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Hamodactylus macrophthalmus spec. nov., a new coral-associated pontoniine shrimp (Decapoda, Caridea, Palaemonidae) from Indonesia

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Abstract

A new coral-associated species of the genus *Hamodactylus* is described from Lembeh Strait, NE Sulawesi, Indonesia. The three other known species in the genus have been recorded in association with octocorals. The single ovigerous female specimen of the new species was collected from a scleractinian host. It can be easily separated from its congeners by the very long eyestalks and the chela of the second pereopods having blunt tips of the fingers with tufts of long simple setae giving it an atyid-like appearance.

Key words: Crustacea, Decapoda, Palaemonidae, Pontoniinae, *Hamodactylus macrophthalmus* new species, taxonomy, phylogeny

Introduction

The pontoniine genus *Hamodactylus* Holthuis, 1952, at present contains three named species (De Grave & Fransen 2011), all known from the Indo-West Pacific and associated with Octocorallia: *H. aqabai* Bruce & Svoboda, 1983; *H. boschmai* Holthuis, 1952; and *H. noumeae* Bruce, 1970.

A faunal survey for shallow-water pontoniine shrimps associated with mushroom corals (Scleractinia: Fungiidae) during fieldwork near Lembeh Island, NE Sulawesi, Indonesia, revealed a fourth hitherto unknown species in the genus associated with the fungiid scleractinian *Herpolitha limax* (Esper, 1797). The species is herein described and illustrated, with its systematic position discussed, based on morphological and molecular (COI) data. The holotype is deposited in the Crustacea collection (RMNH.CRUS.) of Naturalis Biodiversity Center, Leiden, the Netherlands, formerly known as Rijksmuseum van Natuurlijke Historie. Abbreviation: pocl., postorbital carapace length.

Material and methods

Sample collection. Specimens were collected during field surveys in northern Sulawesi, Indonesia (2012), and East Sabah, Malaysia (2010), representing all species within the genus *Hamodactylus* known to date. Specimens were preserved in 95% ethanol. Representatives of the pontoniine genus *Palaemonella* were selected as outgroup for the molecular work. Data for specimens studied are given in Table 1. Tissue samples, derived from eggs or pleopods, were preserved in ethanol before DNA extraction. Voucher specimens are stored in the Crustacea collection of Naturalis Biodiversity Center (RMNH.CRUS).

Molecular analysis. Total genomic DNA was extracted from eggs or pleopods using the DNeasy Blood & Tissue Kit (QIAGEN, Hilden, Germany). Incubation lasted overnight for approx. 16 hours. The volume in the elution step was decreased to 120 µL to increase the final DNA concentration. For amplifying mitochondrial COI sequences with a polymerase chain reaction (PCR), the universal primers LCO1490 and HCO2198 (Folmer *et al.* 1994) were used: 5'-GGTCAACAAATCATAAAGATATTGG-3' and 5'-TAAACTTCAGGGTGACCAAAAATCA-3'. The PCR