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Gestión en las colecciones de insectos. Micropezidae (Diptera: Nerioidea) del Museo Entomológico UNAB

Javier O. Martinez-Alava[1] and Francisco Serna[1]

ABSTRACT

UNAB consists of several collections that seek to represent the insects of agricultural and forestry significance from the various regions of Colombia, especially the mountainous zone. In order to contribute to knowledge on the Diptera diversity of Colombia found in agricultural ecosystems, the present study looked at the Micropezidae contained in this museum, along with the represented taxa, as well as its current curatorial status and geographic distribution in the country. Currently, the Taxonomic Central Collection houses 107 specimens from the Micropezidae family, which belong to the genera *Cardiacephala, Grallipeza, Grallomyia, Mesoconius, Micropeza, Plocoscelus, Paragrallomyia*, *Poecilotylus, Ptilosphen, Scipopus,* and *Taeniaptera*, representing distribution in 57 municipalities and 12 departments (provinces) of the Colombian Andean region.

Key words: Andean region, Colombia, taxonomy, geographical distribution, agroecosystems, Insecta.

RESUMEN

UNAB se compone de varias Colecciones que buscan representar la entomofauna de importancia agrícola y silvícola de varias regiones de Colombia, especialmente de su zona montañosa. Como aporte al conocimiento de la diversidad de Dípteros de Colombia que viven en agroecosistemas, en el presente estudio se estudian los Micropezidae de este Museo, y se registran los taxones representados, así como el estado de su curaduría y su distribución geográfica en el país. En la actualidad, la Colección Taxonómica Central cuenta con 107 especímenes de la familia Micropezidae, que corresponden a los géneros *Cardiacephala, Grallipeza, Grallomyia, Mesoconius, Micropeza*, *Paragrallomyia*, *Plocoscelus, Poecilotylus, Ptilosphen, Scipopus* y *Taeniaptera,* con registros para 57 municipios de 12 departamentos, principalmente de la Región andina de Colombia.

Palabras clave: región andina, Colombia, taxonomía, distribución geográfica, agroecosistemas, Insecta.

Introduction

The UNAB entomological museum currently contains several voucher collections of arthropods that are important to agriculture and forestry, coming from different regions of Colombia, especially the central area. It contains about 100,000 specimens from 20 orders and 160 families of Hexapoda and other Arthropoda. Among those specimens, there is an important representation of the Micropezidae family (Diptera: Nerioidea), leading to a preliminary understanding of the distribution of this family in Colombia.

Micropezidae is recognized by the following combination of characteres (Fig. 1): stilt-legged flies; wings with veins R_{4+5} and M converging toward the apex of the wing; absent ocellar setae and oral vibrissae; most neotropical species have a vertical row of setae, in a fan shape, in the posterior margin of the katepisternum; females with a seventh syntergosternite (fused 7 tergite and sternite), forming a rigid oviscape; male Micropezinae and Eurybatinae have a surstilus; and males of most species have a prominent bifurcated process in sternite 5 (Marshall, 2010).

They are flies with cosmopolitan distribution, with a great diversity of species in tropical regions (Steyskal 1966, 1987; Ferro and Carvalho, 2014). Within the family, about 700 species of 60 genera are grouped into five subfamilies, including Calycopteryginae, Calobatinae, Eurybatinae, Micropezinae and Taeniapterinae (Marshall, 2010, 2012; Steyskal, 1987). Eurybatinae, Micropezinae and Taeniapterinae are found in the Neotropics (Marshall, 2010, 2012, Ferro and Carvalho, 2014).

Studies of the Micropezidae family are few in Colombia. The latest and most extensive contribution came from Steyskal (1966), who recorded 11 genera and 40 species in this country.

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Micropezidae exhibits a complex variety of feeding habits (Marshall, 2010, 2012). However, most species feed on decaying organic matter and some *Mimegraffa* species (Taeniapterinae) apparently affect healthy roots (Marshall 2010, 2012). Micropezidae flies are not considered of agricultural importance. While most species are associated with native forests, some are commonly found in highly disturbed habitats and are frequently collected in agroecosystems (Harterreiten-Souza *et al*., 2014). Based on this collecting practice, a significant representation of Micropezidae is genera is housed in the UNAB Museum, a consideration that motivated us to produce the present contribution to knowledge of their distribution in Colombia.

Materials and methods

All specimens are individually point-mounted with a data-collecting label, placed into Ward-box cells with a green label containing the taxon name and a catalogue number (Fig. 1). To build a complete database with a digital program, each identification and dataset was given a Catalogue Number [UNAB No. Catal.]. In the present paper, we only transferred the collecting data.

Morphological characteristics were studied with the aid of a NIKON SMZ660 stereomicroscope, following keys of Marshall (2010) and Ferro and Carvalho (2014). Also, for some descriptions and diagnosis, the methodologies of Merritt and James (1973), Merritt and Peterson (1976), Steyskal (1987), Marshall (2004, 2011, 2013, 2015), Harterreiten-Souza *et al*. (2014), and Jackson *et al*. (2015) were employed.

Seeking to represent the geographical distribution of genera in Colombia, we built maps for each genus by gathering the information on the labels and employing the freely available program QGIS (QGIS Development Team, 2015). The distribution based on altitude (meters above sea level) was depicted as well. Abbreviations for some data on the labels are as follows: **Fca**., Finca (farm); **Hda**., Hacienda, a large land for farming or ranching; **m alt**., meters of altitude above sea level; **No. Catal**., Catalog Number; **Vda**., Vereda (a small group of dwellings in a rural area connected by a narrow country road or district).

Results

We studied 107 specimens of the Micropezidae family, so far representing 11 genera for Colombia, including *Micropeza* of Micropezinae, and *Cardiacephala*, *Grallipeza*, *Grallomyia*, *Mesoconius*, *Paragrallomyia*, *Plocoscelus,*

