

NOTES AND NEWS

OCCURRENCE OF THE SHRIMP *DISCIAS EXUL* KEMP, 1920 (DECAPODA, NATANTIA, DISCIADIDAE) ON THE GREAT BARRIER REEF, AUSTRALIA

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The family Disciadidae Kemp, 1920, contains at present only the single genus *Discias* Rathbun, 1902. Four species of the genus have been so far described. All species are found in tropical waters, two in the Indo-Pacific, *D. serrifer* Rathbun, 1902 and *D. exul* Kemp, 1920; and two in the Atlantic, *D. atlanticus* Gurney, 1939 and *D. serratiostris* Lebour, 1949. *Discias exul* is the only species so far described from the Indo-West-Pacific region, as *D. serrifer* was collected in the Galapagos Islands, in the East Pacific region.

On 2 December 1968, during a visit to Heron Island, in the Capricorn Group at the southern end of the Great Barrier Reef, Australia, collections of commensal shrimps were made on the reef flats during periods of low water. In the course of these collections some small shrimps were obtained from tubular cavities in a large sponge. Upon subsequent examination these were found to correspond to *Discias exul* Kemp, first described from Port Blair in the Andaman Islands, and which has not been subsequently recorded. The new record therefore is a considerable extension in the known distribution of the species.

The specimens obtained consisted of two males and three ovigerous females. The largest female is about 11 mm long, post-orbital carapace length 2.2 mm. The two smaller ovigerous females have post-orbital carapace lengths of 2.1 and 1.9 mm. The males are smaller and much more slender than the females and bear a marked superficial resemblance to a *Leptocheila*. They are about 9 mm long with a post-orbital carapace length of 1.5 mm. The specimens agree exactly with the detailed description and illustrations given by Kemp and further description is unnecessary. Further illustrations are provided of the remarkable first pereopod with the dactylus extended, of the endopod of the male first pleopod and of the appendix interna and appendix masculina, not previously illustrated. It may be noted that the fixed finger of the chela has dorsal and ventral cutting edges. As shown by Kemp the dorsal edge is entire. The ventral edge has small acute teeth distally and small tubercles proximally. The endopod of the male

first pleopod is very short with three plumose setae situated distally, with three similar setae on the lateral border. On the second pleopod the appendix interna is well developed, but with only three distomedial cincinnuli, and arises close to the base of the endopod. The appendix masculina is long and slender, extending far beyond the appendix interna, and bearing four short, unequal, serrate, terminal setae. The female carried ova between the first two and in front of the third

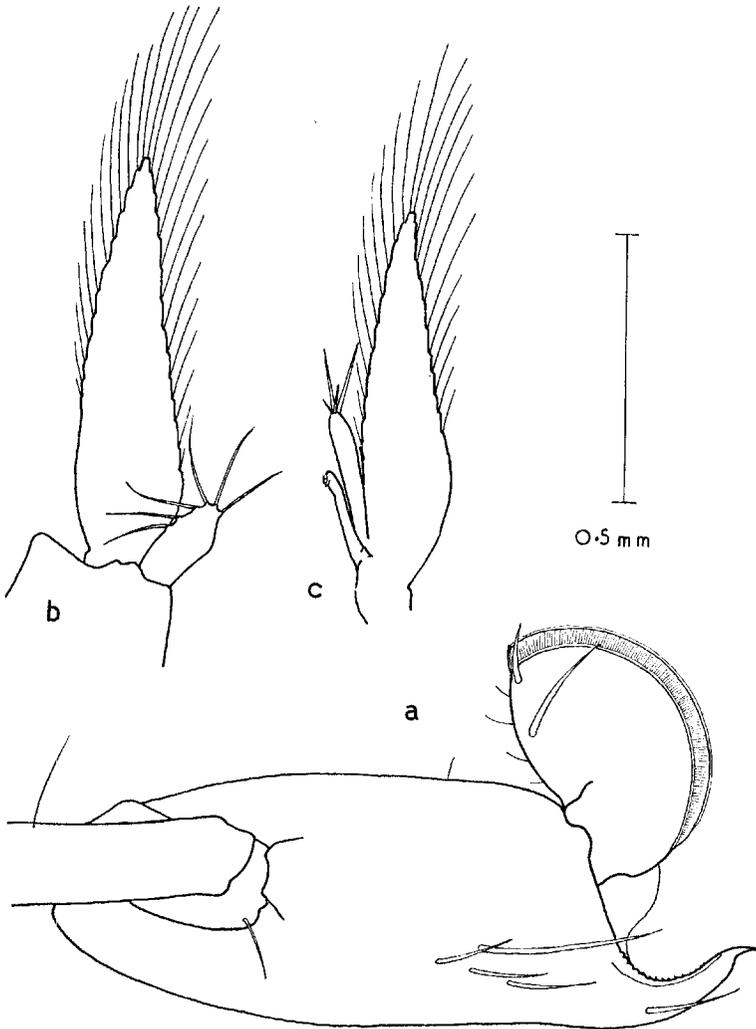


Fig. 1. *Discias exul* Kemp. a, chela of first pereopod, female, ventral aspect; b, rami of male first pleopod; c, end of male second pleopod.

pair of pleopods only and the ova appear to be cemented to each other to form a mass that is not adherent to the pleopods. In the larger female this consisted of sixty ova with a major diameter of about 0.65 mm.

The specimens of *Discias exul* were found in small cavities in a sponge, *Jaspis* sp. Kemp noted that his specimens were found on a yellow sponge but the definite association of this species with a sponge has not been previously recorded. The host sponge has a dark brown exterior but the interior is bright yellow and the shrimps were located separately in the outer part of the yellow zone, a little below the surface.

In colouration the shrimps showed a considerable resemblance to the host. Generally the body is mainly transparent but with a marked yellow tint, becoming orange over the appendages, although the antennal flagella and the carpus, propod and dactyl of the ambulatory pereopods are transparent. A few small red spots are present over the gastric region. The cornea is orange.

The function of the unusual chela is unknown. It seems possible, in view of the well developed musculature actuating the dactylus, that a powerful cutting effect can be exerted by the razor-like cutting edge of the dactylus. A similar subcircular, laminar dactylus is found on the chela of the minor second pereopod in some species of the genus *Periclimenaeus* Borradaile (*P. leptodactylus* Fujino & Miyake, 1968 and *P. stylirostris* Bruce (1969)), which also live in cavities in sponges. The form of the chela appears to be associated with the habitat and may be used for burrowing through the tissues of the sponge.

Specimens have been deposited in the collections of the Australian Museum, Sydney, and the Rijksmuseum van Natuurlijke Historie, Leiden.

I am indebted to Dr. W. D. Hartmann for the identification of the sponge host.

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