



The genus *Tapiena* Bolívar (Orthoptera: Tettigoniidae: Phaneropterinae; Holochlorini), with description of three new species from China

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Abstract

Tapiena Bolívar, 1906 (type species *Tapeina acutangula* Brunner von Wattenwyl, 1878) (Orthoptera: Tettigoniidae) is reviewed from China. A list and an identification key to ten species of *Tapiena* from China are given. Three new species are described: *T. parapentagona* sp. n., *T. bilobata* sp. n., and *T. stridulous* sp. n.. The previously unknown female of *T. spinicaudata* Liu & Xia, 1996 are described for the first time. Based on the examination of male stridulatory area, some known species are redescribed. Important and necessary illustrations, a distribution map, and discussion on distribution of *Tapiena* are provided.

Key words: new species, male stridulatory apparatus, katydid, China

Introduction

Brunner von Wattenwyl (1878) described the genus *Tapeina* for *Tapeina acutangula* Brunner, 1878 from India, and then described other two species from Sumatra (Brunner von Wattenwyl 1891). Bolívar (1906) substituted the name *Tapiena* for *Tapeina* due to the pre-occupation, and described one new species from West Tropical Africa at the same time. Subsequently, many authors (Hebard 1922; Karny 1923, 1926a, 1926b, 1931; Bei-Bienko 1935; Xia & Liu 1989; Liu & Xia 1992, 1996; Ingrisch 2000; Liu & Yin 2004) described some new species and new subspecies from Oriental Region. In Eades & Otte's latest catalogue (2009), twenty-two species of *Tapiena* have been recorded except one species described from China by Liu & Yin (2004). Thus up to now there have been recorded twenty-three species of *Tapiena* in the world.

The usual taxonomic characters for separation among species are those of male and female abdominal apex, including the male tenth abdominal tergum, male cerci, male and female subgenital plate. Here we add other significant characters about structure of male stridulatory apparatus (including shape of male stridulatory file on underside of left tegmen, shape of mirror, and number of stridulatory teeth), which have been used in numerous papers, due to its significance for communication.

Concerning its relationship with other genera, little discussion could be found. Only Karny (1926a) attributed it to the *Ancylecha-Holochlora*-group, and Bei-Bienko (1954) ascribed it to the tribe Holochlorini, to which the latest key was provided by Liu & Kang (2007a). In a future publication, we will discuss its relationship with other genera based on molecular phylogeny.

Presently, seven species of *Tapiena* were recorded from China (Xia & Liu 1989; Liu & Xia 1992, 1996; Liu & Yin 2004). Here we describe three new species, and female of one known species *Tapiena spinicaudata* Liu & Xia for the first time, thus the number of species in the genus arrives at ten in China, and twenty-six in the world. We also provide a key to ten species in China.