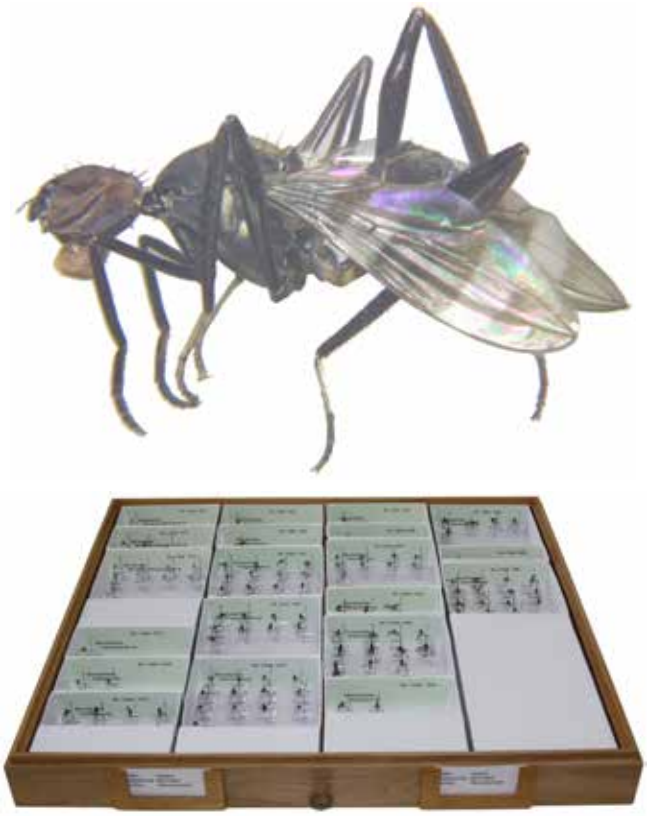

FIGURE 1. Upper. Habitus of *Plocoscelus* sp. (Taeniapterinae). Lower. A Cornell's type wooden drawer at the UNAB Museum, containing specimens of Micropezidae inside Ward's box-cells with a green label marked with a taxon name and a Catalog number.

Poecilotylus, *Ptilosphen*, *Scipopus,* and *Taeniaptera* of Taeniapterinae.

Geographical distribution

Based on the information associated with the examined material, we reported the Micropezidae family in 57 municipalities in the departments of Antioquia, Bolívar, Caquetá, Cundinamarca, Huila, Meta, Nariño, Putumayo, Quindío, Risaralda, Tolima, and Valle del Cauca. The *Paragrallomyia* and *Taeniaptera* genera accounted for the largest number of recorded locations.

The Central Taxonomic Collection (CTC) of the Entomological Museum UNAB contains specimens mostly from the central regions of the country. Because of this, most Micropezidae genera are recorded from two departments. From Antioquia, the following genera are recorded: *Mesoconius*, *Micropeza*, *Paragrallomyia, Poecilotylus*, *Ptilosphen*, *Scipopus*, and *Taeniaptera*; while from Cundinamarca, the genera are: *Cardiacephala*, *Micropeza*, *Paragrallomyia*, *Plocoscelus*, *Poecilotylus*, *Ptilosphen*, and *Taeniaptera*. Genera registered from only one department include *Scipopus* and

Mesoconius from Antioquia, *Cardiacephala* from Cundinamarca, and *Grallipeza* from Putumayo.

Distribution above sea level

Specimens were collected from 2 to 2,600 m alt., with a Median of 820 m alt. (Fig. 2). This finding showed that most records come from lowlands in Colombia. *Micropeza, Paragrallomyia* and *Taeniaptera* showed the widest altitudinal range, from lowlands to high mountains. *Micropeza* was seen from 2 to 2,600 m alt., with a Median of 1,285 m alt and *Taeniaptera* was found from 40 to 2,558 m alt., with a Median of 1,495, with these two genera commonly found in the Colombian coffee zone. On the other hand, *Paragrallomyia* is found from 7 to 2,599 m alt., with a Median of 496 m alt., which would suggest a possible concentration of species in the lowland regions of the central zone of the country.

We only recorded two specimens of *Mesoconius* at 1800 and 2,550 m alt. According to Marshall (2015), species of this genus belong to highlands, with several Andean species found from 2,500 to 3,000 m alt.

MICROPEZINAE

Micropeza Meigen, 1803

Micropeza (Micropeza) Meigen

Material examined (Fig. 3): *Micropeza* (*Micropeza*) sp., 1♀, **COLOMBIA**, **Putumayo**, Mocoa, Vda. Pueblo Viejo, Mocoa river shore, N 1º 11' 28.1" W 76º 38' 43.3", 700 m alt., 20-Mar-2015, W. Sierra, [**UNAB** No. Catal. 1535].

Micropeza (Neriocephalus) Enderlein

Material examined (Fig. 3): *Micropeza* (*Neriocephalus*) sp., 1♀, **COLOMBIA**, **Antioquia**, Envigado, N 6º 10' W 75º 35', 1,675 m alt., 5-May-1996, G. Parra, [**UNAB** No. Catal. 1519]; 1♂, **Antioquia**, Turbo, Uraba antioqueño, La Martina, N 8º 05' W 76º 43', 2 m alt., 2-Abr-2014, J. Díaz, [**UNAB** No. Catal. 1518]; 3♀♀, **Antioquia**, Yolombo, Vda. Sabanitas, Fca. San Bartolo-La Esperanza, N 6º 33' 13" W 75º 05' 7.1", 1,500 m alt., 5-9-Ene-2010, E. Vergara; F. Serna, [**UNAB** No. Catal. 1519]; 1♀, **Cundinamarca**, Bogota, Parque Cantarana, N 4º 29' W 74º 07', 2,600 m alt., 21-Ago-2011, L. Camacho, [**UNAB** No. Catal. 1518]; 1♂, **Cundinamarca**, Chipaque, Via Bogota-Villavicencio, N 4º 25' 18" W 73º 59' 30", 1,794 m alt., Oct-2009, D. Ramírez, [**UNAB** No. Catal. 1519]; 1♂, **Cundinamarca**, Villeta, N 5º 0' 29" W 74º 28' 23", 820 m alt., 16-May-2010, F. Padilla, [**UNAB** No. Catal. 1519]; 1♂, **Huila**, Neiva, Malecon el Mohan, N 2º 55' 37.2" W 75º 17' 40.3", 475 m alt., 19-Mar-2015, Z. Silva, [**UNAB** No. Catal. 1519]; 1♂, **Putumayo**, Villagarzon, Vda. San Fidel, Fca. La Cuca, N 0º 50' 14.9" W 76º 38' 5.9", 352 m alt., Manual, 27-Mar-2015, S. Cordoba, [**UNAB** No. Catal. 1519]; 1♂, **Tolima**, Ibague, N 4º 26' W 75º 14', 1,285 m alt., 4-Nov-2003, W. Pérez, [**UNAB** No. Catal. 1519].t

TAENIAPTERINAE

Cardiacephala Macquart, 1843

Material examined (Fig. 4): *Cardiacephala* sp., 1♂, **COLOMBIA**, **Cundinamarca**, Nimaima, Vda. Cañadas, N 5º 07' 35" W 74º 23' 08", 1,185 m alt., 30-Dic-2011, Y. Sánchez, [**UNAB** No. Catal. 1527].

