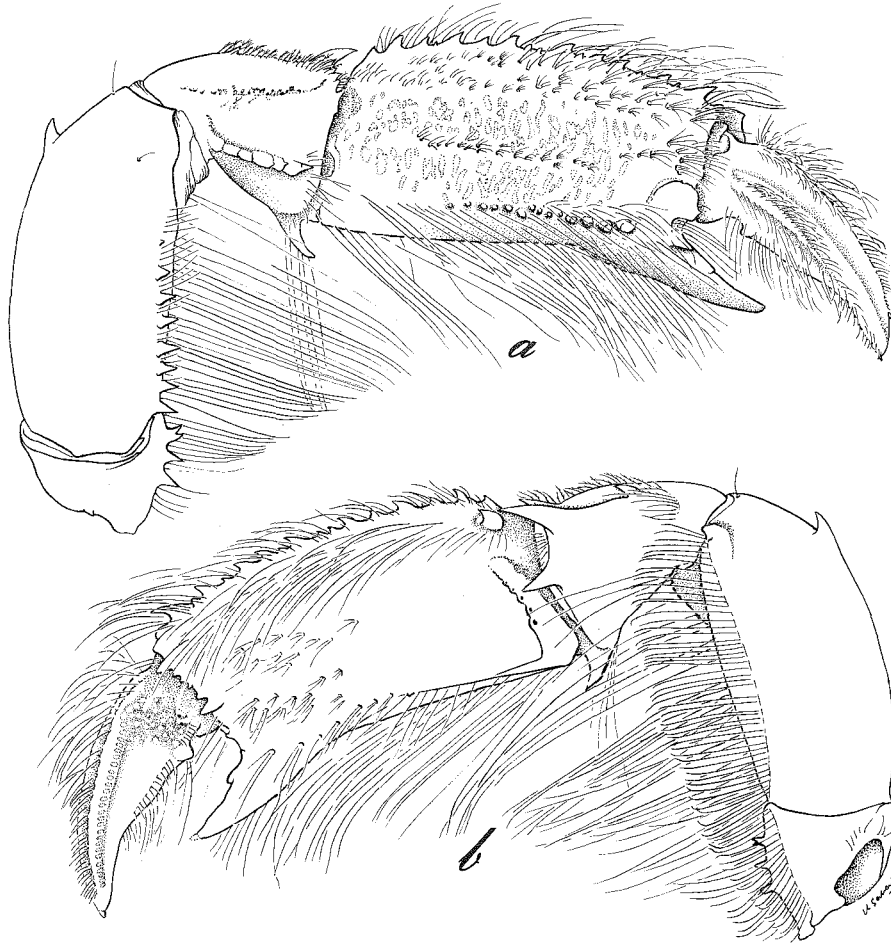


Fig. 2. *Upogebia spinifrons* (Haswell), large cheliped. a, inside view; b, external view.

surface is noticeably sulcate, above the groove is a row of hairs. The dorsal part of the inner surface is distinctly carinate with a row of 23 to 25 granules. The proximal part of the inner surface shows scattered granules. The cutting edge bears a thick tooth in the basal part.

Remarks. — This specimen is identified as *U. spinifrons* because the rostrum and the lateral frontal process of the carapace are both hirsute; the ventral margin of the rostrum is provided with 5 teeth; the lateral surface of the posterior thoracic region is flanked with a row of denticles along the cervical groove; the endopod of the uropod bears a proximal knob on the outer margin; the ischium and the merus of the first pereopod show the same denticulation as in *U. spinifrons*; and the upper part of the exterior surface of the dactylus is longitudinally sulcate. However, it differs in the following respects: In the

