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NEW RECORDS OF SPECIES OF LEUCOSPIDAE (HYMENOPTERA: CHALCIDOIDEA) FOR COLOMBIA

Registros nuevos de especies de Leucospidae (Hymenoptera: Chalcidoidea) para Colombia

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ABSTRACT

Two new records of *Leucospis* are reported from Colombia: *Leucospis aliena* and *Leucospis enderleini*. Including the species reported here, eleven species of *Leucospis* occur in Colombia. This paper also reports a new locality for *Leucospis colombiana* from Colombia in the department of Magdalena and an additional record of *Polistomorpha* conura in the department of Amazonas. The specimens are deposited in the entomological collection José Hernández Camacho Museum of the Alexander von Humboldt Institute (IAvH-E), Villa de Leyva (Boyacá, Colombia).

Key words: Big legged wasps, Leucospidae, *Leucospis*, Parasitoid wasps, *Polistomorpha*.

RESUMEN

Dos especies de *Leucospis* se reportan por primera vez para Colombia *Leucospis aliena* y *Leucospis enderleini*. Teniendo en cuenta estos nuevos registros, el número de especies de *Leucospis* reportadas para el país se eleva a 11. Además se reporta una nueva localidad en Colombia para *Leucospis colombiana* en el departamento del Magdalena y un registro adicional para *Polistomorpha conura* en el departamento del Amazonas. Los especímenes se encuentran depositados en la colección entomológica del Museo José Hernández Camacho del Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH-E), Villa de Leyva (Boyacá, Colombia).

Palabras clave: avispas parasitoideas, avispas patonas, Leucospidae, *Leucospis*, *Polistomorpha*.

INTRODUCTION

Leucospids (Chalcidoidea) are large wasps (8-12 mm) that can be characterized by the following features: first flagellar segment large, posterior edge of gena rounded, hind femur enlarged and toothed and hind tibia strongly curved. Leucospids are similar to Vespidae because the fore-wing is usually folded lengthwise (Arias-Penna,

2002; Hanson 2006). The family includes about 130-140 species in four genera: *Leucospis* Fabricius, of cosmopolitan distribution; *Polistomorpha* Westwood, from the Neotropical Region; Micrapion Kriechbaumer, from Africa and Madagascar and N*eleucospis* Bouček, from Western Africa (Gibson, 1993).

The genus *Leucospis* contains 115 species recognized worldwide. In America the genera include 52 species (Noyes, 2003), the majority of which occur in the Neotropical Region (Bouček, 1974a; Boueek, 1974b, Grissell & Cameron, 2002). In contrast, *Polistomorpha* is a small genus. Only seven species have been described (Bouček, 1974a). Although the entire family of Leucospidae is thought to be parasitic upon aculeate Hymenoptera -solitary bees and less frequently solitary wasps- hosts are actually known only for about 30 species, and for most of the biology remains essentially undocumented (Bouček, 1974b; Noyes, 2003; Hanson, 2006). Gazola & Garofalo, 2003, reported to*Leucospis cayennenis* as the most destructive enemy of populations of *Centris analis* (Apidae: Centridini). Grissell & Cameron, 2002, described the species *Leucospis pinna*, which attacks the large orchid bee. It was the first report of a gregarious ectoparasitoid species in the genus. Hesami *et al.*, 2007, reported to *Leucospis dorsigera* as hyperparasitoid of Cerambycidae (Coleoptera) through Xoridinae (Ichneumonidae)

As to taxonomic works in Colombia, Fernández, 1995, offered a checklist of the genera of the family Leucospidae and Arias-Penna, 2004, made an introduction to the knowledge of the family including a key for the recognition of the genera *Leucospis* and *Polistomorpha*, diagnosis, and local distributional data. In her work, she reported nine species of *Leucospis* and three of *Polistomorpha* for Colombia. In this paper, two new reports of *Leucospis* are presented, *Leucospis aliena* Boueek, and *Leucospis enderleini* Ashmead. Thus the number of species for Colombia is increased to 11. A new geographical record for *Leucospis colombiana* Bouček is reported, too. Herein an additional record of *P. conura* Bouček is presented in Amazonas.

MATERIALS AND METHODS

Colombia is a highly interesting country in terms of biodiversity due to its large variety of ecosystems. Joint efforts by the Instituto de Investigación en Recursos Biológicos Alexander von Humboldt (IAvH) and Unidad Administrativa Especial del Sistema de Parques Nacionales Naturales (UAESPNN) along with international institutions like the University of Kentucky (UK) and the Natural History Museum of Angeles County (LACM) have permitted sampling in some natural areas managed by the Colombian government. A total of 25 natural areas including National Parks, Natural Reserves, Sanctuaries of fauna and flora, Biological stations and an Unique Natural Area were sampled. The total number of samples collected was 5072, the methods used for catching the insects were Malaise, Pitfall and Winkler traps. All collected material is deposited in the entomological collection Jorge Ignacio Camacho Museum of the Instituto de Investigación en Recursos Biológicos Alexander von Humboldt, Villa de Leyva (Boyacá, Colombia). The specimens of Leucospidae were determined using the key of Bouček, 1974a.