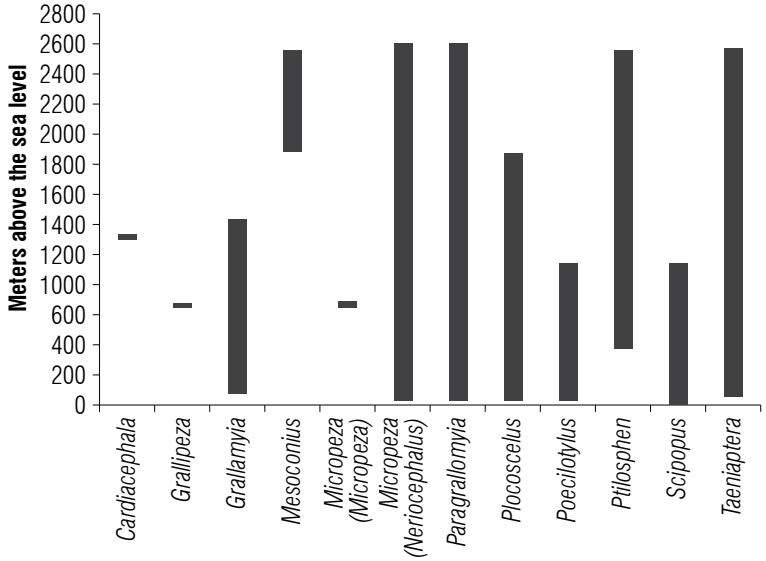

FIGURE 2. Altitudinal distribution of Micropezidae genera in Colombia, according to the data found in the specimens housed at the UNAB Museum.

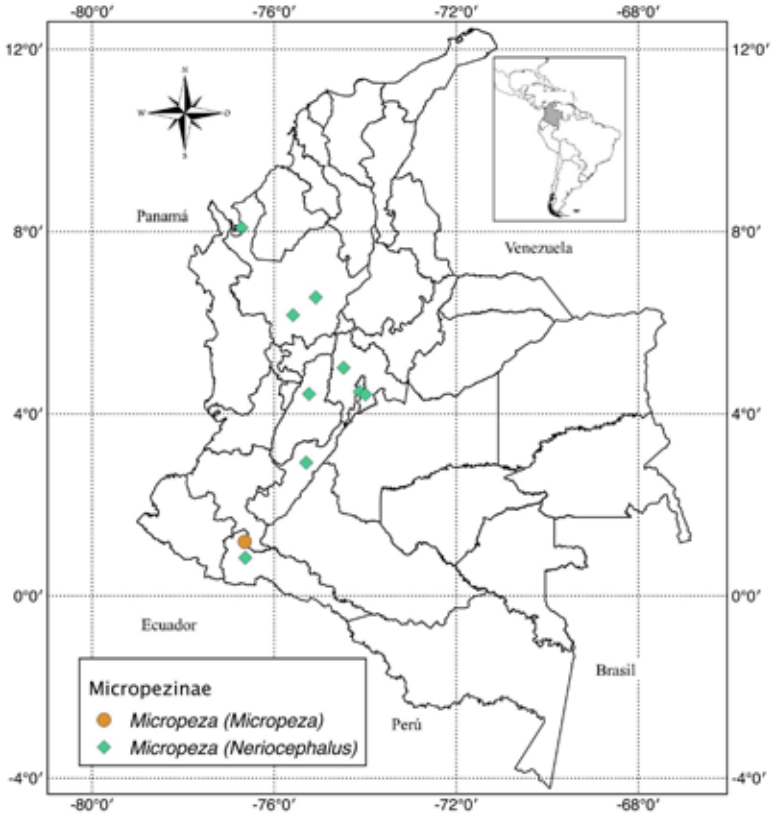

FIGURE 3. Collection sites for *Micropeza* (*Micropeza*) and *Micropeza* (*Neriocephalus*) in Colombia.

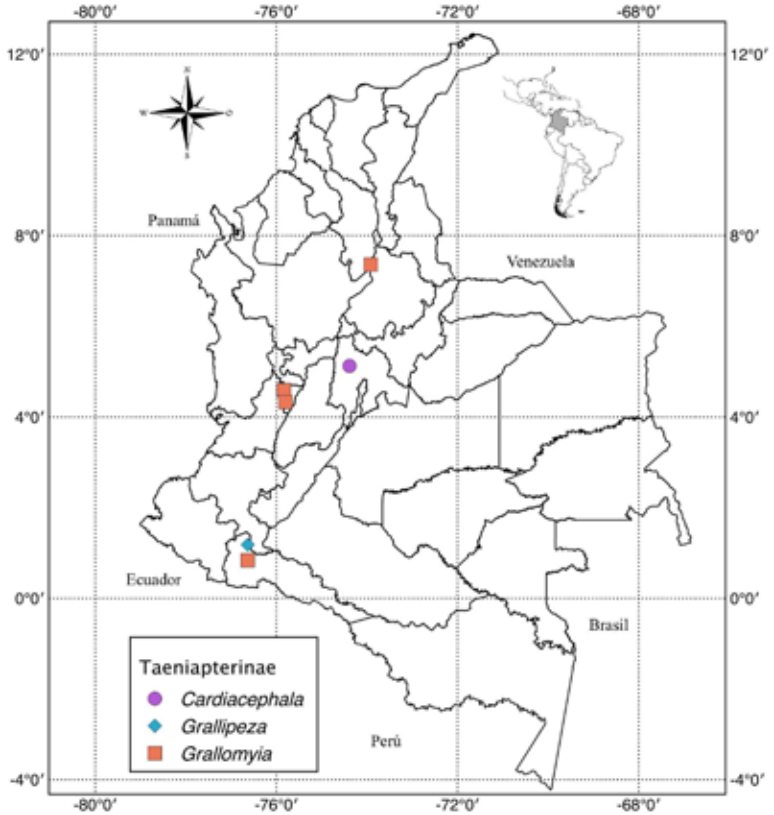

FIGURE 4. Collection sites for *Cardiacephala, Grallipeza* and *Grallomyia* in Colombia.

Grallipeza Rondani, 1850

Material examined (Fig. 4): *Grallipeza* sp., 1♀, **COLOMBIA**, **Putumayo**, Mocoa, Vda. Pueblo Viejo, Fca. Villa Loca, N 1º 11' W 76º 38', 700 m alt., 5-Mar-2015, M. Mendoza, [**UNAB** No. Catal. 1539].

