Description of a new genus and a new species of gaeticine crab (Crustacea: Brachyura: Varunidae) from the Ryukyu Islands, and a review of Acmaeopleura Stimpson, 1858, and Sestrostoma Davie & N.K. Ng, 2007

TOHRU NARUSE
Tropical Biosphere Research Center, Iriomote Station, University of the Ryukyus, 870 Uehara, Taketomi, Okinawa 907-1541, Japan.
E-mail: naruse@lab.u-ryukyu.ac.jp

Abstract

Acmaeopleura parvula Stimpson, 1858, the type species of the varunid Acmaeopleura Stimpson, 1858, is redescribed, and a neotype is designated. Examination of all three species of the gaeticine Sestrostoma Davie & N.K. Ng, 2007, revealed that, although the diagnostic characters of Sestrostoma proposed by the previous study are variable and mostly overlap with those of Acmaeopleura, they can still be distinguished from each other by the characters of the carapace, the thoracic sternite 2, the third maxillipeds, and the ambulatory legs. The subfamilial position of Acmaeopleura was assessed by comparing it with all gaeticine genera. Gaetice Gistel, 1848, the type genus of the subfamily, has a very characteristic structure of the third maxilliped and the anterior sternal plate, which are partially shared with Gopkittisak Naruse & Clark, 2009, Brankocleistostoma Števčić, 2011, Sestrostoma and Acmaeopleura in different combinations. The generic diagnostic characters of these four genera are unique among Varunidae and they are tentatively placed in Gaeticinae. A new genus and new species, which is allied to Sestrostoma but clearly distinguishable from all varunine genera, is described from Iriomote Island, Ryukyu Islands, Japan.

Key words: Gaeticinae, Proexotelson tokoroi, new genus and species, Ryukyu Islands, Acmaeopleura parvula, redescription, taxonomy

Introduction

Varunid species belonging to the genus Sestrostoma Davie & N.K. Ng, 2007, are known to exhibit various types of life styles (Table 1). Sestrostoma toriumii (Takeda, 1974) is a cohabitant of the thalassinidean shrimp Upogebia major (De Haan, 1841) (Upogebiidae) or lives buried in sediment (Itani 2001; Itani et al. 2002), whereas S. aff. balssi sensu Ghani & Tirmizi (1991), and S. sp. sensu Itani (2001), cling to the abdomen of their hosts Upogebia quddusiae Tirmizi & Ghani, 1978, and U. major, respectively (Ghani & Tirmizi 1991; Itani 2001). An undescribed varunid species was recently collected from burrows in subtidal sandy flats at Iriomote Island, southern Ryukyu Islands, Japan. This species is superficially similar to Sestrostoma but clearly differs from it as well as all known varunid genera. A new genus is also being described for the Ryukyu Islands species. When Davie & N.K. Ng (2007) established Sestrostoma to accommodate three species (Acmaeopleura balssi Shen 1932, A. depressum Sakai, 1965, and A. toriumii Takeda, 1974), Acmaeopleura was restricted to A. parvula Stimpson, 1858 [type species] and A. rotunda Rathbun, 1909, and the genus was retained in the Varuninai. As a result, it was realized that the systematic position of Acmaeopleura needs to be reviewed. The present study re-describes A. parvula and reviews the diagnostic characters of all gaeticine genera. A key to genera of Gaeticinae is also provided.

Material and methods

Specimens examined are deposited in the Natural History Museum and Institute, Chiba (CBM); the Ryukyu

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