MATERIAL EXAMINED

***Leucospis* Fabricius, 1775**

Leucospis aliena Bouček, 1974. COLOMBIA. Amazonas: 1♀, PNN [Parque Nacional Natural] Amacayacu, San Martín, 3°46'S 70°18'W, 50 m, Malaise, 15-23-feb-2001, B. Amado, M. 2039. [IAvH-E 69881].

Comments. This is the first record for Colombia. The species was known only from Brazil (Noyes, 2003). The specimens were collected in 1936 and 1955 (Bouček, 1974a). Although the species was described in 1974, this is the first specimen caught after 46 years. Despite the fact that record was expected (Arias-Penna, 2002), Amacayacu is the most northern place reported for this species so far.

Leucospis enderleini Ashmead, 1904. COLOMBIA. Amazonas: 1♀, PNN [Parque Nacional Natural] Amacayacu, San Martín, 3°46'S 70°18'W, 50 m, Malaise, 02-15-oct- 2001, D. Chota, M. 2246, [IAvH-E 34534].

Comments. This is the first record for Colombia. The species was known from Brazil and Argentina, specimens were collected in 1972 and in 1938 (Bouček, 1974a; Noyes, 2008). The species was described in 1904. Bouček examined two specimens, the second of which was captured 34 years after the first. Another 29 years later, the presence of the species is reported for Colombia. This record was expected, too (Arias-Penna, 2002). In Brazil the species was reported in Pernambuco. So, this is the most western record of *L. enderleini* in South America.

Leucospis colombiana Bouček, 1974. COLOMBIA, Magdalena, 1♀, PNN [Parque Nacional Natural] Tayrona, Neguanje, 11°20'N 74°2'W, 10 m, Malaise, 20-abr-4-may-2001, R. Henríquez. M. 1599, [IAvH-E 69884]; PNN [Parque Nacional Natural] Tayrona, Palangana, 11°20'N 74°2'W, 30 m, Malaise: 1♂, 21-feb-5-mar-2001, R. Henríquez, M. 1352, [IAvH-E 69883]; 1♂, 20-abr-4-may-2001, R. Henríquez, M. 1596, [IAvH-E 69885]; 1♂, 5-20-abr-2001. R. Henríquez, M. 1598, [IAvH-E 69879]. Bolívar. 1♀, Zambrano, Hda. [Hacienda] Monterrey, Zoocriadero techo Madera, 9°45'S 74°49'W, 10 m.17-jun-1994, F. Fernández, [IAvH-E 69880].

Comments. First geographical record for the Magdalena: PNN Tayrona (Palangana and Neguanje). Bouček, 1974a, reported the species in Colombia from the departments of Magdalena (Río Frio), based on material collected in 1927; in Cundinamarca (Villeta) material was collected in 1936; and in Norte de Santander (Cúcuta) specimens were collected in 1930. He also reported the species from Venezuela in 1930 (Bouček, 1974a). Arias-Penna, 2004, reported specimens caught in 1993 in the department of Bolivar (Zambrano, Hda. [Hacienda] Monterrey), i. e. 57 years after those collected in 1936. The specimens reported here were caught eight years after the last report.

***Polistomorpha* Westwood, 1839**

Polistomorpha conura Bouček, 1974. COLOMBIA, Amazonas: 1♀, PNN [Parque Nacional Natural] Amacayacu, Matamata, 3°41'S 70°15'W, 150 m, Malaise, 28-may-11-jun- 2001, A. Parente, M. 1859, [IAvH-E 69882].

Comments. Arias-Penna (2004) reported specimens from the departments of Risaralda (Pueblo Rico, Santa Cecilia in 1992) and Amazonas (PNN [Parque Nacional Natural] Amacayacu in 1989). Bouček (1974) reported the species in Ecuador in

1965, Guyana in 1923 and 1937, French Guyana (undated), Brazil in 1861, Bolivia in 1949 and Peru in 1954.

Bouček, 1974a, examined material that was collected during a period of about 100 years (from 1861 to 1965). Later on Arias-Penna, 2004, reported the permanency of the species in the Neotropical Region. She examined material caught 24 years after Boučeks works. Here the species is reported again after nine years.

The Neotropical region contains hundreds of species of undescribed hymenopterous. Furthermore, we totally ignore or know little about the range of distribution of the vast majority of those species that have been described. The importance of the biological collections has increased in recent years. The biological materials deposited in museums or academic institutions are as important as libraries or documentation centers. The information associated to each specimen is unique. Additionally it represents the evidence of the record for each species of a particular locality in a certain period, that is to say, a collection allows to establish the diversity of past and present times (Simmons & Muñoz-Saba, 2005). As pointed out by the biologist and entomologist Wilson, 2003, we are still in this stage of discovery, and a majority of the species that exist on our planet—and their roles and potential value—have not yet been described. Additionally, the collections are essential components of research, particularly for the traditional taxonomists and systematicists. The specimens deposited in museums to ensure that species identifications can be confirmed and the results interpreted correctly (Ruedas *et al.,* 2000). Nothing will ever replace the taxonomic knowledge and training that museums provide (Suarez & Tsutsui, 2004).

The Humboldt Institute has made a huge effort both logistic and economic to contribute to the national inventory of biodiversity. During four years (2000-2004) different natural areas were sampled. Nowadays its collection is the biggest of the country. There are approximately one million insects deposited there. This extensive collection has allowed entomologists to deepen their knowledge of Colombian fauna. This is the case of the leucospids.

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