

**The identity of *Potamon rangoonense* RATHBUN 1904 and
Thelphusa larnaudii A. MILNE-EDWARDS 1869, with
introduction of *Neolarnaudia botti* n. g. n. sp.**

(Crustacea: Decapoda: Potamidae).

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With 6 figures.

Abstract: The holotype of *Potamon rangoonense* belongs to the genus *Potamiscus*. Thus, the genus *Ranguna* BOTT 1966 is based on a misidentified type-species. The same applies to the genus *Larnaudia* BOTT 1966, as the lectotype of its type-species, *Thelphusa larnaudii*, does not show the diagnostic characters of the respective genus. As *Ranguna* sensu BOTT is widespread and better known, a conservation of this name in the current sense is advocated. For the monotypic and poorly known *Larnaudia* there is no merit in conserving the name in the original sense. Here *Neolarnaudia botti* n. g. n. sp. is introduced for *Larnaudia larnaudii* sensu BOTT [nec A. MILNE-EDWARDS].

Introduction.

In the course of a revision of the freshwater crabs of Thailand we checked the type-species of the genera involved in order to ascertain their congenerity with the species included by us in the respective taxa. By this means we discovered two surprising misidentifications of type-species. The present paper is meant to clear up the problems involved and to introduce new names where necessary. The nomenclature problems concerning the genera, however, cannot be finally resolved, as a use of the plenary powers of the "International Commission on Zoological Nomenclature" is necessary according to Art. 70b of the International Code. An appropriate application will be submitted in due course.

This study would not have been possible without the help of several institutions and individuals. Type-specimens and supplementary material have kindly been made available by the British Museum (Natural History), London (R. W. INGLE); Museum of Comparative Zoology at Harvard, Cambridge, Mass. (H. W. LEVI); and Muséum National d'Histoire Naturelle, Paris (D. GUINOT). S. ALEXANDER (Pietermaritzburg) checked the English of the manuscript. One of us (PN) has received grants from organisations supporting three visits to the Forschungsinstitut Senckenberg for working on a monograph on the Thai freshwater-crabs: "Deutscher Akademischer Austauschdienst (DAAD)" (Bonn-Bad Godesberg); "Chulalongkorn University" (Bangkok); "Senckenbergische Naturforschende Gesellschaft" (Frankfurt a. M.). This assistance is gratefully acknowledged.

The following abbreviations are used: BMNH = British Museum (Natural History), London; CB = Carapace breadth; CL = Carapace length; FB = Frontal breadth; MCZ = Museum of Comparative Zoology, Cambridge, Mass.; MNHN = Muséum National d'Histoire Naturelle, Paris; SMF = Senckenberg-Museum, Frankfurt a. M.

