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Two new species and new records of *Microprosthema* Stimpson, 1860 (Crustacea: Decapoda: Stenopodidea: Spongicolidae) from the Indo-West Pacific

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Abstract

Two new species of the spongicolid shrimp genus *Microprosthema* Stimpson, 1860 are described and illustrated on the basis of material collected recently in Australia and Japan. Type specimens of *Microprosthema ningaloo* **sp. nov.** were collected on Ningaloo Reef, Western Australia, whereas type specimens of *Microprosthema pallidum* **sp. nov.** were collected on a coral reef off Ishigaki Island, Ryukyu Archipelago, southern Japan. *Microprosthema ningaloo* **sp. nov.** and *M. pallidum* **sp. nov.** differ from all other species of the genus by a combination of morphological characters, including the gill-exopod formulae, and by their diagnostic colour patterns. This study increases the total number of species described in the genus *Microprosthema* to 16, nine of them in the Indo-West Pacific. In addition, new records are provided for *M. lubricum* Saito & Okuno, 2011 (Guam), *M. plumicorne* (Richters, 1880) (Red Sea, Mariana and Marshall Islands, French Polynesia), *M. scabricaudatum* (Richters, 1880) (Red Sea, Glorieuses and Tuamotu Islands), and *M. validum* Stimpson, 1860 (Red Sea, Madagascar, Singapore, French Polynesia), significantly extending their previously known distribution ranges.

Key words: Decapoda, Stenopodidea, Spongicolidae, *Microprosthema*, new species, Australia, Japan, Indo-West Pacific

Introduction

The stenopodidean shrimp genus *Microprosthema* Stimpson, 1860 represents an exception among the typically deep-water Spongicolidae Schram, 1986, with all 14 hitherto known species (Table 1) occurring in shallow water habitats, mainly on coral and rocky reefs and adjacent seagrass-rubble flats. Seven species of *Microprosthema* have been previously described from the Indo-West Pacific: *M. fujitai* Saito & Okuno, 2011; *M. lubricum* Saito & Okuno, 2011; *M. personatum* Jiang & Li, 2014; *M. plumicorne* (Richters, 1880); *M. scabricaudatum* (Richters, 1880); *M. takedai* Saito & Anker, 2012, and *M. validum* Stimpson, 1860 (Stimpson 1860; Richters 1880; Holthuis 1946; Baba et al. 1968; Devaney & Bruce 1987; Saito & Okuno 2011; Saito & Anker 2012; Jiang & Li 2014; see also Table 1). In the present study, two additional Indo-West Pacific species are described and illustrated based on material recently collected in Australia and Japan. Furthermore, new records are provided for *M. lubricum, M. plumicorne*, *M. scabricaudatum* and *M. validum.*

The material examined in this study is deposited in the following institutions: National Museum of Nature and Science, Tokyo, Japan (NSMT); Natural History Museum and Institute, Chiba, Japan (CBM); Coastal Branch of the Natural History Museum and Institute, Chiba, Japan (CMNH); Kitakyushu Museum of Natural History and Human History, Kitakyushu, Japan (KMNH, currently also holding collections formerly deposited in the Zoological Laboratory, Faculty of Agriculture, Kyusyu University, ZLKU); Zoological Reference Collection, Lee Kong Chian Natural History Museum, Singapore (ZRC); Museum and Art Galleries of the Northern Territory, Darwin, Australia (NTM); Western Australian Museum, Perth, Australia (WAM); Muséum National d'Histoire Naturelle, Paris, France (MNHN); Senckenberg Forschungsinstitut und Naturmuseum, Frankfurt, Germany (SMF); Zoologisches Museum, Christian-Albrechts-Universität, Kiel, Germany (ZMK); Naturalis Biodiversity Center, Leiden, the Netherlands (RMNH); Oxford University Museum of Natural History, Oxford, United Kingdom

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(von Martens, 1872), including the female lectotype (Goy & Martin 2013: fig. 2D), and also in some specimens of *M. validum* (J. Goy, pers. comm.). In the Spongicolidae, the segmentation of the endopod of the first maxilliped and the development of the exopods on the pereiopods are considered as constant within a genus, thus providing important generic characters (e.g., Goy 2010). In addition to *Microprosthema*, the Spongicolidae presently includes six other genera: *Engystenopus* Alcock & Anderson, 1894, *Globospongicola* Komai & Saito, 2006, *Paraspongicola* de Saint Laurent & Cleva, 1981, *Spongicola* De Haan, 1844, *Spongicoloides* Hansen, 1908 and *Spongiocaris* Bruce & Baba, 1973. While *Engystenopus*, *Microprosthema* and *Paraspongicola* have a well-developed exopod on the third maxilliped (except for *M. ningaloo* **sp. nov.**), *Spongicola*, *Globospongicola* and *Spongicoloides* have a rudimentary exopod or no exopod at all. Thus, the variation in the segmentation of the endopod of the first maxilliped and the development of the exopod of the third maxilliped may compromise or at least make ambiguous some key characters presently used to define spongicolid genera.

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