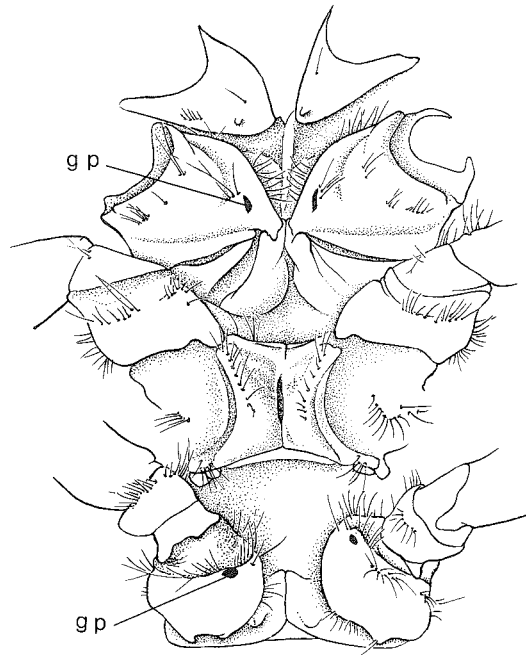


Fig. 3. *Upogebia spinifrons* (Haswell), thoracic sternum and bases of pereopods, showing genital pores (gp) at the coxae of the third and fifth legs.

present specimen the linea thalassinica is developed only at the anterior and the posterior parts of the posterior thoracic region, while in the specimens described as *U. spinifrons* (see Sakai, 1982: 58) it is subdivided into some branches in the middle part, extending backward to the posterior margin of the carapace. Comparing described individuals with each other, it is noticeable that in the holotype (a female; AMS 1544) from S.W. Australia, the palm of the 1st pereopod has only 6 to 8 sharp teeth on the dorsal margin, and the dactylus is smooth on the dorsal part of the inner surface, while in the present specimen the palm has 11 to 14 teeth, and the dactylus has a row of 23 to 25 granules. In the male specimens from Takao, Taiwan (MNB 12664), the inner surface of the palm of the first pereopod characteristically shows two translucent longitudinal ridges in the anterior part, while in the present specimen such a structure is not present; the dactylus of the 1st pereopod is also characteristic as it is ornamented with a row of square granules on the dorsal part of the inner surface. So far as the specimens recorded from Queensland, Australia by Poore & Griffin (1979: 305) are concerned, their sizes are extremely small as shown by a female (AMS 12943) measuring 19 mm in total length, and in another female (QMB 1435) of 24 mm. In addition, those specimens are also different from the present specimen in that the second and the third segment of the antenna bear 3 and 4 distinct ventral spines respectively (Poore & Griffin,

1979: fig. 53b), and the carpus of the first pereopod bears 6 to 8 large mesiodorsal spines instead of only 1 to 3 spines.

Although the present specimen differs considerably from the previously described *U. spinifrons* it is referred for the time being to that species; this problem can only be definitely solved with more material.

## LITERATURE

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Received for publication 14 Februari 1983.

RANGE EXTENSION OF *PILUMNUS OHSHIMAI*  
TAKEDA & MIYAKE, 1970, WITH A NOTE ON THE MALE OF THE  
SPECIES (DECAPODA, BRACHYURA)

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An ovigerous specimen of a species of *Pilumnus* from a coral reef off Singapore was collected recently. The specimen was eventually referred to two other specimens previously deposited in the Zoological Reference Collection, Department of Zoology, National University of Singapore, which the late Dr. R. Serène had provisionally identified as *Pilumnus* aff. *bleekeri* Miers. Further work showed that all three specimens belong to the species *Pilumnus ohshimai* Takeda & Miyake, 1970, and they form the subject of this present note.

***Pilumnus ohshimai* Takeda & Miyake, 1970 (fig. 1)**

Pulau Labuan, Sabah, East Malaysia, 5°12'N 115°13'E; 1♂, cl. 15.70 mm, cb. 21.15 mm, 1969, ZRC Cat. number: 1969.12.31.1; 1♀, cl. 15.70 mm, cb. 21.05 mm, 1969, ZRC Cat. number: 1969.12.31.2.

Sentosa Island, Singapore, 1°17'N 103°51'E; 1♀, cl. 19.27 mm, cb. 26.00 mm, 9 January 1982.

*Pilumnus ohshimai* was described as a new species by Takeda & Miyake (1970) from two females deposited in the Zoological Laboratory, Kyushu University. The abdomen and pleopods of the holotype female were described by the