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Holothuria (*Semperothuria*) *roseomaculata* n. sp. (Aspidochirotida: Holothuriidae), a coral-reef inhabiting sea cucumber from the western Pacific Ocean

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Abstract

Holothuria (*Semperothuria*) *roseomaculata* **n. sp.** is described from the main islands of Yap, Federated States of Micronesia. The ossicles are similar to those of its sister species, the sympatric *H.* (*S.*) *flavomaculata* Semper, 1868, but the new species is easily recognised, both in the field and among preserved specimens, by its much larger, rose-coloured dorsal papillae that fade to white in alcohol. *Holothuria* (*S.*) *roseomaculata* **n. sp.** appears to be an endemic of the tropical westernmost Pacific Ocean; it has been recorded from Okinawa to New Caledonia.

Key words: Holothuroidea, Echinodermata, Yap, Caroline Islands, Micronesia, Melanesia

Introduction

The aspidochirote sea-cucumber family Holothuriidae Ludwig, 1894 contains about 200 species distributed worldwide between temperate latitudes in mostly shallow waters. Apart from a few likely evolutionarily derived forms, nearly all species possess broad, flat oral tentacles modified for deposit feeding. Most live associated with coral reefs, either cryptically or, less often, epibenthically on well-sorted sediments. The family consists of five genera, from the monotypic *Pearsonothuria* Levin, 1984, to the largest, *Holothuria* Linnaeus, 1767 (see ICZN 1924), with about 160 species distributed across 18 subgenera.

The subgenus *Holothuria* (*Semperothuria*) Deichmann, 1958 contains six species and is characterised via its unique complement of dermal ossicles (Deichmann 1958; Rowe 1969). The most widespread species in this subgenus is *H.* (*S.*) *flavomaculata* Semper, 1868, reported from the Red Sea to Madagascar and across the Indian Ocean to Clipperton Island in the easternmost Pacific Ocean (Clark & Rowe 1971; Massin 1999). Semper's (1868) original description of *H. flavomaculata* briefly discusses an animal collected from Samoa having distinctive ossicles and a cylindrical, solid bluish-black to slate grey body with small, bright-yellow papillae scattered widely on the dorsum. A form described from one specimen in Tahiti differing only in tentacle number, *H. fuscocærulea* Théel, 1886, has been considered to lie well within the normal variation of *H. flavomaculata* by all save one early report (Sluiter, 1895) since Ludwig's (1888) synonymy (see also Cherbonnier 1955).

Cherbonnier (1980) reported a *Semperothuria* from New Caledonia that he identified as *H.* (*S.*) *flavomaculata* and which differed from Semper's (1868) description only in possessing rose-coloured dorsal papillae tipped in white. Later, Féral & Cherbonnier (1986) provided a photograph of this attractive form, again noting the rose-coloured papillae. Closer inspection of living and preserved specimens, as well as photographs of the living animals from numerous localities (R. Clouse & D. Janies, pers. comm.; Kerr *et al.* 2007; S. Kim & H.-S. Park, pers. comm.; D. Lane, pers. comm.; F. Michonneau & G. Paulay, pers. comm.; K. Pakoa, pers. comm., L. Yaman, pers. comm.), have revealed the uniformity of colour and other aspects of gross morphology of the rose-papillate morph, indicating its status as a new and undescribed species, one apparently restricted to the tropical western Pacific

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