

The Brachyuran Crabs (Crustacea: Decapoda: Eumedonidae and Portunidae) Symbiotic with Echinoderms in Taiwan

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Peter K. L. Ng and Ming-Shiou Jeng (1999) The brachyuran crabs (Crustacea: Decapoda: Eumedonidae and Portunidae) symbiotic with echinoderms in Taiwan. *Zoological Studies* 38(3): 268-274. Five species of brachyuran crabs in 2 families (Eumedonidae and Portunidae) are reported as symbiotic with echinoderms in Taiwan. *Echinoecus pentagonus* is associated with sea urchins (Echinoidea), while *Harrovia albolineata*, *Permanotus purpureus*, and *Tiaramedon spinosum* are reported from featherstars (Crinoidea). All four are eumedonids. One portunid, *Lissocarcinus orbicularis*, is reported from sea cucumbers (Holothuroidea). Of these, 4 species, *Echinoecus pentagonus*, *Harrovia albolineata*, *Permanotus purpureus*, and *Lissocarcinus orbicularis* are new records for the island. Specimens previously recorded as *Harrovia elegans* are here shown to be *H. albolineata* instead.

Key words: Brachyura, Taiwan, Eumedonidae, Portunidae, Echinoderm symbionts.

Three families of brachyuran crabs are closely associated symbiotically with various species of echinoderms, viz. the Eumedonidae, Portunidae, and Pinnotheridae. In Taiwan, only 2 species of crabs, both eumedonids, have been reported thus far, both of which are known crinoid symbionts. Lin (1949) and Wang and Chen (1981) reported *Harrovia elegans* De Man, 1887, while Hwang and Yu (1980) recorded *Tiaramedon spinosum* (Miers, 1879) (as a *Ceratocarcinus* species).

The present report records 4 species of eumedonids as well as 1 portunid species from Taiwan. The eumedonids are: *Echinoecus pentagonus* (A. Milne Edwards, 1879), *Harrovia albolineata* Adams and White, 1849; *Permanotus purpureus* (Gordon, 1934); and *Tiaramedon spinosum* (Miers, 1879); while the portunid is *Lissocarcinus orbicularis* Dana, 1852. Measurements provided are of the carapace length and width respectively. Specimens examined are deposited in the Institute of Zoology, Academia Sinica, Taipei, Taiwan (ASIZ); Taiwan Museum, Taipei, Taiwan (TMCD); National Taiwan Ocean University, Keelung,

Taiwan (NTOU); and the Zoological Reference Collection of the Raffles Museum, National University of Singapore (ZRC).

Family Eumedonidae

Echinoecus pentagonus
(A. Milne Edwards, 1879)
(Figs. 1, 2)

Diagnosis: Carapace ovate, dorsal surface gently convex longitudinally and transversely, regions poorly defined; rostrum variable in length; surfaces of carapace, chelipeds, and sometimes ambulatory legs, glabrous, smooth to pitted. Antero- and posterolateral margins not well demarcated, anterolateral margin arcuate without any dentition. Antennules distinctly folding obliquely. Chelipeds relatively short, stout; carpus with 1 inner distal spine, merus with 1 inner and 1 outer distal tooth; chela relatively stout; fingers not crested. First ambulatory leg not distinctly longer than 2nd leg; merus subcristate, unarmed, distal margin rounded, never with distinct

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