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# On a New Species of Terrestrial Crab of the Genus *Geosesarma* (Crustacea: Brachyura: Sesarmidae) from Sabah, Malaysia

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**Abstract.** A new species of terrestrial crab of the genus *Geosesarma* (Sesarmidae) is described from Danum Valley in Sabah, Malaysia. The new species is allied to *G. sabanus* from Tawau (Sabah) but differs markedly in the form of the lateral carapace margin, male abdomen and gonopods, and is only the third species of the genus known from Sabah thus far.

**Keywords.** *Geosesarma*, terrestrial crab, new species, taxonomy, Sabah.

## INTRODUCTION

*Geosesarma* De Man 1892 is a large genus of terrestrial and freshwater crabs from Southeast Asia and neighbouring areas. The diversity from Borneo island is not high, and only six species are known thus far, viz. *G. amphinome* (De Man 1899), *G. aurantium* Ng 1995, *G. gracillimum* (De Man 1902), *G. katibas* Ng 1995, *G. sabanus* Ng 1992, and *G. sarawakense* (Serène 1968) (see Ng 1988, 1992, 1995a and b). Two species are known from Sabah, *G. aurantium* and *G. sabanus*, and a third species from Sabah is newly described here. Although similar to *G. sabanus*, the new species differs from it in several important carapace, abdominal and gonopodal characters.

The terminology used here follows that used by Ng (1988). The abbreviations G1 and G2 are used for the male first and second pleopods respectively. All measurements, in millimetres, are of the carapace width and length respectively. Specimens examined are deposited in the Zoological Reference Collection (ZRC), Raffles Museum of Biodiversity Research, National University of Singapore.

## TAXONOMIC ACCOUNT

### *Geosesarma danumense* sp. nov. (Figs 1-3)

MATERIAL EXAMINED: Holotype, male (14.8 by 14.6 mm) (ZRC), in pitfall trap, primary forest, Danum Valley Field Centre, Sabah, Malaysia, coll. C. Colón, 22 November 1996.

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DESCRIPTION: Carapace squarish, slightly broader than long, dorsal surfaces finely granular, regions relatively well demarcated, H-shaped gastro-cardiac groove distinct; posterolateral regions with distinct oblique striae. Frontal margin strongly deflexed, lobes truncate, separated by broad concavity; postfrontal cristae distinct, sharp, straight, each crista bilobed, each lobe separated by distinct notch; surface of frontal region concave. Antero- and posterolateral margins not separated; external orbital tooth broad, triangular, expanded laterally beyond level of lateral margin, separated from first anterolateral tooth by deep V-shaped notch, second anterolateral tooth low, truncate, demarcated from margin by shallow notch; lateral margins almost straight, subparallel. Merus of third maxilliped ovate, medially depressed; ischium with shallow median sulcus; exopod slender, without trace of a flagellum.

Inner margins of merus granulose, appears serrated. Carpus slightly elongate, without inner distal spine, outer surfaces granular. One chela small, regenerated; larger chela with outer surfaces granular and punctate; lower margin concave; dorsal margin with more prominent tubercles. Fingers slightly longer than palm, dorsal margin with several small, sharp, forwardly directed tubercles, distal part of finger pectinated; fingers not gaping when closed.

Ambulatory legs slender, elongate; second ambulatory leg longest; merus with short but sharp subdistal spine, dorsal margin gently serrated, especially on distal half, ventral margin smooth.

Anterior thoracic sternum with sternites 3 and 4 separated by prominent ridge lined with long setae, not separated by suture or groove; abdominal cavity reaching to about two-thirds length of sternite 4. Male abdomen relatively broad, telson slightly longer than segment 6, sits in gentle depression formed by distal margin of segment 6, lateral margins gently convex, tip rounded; segment 6 transversely broad, lateral margins prominently convex. G1 stout, chitinous distal part relatively broad, spatuliform; subdistal part with prominent projection, forming beak-like structure with chitinous distal process. G2 short, without distal segment.

ETYMOLOGY: The species is named after its type locality, Danum Valley.

REMARKS: With regards to its carapace shape, slender ambulatory legs and form of the G1, *G. danumense* sp. nov. appears to be closest to *G. sabanus*, described from Tawau Hills to the east of Danum Valley. *Geosesarma danumensè* sp. nov., however, differs in having a proportionately larger external orbital tooth which extends more prominently laterally (Figs. 1a, b, 3a vs. Fig. 4a, b), a more truncate frontal margin (Fig. 1a, b vs. Fig. 4a, b), relatively more slender and longer ambulatory meri, propodi and dactyli (Figs. 1a, 3b vs. Fig. 4a), relatively broader male abdomen (Fig. 2c vs. Fig. 5a), and the chitinous distal part of the G1 is proportionately shorter (Fig. 3c-g) (cf. Ng 1992).

The holotype of *G. sabanus* is refigured here for more detailed comparisons (Figs. 4, 5). This specimen has been donated to the ZRC through the courtesy of its original collector, Robert Inger of the Chicago Field Museum.

