

A new genus and species of atelecyclid crab (Crustacea: Decapoda: Brachyura) from the Timor Sea

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A female of an unknown atelecyclid crab (Crustacea, Decapoda, Brachyura) collected in the Timor Sea is described and its systematic status and position considered. The specimen differs considerably from all known atelecyclid crabs and consequently a new genus and species, *Krunopeltarion timorense*, is established.

KEYWORDS: *Krunopeltarion timorense*, Decapoda Brachyura, Atelecyclidae, Timor Sea.

Introduction

The Atelecyclidae Ortmann, 1893, as defined at present (Guinot, 1989), contains the following genera: *Atelecyclus* Leach, 1814; *Peltarion* Jacquinot, 1847; *Trichopeltarion* A. Milne Edwards, 1880; *Trachycarcinus* Faxon, 1893; *Podocatactes* Ortmann, 1893; and *Pteropeltarion* Dell, 1972. The author recently received a specimen of atelecyclid crab which had been collected from the Timor Sea in 1987 via the kind offices of the Northern Territory Museum of Arts and Sciences, Darwin, Australia. A study showed that while the specimen had similarities with members of three closely related genera *Trachycarcinus*, *Trichopeltarion* and *Pteropeltarion*, it could not be referred to any of these genera or any known atelecyclid species (fide Alcock, 1899; Rathbun, 1930; Sakai, 1939, 1976; Guinot, 1989). Therefore a new genus and species was established to accommodate this crab.

Krunopeltarion gen. nov.

Gender. Neuter.

Diagnosis. Atelecyclidae. Cephalothorax subcircular, convex. Lateral teeth widely triangular with apices elongated and narrowed but not sharply pointed. The dorsal surface of the carapace covered with numerous smooth, apically rounded tubercles. One unpaired and several paired furrows on the dorsal surface of the carapace. Sternal sutures 4/5 and 6/7 interrupted, 7/8 complete.

Etymology. The first part of the generic name *Krunopeltarion* refers to the Croatian carcinologist Krunoslav Babić (1875-1953) and second part, as in three related genera, is '-peltarion'.

Type species. *Krunopeltarion timorense* new species.

Krunopeltarion timorense sp. nov.

(Figs 1, 2)

Material examined

HOLOTYPE. 1♀ Carapace length 49.0 mm (44.8 mm without rostral spines), carapace width 54.2 mm (44.8 mm without lateral spines). Timor Sea, F. V. 'Endeavor Pearl' Stn Shot 3, 9° 46' S. 130° 14' E., trawl, depth 270–300 m, 15 September 1987, Reg. No NTM Cr. 006002. Coll. N.T. Fisheries Department. The crab is deposited in the Northern Territory Museum of Arts and Sciences, Darwin, Australia.

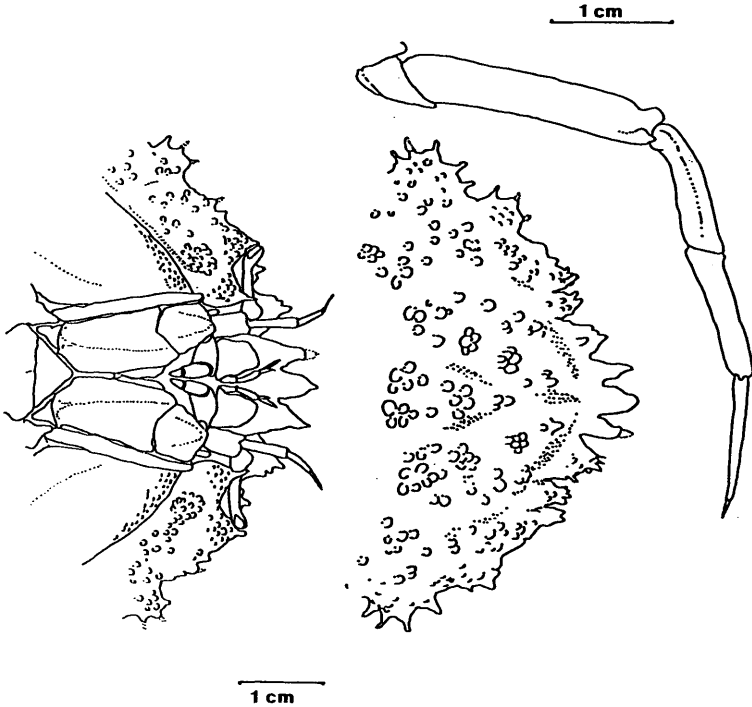


FIG. 1. *Krunopeltarion timorense* gen. nov., sp. nov. Holotype: dorsal and ventral side of the anterior part of the carapace and second walking leg.

