



FIG. 8. *Cryptopodia fistulosa* Chiong & Ng, 1994 (paratype, QMW18980): A, dorsal view. B, ventral view. Scale line in mm.

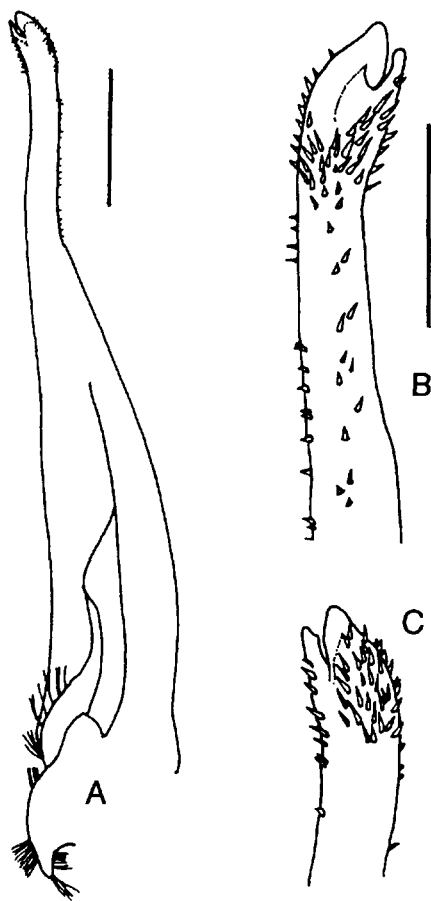


FIG. 9. *Cryptopodia spatulifrons* Miers, 1879, holotype (NHM 1858.172), male first gonopod (left), showing entire view, and magnified ventral and dorsal views. (Taken from Chiong & Ng (1994)).

whereas Flipse (1930) said it was straight or very weakly concave. However, some records have also described or figured specimens of *C. fornicata* as having a convex posterior rim that forms a continuous smooth edge with the anterolateral margin (eg. Sakai, 1976: 292, text-fig 163, Dai & Yang, 1991).

Flipse (1930) described *C. fornicata* as being 1.5 times as wide as long, and *C. queenslandi* as being twice as wide as long. Dai & Yang (1991) described *C. fornicata* as being 1.6-1.8 times as wide as long, while the specimen examined by

Rathbun (1918), a male, had a ratio of 1.8. We have plotted length against breadth for the specimens in this study (Fig. 7A, B); and there is distinct allometric growth with the length/breadth ratio ranging from 1.35 in the smallest specimens, to c. 1.8 in the largest. This is discussed further later. Therefore we disagree with Flipse (1930) that the simple breadth/length ratio is useful in separating the two species.

*C. queenslandi* normally has no obvious dorsal patterning, but an unusual specimen from the Gulf of Carpentaria ( $\delta$ , 22.8 mm c.b., QMW18981), bears numerous spots over the entire dorsal surface (Fig. 6). Morphologically it cannot be separated. Dr P.K.L. Ng has informed us that juvenile *C. fornicata* have a striking colour pattern that is absent in adults, however while there were many smaller specimens in the present series, only the individual above showed the distinctive pattern described.

*C. queenslandi* appears to be restricted to waters around northern Australia and possibly Indonesia, whereas *C. fornicata*, as reported by Sakai (1976), is found in Sagami Bay, Japan; China Sea; the Phillipines; the Gulf of Thailand; Singapore; and westward to the Gulf of Mattaban; Andaman Sea; Sri Lanka; Palk Straits; and the Persian Gulf. We believe Haswell (1880) incorrectly identified *C. fornicata* from Port Denison, north Queensland, and that his specimens were most likely *C. queenslandi*.

*Allometric growth:* Allometric growth has been reported in the Parthenopidae previously by Gore & Scotto (1983). As we had an abundance of specimens of *C. queenslandi* we did a simple plot of length/breadth ratios. Fig. 7A, B shows the linear relationship between carapace length and breadth for male and female *C. queenslandi*, respectively. Both diagrams display statistically significant allometric growth for both sexes ( $r^2=0.821$  (males) and  $r^2=0.63$  (females),  $p<0.05$ ). The correlation coefficients for both sexes are not significantly different ( $p>0.05$ ). However, males broaden to a significantly greater extent than females with increasing size ( $p<0.05$ ).

#### DISTRIBUTION

Cape Gloucester, Bowen, Queensland (type locality); Java Sea; North West Shelf; Arnhem Bay (Northern Territory); Torres Strait, Shelburne Bay and Palm Island (north Queensland); Moreton Bay (southeast Queensland); Woody Head (northern New South Wales). Bathymetric range: 21-55m.

