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# Pilumnid Crabs of the Family Xanthidae from the West Pacific V. Definition of a New Genus, with Description of its Type-species[1]

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The identification of the pilumnid crabs is in reality very difficult due mainly to the insufficient description and illustration and partly to the strong valiability in the hairiness. The keys of *Pilumnus* and *Parapilumnus* given by TAKEDA and MIYAKE (1968, 1969) are apparently provisional, covering only the West Pacific species dealt with by them. It is quite reasonable that many species need to be revised before to complement the keys. Recently revising some West Pacific species and examining a small specimen from the north coast of Kyushu, the author was convinced that some small, aberrant species hitherto referred to *Pilumnus* or *Parapilumnus* represent a genus distinct from them. In this paper the definition of the new genus designated as *Nanopilumnus* is given together with the description of its type-species.

## **Nanopilumnus** gen. nov.

*Diagnosis.* Carapace transversely ovate or rather quadrate, its dorsal surface evenly convex in both directions and more or less separated into regions, being provided with a transverse row of hairs along frontal margin with some prominent tufts of hairs on protogastric and anterolateral regions. Front well developed with a median deep sinus and rather distinctly separated from supraorbital angle. Infraorbital border with two deep depressions and a strong inner angle. Antennal basal segment not reached to ventral prolongation of front, its flagellum being usually of considerable length. Palatal ridges developed only posteriorly, not extending forward to anterior boundary of buccal cavern. Anterolateral border of carapace with three stout behind external orbital angle, last tooth distinctly smaller than precedings and often spine-tipped. Chelipeds unequal and usually armed with spines or nodules. Male abdomen narrow with seven segments. Male first pleopod rather *Pilumnus*-type, but its beak ill-developed.

Type-species. *Medaeus rouxi* BALSS, 1935.

*Remarks.* The new genus is established for accomodating altogether ten species

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hitherto referred to *Pilumnus* or *Parapilumnus*. They are *Pilumnus barbatus* A. MILNE EDWARDS, 1873, and *heterodon* SAKAI, 1934, and eight specieds of *Parapilumnus*, viz.,? *verrucimanus* (KLUNZINGER, 1913), *malardi* (DE MAN, 1914), *truncatospinosus* (DE MAN, 1914), *rouxi* (BALSS, 1935), *delagoae* (BARNARD, 1954), *boletifer* MONOD, 1956, *coralliophilus* TAKEDA et MIYAKE, 1969, and *hondai* TAKEDA et MIYAKE, 1969. These are small species and inhabit the interstices of rock or coral from the intertidal zone to the shallow water. It may be noted that among them only *Parapilumnus boletifer* is a representative of West Africa, and that the systematic status of *P. verrucimanus* from the Red Sea remains uncertain due to the insufficient description.

SERÈNE (1971) erected *Leopoldius* on *Parapilumnus leopoldi* GORDON and referred *Pilumnus kuekenthali* DE MAN and a new species designated as *L. velasquezi* to his new genus. The present new genus is really close to it and likewise bears no lateral palatal ridges characteristic of *Pilumnus*. In *Leopoldius*, however, the carapace, chelipeds and ambulatory legs are very thickly covered with woolly hairs, the last anterolateral teeth of both sides are strongly developed to form the greatest breadth of the carapace and the palatal ridges are long, oblique and meet anteriorly in the middle line. *Parapilumnus pisifer* (MACLEAY) commonly known from both coasts of Africa is in general close to the present new genus, but may be transferred to *Leopoldius* due to the characteristic wool and the formation of the anterolateral border of the carapace. On the other hand, *Parapilumnus* is also closely related to the present new genus, but the truncated front is completely continuous with the supraorbital border without any interruption and the anterolateral border is armed with three spinules.

