

## Redescription of *Parathelphusa* (*Liothelphusa*) *wirzi* Roux, 1930 and definition of a new parathelphusid genus (Crustacea: Decapoda: Brachyura) from Nias Islands, Western Sumatra

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**Abstract.** A new genus, *Niasathelphusa* gen. nov. is described with *Parathelphusa* (*Liothelphusa*) *wirzi* Roux, 1930, from the Nias Islands as type species. This genus, allied to *Irmengardia* and *Perithelphusa* from Peninsular Malaysia and Borneo respectively, is easily separated by its swollen carapace, indistinct postorbital cristae, weak epigastric cristae, unarmed ambulatory meri, and very short second male pleopod distal segment. The species was previously classified in *Irmengardia*.

Roux (1930) described *Parathelphusa* (*Liothelphusa*) *wirzi* from numerous specimens collected by P. Wirz from the Nias Islands. Bott (1970) transferred this species to his genus *Irmengardia* Bott, 1969, on the basis of its male first pleopod. Ng (1988) remarked in his revision of the genus *Irmengardia* that "*I. wirzi*" did not belong to *Irmengardia* because of its external carapace and cheliped characters. He transferred Roux's species out of *Irmengardia* but did not name another genus for the species.

A re-examination of the types confirms Ng's (1988) contention that a separate genus is needed for *Parathelphusa wirzi*. The new genus, *Niasathelphusa* gen. nov. has thus been erected for this species. The description of this new genus and clarification of the taxonomy of the type species form the context of the present paper.

The abbreviations G1 and G2 are used for the male first and second pleopods respectively. Measurements are for the carapace widths and lengths respectively. Terminology follows that used by Ng (1988). Specimens are deposited in the Naturhistorisches Museum Basel (NMB), Switzerland;

and the Zoological Reference Collection (ZRC), Department of Zoology, National University of Singapore.

### Superfamily Gecarcinoidea Rathbun, 1904

#### Genus *Niasathelphusa* gen. nov.

*Irmengardia* Bott, 1970: 102 (part)

**Diagnosis.** Carapace ovate, surfaces smooth, convex, branchial regions strongly inflated, anterolateral margin smooth, strongly convex, epigastric cristae very low, postorbital cristae indistinct, epibranchial tooth small, external orbital angle low, broadly triangular, outer margin much longer than inner margin. Frontal median triangle clearly developed. Exopod of third maxilliped extends beyond half length of merus, with well developed flagellum. Chelae of larger males inflated, surfaces rounded. Ambulatory meri unarmed. Male abdomen distinctly T-shaped. G1 relatively stout, terminal segment cylindrical, clearly demarcated from subterminal segment, about one third length of subterminal segment, tip truncate, flared. G2 with very short distal segment.

*Type species. Parathelphusa (Liothelphusa) wirzi* Roux, 1930.

*Etymology.* The genus name is derived from the locality of the type species, the Nias Islands, together with the name "Thelphusa".

*Remarks.* *Niasathelphusa* can be separated from *Irmengardia* by its more inflated carapace, notably in the branchial regions, the low epibranchial tooth, indistinct post-orbital cristae and weak epigastric cristae, very broad external orbital angle, the inflated chelae of larger males is typically rounded and not flattened, the fingers not blade-like, unarmed ambulatory meri, and a very short G2 distal segment. As to its general carapace physiognomy and form of the inflated male chelae, it is very close to some *Perithelphusa*, notably *P. borneensis* (Von Martens, 1868) from Borneo, but in this species the epibranchial tooth is very well developed, and the G2 has a well developed distal segment. The physiognomy also allies it with *Terrathelphusa* Ng, 1989, but this genus lacks a distinct frontal median triangle, has a proportionately shorter G1 terminal segment, and a well developed G2 distal segment.

