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GEITHUSA PULCHER, NEW GENUS AND SPECIES (CRUSTACEA: DECAPODA: BRACHYURA: PARATHELPHUSIDAE) FROM PULAU REDANG, TRENGGANU, PENINSULAR MALAYSIA

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ABSTRACT. - A new genus and species of freshwater crab, *Geithusa pulcher* is described from Pulau Redang, Trengganu, northeastern Peninsular Malaysia. This new genus is allied to *Siamthelphusa* and *Parathelphusa*, possessing some of the generic characters of both genera. It differs from related genera in having the terminal and subterminal segments of the male first pleopod separated.

INTRODUCTION

In April 1989, Dr. Tho Yow Pong of the Forestry Research Institute of Malaysia (FRIM) presented some crabs to the author which he and his colleagues had collected from Pulau Redang, an island some 25 km east of the state of Trengganu in northeastern Peninsular Malaysia (Fig. 1). One of the potamoid species (genus *Johora* Bott, 1966), was later described as new (Ng, in press). Among the specimens collected was also an adult female specimen of an apparently undescribed gecarcinucoid species which appeared to be allied to *Siamthelphusa* and *Somanniathelphusa*. The absence of a male precluded its identification.

In August 1989, Mr. L. G. Saw collected more specimens of this gecarcinucoid at Dr. Tho's and the author's request, including two adult males. Studies showed the crab to be new. Its distinctive characters also warrant the establishment of a new monotypic genus for it. The description of *Geithusa pulcher*, new genus and species forms the content of the present paper.

The abbreviations G1 and G2 are used for male first and second pleopods respectively. All measurements are the carapace width and length respectively. Terminology essentially follows that used by Ng (1988). The type specimens are deposited in the Zoological Reference Collection (ZRC), Department of Zoology, National University of Singapore.

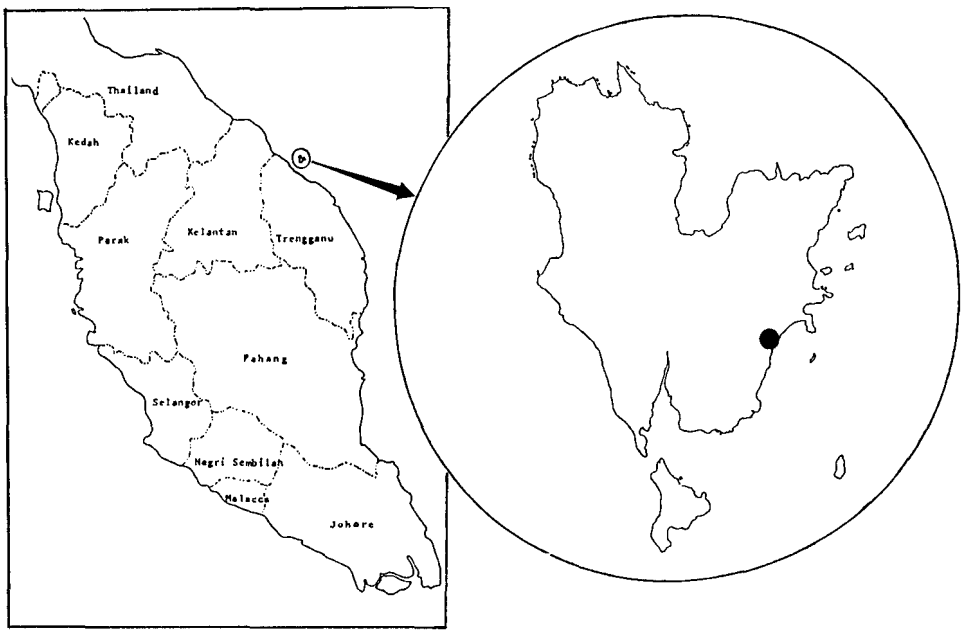


Fig. 1. Pulau Redang, Trengganu. Shaded circle indicates site of collection.

TAXONOMY

SUPERFAMILY GECARCINUCOIDEA RATHBUN, 1904

FAMILY PARATHELPHUSIDAE ALCOCK, 1910

GENUS *GEITHUSA* , NEW GENUS

Type species. - *Geithusa pulcher*, new species

Diagnosis. - Anterolateral margin with three epibranchial teeth on each side (excluding external orbital angle), epigastric and postorbital cristae separated, sharp. Male abdomen T-shaped, without any "waist-like" constriction between segments three to six. G1 relatively stout, slightly sinuous; terminal and subterminal segments separated, terminal segment cone-shaped, tip rounded, opened, about 0.23 times length of subterminal segment. G2 distal segment well developed, about 0.6 times length of basal segment.

