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A New Crab of the Family Grapsidae from Japan

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Abstract

A description of a new crab of the family Grapsidae is presented. The new species, *Ptychognathus capillidigitatus* named after the characteristic hairs and setae on the immovable finger, is distinguished from the closest congener, *P. pilosus* DE MAN, stat. nov., by the different proportion of the carapace. The type specimens were collected at brackish or almost freshwater zone of Tonda-gawa River, the southwest coast of Kii Peninsula, Central Japan.

During the ecological studies on ocypodid and grapsid crabs at estuarine coasts of Kii Peninsula, Central Japan, Drs. K. WADA and Y. FUKUI of the Seto Marine Biological Laboratory, Kyoto University, encountered with an unfamiliar grapsid species close to, and found together with *Ptychognathus ishii* SAKAI. The species was abundantly found under stones at brackish or almost freshwater zone. Some of the specimens were sent to the present author for identification, and after much consultation with literature, it came to the conclusion that they represent the species distinct from the known congeners of the genus *Ptychognathus*. In the following lines the description of the new species is presented, and the type specimens are preserved in the National Science Museum, Tokyo (NSMT) and the Seto Marine Biological Laboratory, Kyoto University (SMBL).

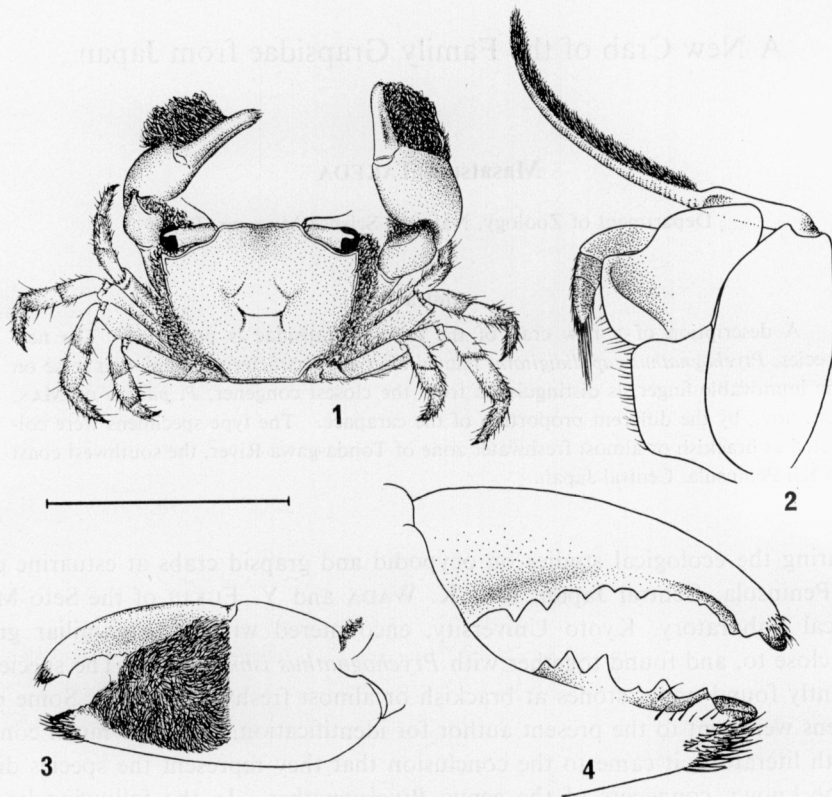
Before going further the present author wishes to thank Drs. Keiji WADA and Yasuo FUKUI for giving him the chance to examine the valuable specimens.

Genus *Ptychognathus* STIMPSON, 1858

Ptychognathus capillidigitatus sp. nov.

(Figs. 1-4)

Description. Male. Carapace narrowly quadrate and very weakly convergent posteriorly; breadth of front almost equal to, or only slightly broader than breadth of orbit, frontorbital breadth almost taking greatest breadth of carapace. Dorsal surface of carapace markedly flattened, and regions not defined, only with an usual gastrocardiac transverse furrow which is weakly curved forward; cardiac part delimited from branchial part at each side by a longitudinal outward-curved furrow originated from lateral end of gastrocardiac furrow. In dorsal view, median third of front margin



Figs. 1-4. *Ptychognathus capillidigitatus* sp. nov., holotype. Entire animal in dorsal view (1), left third maxilliped (2), left chela in outer view (3), and fingers of left chela in inner view (4). Scale represents 1 cm for fig. 1, 5 mm for fig. 3, and 2.5 mm for figs. 2 and 4.

shallowly, but distinctly concave; in frontal view, median concave part traversed by a linear ridge continuous with margin of each lateral part of front. Orbit long and transverse; supraorbital border undulate, being marked with two shallow depressions; external orbital angle, or anterior end of first lateral lobe directed forward and sharply angulated; outer border of first lobe nearly longitudinal; second lobe as large as the first and separated from it by a small notch, its anterior end being sharp, but not protruded from general contour of lateral border of carapace; second lobe followed by third lobe through a smaller notch which is sometimes obscure; third lobe not distinctly delimited from posterior part of lateral border of carapace; dorsal surface along posterior part of lateral border sunk and delimited for its posterior half from main dorsal surface of carapace by a linear ridge originated from posterior border of carapace; posterior border of carapace as wide as, or only slightly narrower than front.

