



Identity of the coral-associated pontoniine shrimp species, *Coralliocaris nudirostris* (Heller, 1861) and *C. venusta* Kemp, 1922 (Crustacea: Decapoda: Palaemonidae), with descriptions of two new species

MASAKO MITSUHASHI¹ & MASATSUNE TAKEDA^{2,3}

¹Laboratory of Biology, Osaka Institute of Technology, Ohmiya, Asahi-ku, Osaka, 535-8585 Japan

²Faculty of Modern Life, Teikyo Heisei University, 2289 Uruido, Ichihara-shi, Chiba, 290-0193 Japan

³Department of Zoology, National Museum of Nature and Science, 3-23-1 Hyakunincho, Shinjuku-ku, Tokyo, 169-0073 Japan

Abstract

Two species of the pontoniine shrimp genus *Coralliocaris*, *C. venusta* Kemp, 1922 and *C. nudirostris* (Heller, 1861), are reviewed based on the type specimens and additional material from the Indo-West Pacific. Two colour morphs previously recognized in *C. venusta* can be separated into two species on the basis of presence or absence of a concavity on the medial surface of the first pereopod fingers. The presence of a concavity on the first pereopod fingers indicates that the ‘white patched morph’ of *C. venusta* is referable to *C. venusta* sensu stricto, and that this species is conspecific with *C. nudirostris*, whereas the colour morph (‘black striated morph’) characterised by the absence of the concavity, belongs to a new species, *C. sandyi* **sp. nov.** A further new species named *C. labyrinthica* **sp. nov.** can be separated from the former by the colour pattern in life, a moderately angled supraorbital eave, usually more numerous rostral teeth, and proportionally slenderer fingers of the first pereopod. Colour photographs and drawings of fresh specimens of *C. nudirostris* and the two new species are provided, and an updated key to the genus is given to facilitate identification.

Key words: Crustacea, Decapoda, Pontoniinae, *Coralliocaris nudirostris*, *Coralliocaris venusta*, *Coralliocaris* new species

Introduction

The coral associating pontoniine shrimp, *Coralliocaris venusta* Kemp, 1922, was originally described from the Gulf of Manar, Indian Ocean and has since been reported from various localities throughout the Indo-West Pacific (e.g. Patton 1966; Chace & Bruce 1993; Bruce 1976a; 1978b; 1983). Two colour morphs have been recognized in this species (Bruce 1976a; 1977c; 1980; 1983; 1998; Chace & Bruce 1993; Mitsuhashi 2000); one possesses conspicuous white patches (‘white patched morph’, fig. 1A, B), and the other has black striae on the body (‘black striated morph’, fig. 1C, D). The two colour morphs have been considered to be two separate species (Chace & Bruce 1993; Bruce 1977c; 1998), as they usually consist of a heterosexual pair in each host coral colony (Bruce 1998; Mitsuhashi personal observation). In the original description of *C. venusta*, the colour pattern was not described, and therefore it is uncertain which of the two colour morphs should be referred to the true *C. venusta*.

On the other hand, the differences between *C. venusta* and a poorly recorded congener, *C. nudirostris* (Heller, 1861) have remained unclear. In the most recent key to the species, the two species are separated by the armature of the rostrum (i.e. with no teeth in *C. nudirostris*; usually with one or two teeth in *C. venusta*) (Chace & Bruce 1993). However, Holthuis (1965) has already pointed out that *C. nudirostris* may be conspecific with *C. venusta*, since *C. venusta* exhibits considerable variation in rostral dentition, including specimens with unarmed rostrum.