## ACKNOWLEDGEMENTS

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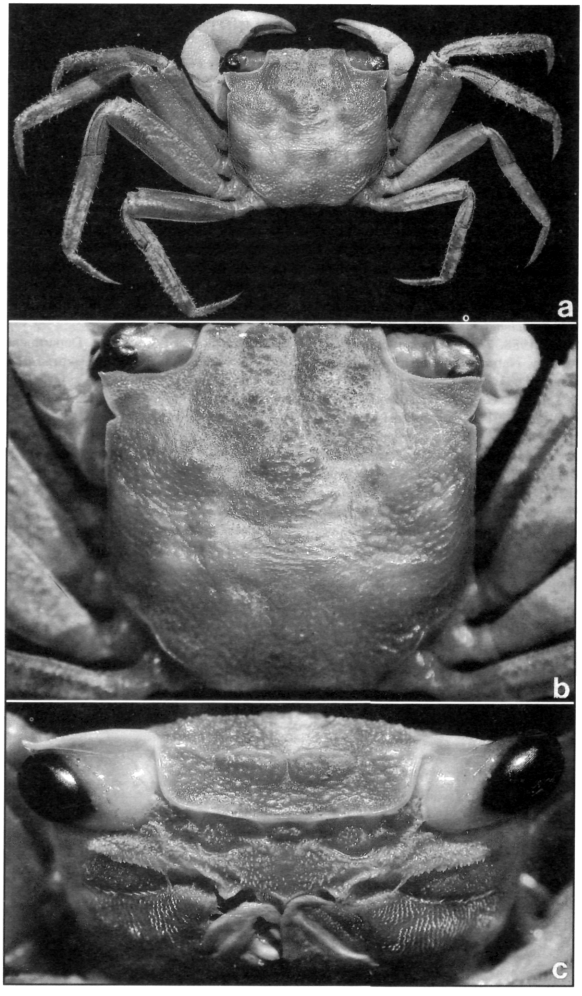


**Fig 1.** *Geosesarma danumense* sp. nov. Holotype, male (14.8 by 14.6 mm) (ZRC). a, overall view; b, carapace; c, frontal view.

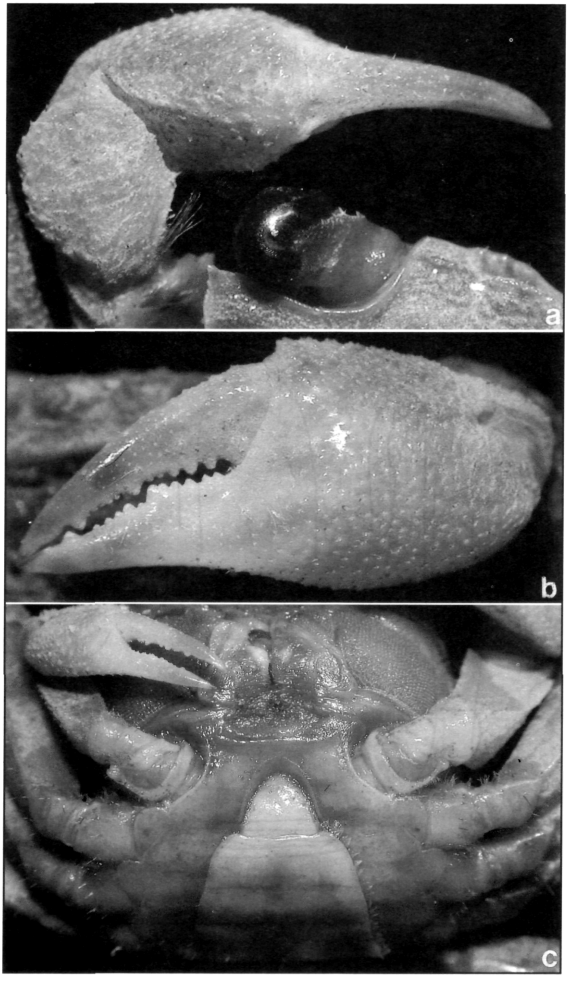


**Fig 2.** *Geosesarma danumense* sp. nov. Holotype, male (14.8 by 14.6 mm) (ZRC). A, dorsal view of left cheliped; b, left chela; c, ventral view.

