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## A new species of *Fizesereneia* Takeda & Tamura, 1980 (Crustacea: Decapoda: Brachyura: Cryptochiridae) from Japan

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### Abstract

A new species of pit crab of the genus *Fizesereneia* Takeda & Tamura, 1980, *Fizesereneia daidai* sp. nov., is described and illustrated based on specimens collected from the scleractinian corals *Micromussa amakusensis* and *Micromussa* sp. in Japan. The new species, the sixth assigned to the genus, can be separated from its congeners by having an orange posterior carapace in life, a subrectangular carapace, the width to length ratio of the carapace depressions being approximately three-halves, the midline of the carapace depression being almost invisible in lateral view, and the ocular peduncles being mostly exposed. The usefulness of the fusion or separation of the pterygostomial region to the carapace as a generic character is discussed.

**Key words:** taxonomy, Cryptochiridae, *Fizesereneia*, pit crabs, Lobophylliidae, coral, symbiosis, new species

### Introduction

Members of the family Cryptochiridae Paul'son, 1875, known as pit or gall crabs, are among the most unusual of all decapod crustaceans, as they live within the skeleton of scleractinian corals by causing the growing coral to form pits (cylindrical cavities) or galls around them in which they then live (Hiro 1937, Simon-Blecher *et al.* 1999). The family consists of the 21 genera and 47 species (Ng *et al.* 2008, Wetzer *et al.* 2009, Badaro *et al.* 2012) recorded from waters shallower than 512 meters depth mainly in the Indo-West Pacific region (Kropp & Manning 1987, Kropp 1990).

The genus *Fizesereneia* was established by Takeda & Tamura (1980) for three West Pacific species, *Troglocarcinus (Mussicola) heimi* Fize & Serène, 1955 (type species), *Troglocarcinus (Mussicola) stimpsoni* Fize & Serène, 1955, and a new species, *Fizesereneia ishikawai* Takeda & Tamura, 1980. Kropp (1988) re-examined the specimens identified as *F. heimi* by Takeda & Tamura (1980) and found they were not conspecific with the true *F. heimi*, but represented an undescribed species, later described by Kropp (1994) as *F. latisella* Kropp, 1994, together with another new species, *F. tholia* Kropp, 1994 (Kropp 1994).

*Fizesereneia* is characterized by a moderately depressed carapace, a dorsum with the anterior half completely or incompletely divided into two large concavities, and by having biramous second abdominal appendages with a rudimentary exopod in females.

During the course of study on the biology of scleractinian corals in shallow waters in Japan, we found an unknown pit crab species from the scleractinian corals *Micromussa amakusensis* (Veron, 1990) and *Micromussa* sp. We herein describe the species as new and discuss intraspecific variations in morphology and coloration.