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# *Zehntneriana serrata* n. sp., a new species of pilumnid crab from southern Taiwan (Crustacea, Decapoda, Brachyura)

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## Abstract

A new species of rhizopine crab, *Zehntneriana serrata* (Pilumnidae) is described from a coral reef in southern Taiwan. The new species differs from congeners by its smooth and glabrous carapace, prominently serrated anterolateral margins, elongated ambulatory legs with a serrated anterior margin of the merus, and the diagnostic morphology of the male first gonopod.

**Key words:** Crustacea, Brachyura, Pilumnidae, *Zehntneriana serrata* **n. sp.**, taxonomy, Taiwan

## Introduction

Four species of Indo-West Pacific pilumnid crabs of the genus *Zehntneriana* Ng & Takeda, 2010, are known: *Z. villosa* (Zehntner, 1894) (type species), *Z. amakusae* (Takeda & Miyake, 1969), *Z. miyakei* (Takeda, 1972), and *Z. novaeinsulicola* (Takeda & Kurata, 1977) (Ng 1987; Ng *et al.* 2008). Takeda (1972) established *Zehntneria* with *Ceratoplax villosa* Zehntner, 1894, as the type species. Ng & Takeda (2010) discovered that this name was a junior homonym of *Zehntneria* Brunner Von Wattenwyl, 1907, a phasmid insect, and established *Zehntneriana* as a replacement name. The specimens reported by Takeda (1972) as *Z. villosa* from Japan belong to a separate species distinct from *Z. villosa* s. str., originally described from Ambon in Indonesia. The Japanese specimens differ in the structure of the carapace, third maxilliped and the anterior thoracic sternum of the male. They are being described as a new species by Lee *et al.* (in press) and are here referred to as *Z.* aff. *villosa*.

We herein report on a new species of *Zehntneriana* collected during reef surveys in southern Taiwan. Specimens examined are deposited in the National Museum of Marine Biology and Aquarium (NMMBA), Pingtung, Taiwan; Muséum national d'Histoire naturelle (MNHG), Geneva, Switzerland; National Museum of Nature and Science (NSMT), Tsukuba, Japan; and the Zoological Reference Collection (ZRC) of the Lee Kong Chian Natural History Museum (ex-Raffles Museum of Biodiversity Research), National University of Singapore. Measurements, in millimetres, are of the carapace width and length, respectively. The term anterior thoracic sternum refers to sternites 1–4. The abbreviations G1 and G2 are used for the male first and second gonopods, respectively.

## Systematic account

### Family Pilumnidae Samouelle, 1819

### Subfamily Rhizopinae Stimpson, 1858

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*et al.* in press). *Zehtneriana miyakei* and *Z. novaeinsulicola* are easily separated from all congeners (including *Z. serrata* **n. sp.**) in possessing cheliped fingers that are shorter than the palm (Fig. 4I, 5F; Takeda 1972: fig. 2C, D) (versus fingers distinctly longer than the palm; Figs. 2F, G, 4D, EI; Zehntner 1894: pl. 7 fig. 8b; Takeda & Miyake 1969: fig. 1c; Takeda 1972: fig. 1). *Zehtneriana miyakei* has proportionately the longest ambulatory legs of any species in the genus, notably in the lengths of the merus and propodus (Fig. 4A; Takeda, 1972: fig. 3B, C) (relatively shorter; Figs. 1B, 2A, 3F–I, 4A; Zehntner 1894: pl. 7 fig. 8; Takeda 1972: fig. 1; Takeda & Miyake 1969: fig. 1d; Takeda & Kurata 1977: fig. 4e–g). The prominently serrated anterior margin of the ambulatory merus of *Z. serrata* **n. sp.** is distinctive (Figs. 2A, 4F–I), and is a character it shares with *Z. novaeinsulicola* (cf. Takeda & Kurata 1977: fig. 4e–g). In the other *Zehntneriana* species, the anterior meral margins of the ambulatory legs are gently uneven to smooth, and if there are low serrations, they are only present on one section (cf. Figs. 4A, 5A; Takeda & Miyake 1969: fig. 1d; Takeda 1972: fig. 3B, C; Lee *et al.* in press).

The G1 of *Z. serrata* **n. sp.** is generally similar to those of congeners, except for the structure of the distal part. In *Z. serrata* **n. sp.**, the distal part is gently curved and somewhat elongate, tapering distally into an acute tip (Fig. 4A, B). The distal part of the G1 of *Z. villosa*, *Z.* aff. *villosa* and *Z. miyakei* is strongly bent and hook-like (cf. Takeda & Miyake 1969: fig. 1f, g; Takeda 1972: fig. 3D; Lee *et al.* in press). The G1 of *Z. serrata* **n. sp.** appears closest to *Z. novaeinsulicola* in the curvature of the distal part, but in the latter species, the G1 is relatively shorter overall with the tip being rather truncate (cf. Takeda & Kurata 1977: fig. 4i, j).

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