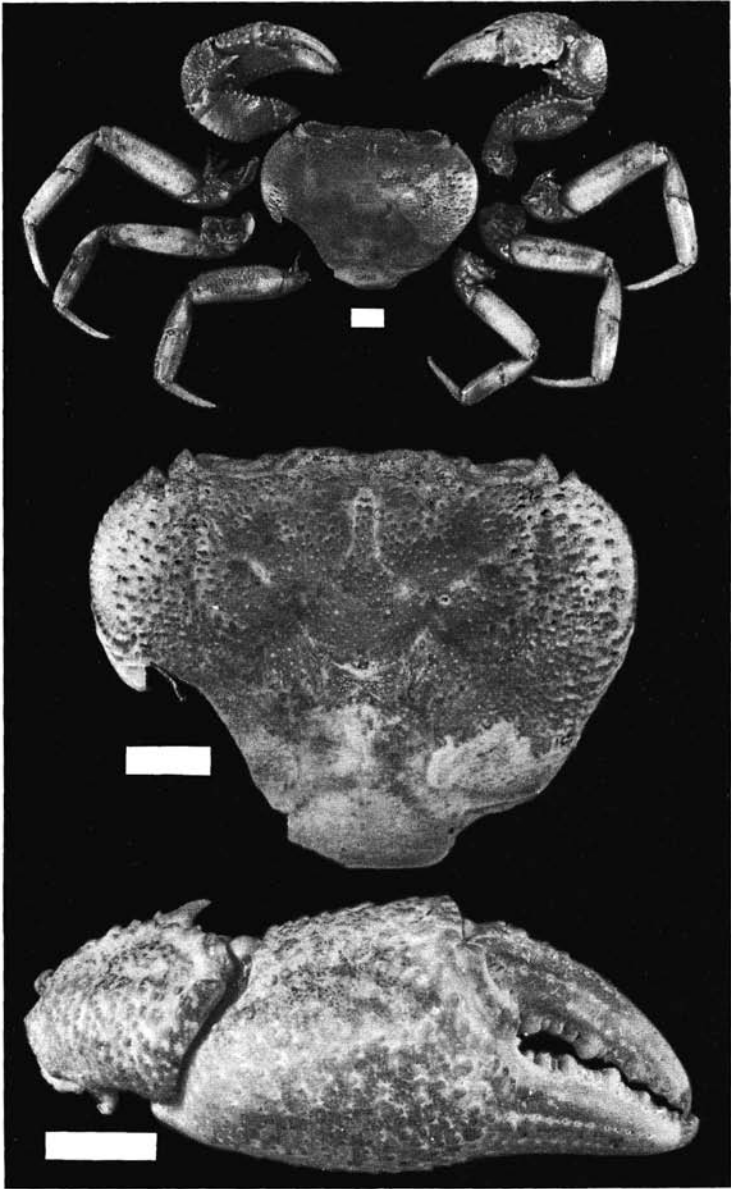


Fig. 1. *Potamon rangoonense*, Holotype (MCZ 5562). — Scale: 10 mm.

The identity of *Potamon (Potamon) rangoonense* RATHBUN 1904.

Examination of the holotype (MCZ 5562), an imperfect male specimen (Fig. 1; CB = 65 mm, CL = 49.8 mm, FB = 16 mm), the pleopods of which are well preserved, showed that it does not belong to the genus currently referred to as *Ranguna*. The suture marking the sperm channel in the terminal joint is displaced towards the dorsal side and thus not easily visible when looking at the limb from the mesio-ventral side (broad side of gonopod facing proximal end of sperm channel). However, there is no protruding lobe on the mesio-ventral half of the terminal joint as is characteristic in *Ranguna* (Fig. 2). Taking into account a number of other pleopod characters it is clear that the present species belongs to *Potamiscus* ALCOCK 1909. A comparison with the species known in this genus shows that *rangoonensis* is not identical with any of them and must be treated as separate species, the correct name of which is: *Potamiscus rangoonensis* (RATHBUN 1904).

This identification introduces several problems. The first is the identity of the specimens that BOTT (1970) treated as *Ranguna rangoonensis*. The male specimen from Assam (SMF 2807), which BOTT has also used for his figures, cannot be referred to as *rangoonensis*, so that we have to comment on two species treated as junior synonyms by BOTT (1970). Of *Potamon (Potamon) pruinorum* ALCOCK 1909, only a juvenile syntype of the British Museum collection was available (BMNH 1909.9.2.1) and examined by one of us (PN). Unfortunately the male pleopod of this specimen was undeveloped, so that the question of the identity of ALCOCK's species has to remain open until the complete typical series can be examined. *Potamon beieri* PRETZMANN 1966 has a pleopod very similar to that of the specimen SMF 2807 (see PRETZMANN 1966b: pl. 4 fig. 12). The only difference is the larger angle between stem and endpiece of *beieri*. We believe that this is due to the much smaller size of PRETZMANN's specimen (CB 30 mm versus 52.5 mm) inasmuch as we have seen similar tendencies in other species of *Ranguna*. Thus, the valid name of BOTT's Assam specimen might be *Ranguna beieri* (PRETZMANN 1966a), or possibly *pruinorum* ALCOCK 1909, if both prove to be identical.

The second problem raised by the identity of *Potamon rangoonense* is more serious because it affects the generic system. It is the type species of *Ranguna* BOTT 1966 (by original designation). Thus, this is a classic case of a misidentified type-species and we will ask the International Commission on Zoological Nomenclature to designate a type-species under its plenary powers in order to conserve the current usage of *Ranguna*. As this is quite a large and rather widely distributed genus, and as there have been several publications that have used the generic name *Ranguna*, we find it highly undesirable to replace it.

The identity of *Thelphusa larnaudii* A. MILNE-EDWARDS 1869.

BOTT (1966: 490) introduced a new monotypic subgenus *Potamiscus (Larnaudia)* for *Thelphusa larnaudii* A. MILNE-EDWARDS 1869. In his original paper he referred to the types, but used for the pleopod-figure a male specimen from "Mois-Chero, N-Cochinchina" (MNHN B 218). In his monograph BOTT (1970) raised *Larnaudia* to generic rank and included a second species, *Potamon (Potamon) browneanum* KEMP 1918.