***Niasathelphusa wirzi* (Roux, 1930)**  
(Pl. 1; Fig. 1)

*Parathelphusa (Liothelphusa) wirzi* Roux, 1930: 353

*Para-Lio-thelphusa wirzi* – Balss, 1937: 175

*Parathelphusa (Perithelphusa) wirzi* – Yang, 1979: 17

*Irmengardia wirzi* – Bott, 1970: 103, Pl. 17 figs. 96–98, Pl. 29 fig. 73; Ng, 1988: 91

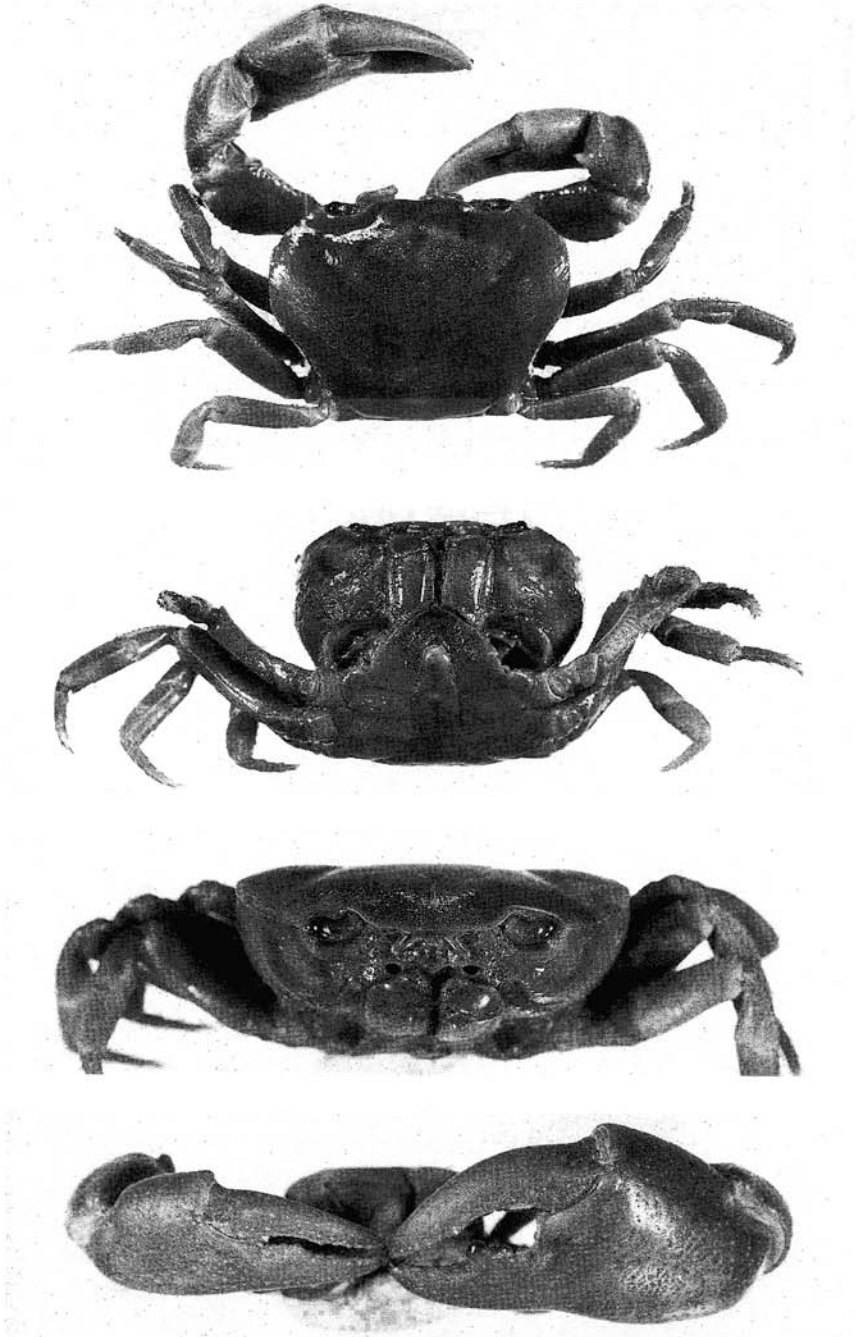
*Description.* Carapace transverse, 1.3 times wider than long, ovate, dorsal surfaces smooth, glabrous without traces of hair; anterolateral margins strongly convex, slightly crested, very gently serrated, clearly distinguished from slightly concave, strongly converging posterolateral margins; epibranchial tooth very weak, small, almost confluent with external orbital angle; external orbital angle very broadly triangu-

