



<http://dx.doi.org/10.11646/zootaxa.3957.4.3>

<http://zoobank.org/urn:lsid:zoobank.org/pub:B73A0E83-916B-42EF-B595-F13415472CFD>

## A review of the cicada genus *Haphsa* Distant from China (Hemiptera: Cicadidae)

XU WANG, MINGSHENG YANG & CONG WEI<sup>1</sup>

Key Laboratory of Plant Protection Resources and Pest Management, Ministry of Education, Entomological Museum, Northwest A&F University, Yangling, Shaanxi 712100, China

<sup>1</sup>Corresponding author. E-mail: [congwei@nwsuaf.edu.cn](mailto:congwei@nwsuaf.edu.cn)

### Abstract

The cicada genus *Haphsa* Distant from China was reviewed based on the description of a new species (*Haphsa lueta* sp. n.) and redescriptions of other three known species which are reported from China for the first time. A key to all known species of *Haphsa* worldwide is provided. The geographical distribution of the *Haphsa* species and the availability of *Haphsa dianensis* Chou, Lei, Li, Lu & Yao, 1997 are discussed.

**Key words:** Cicada, taxonomy, morphology, new species, new record, redescription

### Introduction

The genus *Haphsa* was erected by Distant (1905) with *Dundubia nicomache* Walker, 1850 as the type species. This genus was formerly classified in the subtribe Dundubiaria by Distant (1905, 1906). Kato (1932) placed *Haphsa* in the subtribe Cosmopsaltriaria when he redefined the tribe Dundubini. Metcalf (1963) placed this genus in the subtribe Tosenaria of Dundubiini, but Duffels & van der Laan (1985) transferred it back to the Dundubiaria. Recently, Sanborn (2013) placed *Haphsa* in the subtribe Aolina of Dundubiini.

Beuk (2002) argued that *Aola bindusara* (Distant, 1881), the type species of this monotype genus, should form a monophyletic group with the type species of *Haphsa*, together with some other species placed in *Haphsa* and *Meimuna*. Lee (2008) synonymized *Aola* with *Haphsa*. Lee (2009) illustrated the male genitalia of *Aola bindusara*, and found no remarkable differences to substantiate the separation of *Aola* from *Haphsa*, either. However, Boulard (2013) resurrected the genus *Aola*.

Sanborn (2013a) treated *Aola* as a junior synonym of *Haphsa* and listed 14 species in *Haphsa*, in which the following five species were recorded from China: *H. dianensis* Chou, Lei, Li, Lu & Yao, 1997, *H. opercularis* Distant, 1917, *H. durga* (Distant, 1881), *H. scitula* (Distant, 1888) and *H. bindusara* (Distant, 1881). Sanborn (2013b) described a new species of *Haphsa* from Vietnam, bringing the species number of *Haphsa* to 15.

In the present paper we describe a new species, *H. lueta* sp. n., from Hainan, China. In addition, *H. apicoinfusata* Sanborn, 2013, *H. jsguillotsi* (Boulard, 2005) and *H. karenensis* (Ollenbach, 1929) are reported from China for the first time.

### Material and methods

The specimens for this study are deposited in the Entomological Museum, Northwest A&F University (NWFU), Yangling, Shaanxi, China. External morphology was observed using the Olympus SZX10 stereomicroscope (Nikon Corporation, Indonesia), and photographed with a Nikon Coolpix P100 digital camera (Nikon Corporation, Indonesia). Male genitalia was observed and photographed using a Scientific Digital micrography system equipped with an Auto-montage imaging system and a high sensitive QIMAGING Retiga 4000R digital camera (CCD) (QImaging, Surrey, BC, Canada). Photographs were modified with Adobe Photoshop CS3. The combined photo