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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

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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* Števíć, 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 Varuninae. 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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