Examination of the first male pleopod (Fig. 3) of the ♂ lectotype collected in the surroundings of Bangkok (MNHN B 4357 S) showed that *larnaudii* is very near to the species referred to as *Tiwaripotamon beusekomae* BOTT 1970. It is unrelated to the specimens from "Mois-Chero" included in *larnaudii* by BOTT, and *larnaudii* proper is a distinct species. It is not identical with *beusekomae*, with which, and with a third undescribed species, it forms a small homogeneous group. *Tiwaripotamon* BOTT 1970 is quite heterogeneous, and we are sure that the group of *larnaudii* is not congeneric with the long-legged congeners of the type species (*Geothelphusa annamensis* BALSS 1914). Thus, we prefer to use the generic name *Larnaudia* for *larnaudii*, *beusekomae* and allies, which are thus excluded from *Tiwaripotamon*. This switching of the generic name is harmless in our opinion as the species groups affected are local and have received little attention. The consequence of this is that the "Mois-Chero"-specimens remain without any valid name. We thus propose a new generic name for them:

Neolarnaudia n. g.

Type species: *Neolarnaudia botti* n. sp.

Diagnosis: Male first pleopod with stem and terminal joint slender, tapering, former following a slight but regular dorso-ventral, latter a similar ventro-dorsal curve; suture marking sperm channel on mesial side of stem, reaching terminal joint on same face, displaced to the lateral side in distal third of terminal joint, distal opening terminal.

Remarks: The present new genus is in our opinion monotypic. We have reexamined the lectotype of *Potamon browneanum* KEMP 1918 (BMNH 1934.1.15.9), which BOTT (1970) included in his genus *Larnaudia* as second species. We find that *browneanum* clearly belongs to *Ranguna* (sensu BOTT 1970). It is closely related to *Ranguna brousmichei* (RATHBUN 1904), but still distinct.

Neolarnaudia botti n. sp.

Figs. 4-6.

1966 *Potamiscus* (*Larnaudia*) *larnaudii*, — BOTT, Senckenbergiana biol., 47: 490, Abb. 26 [non *Thelphusa larnaudii* A. MILNE-EDWARDS 1869].

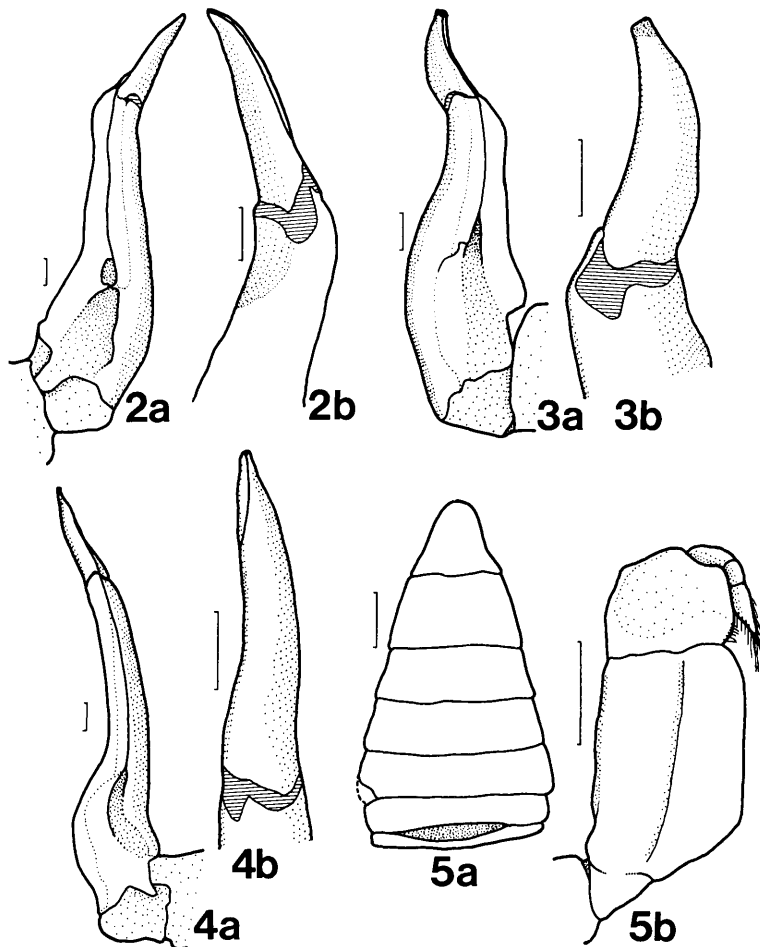
1970 *Larnaudia larnaudii*, — BOTT, Abh. senckenb. naturf. Ges., 526: 175, Taf. 39 Fig. 50, Taf. 50 Fig. 46 [non *Thelphusa larnaudii* A. MILNE-EDWARDS 1869].

