



Three new species of *Icaia* Linnavuori (Hemiptera: Cicadellidae: Deltocephalinae) from Peru and distinction of the genus from *Athysanella* Baker

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Abstract

Four undescribed species of *Icaia* Linnavuori were identified from collections in montane grasslands of Peru. Three of these are illustrated and described as new species, and the remaining species, known only from one female, is illustrated. The new species are *I. straminea* **sp. nov.**, *I. laoroya* **sp. nov.**, and *I. cygnus* **sp. nov.** A comparative study of 18 morphological characters for 14 species of *Icaia* and *Athysanella* Baker was undertaken to reassess their current circumscriptions. Parsimony analysis of these characters recovered each genus as a monophyletic group and the strict consensus tree is presented to provide a preliminary view of the generic and subgeneric phylogeny of this New World group of Chiasmini. Several derived characters of the male genitalia were found that unite most of the species currently placed in *Athysanella*. However, three species currently placed in *A. (Diphipyga)* retain the plesiomorphic states for these characters. *A. (Diphipyga)* is reinterpreted to contain only these three species, *A. (D.) mexicana* Johnson, *A. (D.) nimbata* Ball & Beamer, and *A. (D.) secunda* Blocker & Wesley. *Athysanella rubicunda* Ball & Beamer and *A. triodana* Ball & Beamer are reinstated in *Athysanella (Amphipyga)*. No uniquely identifying and universally shared characters were found that unite all species of *Icaia*, but a combination of similarities in external morphology and male genitalia to described species of *Icaia*, a lack of characters that define other genera of Chiasmini, and their South American distribution allow placement of the new species into *Icaia*.

Key words: Deltocephalinae, Chiasmini, Chiasmusini, Doraturini, *Icaia*, *Athysanella*, *Diphipyga*, *Amphipyga*, phylogeny, parsimony, new species, grassland

Introduction

The deltocephaline tribe Chiasmini *sensu* Emeljanov (1999) (=Doraturini) currently contains 12 genera and about 300 described species. Eight of the genera are endemic to parts of the Old World, three are endemic to the New World (*Icaia* Linnavuori, *Athysanella* Baker, and *Driotura* Osborn and Ball), and one, *Exitianus* Ball, is cosmopolitan. Despite the high generic diversity in the Old World, the New World chiasmine fauna harbors a majority of the described species diversity, due mostly to the highly diverse North American genus *Athysanella* which currently contains 140 valid species placed in eight subgenera. *Athysanella* was revised in the 1980's by Blocker and colleagues, but new species continue to be discovered (Hamilton, 2002; Hicks *et al.*, 1992; Hicks and Whitcomb, 1996; Hicks and Smith, 2006). In this contribution, we consider Chiasmini Distant 1908 to be a synonym of Doraturini Emeljanov 1962, as have some previous authors (Linnavuori, 1973; Emeljanov, 1999), though they did not use the older family group name. Chiasmini has precedence because it is the older name, it is still in use, and because Doraturini can not be demonstrated to be in prevailing usage (Article 23.9.1, ICZN, 1999). We prefer the spelling "Chiasmini" over "Chiasmusini", which is listed in Oman *et al.* (1990), because it uses the proper Greek root (chiasm = crossing) and because the family group name was formed before 1999 (see Article 29, ICZN, 1999).