Grallomyia Rondani, 1850

Material examined (Fig. 4): *Grallomyia*sp., 1♀, **COLOMBIA**, **Bolivar**, Cantagallo, Vda. La Feria, N 7º 22' W 73º 55', 60 m alt., 25-Jul-2011, J. Santa, [**UNAB** No. Catal. 1525]; 1♂, **Putumayo**, Villagarzon , Vda. San Fidel, Fca. La Cuca, N 0º 50' 14.9" W 76º 38' 5.9", 352 m alt., 27-Mar-2015, C. Triviño, [**UNAB** No. Catal. 1525]; 1♂, **Quindio**, Quimbaya, Fca. Ramada, N 4º 35' 37.7" W 75º 49' 60.6", 1,322 m alt., 16-Jun-2006, C. Delgado, [**UNAB** No. Catal. 1525]; 1♀, **Valle del Cauca**, Caicedonia, Club de Caza y Pesca, N 4º 20' 0" W 75º 48' 0", 1,320 m alt., 22-jul-2011, D. Rendon, [**UNAB** No. Catal. 1525].

Mesoconius Enderlein, 1922

Material examined (Fig. 5): *Mesoconius*sp., 1♀, **COLOMBIA**, **Antioquia**, Santa Barbara, Cgto. Versalles, Fca. Los Naranjos, N 5º 55' 60" W 75º 34' 00", 1,800 m alt., 15-Abr-2012, O. Ortiz, [**UNAB** No. Catal. 1540]; 1♂, **Antioquia**, Santa Rosa de Osos, N 6º 38' W 75º 27', 2,550 m alt., Dic-1989, F. Serna, [**UNAB** No. Catal. 1528].

Plocoscelus Enderlein, 1922

Material examined (Fig. 5): *Plocoscelus* sp., 4♀♀, **COLOMBIA**, **Caqueta**, Florencia, Vda. La Viciosa, Centro de Investigaciones Amazonicas Macagual, N 1º 29' 59" W 75º 39' 47", 257 m alt., 25-Oct-2014, M. Bermúdez, [**UNAB** No. Catal. 1523]; 2♀♀, **Cundinamarca**, Pacho, Vda. La Cabrera, N 5º 07' W 74º 09', 1,800 m alt., 22-Mar-2003, M. Murcia; C. Cortés, [**UNAB** No. Catal. 1523]; 1♀, **Cundinamarca**, Sasaima, Vda. Santa Ines, N 4º 54' 46" W 74º 25' 09", 1,740 m alt., 10-Abr-2011, I. Gomez, [**UNAB** No. Catal. 1523]; 1♀, **Nariño**, La Florida, Vda. Picacho, Fca. San Antonio, N 1º 20' W 77º 26', 1,646 m alt., 11-Jul-2013, L. Guerrero, [**UNAB** No. Catal. 1523]; 1♀, **Putumayo**, Orito, Vda. El Yarumo, Fca. El Limonar, N 0º 39' 26.7" W 76º 47' 24", 325 m alt., 26-Mar-2015, W. Sierra, [**UNAB** No. Catal. 1523]; 1♀, **Valle del Cauca**, Buenaventura, N 3º 53' 47" W 77º 04' 40", 7 m alt., 26-Sep-1999, S. Restrepo, [**UNAB** No. Catal. 1537].

Poecilotylus Hennig, 1934

Material examined (Fig. 5): *Poecilotylus* sp., 1♂, **COLOMBIA**, **Antioquia**, Carepa, Tulenapa, N 7º 46' W 76º 40', 25 m alt., 1-Abr-2014, M. Sierra, [**UNAB** No. Catal. 1522]; 1♂, **Antioquia**, Carepa, Fca. Tulenapa, N 7º 46' W 76º 40', 51 m alt., 31-Mar-2014, L. Hernández, [**UNAB** No. Catal. 1522]; 1♀, **Antioquia**, Santa Fe de Antioquia, Hda. Cotove, UNAL, N 6º 31' W 75º 49', 504 m alt., 6-Oct-2000, A. Botero; A. Gutiérrez; L. Arias; J. Guevara, [**UNAB** No. Catal. 1522]; 1, **Antioquia**, Santafe de Antioquia, Finca Cotove, Universidad Nacional de Colombia, N 6° 33' 31' W 75° 49' 32", 600 m alt., 6-Oct-2000, L. Arias, [**UNAB** No. Catal. 2286]; 1♀, **Cundinamarca**, Anapoima, N 4º 32' W 74º 32', 710 m alt., 21-Abr-2012, M. Ramírez, [**UNAB** No. Catal. 1522]; 1♂, **Cundinamarca**, Guaduas, Sector San Jose, N 5º 4' W 74º 36', 992 m alt., 28-Mar-2014, L. Daza, [**UNAB** No. Catal. 1522]; 1♀, **Cundinamarca**, Guaduas, N 5º 04' W 74º 36', 1,016 m alt., 28-Mar-2014, J. Rojas, [**UNAB** No. Catal. 1522]; 1♂, **Cundinamarca**, Guaduas, Regional 50, N 5º 04' W 74º 35', 983 m alt., 28-Mar-2014, J. Velásquez, [**UNAB** No. Catal. 1522]; 1♂, **Huila**, Neiva, Malecon el Mohan, N 2º 55' W 75º 17', 475 m alt., 19-Mar-2015, P. Villamarin, [**UNAB** No. Catal. 1522]; 1♀, **Meta**, Vista Hermosa, N 3º 08' W 74º 45', 460 m alt., Mar-1997, V. Sánchez, [**UNAB** No. Catal. 1522]; 1♂, **Putumayo**, Puerto Asis, Vda. Nariño Nariño, Fca. Agua Negra, N 0º 29' W 76º 24', 273 m alt., 25-Mar-2015, P. Villamarin, [**UNAB** No. Catal. 1536]; 1♂, **Putumayo**, Puerto Asís, Vda. Nariño Nariño, Fca. Agua Negra, N 0º 29' 10.9" W 76º 24' 23.6", 273 m alt., 25-Mar-2015, S. Rodríguez, [**UNAB** No. Catal. 1536]; 1♀, **Putumayo**, Villagarzon, Vda. San Fidel, Fca. La Cuca, N 0º 50' 14.9" W 76º 38' 5.9", 352 m alt., 27-Mar-2015, J. García, [UNAB No. Catal. 1536].