Etymology. - The prefix is derived from the Greek "Geiton" for "neighbour", and the name "Thelphusa", alluding to the affinity of *Geithusa* to genera like *Siamthelphusa, Somanniathelphusa, Heterothelphusa* etc. The gender is feminine.

Remarks. - *Geithusa*, new genus, is closely allied to *Siamthelphusa* Bott, 1968, a genus represented by four species from Indo-China, Thailand and northern Peninsular Malaysia (Ng, 1988; Naiyanetr & Ng, 1990). *Geithusa* however, can easily be separated

by the lateral margins of its fourth to fifth male abdominal segments being almost parallel, without any trace of a constriction and the G1 having the terminal and subterminal segments distinctly separated. In *Siamthelphusa* the demarcation between the G1 terminal and subterminal segments cannot be discerned (Bott, 1970; Ng, 1988). *Geithusa* can also be separated from the two Malaysian parathelphusid genera *Somanniathelphusa* Bott, 1968 and *Heterothelphusa* Ng & Lim, 1986 by the above mentioned characters (see Ng, 1988; Ng & Lim, 1986).

Externally, *Geithusa* bears a striking resemblance to the genus *Parathelphusa* H. Milne Edwards, 1853, except that this genus has only two epibranchial teeth on each side of the anterolateral margin. Like *Geithusa* the male abdomen of *Parathelphusa* is not known to be medially constricted.

The differentiation of the G1 terminal and subterminal segments also allies *Geithusa* with *Salangathelphusa* Bott, 1968. In this genus however, the G1 is much shorter and stouter, and the carapace features are quite different.

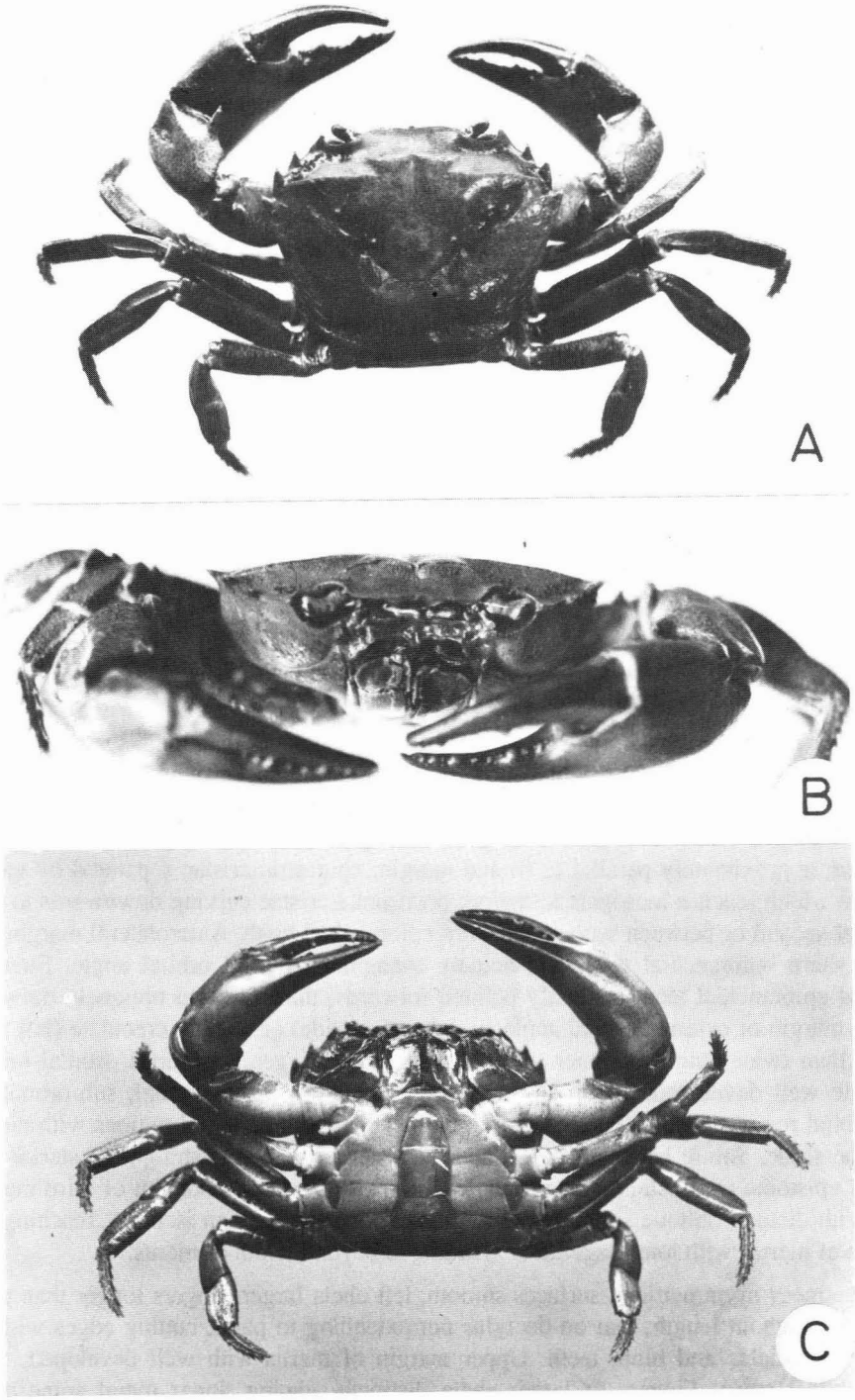
Geithusa pulcher, new species
(Pl. 1, Fig. 2)

