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A checklist of the cicadas (Hemiptera: Cicadidae) of Hainan Island, China, with description of a new species

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Abstract

A total of 54 cicada species, belonging to 28 genera, nine tribes and three subfamilies of the family Cicadidae, are identified to comprise the cicada fauna of Hainan Island, based on the examination of material collected between 2007 and 2011. One species, *Semia hainanensis* sp. n., is described as new to science. Nine species are recorded as new to Hainan Island, of which two species, *Pomponia subtilita* Lee, 2009 and *Becquartina bleuzeni* Boulard, 2005, are reported for the first time from China. In addition, six species formerly recorded from Hainan are removed from the list of Hainan cicadas. Taxonomic remarks and information on geographic distributions are also provided.

Key words: Cicadidae, fauna, new record, *Semia*, endemism, zoogeography

Introduction

The island of Hainan, is located between 18°10' N and 20°10' N with some mountains rising to about 2000m in altitude (Li & Liu, 1995). As a continental island, it has been both isolated from and connected with the Asian mainland and intermittently experienced deglaciation and glaciation during the Pleistocene (Huang, 2002; Huang *et al.*, 1995; Xing *et al.*, 1995; Zhao *et al.*, 1999), which provided opportunities for exchange of insect species among these areas.

Cicadas are best known for their striking calling songs of the males (Young & Bennet-Clark, 1995), and seem suited for biogeographic study because of their low dispersal ability in comparison to many other insect groups (Beuk, 2002). The cicadas of Hainan Island were first investigated by Distant (1901), who erected the species *Cosmopsaltria hainanensis* (currently in the genus *Dundubia*). Later, some works related to the cicada fauna of Hainan were conducted by other authors, e.g., Kato (1932), Chen (1943), Liu (1978), He (1984), Chou & Yao (1985), Liu *et al.* (1994) and Lei *et al.* (1995). Recently, Chou *et al.* (1997) reviewed the Cicadidae of China, including 16 species from Hainan. Chen & Zheng (2000) reviewed the Cicadidae of southern China, in which 27 species were recorded in Hainan. However, Lei (2002) listed only nineteen cicada species in his checklist of the Cicadidae of Hainan. More recently, Shen *et al.* (2006) established a new species, *Mogannia hainana*, from Hainan. As noted above, the cicada diversity of Hainan has remained unclear.

Presented here is a well documented checklist of cicadas of Hainan Island based on a five-year collection on this island between 2007 and 2011, including the description of one new species. Also included are information on geographic distribution of each species and their taxonomic remarks where necessary.

Material and methods

Collection and examination of specimens. Most cicada specimens of Hainan examined in this study were collected from May to June of 2007, March to June and November to December of 2008, July to August of 2009,