Eyestalk long, occupying whole length of orbit; infraorbital border beaded with

more than 15 pearly granules. Third maxilliped typical for the genus; exopod about one and a half times as wide as ischium; merus strongly auriculated at anteroexternal angle as figured.

Both chelipeds equal and stout; inner margin of merus heavily fringed with soft shaggy hairs; carpus and palm smooth, inner angle of carpus being rounded; outer surface of immovable finger furnished with a prominent tuft of soft hairs, which is not extended onto palm; fingers leave only a narrow gape throughout their lengths; each finger with some sharp teeth, those of immovable finger being much larger; tips of fingers shallowly cupped and reinforced by horny nail; tip of immovable finger provided with a prominent tuft of stiff setae, and that of movable finger with a small one.

Ambulatory legs rather slender and sparsely covered with short tomenta and longish setae.

Female. The general formation of the carapace is not much different from that of the male. The chelipeds are small, having short tomenta on the outer surface of the immovable finger instead of long shaggy hairs in the male; the immovable finger bears a brush of stiff hair at the tip on its outer surface like in the male chelae.

Type specimens. Holotype, ♂ (NSMT-Cr 8987; 8.4×6.8 mm); allotype, ♀ (NSMT-Cr 8988; 7.0×5.8 mm); paratypes, 17 ♂♂ (NSMT-Cr 8989; 6.8–8.8 mm in breadth), 17 ♀♀ (NSMT-Cr 8990; 6.6–8.2 mm in breadth), 2 ♂♂, 2 ♀♀ (SMBL type 336; 7.5 and 8.5 mm, 7.0 and 7.4 mm in breadth, respectively). Tonda-gawa River, Shirahama-cho, Wakayama Pref.; Feb. 4, 1981; K. WADA and Y. FUKUI leg.

Remarks. The general shape of the carapace of the new species is rather close to that of *P. polleni* DE MAN, in which the lateral border of the carapace is almost longitudinal, especially along the outer border of the first lateral lobe. The new species belongs, however, to the same group as *P. riedelii* (A. MILNE EDWARDS, 1868), *P. r. pilosus* DE MAN, 1892, and *P. andamanicus* ALCOCK, 1900, for having a brush of setae at the tip of the immovable finger. According to DE MAN (1905), *P. andamanicus* which was described on two young females with about 13 mm long and 14 mm broad is almost identical with *P. riedelii*, and thus eliminated from the key to the species made by TESCH (1918).

P. riedelii was originally described from Celebes (A. MILNE EDWARDS, 1868) and later reported from Flores and Sumatra (DE MAN, 1892), having no long hairs on the outer surfaces of the fingers. Its subspecies *P. r. pilosus* is really close to the typical form, but the male always has a distinct area of long hairs. The type locality of the subspecies is Flores, and the type material consisted of 11 males. The original author referred 11 juveniles in a single sample to the typical form, but HOLTHUIS (1978) mentioned the view that these juveniles may logically belong to the subspecies. It is sure that the females and juveniles of both forms cannot be easily distinguished from each other and that both forms may occur together in a restricted geographical area. However, the presence or absence of hairs on the fingers as the secondary sex characters warrants the systematic elevation of the subspecies to a full species.

HOLTHUIS (*op. cit.*) recorded the specimens from Bondokodi River, West Sumba as the nomenclatural subspecies with the explanation that he used the epithet *pilosus* more for convenience than in the sense of a subspecific name. *P. pilosus* stat. nov. is now known from Flores, Lombok, the Talaud Islands and West Sumba.

The new species is really close to *P. pilosus*, but readily distinguished from it by the different contour of the carapace. According to the original description, the carapace of the largest male has the proportion with $17\frac{1}{3}$ mm in breadth, 15 mm in length, 7 mm in frontal breadth and $15\frac{1}{3}$ mm in frontorbital breadth. This measurements indicate that the lateral border of the carapace is fairly convex like *P. riedelii*, with the greatest breadth about at the median part. The new species is small in size and, as already described, characteristic in having the carapace widest at the front-orbital border.

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