Material. - Holotype - ♂ (ZRC 1989.2252), 43.0 by 33.0 mm, Teluk Kalong Besar, Pulau Redang, Trengganu, Peninsular Malaysia, ca. 05° 46′ 07"N, 103° 01′ 38"E, leg. L. G. Saw, 1.viii.1989.

Paratypes - 1♀ (ZRC 1989 2253), leg. Y. P. Tho, 7.iii.1989; 1♂, 1♀ (ZRC 1989.2254-2255), leg. L. G. Saw, 1.viii.1989. Same locality data as holotype.

Description of male holotype. - Carapace distinctly broader than long, surfaces smooth, glabrous, with six to eight bright yellow spots on purple background when alive, transversely very gently convex. Cervical grooves distinct but shallow, reaching well developed H-shaped central depression. Epigastric and postorbital cristae separate, sharp, well defined, approximately parallel to frontal margin; epigastric cristae separated by narrow groove which reaches mesogastric region; postfrontal cristae curving downwards to meet base of second or between second and third epibranchial teeth. Anterolateral margin with three sharp epibranchial teeth and acutely triangular external orbital angle. First and second epibranchial teeth distinctly pointed forwards, third directed obliquely outwards. Outer margin of external orbital angle straight (right side) or slightly crenulate (left side), more than twice length of inner. Frontal margin entire, gently sinuous, frontal median triangle well developed, all margins distinctly cristate. Pterygostomial, sub-orbital and suborbital regions rugose. Posterolateral margins converging, lateral regions with distinct oblique striae. Suture between second and third sternal segments straight. Posterior margin of epistome crenulate, median triangle distinct, tip rounded. Ischium of third maxilliped with distinct oblique submarginal sulcus; exopod longer than ischium, reaching half length of merus, with long flagellum extending to beyond width of merus.

Chelipeds asymmetrical, surfaces smooth, left chela larger, fingers longer than palm, black throughout length, that on dactylus not extending to palm, cutting edges with numerous denticles and blunt teeth. Upper margin of merus with well developed, sharp subterminal spine. Fingers of larger chela distinctly gaping. Inner meral spine sharp, carpal spine with basal tubercle tipped with two small granules. Upper half of chela with reticulate pattern.



Pl. 1. *Geithusa pulcher*, new genus and species. Holotype male (ZRC 1989.2252), 43.0 by 33.0 mm. A, dorsal view; B, frontal view; C, ventral view.

Ambulatory legs not elongated, surfaces smooth, with reticulated patterns; subterminal meral spines sharp, well developed. Second pair longest.

Gonopores coxal. Abdomen distinctly T-shaped; first segment very narrow, closely appressed to posterior margin of carapace, reaching coxa of last pair of legs, second segment broadly rectangular, third distinctly trapezoidal; fourth to sixth quadrate, seventh triangular, tip rounded, shorter than sixth segment. G1 relatively stout, slightly sinuous, outer margin gently concave; terminal and subterminal segments separated, terminal segment cone-shaped, tip rounded, opened, about 0.23 times length of subterminal segment. G2 distal segment (= flagellum) well developed, forming cup-like structure at junction with basal segment, about 0.6 times length of basal segment.

