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Contribution to the taxonomy of the family Membracidae Rafinesque (Hemiptera: Auchenorrhyncha) in Colombia

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Table of contents

ABSTRACT	4
RESUMEN	4
INTRODUCTION	4
METHODS	7
RESULTS	10
CENTRONODINAE DEITZ, 1975	10
CENTRONODINI DEITZ, 1975	10
CENTROTINAE AMYOT & SERVILLE, 1843	11
BOOCERINI GODING, 1892	12
DARNINAE AMYOT & SERVILLE, 1843	15
CYMBOMORPHINI HAUPT, 1929	16
DARNINI AMYOT & SERVILLE, 1843	18
HEMIKYPHINI GODING, 1929	25
HYPHINOINI HAUPT, 1929	27
PROCYRTINI DEITZ, 1975	30
ENDOIASTINAE DEITZ & DIETRICH, 1993	32
ENDOIASTINI DEITZ & DIETRICH, 1993	32
HETERONOTINAE GODING, 1926	34
HETERONOTINI GODING, 1926	34
MEMBRACINAE RAFINESQUE, 1815	41
ACONOPHORINI GODING, 1892	42
HOPLOPHORIONINI GODING, 1926	48
HYSOPROPORINI HAUPT, 1929	63
MEMBRACINI RAFINESQUE, 1815	68
TALIPEDINI DEITZ, 1975	85
NICOMIINAE HAUPT, 1929	88
NICOMIINI HAUPT, 1929	88
SMILIINAE STÅL, 1866	90
ACUTALINI FOWLER, 1894	90
AMASTRINI GODING, 1926	94
CERESINI GODING, 1892	103
MICRUTALINI HAUPT, 1929	115
POLYGLYPTINI GODING, 1892	118
TELAMONINI Goding, 1892	140
THURIDINI DEITZ, 1975	141
TRAGOPINI STÅL, 1866	142
STEGASPIDINAE HAUPT, 1929	154
STEGASPIDINI HAUPT, 1929	154
ACKNOWLEDGMENTS	172
REFERENCES	258

ABSTRACT

The Membracidae are a relatively diverse group with nearly 400 genera and 3200 species. For Colombia 93 genera and 394 species were previously known. Study of the literature and 3744 specimens deposited in ten collections in Colombia, as well as non-systematic collections and field observations done in Colombia between 2011 and 2014, led us to record 116 genera and 474 species grouped in 9 subfamilies and 23 tribes, distributed in 24 departments. Thirteen genera were new country records. In addition, 1449 records of host plants and 262 records of associated Hymenoptera were obtained from literature, the examined collections and new, non-systematic field trips. For each genus a differential diagnosis is presented, as well as notes on biology, distribution and some taxonomic comments. Illustrated keys for the genera of Colombian Membracidae and known distributional maps are given. After examination of several *Anobilia* species, we propose the new combinations *Stilbophora flava* (Tode, 1966) **n. comb.**, *Stilbophora luteimaculata* (Funkhouser, 1914) **n. comb.**, *Stilbophora sagittata* (Tode, 1966) **n. comb.**, *Stilbophora silvana* (Tode, 1966) **n. comb.**, *Stilbophora tripartita* (Fairmaire, 1846) **n. comb.**, and *Stilbophora variabilis* (Tode, 1966) **n. comb.** The male of *Sakakibarella sinuosa* Creão-Duarte is described.

Key words: taxonomy, Membracinae, Stegaspinae, Centrotinae, Darninae, Endoiastinae, Heteronotinae, Nicomiinae, Smiliinae, new records

RESUMEN

Los Membracidae son un grupo relativamente diverso con alrededor de 400 géneros y 3200 especies. En Colombia se conocían aproximadamente 93 géneros y 394 especies. La revisión de literatura y de 3744 especímenes depositados en diez colecciones en Colombia, además de colectas no sistemáticas y observaciones en campo realizadas en Colombia entre 2011 y 2014, nos permitió registrar 116 géneros y 474 especies agrupadas en 9 subfamilias y 24 tribus, y distribuidos en 24 departamentos. Trece de estos géneros se registran por primera vez para el país. Además se obtuvieron 1449 registros de plantas hospederas y 262 registros de himenópteros asociados a partir de la literatura, las colecciones examinadas y las salidas de campo no sistemáticas. Para cada género se presenta una diagnosis diferencial, anotaciones de la biología, distribución y algunos comentarios taxonómicos. Se presentan claves ilustradas para los géneros de Membracidae presentes en Colombia y mapas con la distribución conocida de los membrácidos del país. Después de examinar algunas especies de *Anobilia*, se proponen las nuevas combinaciones: *Stilbophora flava* (Tode, 1966) **n. comb.**, *Stilbophora luteimaculata* (Funkhouser, 1914) **n. comb.**, *Stilbophora sagittata* (Tode, 1966) **n. comb.**, *Stilbophora silvana* (Tode, 1966) **n. comb.**, *Stilbophora tripartita* (Fairmaire, 1846) **n. comb.**, y *Stilbophora variabilis* (Tode, 1966) **n. comb.** Adicionalmente, se describe el macho de *Sakakibarella sinuosa* Creão-Duarte.

Palabras clave: taxonomía, Membracinae, Stegaspinae, Centrotinae, Darninae, Endoiastinae, Heteronotinae, Nicomiinae, Smiliinae, nuevos registros

INTRODUCTION

The Membracidae is a family with relative great diversity within the hemipterans with nearly 400 genera and more than 3200 described species (McKamey 1998; Dietrich *et al.* 2001a). It has a cosmopolitan distribution and in the Neotropical region approximately 216 genera and 1600 species (Wood 1993a; McKamey 1998; Dietrich *et al.* 2001a) have been described. It contains nine subfamilies, eight of them occurring solely in America and Centrotinae with a cosmopolitan distribution (McKamey 1998; Dietrich *et al.* 2001a; Wallace and Deitz 2004).

The family is recognized as a monophyletic group in the superfamily Membracoidea, together with Melizoderidae, Cicadellidae, Myerslopiidae and its sister group Aetalionidae (Dietrich and Deitz 1993; Dietrich *et al.* 2001a; Dietrich *et al.* 2001b). The monophyly of the group is supported by molecular data (*i.e.* Cryan *et al.* 2000, 2004) and the following morphological synapomorphies: adults forewings with M and Cu basally fused; male pygofer with lateral plate well defined; nymphs with tubercles on the first abdominal segment, ninth segment forming an anal tube (Deitz and Dietrich 1993; Dietrich *et al.* 2001a).

Membracids eat phloem, mainly from the soft parts of sun-exposed plants (Funkhouser 1951) and they inhabit forested to opened areas. They exhibit awesome and diverse natural history traits: some species are solitary, while others are gregarious and have subsocial behavior (Wood 1993a; McKamey and Deitz 1996; Lin 2006). They can have maternal care of eggs and nymphs, with complex mechanisms of defense against predators and parasitoids

TABLE 5. Membracidae species of Colombia (continued).

Subfamily	Tribe	Species	Author
Stegaspinae	Stegaspini	<i>Oeda hamulata</i>	Stål
Stegaspinae	Stegaspini	<i>Oeda inflata</i>	(Fabricius)
Stegaspinae	Stegaspini	<i>Smerdalea circumflexa</i>	Cryan
Stegaspinae	Stegaspini	<i>Stegaspis fronditia</i>	(Linnaeus)
Stegaspinae	Stegaspini	<i>Stylocentrus ancora</i>	Perty
Stegaspinae	Stegaspini	<i>Stylocentrus rubrinigris</i>	(Funkhouser)

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