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Revision of the species of the bee genus *Caenohalictus* (Hymenoptera: Halictidae) occurring in Argentinean Patagonia

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Abstract

The species of the halictid bee genus *Caenohalictus* Cameron occurring in Argentinean Patagonia are revised. Eight species are recognized, one of them here described as new: *Caenohalictus flammeus* n. sp. The female of *C. turquesa* Rojas & Toro 2000 is described for the first time. *Pseudagapostemon babuaro* Jörgensen 1912, based on the male holotype, is synonymized under *Augochlora* (*Pseudaugochloropsis*) *thamyris* Jörgensen 1912, based on the female lectotype. Lectotypes are designated for *Augochlora* (*Pseudaugochloropsis*) *thamyris* Jörgensen 1912 and *Halictomorpha autumnalis* Jörgensen 1912. *Caenohalictus cyanopygus* Rojas & Toro 2000, *C. galletue* Rojas & Toro 2000, *C. iodurus* (Vachal 1903), *C. opaciceps* (Friese 1916), and *C. turquesa* Rojas & Toro 2000, all known from Chile, are cited for Argentina for the first time. Notes on the variation observed within species, images of diagnostic structures, a key to the species and distributional data are provided. In addition, DNA barcoding results for four species are briefly discussed.

Key words: Caenohalictina, Argentina, Chile, taxonomy, DNA barcoding

Introduction

The worldwide bee tribe Halictini comprises four subtribes: Thrinchostomina, Caenohalictina, Sphecodina and Halictina (Michener 2007). Caenohalictina is the only subtribe represented exclusively in the New World. These bees have been called “Agapostemonines” in early morphological studies of the group (Eickwort 1969; Roberts & Brooks 1987). Molecular (Danforth *et al.* 2004) and morphological (Gonçalves & Melo 2009) phylogenies support the monophyly of the subtribe, although the topologies obtained are different regarding the position of *Caenohalictus* Cameron. The group comprised of *Habralictus* Moure and *Caenohalictus* (Engel 2000) was recovered as a clade in the topology of Danforth *et al.* (2004), but this group was not recovered in the morphological study of Gonçalves and Melo (2009) where *Habralictus*, and then *Caenohalictus*, are successive sisters to the remaining genera of Caenohalictina.

The species of the genus *Caenohalictus* are slender, usually bright-green bees. They are characterized from other genera of Caenohalictina by the even, granulose sculpture of the body and the hairy compound eyes, the hairs of which can be as long as three times the diameter of the median ocellus. The clypeus is considerably produced in some of the larger species, while in others it is very short and the head is almost round. The genus occurs from the north of Mexico to the south of Argentina and Chile, being more abundant and diverse along the Andes. *Caenohalictus* is the most species-rich genus of Caenohalictina, with approximately 55 described species (Michener 2007, Moure 2007).

The only revision of the genus was by Rojas and Toro (2000) for the 15 species present in Chile. They revised the type material of the already described species, described seven new species and provided a key. They focused mainly on features of the genital capsule of the male, as several species are difficult to tell apart by external morphology. They distinguished four species groups based mostly on the extent of yellow markings of the male, the degree to which the clypeus is produced, the shape of the epistomal lobe and the length of the malar area.

The aim of this contribution is to revise the species of *Caenohalictus* that occur in Argentinean Patagonia (an area found south from latitude 37° to 51° S). Our study strongly relies on the revision of Rojas and Toro (2000),