Description

Cephalothorax subcircular, slightly broader than long; strongly convex (thick 25.8 mm), longitudinal anterior part especially strongly sloping, but frontal region nearly horizontal. Surface of carapace covered with tubercles and scattered, very short, inconspicuous plumose setae increasing in length anteriorly, being long and dense on frontal region and frontal spines, but longest setae simple (non-plumose); tubercles smooth, glossy, with surfaces feebly marked with low, wide, secondary tubercles, invisible to the naked eye, surface of same colour as carapace (ivory yellow), not pearly in white. Tubercles either grouped mainly in tumid lobules (in particular on the middle part of carapace) or irregularly scattered (near borders). Regions moderately well defined. Tumid lobules with grouped tubercles especially distinct on median regions; four groups on mesogastric (two unpaired, one paired), indistinctly paired on metogastric region, unpaired on urogastric, with pair of furrows on cardiac and unpaired on intestinal region. Lateral to urogastric region are two distinct long lateral



FIG. 2. *Krunopeltarion timorensis* gen. nov., sp. nov. Sternal plastron.

gastric furrows ("fossettes gastriques"), one oblique pair behind cardiac region, pair of very short oblique furrows on anterior part of metagastric region, and pair of short oblique furrows anterolateral of metagastric region. Long, distinct transverse furrow posterior to frontal region. Ventrally, sub-hepatic and sub-branchial regions densely covered with blunt tubercles and sparse setae. Pterygostomial region smooth, only anterolaterally covered with very small blunt tubercles.

Front narrow, horizontal, prominent, dorsoventrally flattened, tridentate. Median frontal spine largest and only slightly longer than two lateral slender spines. Dorsally, especially median spine, covered by long setae, ventral surface of spines covered with very short sparse setae.

Anterolateral borders longer than posterolateral. Lateral teeth of moderate size, broadly triangular, ending with smooth slender tip, apically blunt. Lateral teeth with 1 or 2 pairs of lateral slender subsidiary spines with bluntly rounded apices, their surfaces with dense blunt small tubercles and setae. First hepatic tooth very small, simple, rather inconspicuous, second hepatic tooth and three epibranchial teeth increasing in size so that tooth at junction of anterolateral and posterolateral margin largest, two spines on posterolateral border smaller with fewer subsidiary spines. Posterior margin of carapace of moderate width and slightly rounded, with 2 or 3 rows of smaller tubercles arranged parallel with the margin.

Orbits large, rather deep, not protecting eye completely. Upper orbital margin divided into three triangular teeth, with subsidiary spines. Preorbital tooth largest, wide, with subsidiary spines, supraorbital tooth smallest, exorbital tooth broad. Orbital teeth dorsally covered with setae, exorbital tooth covered with tubercles dorsally and ventrally. Suborbital margin concave medially, with strongly pointed inner subocular spine. Ventral margin fringed with long setae, entering orbital cavity and orbital hiatus.

Eyes retractile within orbits. Eyestalks long, slender, rather setose, particularly on mesiodorsal side, not completely protected when reposed. Cornea relatively small, lateral.

Antennular fossae large. Basal antennular segment very large and antennulae folded longitudinally in fossae. Antennae reposing completely in orbital hiatus. Basal antennal segment strong, ventrally covered with dense short setae, not completely closing orbital hiatus. Fourth segment very long, cylindrical, with fifth segment slender, shorter than fourth segment, reaching end of lateral rostral spines, both segments covered with long coarse setae. Flagella damaged, but probably short.

Epistome not distinctly delimited from endostome, concave, sunken, covered by palps of third maxillipeds. Proepistome relatively narrow.

Buccal cavern elongated, not completely covered by third maxillipeds. Ischium of third maxillipeds longer than merus. Anteroexternal margin of merus fringed with long setae. Surface of ischium and merus covered with short setae. Palps very stout, strong, reaching to antennular fossae. Propodi and dactyli directed downwards, all very setose. Palpus inserted on anterointernal angle of merus. Exognath with flagellum.