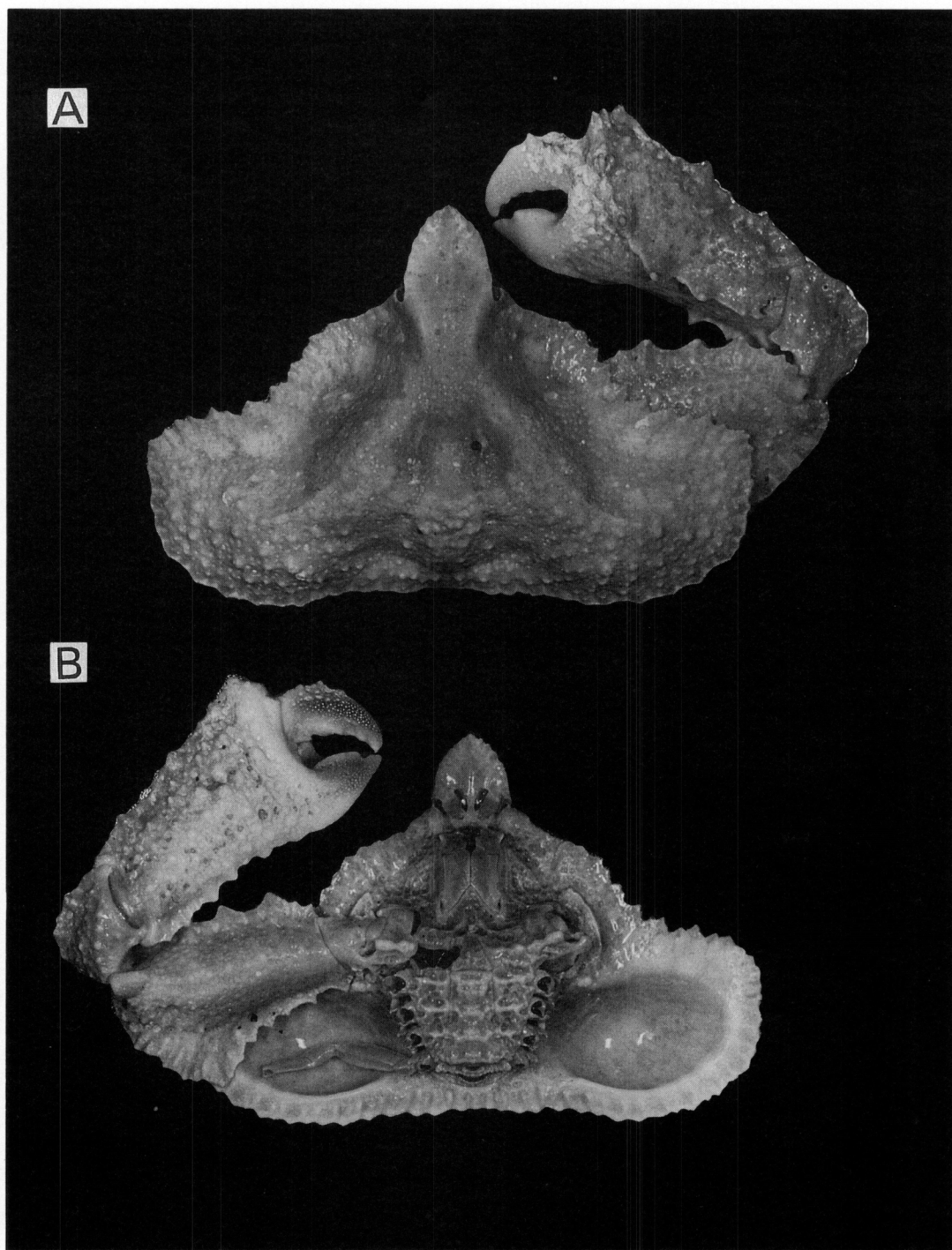


FIG. 10. *Cryptopodia spatulifrons* Miers, 1879 (Holotype ♂, NHM1858.172, 48.8 mm c.b.): A, dorsal view. B, ventral view.

*Cryptopodia fistulosa* Chiong & Ng, 1994  
(Figs 1G, H; 8A, B)

*Cryptopodia spatulifrons*: Miers, 1884: 203-204 (specimen from Thursday Island) [not *C. spatulifrons* Miers, 1879].

*Cryptopodia fistulosa* Chiong & Ng, 1994: 952-957, figs 1A, 2A, 3A, 4A, 5A, C, D, G, H.

MATERIAL EXAMINED

CSIRO, R.V. *SOELA*, NORTH WEST SHELF: QMW18995, ♀ (23.8 x 16.1mm), 19°55.2'S, 117°56.0'E, Stn 05B03BT, 40m, 26.10.1983. QMW18980, ♂ (33.3 x 21.3mm), 19°28.4'S, 118°55.2'E, Stn 04B09BT, 39m, 31.08.1983. QMW18994, ♂ (16.1 x 11.3mm), 20°00.2'S, 117°00.5'E, Stn 04B17S, 52m, 04.09.1983.

REMARKS

This recently described species is very similar in general appearance to *C. spatulifrons* Miers, 1879. The two species can be separated using the key provided in the present paper, but Chiong & Ng (1994) should be consulted for a full list of characters by which they differ.

DISTRIBUTION

Northern Australia, from Shark Bay, W.A. to Torres Strait, northern Queensland. Bathymetric range: 5-52m.

*Cryptopodia spatulifrons* Miers, 1879  
(Figs 9A-C, 10A, B)

*Cryptopodia spatulifrons* Miers, 1879: 26, pl.5, fig. 10; Haswell, 1879: 454; 1882: 37; Ortmann 1894: 48; Flipse, 1930: 63, 78, 82; Chiong & Ng, 1994: 950-952, figs 1B, 2B, 3B, 4B, 5B, E, F, I, J.

REMARKS

This endemic Australian species is only known with certainty from two specimens, and no new material has been examined as part of this study. The species was redescribed by Chiong & Ng (1994).

DISTRIBUTION

Shark's Bay, Western Australia (type locality); North West Shelf; Prince of Wales Channel, Torres Strait (Miers, 1884); Questionably from Port Jackson (Haswell, 1880). Bathymetric range: 13m (Miers, 1884).

ACKNOWLEDGEMENTS

Dr Peter Ng of the Zoology Department, National University of Singapore, is gratefully thanked for sending us photographs of the holotype of *C. spatulifrons*, and for helpful discussions on the manuscript. We are also indebted to Paul Clark of the Natural History Museum, London, for researching the dates of publication of White's papers describing *C. dorsalis*.

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