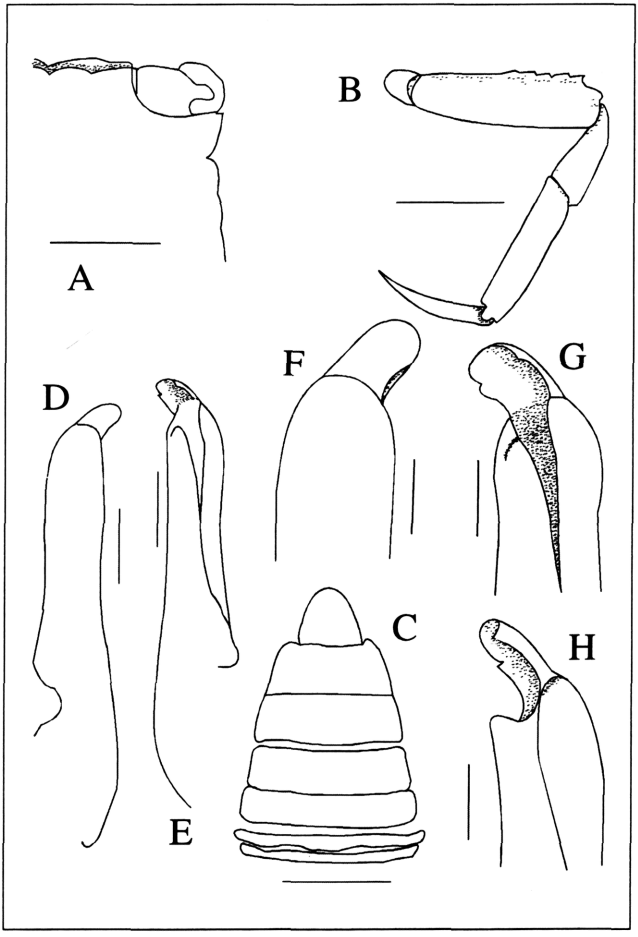


**Fig 3.** *Geosesarma danumense* sp. nov. Holotype, male (14.8 by 14.6 mm) (ZRC). a, right side of carapace (schematic); b, right fourth ambulatory leg (setae not drawn); c, d. left G1 (denuded); e, f, g, distal part of left G1, various views (denuded); h, abdomen. Scales: A-C = 5.0 mm, D, E = 1.0 mm, F-H = 0.5 mm.

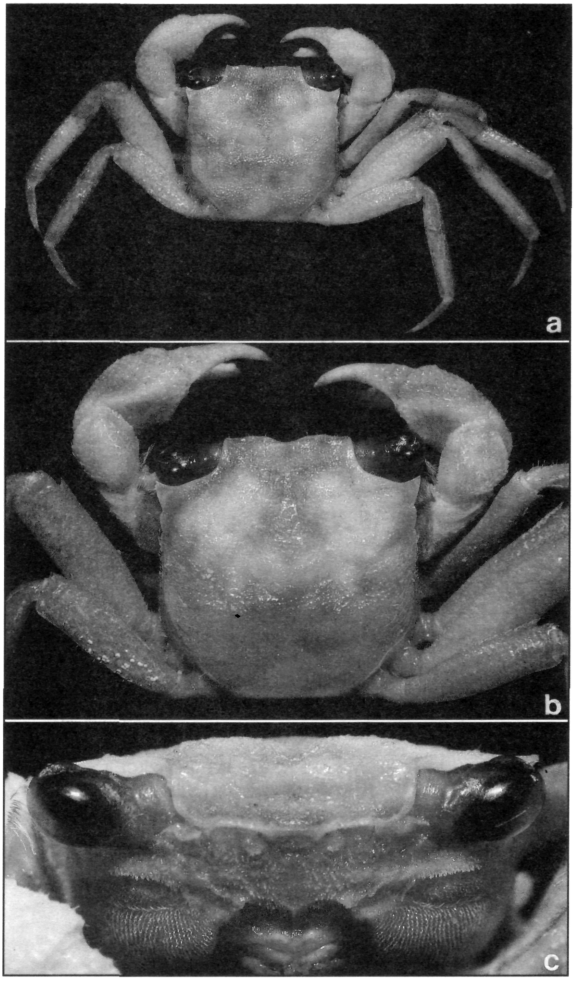


**Fig 4.** *Geosesarma sabanus*. Holotype male (13.6 by 13.1 mm) (ZRC). a, overall view; b, carapace; c, frontal view.

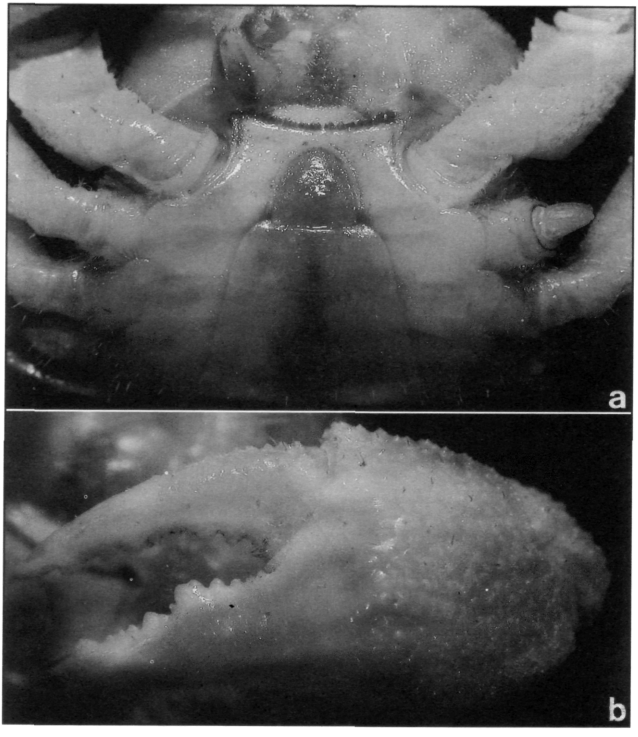


**Fig 5.** *Geosesarma sabanus*. Holotype male (13.6 by 13.1 mm) (ZRC). a, ventral view; b, left chela.