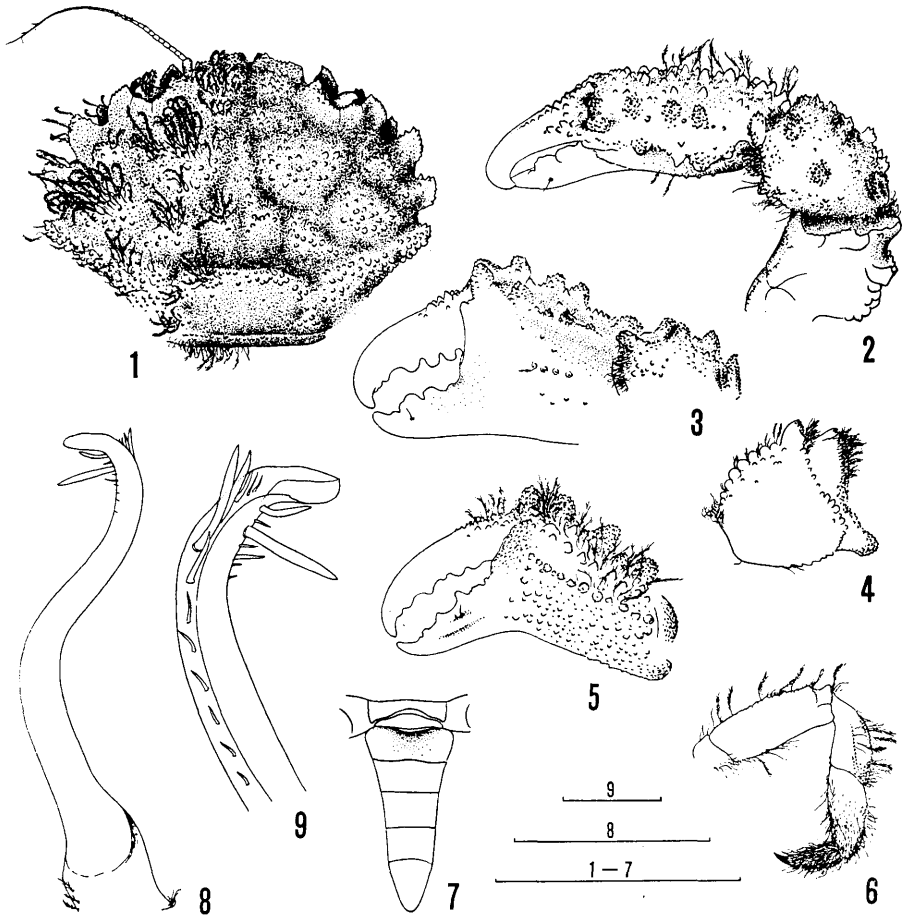
**Nanopilumnus rouxi** (BALSS, 1935), comb. nov.

(Figs. 1–9)

*Medaeus rouxi* BALSS, 1935, p. 45, pl. 2 figs. 1, 2 — Gulf of Manaar.
*Medaeus? rouxi*: SERÈNE and UMALI, 1972, p. 70, pl. 7 fig. 10 — Singapore.

*Description.* Carapace transversely ovate and evenly convex longitudinally; its dorsal surface well divided into regions by wide but shallow, smooth furrows, being covered with tufts of long, soft brush-like hairs; each frontal region small, but convex anteriorly with some conical granules and a tuft of long hairs; both frontal regions side by side traversed by an interconnecting row of short hairs; a small region with some granules and a tuft of two or three hairs demarcated behind inner part of frontal region; protogastric region large with conical granules of good size, being provided with a prominent tuft of long, soft brush-like hairs and some scattered shorter ones; median gastric region subdivided into three, its anterior one being not prominent only with some small granules; each of its posterior subregions convex with several conical granules and some longish hairs; hepatic region produced into a high lamellar lobe with conical granules, ending in a blunt tip; a large region behind this hepatic lobe convex with conical granules and prominent tuft of hairs;

a region between this and posterior subregion of median gastric region bears also a small tuft of hairs, being provided with conical granules mainly on its outer half; cardiac region indistinctly subdivided into two, each with a cluster of granules and a tuft of hairs; posterolateral dorsal surface wholly covered with conical and round granules of good size; a round cluster of granules just in front of lateral angle of posterior border.




Figs. 1–9. *Nanopilumnus rouxi* (Balss), ♂ (NSMT-Cr. 4142). 1, carapace, right half denuded; 2, right cheliped, in dorsal view; 3, chela of the same, in inner view; 4, merus of the same, in outer view; 5, left chela, in outer view; 6, right second ambulatory leg; 7, abdomen, hairs removed; 8 and 9, left first pleopod, in sternal and abdominal view, respectively. Scale for 1–7=5 mm, scale for 8=1 mm, scale for 9=0.25 mm.

