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## A new genus and species of delphacid planthopper (Hemiptera: Fulgoroidea: Delphacidae) from Central America with a preliminary regional species list

CHARLES R. BARTLETT<sup>1</sup> & GERNOT KUNZ<sup>2</sup>

*University of Delaware, Department of Entomology and Wildlife Ecology, 250 Townsend Hall, Newark, Delaware, 19716-2160, USA.  
E-mail: Bartlett@udel.edu*

*<sup>2</sup>Karl-Franzens-Universität, Universitätsplatz 2, Zoologie, 8010 Graz, Austria. E-mail: gernot.kunz@gmail.com*

### Abstract

The new genus *Ampliphax*, assigned to the Delphacini, is described and illustrated with a single new species *A. grandis* from Costa Rica and Panama. *Ampliphax grandis* is a large species with a projected head. DNA barcode data suggest, among currently barcoded taxa, an affinity to the genus *Bostaera*. A checklist of the delphacid species from Costa Rica, Panama, and Nicaragua based on literature and specimen records is provided.

**Key words:** Delphacidae, Delphacini, Fulgoroidea, Auchenorrhyncha, planthopper, new species, Central America

### Introduction

Delphacidae is a diverse group (2,100+ species) of small planthoppers, with several species of economic importance in the Neotropics, including the corn delphacid, *Peregrinus maidis* (Ashmead), the rice-feeding *Tagosodes orizicolus* (Muir) and *T. cubanus* (Crawford), the adventive sugarcane planthopper, *Perkinsiella saccharicida* Kirkaldy, and *Saccharosydne saccharivora* (Westwood), a native sugarcane disease vector (e.g., Arocha *et al.* 2005). Despite their importance, the Neotropical Delphacidae remains poorly investigated. There are no modern faunistic reviews and undescribed species are readily detected amidst new collections, unsorted institutional collections, or among faunistic photographs. Among described species, distributional information remains incompletely reported.

Here, an unusual delphacid in the tribe Delphacini (Delphacinae) is described and illustrated from Costa Rica and Panama. Costa Rica is unusual among Mesoamerican countries in that substantive effort has been made to investigate the insect fauna, and an extensive collection of Hemiptera is available at the National Biodiversity Institute (INBio). A recent project at INBio has DNA barcoded 285 Delphacidae from the INBio collection, putatively representing 44 taxa. These data are available online at Barcode of Life (BOLD; <http://www.barcodeoflife.org/>; Ratnasingham & Hebert 2007, 2013), and include 3 specimens of the unusual new genus and species described here. As of this writing, BOLD has a total of 1,261 delphacid specimens with barcodes representing 287 species.

This new genus is assigned to the Delphacini (Delphacinae) because the calcar is large, tectiform, and flattened, bearing a row of fine, black-tipped teeth on the posterior margin; the genital diaphragm is well-developed (including a remarkably large armature), and an elongate suspensorium attaches segment X to the base of the aedeagus, which is represented by a simple tubular fused theca. It was originally found in collections from Costa Rica and subsequently Panama. Also, a preliminary list of delphacid species from Nicaragua, Costa Rica, and Panama is provided and discussed.

### Materials and methods

Specimens were examined from the following collections (abbreviations following Arnett *et al.* 1993):

(Instituto Nacional de Biodiversidad, Costa Rica) for loans of specimens and for providing information regarding specimens in the INBio collection and the INBio BOLD project. We thank Ashley Kennedy (University of Delaware) for review of this manuscript. We thank Kimberley Shropshire for specimen photography, measurements, and line artwork. Support for this research was provided by the USDA Agriculture and Food Research Initiative Competitive Grants Program Grant No. 2009–55605–05006 from the National Institute of Food and Agriculture, NSF Advancing Digitization of Biological Collections (ADBC) award 1115103 (Digitization TCN: Collaborative Research: Plants, Herbivores, and Parasitoids: A Model System for the Study of Tri-Trophic Associations), and Hatch Project W-3185 Biological Control in Pest Management Systems of Plants, with additional support from the University of Delaware Department of Entomology and Wildlife Ecology.

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