Ptilosphen Enderlein, 1922

Material examined (Fig. 6): *Ptilosphen* sp., 1♀, **COLOMBIA**, **Antioquia**, Amaga, N 6° 1' 44.2842" W 75° 41' 38.6592", 1,570 m alt., 23-Nov-2012, J.M. Perilla, [**UNAB** No. Catal. 1524]; 1♀, **Cundinamarca**, Cachipay, Barrio El Progreso, N 4º 43' 52.15" W 74º 26' 12.22", 1,600 m alt., 20-May-2010, G. Poveda, [**UNAB** No. Catal. 1524]; 1♀, **Cundinamarca**, La Vega, Cgto. El Vino, N 4º 54' W 74º 18', 2,541 m alt., 30-Sep-2011, J. Cante, [**UNAB** No. Catal. 1524]; 1♀, **Cundinamarca**, San Antonio del Tequendama, Vda. Quebrada Grande, N 4º 37' W 74º 21', 1,540 m alt., 13-May-2012, A. Mayorga, [**UNAB** No. Catal. 1524]; 1♀, **Cundinamarca**, San Francisco, Vda. San Miguel, N 4º 59' W 74º 16', 1,673 m alt., 8-Abr-2004, S. Flórez, [**UNAB** No. Catal. 1524]; 1♂, **Cundinamarca**, Sasaima, N 4º 57' W 74º 26', 1,186 m alt., 22-Abr-2000, I. Gamboa, [**UNAB** No. Catal. 1538]; 1♂, **Huila**, San Agustín, Alrededores Parque Arqueologico San Agustin, N 1º 52' W 76º 16', 1,725 m alt., 24-Sep-2014, S. Rodríguez, [**UNAB** No. Catal. 1538]; 1♀, **Meta**, Cumaral, N 4º 16' W 73º 28', 565 m alt., 25-Sep-2004, G. Tinoco, [**UNAB** No. Catal. 1524]; 1♀, **Meta**, San Martin, La Pascualera, N 3º 46' W 73º 39', 379 m alt., 7-Abr-2004, F.

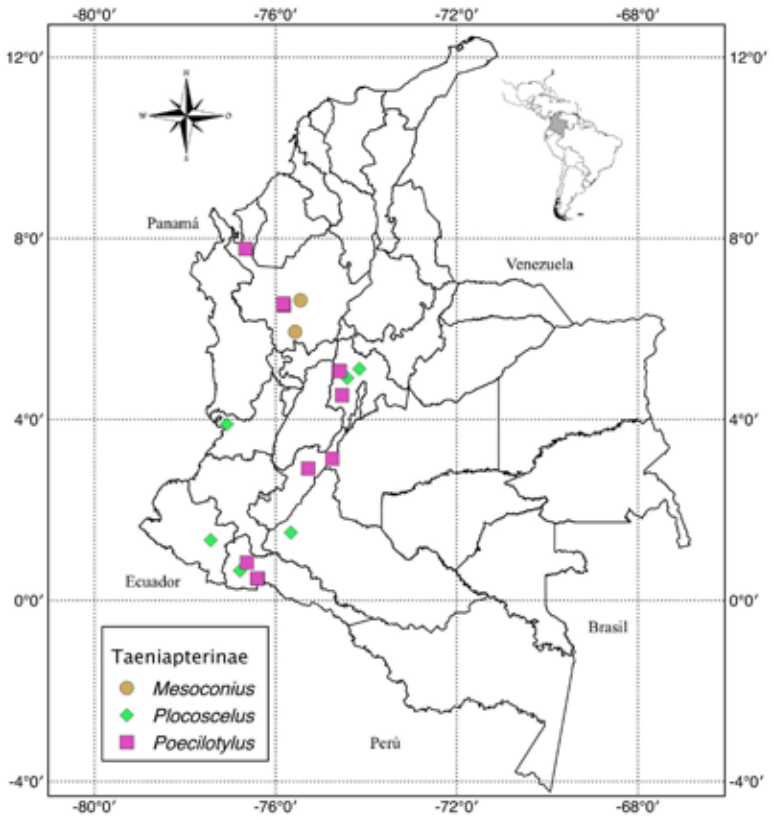

FIGURE 5. Collection sites for *Mesoconius, Plocoscelus* and *Poecilotylus* in Colombia.

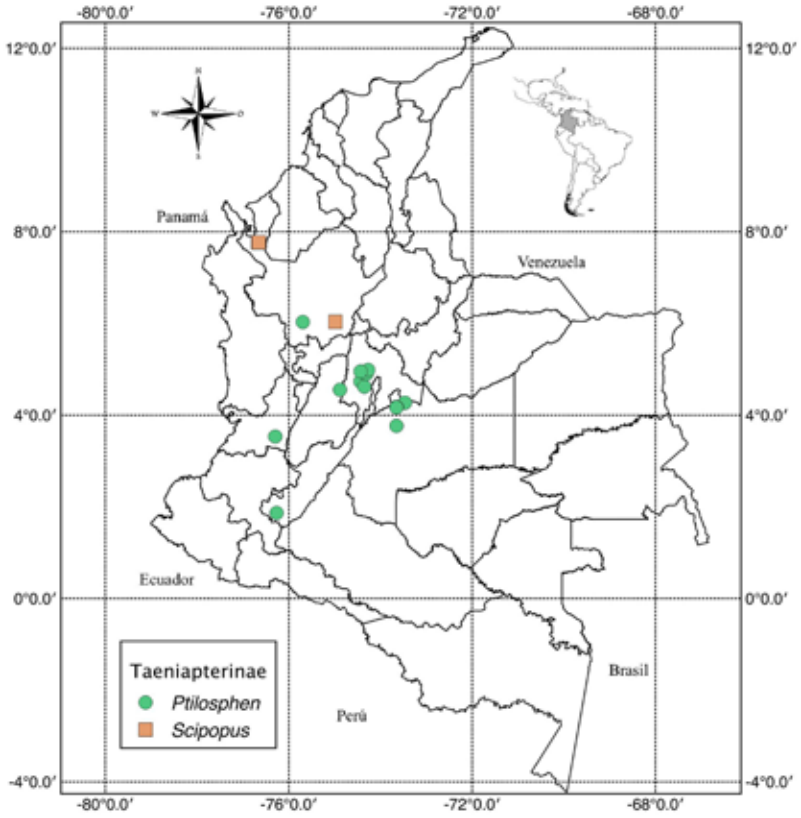

FIGURE 6. Collection sites for *Ptilosphen* and *Scipopus* in Colombia.

López, [**UNAB** No. Catal. 1524]; 1♀, **Meta**, Villavicencio, Bosque de Bavaria, N 04º 10' 37.49'' W 73º 38' 56.59'', 467 m alt., 14-Abr-2012, J. Combita, [**UNAB** No. Catal. 1524]; 1♀, **Meta**, Villavicencio, Bosque de Bavaria, Antigua, N 04º 10' W 73º 39', 594 m alt., 14-Abr-2012, R. Delvalle, [**UNAB** No. Catal. 1524]; 1♀, **Tolima**, Piedras, Hda. El Chaco, N 4º 33' W 74º 53', 426 m alt., 30-Sep-2011, D. Páez, [**UNAB** No. Catal. 1524]; 1♂, **Valle del Cauca**, Palmira, N 3º 32' 5'' W 76º 17' 44'', 1001 m alt., 30-May-2012, A. Arévalo, [**UNAB** No. Catal. 1524].

