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Description of *Alcyonohippolyte brachycarpus* sp. nov., a further new hippolytid shrimp (Decapoda, Caridea, Hippolytidae) associated with soft coral from Taiwan, with the key to the species of the genus *Alcyonohippolyte* Marin, Okuno & Chan, 2011

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Abstract

A new species of soft coral associated hippolytid shrimp of the hippolytid shrimp genus *Alcyonohippolyte* Marin, Okuno & Chan, 2011 is described from northern Taiwan. The new species, *Alcyonohippolyte brachycarpus* sp. nov., inhabits soft coral “*Sinularia* sp.”, the same host as for *A. maculata* Marin, Okuno & Chan, 2011. At the same time, the new species can be easily separated from *A. maculata* by different coloration as well as having shorter carpal segments of pereopods II in females. Though occurring sympatrically, these two species have not yet been found inhabiting the same host together. The key for all known species of the genus *Alcyonohippolyte* is given based on morphology of females as no males have yet been known for the type species of the genus *Alcyonohippolyte*, *A. dossena* Marin, Okuno & Chan, 2010.

Key words: Crustacea, Decapoda, Caridea, Hippolytidae, *Alcyonohippolyte*, new species, soft coral, Taiwan

Introduction

The recently described caridean shrimp genus *Alcyonohippolyte* Marin, Okuno & Chan, 2011 is unique within the family Hippolytidae being obligatory associated with alcyonacean soft corals (Octocarallia, Alcyonacea). At present, five recently described species of this genus have been known inhabiting soft corals of the families Nephtheidae, Xeniidae, Tubiporidae and Alcyoniidae in the Indo-West Pacific. They can be easily separated by coloration and possess strict host specificity (Marin et al, 2010; Marin, 2011). Nevertheless, the real diversity of this genus seems still underestimated.

Alcyonohippolyte maculata Marin, Okuno & Chan, 2011 was described from northern Taiwan in association with a soft coral “*Sinularia* sp” (Marin, Okuno & Chan, 2011). The coral host belongs to common alcyoniid soft coral (Octocarallia, Alcyonacea, Alcyonariidae) numerous growing on the depths from 5 to 15 meters along the studied shore area. The species was preliminary identified as “*Sinularia* sp.” resembling both *Sinularia polydactyla* (Ehrenberg) and *Cladiella digitulata* (Klunzinger). During the careful observations over the corals, two color morphs of hippolytid shrimps (previously identified as *A. maculata*) were found inhabiting these colonies. Nevertheless, all shrimp specimens inhabiting one particular “*Sinularia*” colony possess similar coloration. Careful morphological comparison revealed the presence of two distinct species living sympatrically off northern Taiwan, with one being new to the science. This further new species is herein described. Total length (TL, in mm, the length from tip of rostrum to distal part of telson) and postorbital carapace length (PCL, in mm, dorsal length from orbits to proximal part of carapace), are used as standard measurements of the size. All examined specimens are deposited in zoological collection of the National Taiwan Ocean University, Keelung, Taiwan (NTOU).