lar, outer margin slightly convex to almost straight, about five times length of inner margin; frontal margin gently sinuous, lateral lobes not visible, gradually confluent with smooth supraorbital margin, frontal median triangle well developed, all margins crested and entire; epigastric lobe low, rounded, separated by distinct notch that extends slightly backwards to mesogastric region, postorbital cristae very low, indistinct; cervical grooves broad, relatively shallow, extending from middle part of external orbital angle to just before H-shaped central gastric depression, pterygostomial, sub-branchial and suborbital regions gently rugose. Posterior margin of epistome with broad triangular median lobe, sides being almost straight, lateral margins of epistome crenulated, margins surrounding efferent channels broadly concave. Third maxilliped quadrate, oblique ischial sulcus adjacent to inner margin; exopod extending to half length of merus, with distinct narrow tooth on distal part of inner margin, flagellum well developed, reaching width of merus.

Cheliped unequal in larger males, larger cheliped appearing swollen, fingers of both chelae longer than palm, that in larger chelae may be gaping when closed, cutting edges with numerous blunt denticles and one or two large rounded teeth on dactylus. Outer surfaces of all segments pitted, slightly rugose; carpus with strong spine on inner angle.

Ambulatory legs normal length, second leg longest, dorsal margin of merus very gently serrated, without trace of subterminal spine or tubercle.

Male abdomen T-shaped, sixth segment rectangular, lateral margins almost straight, seventh segment triangular, shorter than sixth segment, tip broadly rounded, lateral margins concave. Male gonopores coxal, female gonopores sternal. G1 slightly sinuous, relatively stout, terminal and subterminal segments clearly demarcated, terminal segment 0.35 times length of subterminal segment, cylindrical except for tapering distal part, tip gently flared, outer margin with



