



Checklist of treehoppers of Panama (Hemiptera: Membracidae) with a list of checklists and keys to the Nearctic and Neotropical fauna

DAWN J. FLYNN

Entomologist and Curator of Life Sciences, Schiele Museum of Natural History, 1500 East Garrison Blvd., Gastonia, NC 28054

E-mail: dawnjf@cityofgastonia.com

Abstract

A checklist of treehoppers (Hemiptera: Membracidae) of Panama is provided with known province distribution data. The world catalogue of Membracoidea, through 1996, lists 68 genera, 162 species, and 1 subspecies from Panama (McKamey, 1998). New research in Panama has documented range extensions for 29 genera, 107 species, and 1 subspecies previously unknown from Panama. With these adjustments and additions, the total treehopper fauna from Panama includes 97 genera, 269 species, and 2 subspecies. Tables listing published checklists and keys for Nearctic and Neotropical treehoppers are presented.

Key words: Membracidae, treehoppers, checklist, Panama, nearctic checklist citations, neotropical checklist citations

Treehoppers are a family of hemipterous insects that are distinguished by unusual shapes of the pronotum. The development and variety of these shapes are at their peak in the Neotropics. Numerous checklists and keys of treehoppers are available for the Nearctic Region (Table 1) but there have been few faunal distribution studies of treehoppers of the Neotropics even fewer with keys (Table 2). No separate faunal study or checklist of the treehoppers of Panama has been published.

Since McKamey's World Catalogue of Membracoidea (1998), the revisionary works by Albertson and Dietrich (2005, 2006), Andrade (2003, 2004), Creão-Duarte and Sakakibara (1996, 2000a, 2000b), Cryan & Deitz (1999a), Cryan *et al* (2003), Flynn (2003), Sakakibara (1998, 1999, 2002, 2005), Sakakibara and Creão-Duarte (2002), and Sakakibara and Evangelista (2008), have created new genera, synonymized genera, revised subgenera, and added new species to the listed 68 genera, 162 species, and 1 subspecies from Panama.

Materials and methods

The following checklist of species is based on a total of 2,825 specimens studied from two field seasons of collecting in Panama. Field collecting was done in Chiriquí, Panama, and Darien provinces during January 2005 and May 2006 between wet and dry seasons when insect activity is at its highest. Abbreviations for the institution holdings examined follows Arnett Jr., R.H., Samuelson, G.A. and G.M. Nishida (1993) except for the private collections.

(DJFC) USA, North Carolina, Gastonia, Dawn J. Flynn Collection,
(DMWC) Panama, Balboa, Smithsonian Tropical Research Institute, Don Windsor Collection,
(NCSU) USA, North Carolina, Raleigh, North Carolina State University Insect Collection
(STRI) Panama, Balboa, Smithsonian Tropical Research Institute
(HWIC) Panama, Balboa, Smithsonian Tropical Research Institute, Wolda Collection
(UDCC) USA, Delaware, Newark, University of Delaware
(UGCA) USA, Georgia, Athens, University of Georgia
(MIUP) Museo de Invertebrados "G.B. Fairchild," Universidad de Panamá
(USNM) USA, Washington, DC, United States National Museum