Scipopus Enderlein, 1922

Material examined (Fig. 6): *Scipopus* sp., 1♂, **COLOMBIA**, **Antioquia**, Carepa, Fca. Tulenapa, N 7º 46' W 76º 39', 2 m alt., 31-Mar-2014, P. Bermeo, [**UNAB** No. Catal. 1520]; 1♀, **Antioquia**, Carepa, Fca. Tulenapa, N 7º 46' W 76º 40', 51 m alt., 31-Mar-2014, L. Hernández, [**UNAB** No. Catal. 1520]; 1♂, **Antioquia**, Carepa, Hda. Tulenapa, N 7º 46' W 76º 39', 27 m alt., 31-Mar-2014, S. Quevedo, [**UNAB** No. Catal. 1520]; 1♂, **Antioquia**, Carepa, Hda. Tulenapa, N 7º 46' W 76º 39', 27 m alt., 31-Mar-2014, S. Vergara, [**UNAB** No. Catal. 1520]; 1♂, **Antioquia**, San Luis, N 6º 02' W 74º 59', 1050 m alt., Ene-1986, F. Serna, [**UNAB** No. Catal. 1520].

Paragrallomyia Hendel, 1933

Material examined (Fig. 7): *Paragrallomyia* sp., 1♂, **COLOMBIA, Antioquia**, Yolombó, Vda. Sabanitas, Fca. San Bartolo-La Esperanza, N 6º 33' 13'' W 75º 05' 7.1'', 1,500 m alt., 5-9-Ene-2010, E. Vergara, F. Serna, [**UNAB** No. Catal. 1521]; 2♂♂, **Caqueta**, Florencia, Vda. La Viciosa, Centro de Investigaciones Amazonicas Macagual, N 1º 29' 59'' W 75º 39' 47'', 257 m alt., 25-Oct-2014, M. Bermúdez, [**UNAB** No. Catal. 1521]; 2♀♀, **Caqueta**, San Vicente del Caguan, Vda. Palestro, Fca. El Limonar, N 2º 7' 11.90'' W 74º 45' 0.82'', 270 m alt., 9-Sep-2014, J. Martínez, [**UNAB** No. Catal. 1521]; 1♂, **Cundinamarca**, Bogota, Universidad Nacional de Colombia, N 4º 36' 56'' W 74º 04' 51'', 2,599 m alt., 24-Nov-2003, A. Molano, [**UNAB** No. Catal. 1521]; 1♂, **Cundinamarca**, Caparrapi, Huerta casera zona rural, N 5º 21' W 74º 30', 1,250 m alt., 29-Ene-2011, L. Rojas, [**UNAB** No. Catal. 1521]; 1♀, **Cundinamarca**, San Francisco de Sales, N 4º 52' W 74º 32', 152 m alt., 13-May-2011, L. Gomez, [**UNAB** No. Catal. 1521]; 1♀, **Cundinamarca**, Tibacuy, N 4º 20' W 74º 27', 1,633 m alt., 17-May-1997, Y. Reyes, [**UNAB** No. Catal. 1521]; 1♀, **Cundinamarca**, Villeta, N 5º 0' 29'' W 74º 28' 23'', 820 m alt., 16-May-2010, F. Padilla, [**UNAB** No. Catal. 1521]; 1♀, **Cundinamarca**, Villeta, N 5º 00' 29'' W 74º 28' 23'', 820 m alt., 16-May-2010, P. Pereira, [**UNAB** No. Catal. 1521]; 1♂, **Cundinamarca**, Villeta, N 5º 01' 09'' W 74º 28' 03'', 850 m alt., 16-May-2010, L. Lozano, [**UNAB** No. Catal. 1521]; 1♂, **Huila**, Neiva, Vda. Bajo Bejucal, N 2º 59' 55'' W 75º 18' 16'', 440 m alt., 18-23-Jul-2011, S. Castro, [**UNAB** No. Catal. 1521]; 1♀, **Meta**, Acacias, Vda. Santa Rosa, Hda. Mejorana, N 3º 59' W 73º 45', 498 m alt., 22-24-Sep-2000, UNAB, [**UNAB** No. Catal. 1521]; 1♂, **Meta**, Cubarral, Km. 8 via Cubarral-Villavicencio, N 3º 47' W 73º 46', 495 m alt., 16-Abr-2014, M. Sierra, [**UNAB** No. Catal. 1521]; 1♂, **Meta**, Villavicencio, Vda. La Llanerita, Fca. Villa Franca de Oria, N 4º 05' 38.01'' W 73º 11' 22.09'', 306 m alt., 9-Oct-2011, L. Ojeda, [**UNAB** No. Catal. 1521]; 2♀♀, **Meta**, Villavicencio, Vda. Buenos Aires, Fca. La Esmeralda, N 4º 7' 56.85'' W 73º 39', 561 m alt., 17-Ago-2014, S. Rodríguez, [**UNAB** No. Catal. 1521]; 1♀, **Putumayo**, Orito, Vda. El Yarumo, km 35 via Fca. El Limonar, N 0º 39' 26.7'' W 76º 47' 24.1'', 325 m alt., 26-Mar-2015, J. García, [**UNAB** No. Catal. 1521]; 1♂, **Putumayo**, Puerto Asís, Vda. Brisas de Hong Kong, Fca. La Y, N 0º 28' 55.6'' W 76º 30' 17.7'', 270 m alt., 25-Mar-2015, B. Blanco, [**UNAB** No. Catal. 1521]; 1♀, **Tolima**, Ibague, La Esperanza, N 4º 26' W 75º 18', 1,000 m alt., 18-Nov-2003, O. Guataquira, [**UNAB** No. Catal. 1521]; 1♀, **Tolima**, Mariquita, N 5º 11' W 74º 53', 495 m alt., 16-Sep-1976, N. Montoya, [**UNAB** No. Catal. 1521]; 1♀, **Tolima**, Melgar, N 4º 12' W 74º 39', 323 m alt., 16-May-2012, A. Ariza, [**UNAB** No. Catal. 1521]; 1♀, **Valle del Cauca**, Buenaventura, N 3º 53' 47'' W 77º 04' 40'', 7 m alt., 26-Sep-1999, S. Restrepo, [**UNAB** No. Catal. 1521].