Holotype: ♂ (MNHN B 16933), N-Cochinchina (= Viet Nam), Mois-Chero, leg. HARMAND.

Paratypes: 1♂ 1♀ (MNHN B 218), 1♂ (USNM 20303), same locality.

Diagnosis: See diagnosis of genus.

Description: Carapace generally glabrous, only anterior branchial region near the antero-lateral border with short crest-shaped rugae; the same applies to the frontal region in front of the epigastric lobes. Cervical groove deep and clearly visible throughout its length; branchio-cardiac groove distinct only in its anterior portion, hardly visible behind, as is the separation of branchial and intestinal regions; anterior narrow part of protogastric region well delimited from epigastric.



Figs. 2-4. First male pleopods (membranes separating joints of limb hatched). — 2) *Potamon rangoonense*, Holotype (MCZ 5562): a. total, ventro-mesial face; b. tip, dorso-lateral face; 3) *Tbelphusa larnaudii*, Lectotype (MNHN B 4357 S): a. total, ventro-mesial face; b. tip, dorso-lateral face; 4) *Neolarnaudia botti*, Holotype (MNHN B 16933): a. total, ventro-mesial face; b. tip, dorso-lateral face. — Scales: 1 mm.

Fig. 5. *Neolarnaudia botti*, ♂ Paratype (MNHN B 218). — a. abdomen; b. third maxilliped. — Scales: 5 mm.

Postfrontal crest distinct, epigastric lobes more advanced than remainder, well delimited and very oblique. Frontal margin with a rounded median emargination and thus bilobed. Exorbital tooth distinct, epibranchial tooth a granule, and similar to those of the crest-shaped antero-lateral border, being distinct up to the middle of the branchial regions. However, as the part of the antero-lateral border anterior to

the epibranchial tooth meets the postfrontal crest mesial of the epibranchial corner this last one looks quite prominent. Suborbital regions well delimited through a broadly curved granular crest, lower orbital border faintly granular, sinuous and forming a broad emargination towards the exorbital tooth. Pterygostomial regions with some granules in their anterior corner.

Proepistome with central part (interantennular septum) triangular and pointed. Epistome moderately sunken. Anterior border of buccal frame with m-shaped crest. Endostomial ridges distinct and meeting the anterior crest of the buccal frame, and thus separating a smooth lateral part on each side from a mesial part having some broad granules.