**Pl. 1.** *Niasathelphusa wirzi* (Roux, 1930), Lectotype male, 28.0 by 22.2 mm (NMB 761a), Nias, off Sumatra.

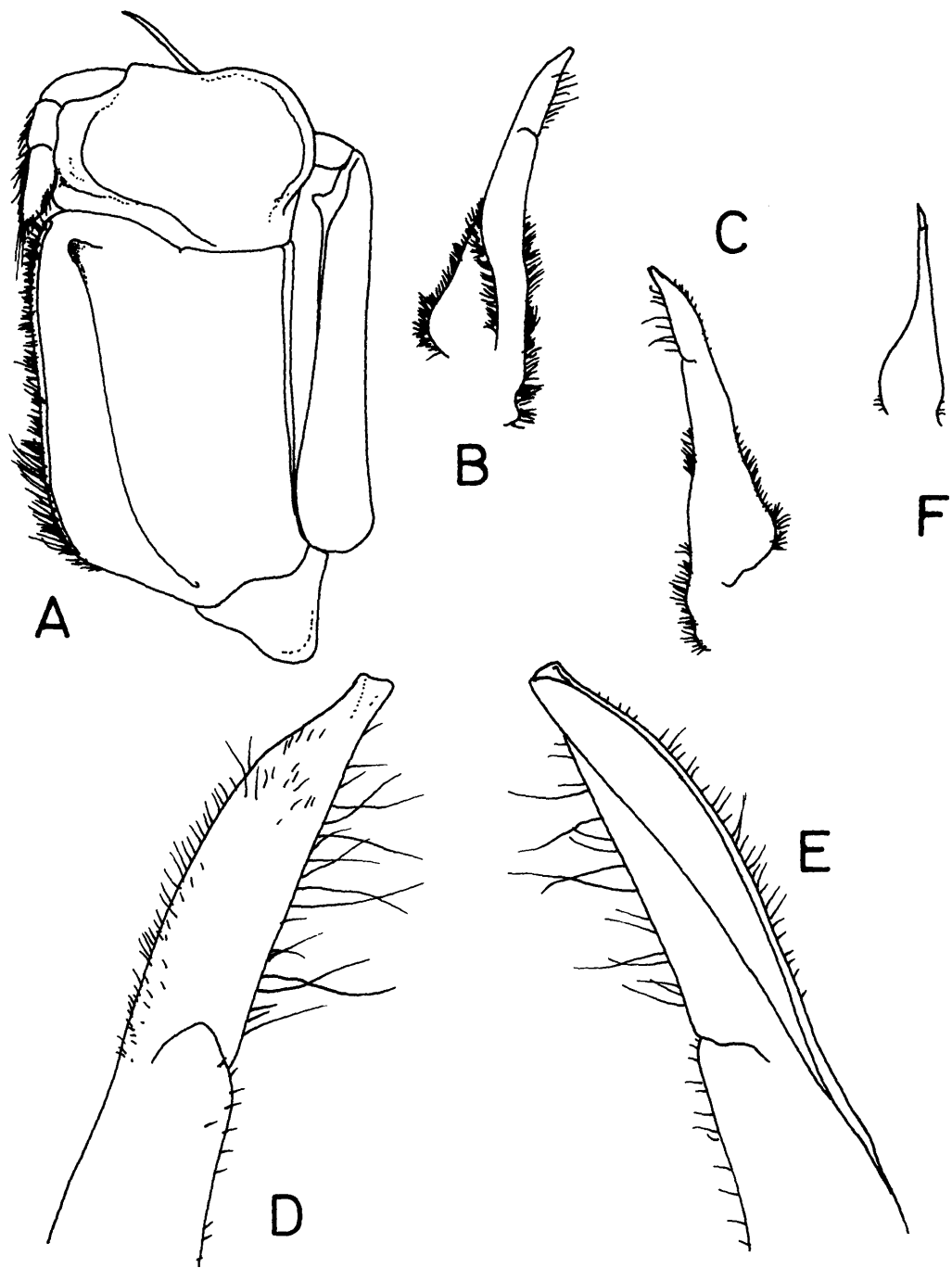


Fig. 1. *Niasathelphusa wirzi* (Roux, 1930), Lectotype male, 28.0 by 22.2 mm (NMB 761a), Nias, off Sumatra. A, Left third maxilliped; B-E, Left G1; F, Left G2. B, D, Ventral views; C, E, Dorsal views; D, E, G1 terminal segment.

numerous long hairs; outer margin of sub-terminal segment gently concave. G2 short, distal segment very short, 0.14 times length of basal segment, proximal part of basal segment dilated, appearing swollen, distal part slender, "neck-like".

### Material examined

*Lectotype*. 1♂: 28.0 by 22.2 mm (NMB 761a); Nias Islands, leg. and don. by P. Wirz, 1926.

*Paralectotypes*. 4♂, 16♀: largest 27.5 by 22.0 mm (NMB 761a); 1♂, 1♀ (ZRC, donated by NMB); 1♂, 1♀: both badly damaged (ZRC 1965.12.6.66–67); same data as lectotype.

*Remarks*. This species has never been collected since Roux's (1930) description. Bott (1970) recorded five paratypes in the NMB, but this is incorrect. The NMB actually has 23 males and females out of the total of 28 specimens (10 males and 18 females) listed by Roux. Since Roux did not designate any of the specimens as types, providing measurements of only two specimens, all 28 specimens are thus syntypes. A poorly preserved pair in the ZRC donated by the NMB (probably from these 28 specimens) to the then Raffles Museum (reconstituted as the present ZRC) are thus also syntypes. The largest male specimen from the NMB is here designated the lectotype. All other NMB and ZRC specimens are thus paralectotypes.

Only the larger males seem to develop the inflated chelae, a usual phenomenon among many gecarcinucoids. In younger males and females of all sizes, the inflated chelae are absent or less distinct. Ng & Yang (1985) and Ng (1988) discussed this for the genus *Irmengardia*.

Miers (1880) reported *Parathelphusa convexa* from Nias, but his specimens will have to be re-examined, as this species is not yet known from Sumatra. The inflated physiognomy of *P. convexa* resembles that of *N. wirzi* in many ways, and on first glance, both taxa might be mistaken for

each other, especially since *N. wirzi* was only described in 1930, and prior to De Man's (1879) partial revision, *P. convexa* was a poorly understood species. De Man's use of "convexa" is the first correct use of the name and the species' authorship belongs to De Man (1879), the other earlier records being nomen nuda. It is not known if Miers (1880) was aware of De Man's revision, and in whose sense Miers used the name "*Parathelphusa convexa*". The only reliable gecarcinucoid (or potamoid) known from Nias remains *N. wirzi*.

**Acknowledgements.** The author is grateful to Ms. Christine Stocker (NMB) for sending the specimens to the author for study. Thanks are also due to Mr. H. K. Yip of the Department of Zoology, National University of Singapore for taking the photographs of the lectotype.

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Received 30 October 1989