



The cricket genus *Gymnogryllus* (Grylloidea: Gryllidae: Gryllinae: Gryllini) from China with description of six new species

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Abstract

The article reports six new species in the genus *Gymnogryllus* from China. Photographs and illustrations of all species are provided as well as a key to the Chinese species in this genus.

Key words: Orthoptera, Gryllini, morphology, taxonomy, identification

Introduction

Gymnogryllus (Gryllidae: Gryllinae) was established by Henri de Saussure in 1877, with *Gryllus elegans* Guérin-Méneville as the type species. It belongs to the tribe Gryllini and is easily separated from other members by the following characters: face distinctly longer than width; oblique veins of male tegmen nearly straight or slightly S-shaped; ectoparamere with widened distal part of large upper medial process and large proximal endoparameral apodeme; ovipositor short and armed with small hook before apical part of lower valvae (Gorochov 2001). This genus is known to occur in the localities from India to Australia and most species of the genus are distributed in tropical areas of southern Asia, including the Indian subcontinent, west Himalaya, Burma, Vietnam and Malaysia (Gorochov 2001; Eades & Otte 2010). 34 species are currently reported worldwide (Chopard 1936; Chopard 1969; Otte & Alexander 1983; Otte *et al.* 1988; Liu *et al.* 1995; Desutter-Grandcolas 1996; Ichikawa 1996; Gorochov 1983, 1996, 1998, 1999, 2001; Xie & Zheng 2003; Eades & Otte 2010).

In China, three species of the genus are currently known. The first was reported by Chopard in 1936 but the specimen was immature. Therefore, Chopard could only make a tentative and uncertain identification of *Gymnogryllus elegans* Guérin-Méneville (Chopard, 1936). The second species, *Gymnogryllus contractus* Liu *et al.*, was caught from Meng'a Town located in the north of Menghai County of Xishuangbanna, Yunnan, China, in 1958 and described by Pengju Liu *et al.* in 1995. In 2003, Lingde Xie and Zhemin Zheng reported another species, *Gymnogryllus odonopetalus* Xie & Zheng, from Menglun Town, Mengla County, Xishuangbanna, Yunnan, China. In this article we describe six new species and provide a key to aid in recognition of all Chinese *Gymnogryllus* species.

Materials and methods

Identification is primarily based on males. Genitalia were prepared by placing the dissected genitalia complex into a concentrated solution of KOH for about 5 hours. Figures of genitalia and body morphology were produced using a highly sensitive QIMAGING Retiga 2000R digital camera (CCD) and Auto-montage imaging software. Whole bodies were photographed with a Nikon D100 using a Micro-Nikkor 105 mm macro lens.

Abbreviations: BL body length (from head to tip of abdomen); HW head width; PL pronotum length; PW pronotum width (max. width of pronotum); FWL forewing length; AFL length of apical field (max. length); HWL hind wing length (length of uncovered part); HLL hind legs (femur) length; API ratio of AFL to PW; PI ratio of