Taeniaptera Macquart, 1835

Material examined (Fig. 7): *Taeniaptera* sp., 1♂, **COLOMBIA**, **Antioquia**, Carepa, Fca. Tulenapa, N 7º 46' W 76º 39', 40 m alt., 30-Mar-2014, J. Velásquez, [**UNAB** No. Catal. 1521]; 1♂, **Antioquia**, Medellin, Pueblito Paisa, N 6º 14' W 75º 34', 1552 m alt., Jul-2011, A. Prieto; C. Prieto, [**UNAB** No. Catal. 1526]; 2♂♂, **Caqueta**, Florencia, Vda. La Viciosa, Centro de Investigaciones Amazonicas Macagual, N 1º 29' 59'' W 75º 39' 47'', 257 m alt., 25-Oct-2014, M. Bermúdez, [**UNAB** No. Catal. 1521]; 1♀, **Cundinamarca**, Bogota, Universidad Nacional, Facultad de Biología, N 4º 38' 25'' W 74º 4' 24'', 2,558 m alt., 21-May-2010, O. García, [**UNAB** No. Catal. 1526]; 1♂, **Cundinamarca**, Choachi, N 4º 31' W 73º 55', 1,923 m alt., 18-May-1996, G. Ascencio; C. Álverez, [**UNAB** No. Catal. 1526]; 1♂, **Cundinamarca**, Fusagasuga, N 4º 20' W 74º 21', 1,728 m alt., 8-May-2010, J. Díaz, [**UNAB** No. Catal. 1521]; 1♂, **Cundinamarca**, Guayabal de Síquima, Casco urbano, N 4º 52' 57.88'' W 74º 28' 0.85'', 1,624 m alt., 5-Mar-2011, D. López, [**UNAB** No. Catal. 1526]; 1♀, **Cundinamarca**, San Francisco de Sales, N 4º 58' W 74º 17', 1,520 m alt., 2-Jun-1997, X. Medina, [**UNAB** No. Catal. 1526]; 1♀, **Cundinamarca**, Sasaima, Vda. Santa Ana, N 4º 57' 59'' W 76º 26' 15'', 1,221 m alt., 31-Ene-1998, V. Bernal; K Turriago, [**UNAB** No. Catal. 2292]; 1♀, **Cundinamarca**,

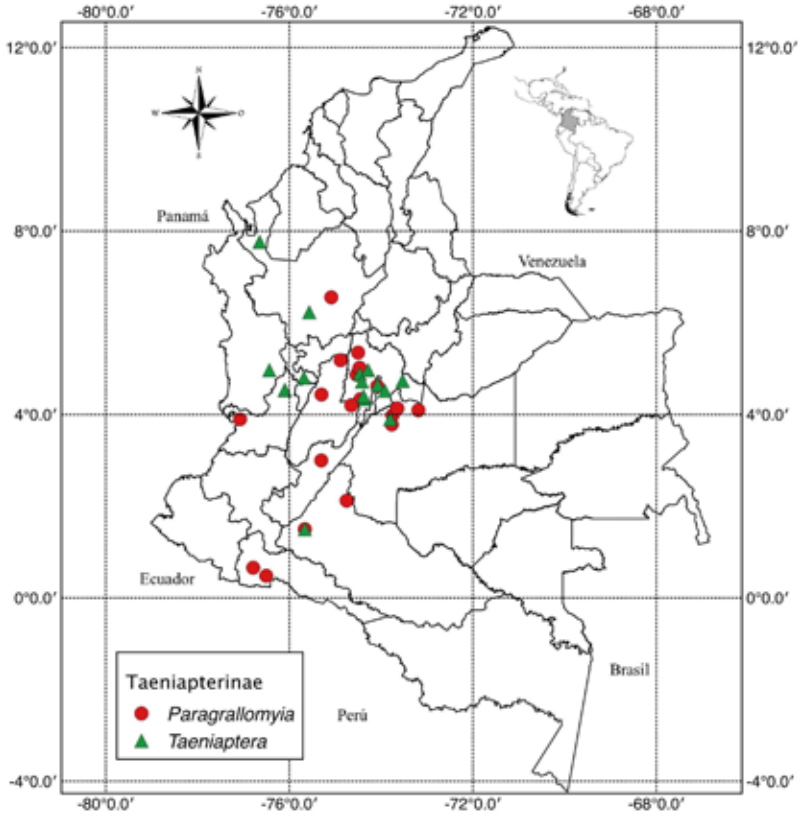

FIGURE 7. Collection sites for *Paragrallomyia* and *Taeniaptera* in Colombia.

Silvania, Km 47 vía Bogota Fusagasuga, N 4º 24' W 74º 23' , 1,470 m alt., 6-May-2010, E. Avellaneda, [**UNAB** No. Catal. 1526]; 1♂, **Cundinamarca**, Ubala, Vda. Betania, N 4º 44' W 73º 32', 1,900 m alt., 12-Oct-2003, O. Guataquira, [**UNAB** No. Catal. 1526]; 1♂, **Cundinamarca**, Zipacon, Vda. Laguna Verde, N 4º 43' W 74º 25', 1,600 m alt., 21-Feb-1998, V. Bernal; K. Turriago, [**UNAB** No. Catal. 1526]; 1♀, **Meta**, Guamal, Vda. Orotoy, via Guamal carretera antigua, N 3º 54' W 73º 48', 610 m alt., 16-May-2010, L. Boyaca, [**UNAB** No. Catal. 1526]; 1♂, **Risaralda**, Pereira, Fca. Calamar, N 4º 48' W 75º 41', 1,411 m alt., 28-May-1999, C. Forero, [**UNAB** No. Catal. 1526]; 1♂, **Valle del Cauca**, La Union, N 4º 32' W 76º 06', 975 m alt., 18-Nov-1999, S. Restrepo, [**UNAB** No. Catal. 1526]; 1♂, **Valle del Cauca**, La Unión, Grajales, N 4º 32' W 76º 06', 975 m alt., 16-Oct-2003, P. Rodriguez, [**UNAB** No. Catal. 1526].

Taeniaptera and *Paragrallomyia*

Taeniaptera sensu Steyskal (1966) used to be considered the largest and, taxonomically, one of the most complex genus in the Taeniapterinae subfamily. At the UNAB Museum, *Taeniaptera* sensu Steyskal (1966) was represented by 39 specimens from 30 municipalities and nine departments. However, very recently, Jackson *et al.* (2105) proposed a reclassification of the Taeniapterinae subfamily, raising *Paragrallomyia* to the genus level and including within it many species that were previously considered as part of *Taeniaptera* sensu lato. Therefore, *Taeniaptera* is currently represented in UNAB by 16 specimens from the following departments: Antioquia, Caqueta, Cundinamarca, Meta, Risaralda, and Valle del Cauca, whereas *Paragrallomyia* is now the best represented genus at this Museum, containing 23 specimens from 18 municipalities from the departments of Antioquia, Caquetá, Cundinamarca, Huila, Meta, Putumayo, Tolima, and Valle del Cauca.

