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Two new species of the copepod *Hatschekia* Poche, 1902 (Siphonostomatoida: Hatschekiidae) from angelfishes (Pisces: Perciformes: Pomacanthidae) collected during the KUMEJIMA 2009 Expedition*

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Abstract

Two new species of *Hatschekia* Poche, 1902 (Siphonostomatoida: Hatschekiidae) are described based on specimens collected during the KUMEJIMA 2009 Expedition carried out at Kumejima Island, Ryukyu Islands, an area getting strong Kuroshio current influence in the East China Sea, Japan. Female *Hatscekia triannuli* **n. sp.** and female and male *H. sumireyakko* **n. sp.** were removed from *Centropyge heraldi* Woods & Schultz and *C. venusta* (Yasuda & Tominaga), respectively. The two new species shares a unique dorsal frame on the cephalothorax that is absent on other congeners. These two species can be differentiated from each other by the shape and proportion of the cephalothorax, trunk, and leg 2.

Key words: parasitic Copepoda, new species, the Ryukyu Islands, angelfish

Introduction

Hatschekia Poche, 1902, is one of the major genera of Copepoda parasitic on actinopterygian fishes (Boxshall & Halsey 2004). In 1985, Jones recognized 68 species as valid. Since then 41 new species have been described as new (Castro & Baeza 1986; El-Rashidy & Boxshall 2011; Ho & Kim 2001; Jones & Cabral 1990; Kabata 1991; Pillai 1985; Uyeno & Nagasawa 2009b, 2010a–c; Villalba 1986;). Currently, in addition to the shape of the dorsal frame of the cephalothorax, the ratios of body parts and appendages have been established as valuable characters to distinguish morphologically similar species in the genus (Uyeno & Nagasawa 2009b, 2010a–c). Several peculiar morphological features (i.e., parabasal papilla and rostral process) also have been used to identify *Hatschekia* species. In this paper, two new species are described based on differences observed among these characters.

Materials and Methods

Angelfishes were collected by gillnets set along coral reef with a depth of 40 m, off Kumejima Island, the Ryukyu Islands, Japan, during the KUMEJIMA 2009 Expedition. Copepods were removed from the hosts' gills by rinsing in freshwater and preserved in 80% ethanol. Specimens were kept in lactophenol for 24 hours before dissection. Appendages were dissected and observed using the method of Humes & Gooding (1964). Drawings were made with the aid of a drawing tube. The terminology followed Huys & Boxshall (1991). Specimens were measured according to the method used in Uyeno & Nagasawa (2009a, 2010b). Measurements in micrometers are shown as ranges with means and standard deviations in parentheses. Ratios of length of body parts and appendages are calculated based on Uyeno & Nagasawa (2009a) and shown in Table 1. Type specimens are deposited in the

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