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First record of Osmylidae (Neuroptera) from Colombia and description of two new species of *Isostenosmylus* Krüger, 1913

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Abstract

The family Osmylidae is recorded for the first time in Colombia, extending its known distribution range to the north of South America in the northern Andes. Two new species of the genus *Isostenosmylus* Krüger, 1913, *I. contrerasi* **n. sp.** and *I. septemtrionalandinus* **n. sp.** and one morphospecies distributed along the eastern cordillera in the departments of Cundinamarca, Huila, and Norte de Santander are described and illustrated. A key to species of the genus *Isostenosmylus*, as well as a list of South American species of Osmylidae is included.

Key words: Stenosmylinae, taxonomy, Neotropics, new species, Andes

Resumen

Se registra por primera vez la familia Osmylidae en Colombia, extendiendo su rango de distribución conocido al norte de América del Sur en la región norte de la cordillera de los Andes. Dos nuevas especies del género *Isostenosmylus* Krüger, 1913, *I. contrerasi* **n. sp.** y *I. septemtrionalandinus* **n. sp.**, además de una morfoespecie distribuidas a lo largo de la cordillera oriental, en los departamentos de Cundinamarca, Huila y Norte de Santander son descritas e ilustradas. Una clave para las especies de *Isostenosmylus*, así como una lista de especies Suramericanas de Osmylidae son incluidas.

Palabras clave: Stenosmylinae, taxonomía, Neotrópico, nuevas especies, Andes

Introduction

Osmylidae is a small and primitive group of Neuroptera (net-winged insects), with a worldwide distribution consisting of about 200 species in eight subfamilies: Eidoporisminae (Australia), Gumillinae (South America), Kempyninae (Australia and South America), Osmylinae (Africa, Asia, and Europe), Porisminae (Australia), Protosmylinae (Asia and South America), Spilosmylinae (Africa, Asia, and Australia), and Stenosmylinae (Australia and South America). Osmylids are probably more diverse in Oriental and Australian regions, followed by the Neotropics (South America), Afrotropics, and finally the Palaearctic region. In North and Central America they are absent, although some fossils have been attributed to this region (Tjeder 1957; Oswald 1994; Grimaldi & Engel 2005; Shepard & Contreras-Ramos 2009; Yang *et al*. 2010). Adults are medium to large sized (forewing length: 15–30 mm), mainly distinguished by the presence of ocelli, while those are not always very distinct; filiform antennae, less than half of length of forewings; wings broad, ovate or falcate at apex, showing a conspicuous pterostigma, intricate venation and trichosors along the margin, except at the wing base; ectoprocts dorsally fused, female genitalia with two spermathecae with ninth gonocoxites elongated and equipped with terminal gonostyli (Tjeder 1957; Aspöck & Aspöck 2008). In South America this family is represented by four subfamilies, five genera and 13 species (Navás 1912, 1928; Krüger 1913; Kimmins 1940; Adams 1969, 1971; Oswald 1994) (Tab. 1).

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Discussion

In the western hemisphere Osmylidae is known only from South America (Penny 2002). Adams (1969, 1971) and Oswald (1994) reported from southern South America several sympatric species of osmylids living in cold mountainous areas. Since the review of Stenosmylinae by Kimmins (1940), the family is restricted to the north of South America along of the Andes in Ecuador and Peru, in the province of Chaco in Bolivia and in the mountain areas in southern Brazil with very few records, some of wich are only from its type locality. Penny (2002) noted that there were no barriers to stop their dispersal to Colombia and insinuate the question about whether the mountain ranges that extend to Central America have been sufficiently high and constant throughout geological history to allow the survival of osmylids in Costa Rica. It is probably that the family has been able to increase its range to the north of Colombia given the mountainous extension from the Oriental cordillera to the mountains of Perijá or up in the Andes of Merida in Venezuela. It is also possible that a radiation may have been dispersed throught the central cordillera. The distribution of this group over the Andes at high elevations may indicate a high degree of endemism, with a high possibility of the existence of more new species. The species here described are distributed along the western slope (*I. contrerasi* and *Isostenosmylus* sp.) and from the eastern slope, at the northern end of the oriental cordillera (*I. septemtrionalandinus*), which could also include its extension until the mountains of Tamá (Fig. 6). These species are found in cloudy forest habitats in Sub Andean highlands (1450–2100 m). It is also important to note that such ecosystems are threatened by anthropogenic factors such as deforestation, mining industry, and climate change; therefore osmylids may be included in the list of possible endangered species.

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