To identify the *Paragrallomyia* genus, Jackson *et al.* (2105) considered the following combination of morphological characteristics: maxillar palp securiform, R4+5 cell open at the margin of the wing, and having at least one dorsocentral seta (Fig. 8).

Our results represent an approach to the geographical distribution of Micropezidae in Colombia and will aid studies involving taxonomy, biodiversity, ecology and conservation in Colombia and the Neotropics.

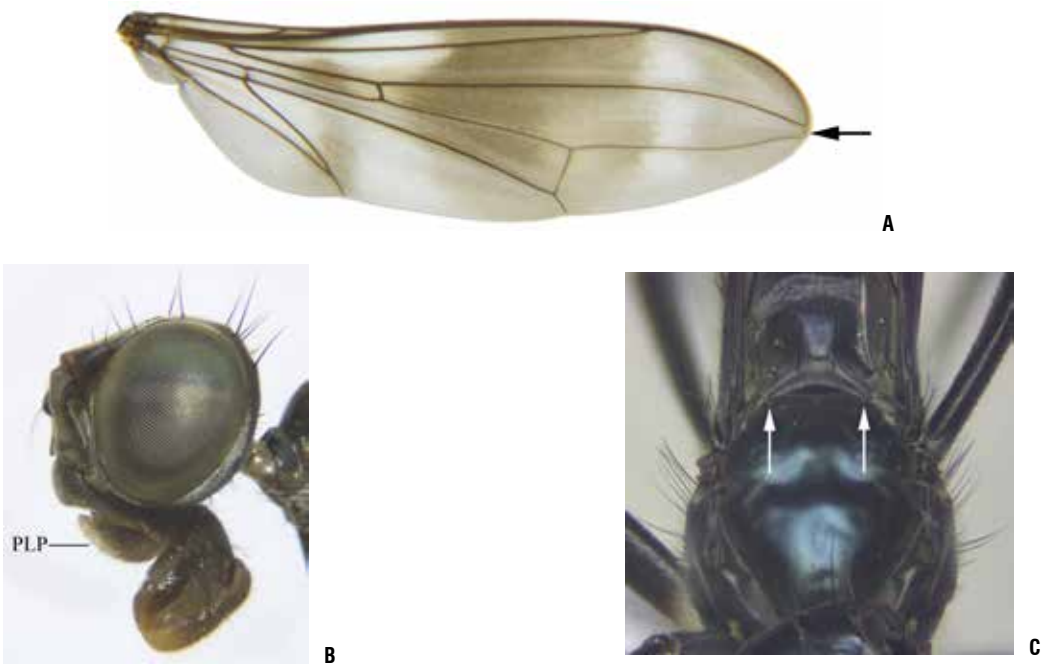

FIGURE 8. Morphological characteristics used to recognize *Paragrallomyia* sensu Jackson *et al*. (2105). A. wing, the arrow indicates a R_{4+5} cell open at the wing margin. B. Lateral Head view, showing a securiform palp (PLP). C. Mesonotum dorsal view, arrows pointing out two dorsocentral setae.

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Literature cited

Ferro, G.B. and C.J.B. Carvalho. 2014. A pictorial key and diagnosis of the Brazilian genera of Micropezidae (Diptera, Nerioidea). Rev. Bras. Entomol. 58, 52-62. Doi: 10.1590/S0085-56262014000100009

Harterreiten-Souza, E.S., E.R. Sujii, and J.R. Pujol-Luz. 2014. A new species of the genus *Micropeza* Meigen (Diptera: Micropezidae) from Brazil. Zootaxa 3827, 392-396. Doi: 10.11646/zootaxa.3827.3.9

Jackson, M.D., S.A. Marshall, and J.H. Skevington. 2015. Molecular phylogeny of the Taeniapterini (Diptera: Micropezidae) using nuclear and mitochondrial DNA, with a reclassification of the genus *Taeniaptera* Macquart. Insect Syst. Evol. 46, 411-430. Doi: 10.1163/1876312X-45032125

Marshall, S.A. 2004. A review of the genus *Metasphen* Frey including *Globomyia* Hennig syn. nov. (Diptera, Micropezidae). Stud. Dipterol. 11, 529-536.

Marshall, S.A. 2010. Micropezidae (stilt-legged flies). pp. 805-813. In: Brown, B.V., A. Borkent, J.M. Cumming, D.M. Wood, N.E. Woodley, and M. Zumbado (eds.). Manual of Central American Diptera. Vol. 2. NRC Research Press, Ottawa.

Marshall, S.A. 2011. A review of the genus *Hoplocheiloma* Cresson (Diptera: Micropezidae). Zootaxa 2806, 1-23.

Marshall, S.A. 2012. Flies: the natural history and diversity of Diptera. Firefly Books. Richmond Hill, Canada.

Marshall, S.A. 2013. *Grallipeza* Rondani (Diptera: Micropezidae: Taeniapterinae) of the Caribbean and North America. Zootaxa 3682, 45-84.

Marshall, S.A. 2015. *Mesoconius* Enderlein (Diptera, Micropezidae, Taeniapterinae) of Central America. Zootaxa 3914, 525-540. Doi: 10.11646/zootaxa.3914.5.2

Merritt, R.W. and M.T. James. 1973. The Micropezidae of California (Diptera). Bull. Calif. Insect Surv. 14, 1-27.

Merritt, R.W. and B.V. Peterson. 1976. A synopsis of the Micropezidae (Diptera) of Canada and Alaska, with descriptions of four new species. Can J. Zool. 54, 1488-1506. Doi: 10.1139/z76-172

QGIS Development Team. 2015. QGIS Geographic Information System. In: Open Source Geospatial Foundation Project, http://qgis.osgeo.org; consulted: April, 2015.

Steyskal, G.C. 1966. Family Micropezidae pp. 48.1-48.33. In: Vanzolini, P.E. and N. Papavero (eds.). A catalogue of the Diptera of the Americas South of the United States. Departamento de Zoologia, Secretaria da Agricultura do Estado de São Paulo, São Paulo, Brazil.

Steyskal, G.C. 1987. Micropezidae. pp. 761-767. In: McAlpine, J.F. (ed.). Manual of Neartic Diptera. Vol. 2. Monograph No. 28. Biosystematics Research Centre, Agriculture Canada, Ottawa.