Front well developed and most strongly produced just near its median V-shaped notch; each lobe obliquely truncated in dorsal view, but in reality its free

margin fairly concave; incision between frontal lateral and supraorbital angles markedly deep, so lateral end of frontal lobe almost longitudinal. Supraorbital border thin with two deep notches and marginal granules; supraorbital angle fairly strong and directed obliquely forward, but not tuberculated; external orbital angle strongly developed as a thin lobular tooth similar to anterolateral teeth, its dorsal surface being concave and outer border convex to be rounded; infraorbital border bears two very deep interruptions; a lobe thus formed between two interruptions round at tips, but inner infraorbital angle much more strongly protruded forward with an acute tip and ventrally convex; this inner angle realy strong so as to be for its most part visible in dorsal view. Anterolateral border with three strong teeth behind lobular external orbital angle, three incisions being markedly deep and wide; first and second teeth nearly equal and their outer borders convex with conical granules; last tooth round at its tip, slightly smaller than precedings, but stout and more or less tubercular. Posterolateral border rather concave. A transverse row of pearly granules in front of true posterior border.

Chelipeds unequal and slightly differ in shape of palms; merus small and not exserted from anterolateral teeth of carapace; upper border with a series of some pearly granules and a strong subterminal tooth; outer surface of carpus with several tubercles formed by conical granules, its inner angle being armed with a similar tubercle; palm also with several tubercles on and along its upper border; in smaller palm those on its upper border compressed to be thin lobes with acute tips, being directed fairly inward, so not visible in outer view; outer surface of palm with sparse hairs and conical granules of various size, larger ones being of good size arranged to form about three longitudinal rows; in larger palm lower one third of outer surface almost devoid of hairs and granules; both fingers of larger chela stout with molar-like teeth, while those of smaller chela proportionally longer, sharply and irregularly toothed, and movable finger with conical granules along proximal one third of upper border.

Ambulatory legs rather short with fringes of brush-like hairs; anterior border of merus irregularly roughened by a series of conical granules directed distally, subdistal interruption being deep; carpus about half of merus, being armed with a belt of conical, or high truncated granules on its anterior border and a longitudinal row of similar granules on its upper surface; propodus as long as, or very slightly longer than carpus, being covered with a thick tomentum on its distal half; a small cluster of conical granules at middle portion of its anterior border; dactylus with a similar tomentum and longish hairs of various length. Male abdomen with seven segments remarkably narrow. Male first pleopod with some very long, strong horny setae.

*Material examined.* Ho-jima Islet, Itoshima Dist., Fukuoka Pref., 1 ♂, NSMT-Cr. 4142, Aug. 1, 1959.

*Measurements.* Breadth of carapace with lateral teeth, 7.9 mm; length of carapace, 6.0 mm; frontal breadth, 2.4 mm; fronto-orbital breadth, 4.8 mm.

*Remarks.* As regards the systematic status of this species originally referred

*Medaeus*, GUINOT (1967) was of opinion that it may be placed under *Parapilumnus* or its related genus, and subsequently TAKEDA and MIYAKE (1969) decidedly thought it to belong to *Parapilumnus*. Recently SERÈNE and UMALI (1972) who examined a female from Singapore referred this species to *Medaeus* with question, only stating without detail that the creation of a new genus seems in order.

This species was pronouncedly described and characterized by having the characteristic lobular projections on the chelipeds and hepatic region, the slantingly truncated frontal lobes, the prominet broad anterolateral teeth with the convex posterior margins, and the elongated narrow male abdomen. The original description is, however, not quite exhaustive and the photographs given by the original and recent authors are unfortunately not good enough for the subsequent identification. The specimen at hand is generally agreeable with the original description, but the hepatic lobe is not so prominent comparing with the other regions and the immovable finger of the larger chela is almost straight with the palm. This species is readily distinguished from the congeners hitherto referred to *Parapilumnus* by having the areolated carapace with distinct areolation and the lobed anterolateral teeth.

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