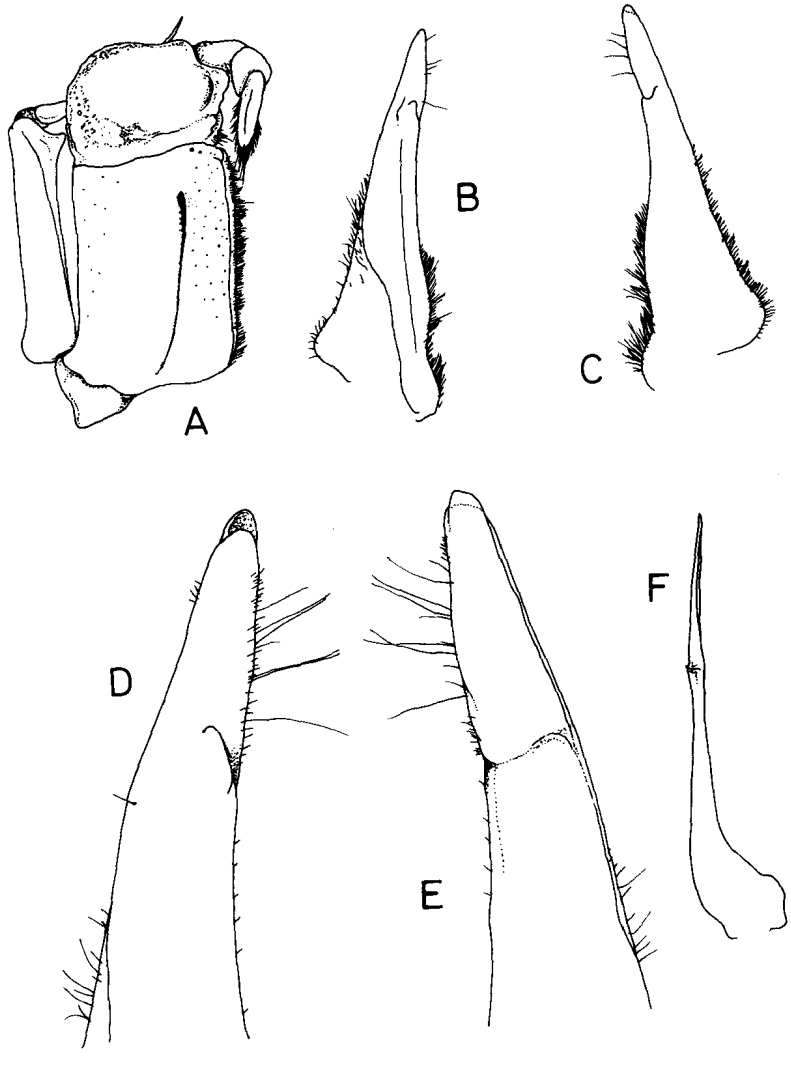


Fig. 2. *Geithusa pulcher*, new genus and species. Holotype male (ZRC 1989.2252), 43.0 by 33.0 mm. A, right third maxilliped; B-E, left G1; F, left G2. B, D, ventral view; C, E, dorsal view.

Etymology. - The name is derived from the Latin "pulcher" for handsome, alluding to the appearance of the species.

Remarks. - *Geithusa pulcher* new genus and species, is aberrant in its combination of characters. As regards its general carapace shape and structure of the male abdomen, it is closest to *Parathelphusa;* but the form of the epibranchial and postorbital cristae, presence of four epibranchial teeth, and colour patterns is perhaps closer to genera like *Siamthelphusa* and *Somanniathelphusa* Bott, 1968. Interestingly, the six yellow spots on the carapace (live colouration) is almost identical to that of *Somanniathelphusa sexpunctata* (Lanchester, 1906) (see Ng, 1988; Ng & Ng, 1989).

The general form of the G1 (and the clearly separated terminal and subterminal segments) resembles members of the Bornean genus *Perithelphusa* De Man, 1899 (see Ng, 1986). All known species of *Perithelphusa* however, have only one epibranchial tooth on the anterolateral margin.

Ecological notes. - The collectors noted *(in litt.* 18 April 1989 and personal communication) to the author that *Geithusa pulcher* is quite common in the stream at Teluk Kalong Besar, frequenting rocks and mainly observed submerged under clean, relatively fast-flowing water. They appeared to be more active at night. The sites from which they were collected were only about 100 metres away from the sea although the water was completely freshwater. The background forest was composed mainly of *Tristania* and *Calophyllum* trees. The type specimens were covered with numerous unidentified flatworms (Temnocephala), especially on the cheliped surfaces, legs, joints and sides of the carapace.

Acknowledgments. - The author is very grateful to Dr. Tho Yow Pong and Mr. L. G. Saw (FRIM) for taking the trouble to collect specimens of the new species and sharing their field observations with him. Mr Kelvin Lim photographed the type male.

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