



Four new species of *Empoasca* (Hemiptera: Cicadellidae: Typhlocybinae: Empoascini) and one new record from China

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Abstract

Four new species of *Empoasca* (*Empoasca* Walsh) are described from China: *E. (E.) dahaopingensis* Qin & Liu, *E. (E.) gutianensis* Zhang & Liu, *E. (E.) lijiangensis* Liu, and *E. (E.) apibicruris* Liu **spp. nov.** In addition, *E. (E.) dymarka* Dworakowska, 1984, is recorded from China for the first time. *E. (E.) apibicruris*, and *E. (E.) dymarka* are placed in the *Empoasca albipennis* group with *E. (E.) albipennis* Dworakowska, 1977. Habitus photos and illustrations of the male genitalia of the new species are provided.

Key words: leafhoppers, taxonomy, new species, Oriental

Introduction

This paper represents the second contribution to a more thorough investigation of the taxonomy of the Chinese *Empoasca* (*Empoasca* Walsh, 1862). The study was based on the largest collection of this genus in China, the Entomological Museum at Northwest A&F University, and on several major empoascine collections in other Chinese entomological institutes. The first part of this study is published in *Zootaxa* (Liu *et al.*, 2011). Here we add the description of four new species and add one new species records from China.

Material and methods

All the specimens examined, including types of the new species, are deposited in the Entomological Museum, Northwest A&F University (NWAUFU). Habitus photos were taken by using a scientific digital micrography system equipped with an Auto-montage[®] imaging system and a highly sensitive QIMAGING Retiga 4000R digital camera (CCD). Multiple photographs were compressed into final images. Images were printed and used as the basis for traced and inked illustrations, and illustrations were then digitized (600 dpi). Color photographs were saved at 300 dpi resolution. The body measurements are from apex of vertex to tip of forewing. The morphological terminology used in this description follows Zhang (1990) except for the nomenclature of the wing venation, for which we follow Dworakowska (1993), and chaetotaxy of the subgenital plate, for which we follow Southern (1982).

Taxonomy

Empoasca (*Empoasca* Walsh, 1862)

Empoasca Walsh, 1862: 149