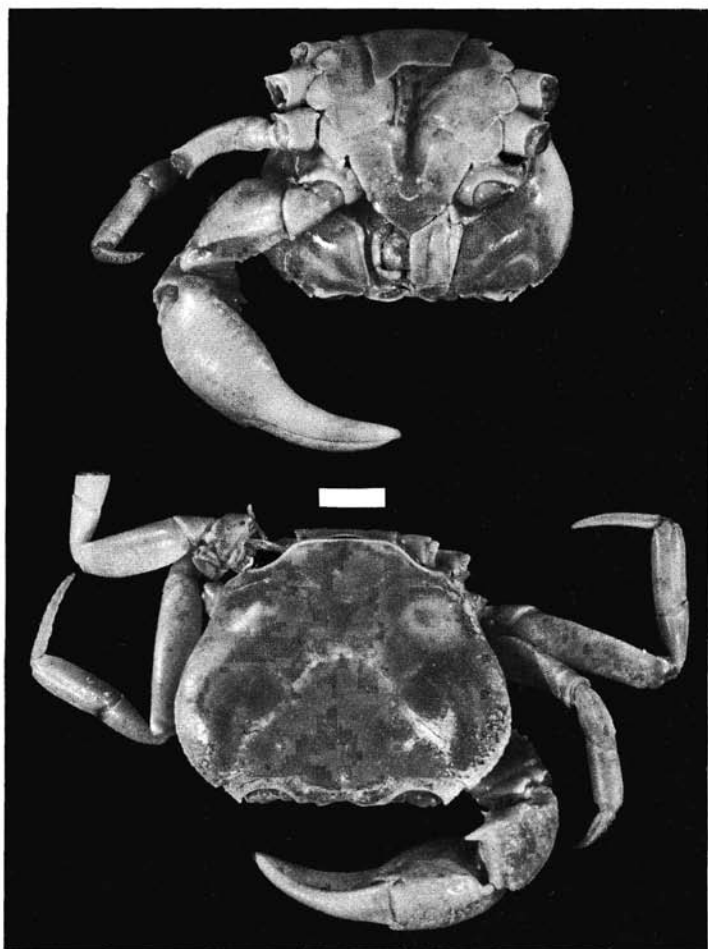


Fig. 6. *Neolarnaudia botti*, Holotype (MNHN B 16933). — Scale: 10 mm.

Third maxilliped with ischium about twice as long (measured on external border) as broad, with a deep submedian groove. Merus pentagonal, with mesial, fronto-mesial, and fronto-lateral borders distinctly crested, central surface sunken. Dactylus reaching clearly beyond the limit between ischium and merus.

First pereopod clearly heterochelous. Merus triangular in cross-section. All borders beset with not very distinct but regularly arranged granules. Carpus with two distinct spines, the longer one at the inner corner, the shorter one just below it on the inner surface; outer surface with a great number of smooth crests. Outer surface of palm with similar crests, reaching the inner surface on the ventral side, remainder of inner surface smooth. Fixed finger meeting ventral margin of palm in a sudden curve. Fingers slender, with alternating large and small teeth. Gape narrow.

Second to fifth pereopods smooth. The outer surface of the carpus has a longitudinal crest which is distinct on the anterior legs, diminishing in height posteriorly and totally lacking in the fifth leg. Dactyli with spine rows on their four marginal crests.

Thoracic sternum narrowly oval. Episternites only partly separated from the respective sternites. None of the grooves delimiting the thoracic sternites reach midline, although the anterior three almost do so, the groove between sternites VII/VIII stops some distance from it. Median longitudinal groove distinct and continuous in somite VII and VIII.

All segments of abdomen free in both sexes. In males length of segments increases gradually from base to penultimate. All segments basally broader than distal parts of former segments, so that the outer contour appears broken at the articulations. Last segment (telson) with sudden constriction behind base.

Male first pleopod with stem and terminal joint very slender, no remarkable broadening more distal than proximal third of stem. Stem slightly but regularly curved in a dorso-ventral direction. Delimitation of terminal joint distinct, especially on lateral face. Terminal joint following a regular ventro-dorsal curve. Suture marking sperm channel on mesial side of stem and reaching terminal joint on same side, displaced laterally in distal third, thus exhibiting complete torsion. Distal opening terminal.

Measurements: CB = 49.8 mm, CL = 37.4 mm, FB = 13 mm (Holotype ♂).

Distribution: To date only known from the type locality.

Remarks: The present species is easily recognizable and seems to be restricted to Southeast Asia. It may be of interest for other workers to know, that this is definitely the species figured by BOTT (1970: pl. 39 fig. 50, pl. 50 fig. 46). The legend of fig. 46 on pl. 50 is incorrect in stating that the lectotype of *larnaudii* is depicted. The original photographic prints and the negatives bear a comment to the effect that the holotype of the present species (MNHN B 16933) is the one figured.

Zusammenfassung.

Die Nachuntersuchung der Typen von *Potamon rangoonense* RATHBUN 1904 und *Thelphusa larnaudii* A. MILNE-EDWARDS 1869 erbrachte, daß beide Arten bisher fehlgedeutet wurden. Erstere gehört zu *Potamiscus*, letztere zu *Tiwaripotamon* s.l. Da beide Typusarten von Untergattungen sind, die BOTT 1966 einführte und denen er 1970 Gattungsrang zuwies, liegt ein klassischer Fall von fehl determinierten Typusarten vor. Es wird vorgeschlagen,

Ranguna BOTT 1966 (Typusart *Potamon rangoonense*) im ursprünglichen Sinne zu benutzen, während bei *Larnaudia* BOTT 1966 (Typusart *Thelphusa larnaudii*) besser die ursprüngliche Typifizierung bleiben sollte. Für *Larnaudia larnaudii* sensu BOTT 1970 [nec A. MILNE-EDWARDS 1869] wird *Neolarnaudia botti* n. g. n. sp. eingeführt.

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