Chelipeds shorter than first pair of walking legs, slightly heterochelous (left larger), setose on surface, particularly dense on lower and upper side of palm, where setae rather long, with several tubercles on upper margin of palm, some conical, but apex not acutely pointed. Carpus with several tubercles with obtuse and conical apices, with strong spine on upper distal margin. Short setae arranged in rows on claw fingers. Fingers of claw relatively long, slightly bent backward at obtuse angle to lower border of palm. Unequal wide teeth on occlusive edge more distinct on fixed finger, proximal teeth obsolete.

Walking legs long, slender, covered with short setae. Carpi with shallow longitudinal lateral groove on upper side, dactyli styliform, longer than propodi, densely covered with short setae, ending with corneous tips. First pair of walking legs longest, last pair shortest. Last pair slightly compressed laterally, with dorsal and ventral borders, upper (dorsal) surfaces of carpus and merus fringed by longer setae.

Sternal plastron rather narrow, elongated (Fig. 2). Second and third sternites covered with short and small blunt tubercles. Middle and posterior part of fourth sternite (anterior margin of abdominal cavity) fringed with dense, coarse setae, there is a fringe of coarse dense setae. On plastron surface, scattered sparse very fine long silky setae, gathered into paired tufts mesially on 5–7 sternites. Sternal sutures as follows: 2/3 distinct, 3/4 only laterally distinct, interrupted in middle, 4/5 and 5/6 interrupted with wide space between ends, 6/7 interrupted very near median line, with 7/8 suture complete. Suture 4/5 directed obliquely backward, remaining sutures slightly forward, with distinct median groove on sternites 7 and 8.

Abdomen relatively narrow, elongate, reaching to middle of sternite 4. All segments free articulated, the sixth largest, margins fringed densely by coarse setae. Two proximal sternites are visible from above. Telson smaller than segment 6, narrower and broadly rounded apically. Four pair pleopods well developed.

Etymology. The specific name is derived from the Timor Sea where the crab was collected.

Discussion

Despite the fact that the description is incomplete (because the male is unknown), the data presented permit some justifiable conclusions. Comparing the present species with the description of other known species from the genera *Trachycarcinus*, *Trichopeltarion* and *Pteropeltarion* described by Alcock (1899), Alcock and Anderson (1896, 1899), Anderson (1896), Crosnier (1981), Dell (1968, 1972), Doflein (in Chun, 1903), Faxon (1893), Garth (in Garth and Haig, 1971), Guinot (1986, 1989), Guinot

and Sakai (1970), Milne Edwards (1880), Rathbun (1932), and Richardson and Dell (1964), it is clear that, apart from many similarities there are several important differences to the above-mentioned genera as follows: (1) the surface of carapace is covered with smooth, glossy, apically rounded, ivory-yellow (not 'porcelainized') tubercles. In the other species there are either apically pointed tubercles or some tubercles of larger size densely covered with setae looking as if frosted. (2) The lateral teeth are relatively short and triangular with very wide bases, their apices are elongated and narrowed distally, but their tips are not sharply pointed. The majority of other species have the lateral teeth spiniform, apically pointed and often basally narrow, and sometimes incurved forwards. (3) On the surface of the carapace are several pairs of distinct furrows and one unpaired postfrontal furrow, which are not described for other atelecyclid species. (4) The sternal sutures 4/5 to 6/7 are interrupted (while the suture 7/8 remains entire), a character rarely known in higher brachyuran taxa. It is known only in Geryonidae (Guinot, 1979) and in some Potamidae (unpublished) that sutures 4/5 to 6/7 are interrupted. In the Atelecyclidae only *Atelecyclus* has the sternal sutures 4/5 to 7/8 complete, whereas *Peltarion* and *Trachycarcinus* have sutures 4/5 and 5/6 interrupted (Guinot, 1979) and the interrupted suture 6/7 in the present species indicates that it has to be classified separately from other aforementioned atelecyclid species. It is not known, in any case, that the members of a genus have such different sternal structures.

These differences, particularly the last two, according to present state of knowledge, are most important and sufficient to establish this crab not only as a new species but also as a new genus.

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