Three new genera of Ptilomerinae (Hemiptera: Heteroptera: Gerridae) from Southeast Asia

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Abstract

Celerobates gen. n. is erected and described to hold Rhyacobates imadatei Miyamoto, 1967 (type species). Celerobates imadatei (Miyamoto, 1967) comb. n. is probably endemic to Borneo, where it inhabits the torrents of large streams. Two further new genera are closely related with Ptilomera Amyot & Serville, 1843: Ptilomerella gen. n. is described from the southeast Asian mainland: Ptilomerella akekawati sp. n. (type species) is from southern Thailand (Surat Thani, Phang-Nga, Phuket); and Ptilomerella anderseni sp. n. is from Myanmar (Kayin State). Archaeoptilomera gen. n. is described from Borneo; Archaeoptilomera derlethi sp. n. (type species) is from East Kalimantan, Indonesia; and Archaeoptilomera kodadai sp. n. is from Sarawak, Malaysia.

Key words: Heteroptera, Gerridae, Ptilomerinae, Celerobates, Ptilomerella, Archaeoptilomera, new genus, new species, new combination, Borneo, Myanmar, Thailand, Indonesia, Malaysia

This paper is dedicated to the memory of the eminent heteropterist Nils Møller Andersen (1940–2004).

Introduction

Ptilomerinae is a group of water striders highly adapted to the life in the lotic sections of tropical and subtropical rivers, including torrents. With the exception of one species, Potamometroides madagascariensis Hungerford, 1951 from Madagascar, Ptilomerinae are distributed from Pakistan and Sri Lanka northwards to the subtropical regions of China and Taiwan and eastwards as far as New Guinea (Chen et al. 2005). However, only Ptilomera Amyot and Serville, 1843 transgresses Weber's Line to the east and has a centre of radiation and endemism in New Guinea (Polhemus and Polhemus 2001). The highest diversity of genera is found on the Southeast Asian mainland.

The first goal of this study is to provide a new generic name for the ptilomerine water strider species Rhyacobates imadatei Miyamoto, 1967. When revising Rhyacobates Esaki, 1923, Andersen and Chen (1995) had already shown in a phylogeny of species that imadatei does not belong to the monophylum comprising Pleciobates Esaki, 1930, Heterobates Bianchi, 1896, and Rhyacobates, but "most probably" belongs to an undescribed genus; imadatei has been excluded from Rhyacobates without the proposal of another generic name. Also other recent studies on the subfamily Ptilomerinae (Zettel 1994, Zettel and Chen 1996, Polhemus and Zettel 1997, Chen et al. 2005) have consistently stated that "Rhyacobates" imadatei does not comfortably settle into any described genus. As imadatei has proved being easily separable from all other genera of the subfamily—e.g., by a newly recognized structure on the female's venter—Celerobates gen. n. is proposed, defined, and compared with similar genera. The last comprehensive approach to the phylogeny of Ptilomerinae is almost 50 years old (Matsuda 1960) and based on a rather limited set of characters. Several additional genera have been described since then, and one genus, Jucundus Distant, 1910, was resurrected