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The species of Colletinae (Hymenoptera: Colletidae) in the Brazilian state of Minas Gerais

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Abstract

The Brazilian state of Minas Gerais is a species-rich territory about as large as France, which houses the headwaters of some of the most important rivers in Brazil, as well as a variety of phytogeographic domains, with a poorly known insect fauna. Here, a synopsis of the bee species included in the genera *Colletes* Latreille, 1802 and *Rhynchocolletes* Moure, 1943 (Colletidae: Colletinae) occurring in this state is presented, including synonymies, diagnoses, redescriptions and identification keys to females and males of the eight recognized species, including one described as new. These species are *Rhynchocolletes albicinctus* Moure, 1943; *Colletes altimontanus* Ferrari & Silveira **sp. nov.**; *C. argentinus* Friese, 1908 **stat. rev.**, *C. meridionalis* Schrottky, 1902; *C. ornatus* Schrottky, 1902; *C. petropolitanus* Dalla Torre, 1896; *C. rufipes* Smith, 1879; and *C. rugicollis* Friese, 1900. *Colletes extensicornis* Vachal, 1909 is here proposed to be a junior synonym of *C. meridionalis*.

Key words: bees, *Colletes*, *Rhynchocolletes*, Neotropics, taxonomy

Introduction

The classification of Colletidae has changed considerably since the seminal paper by Michener (1944) on the phylogeny and classification of the bees. Here, the subfamily Colletinae is considered in a narrow sense, following authors such as Silveira *et al.* (2002) and Almeida & Danforth (2009), and corresponding to the tribe Colletini in classifications such as those of Michener (1944, 1989, 2007), Engel (2001), Moure & Urban (2002), Melo & Gonçalves (2005) and Moure *et al.* (2007). As such, Colletinae comprises *Colletes* Latreille, 1802, a species-rich and worldwide genus, and related South American genera.

The number of genera considered in Colletinae has also been subject to controversy. Michener (1944) considered it to comprise only of *Colletes*, but later, he recognized one additional genus in the group—*Mourecotelles* Toro & Cabezas, 1978 (Michener 1989, 2000, 2007), which was subdivided into three subgenera: *Mourecotelles* s.str., *Hemicotelles* (Toro & Cabezas 1977), and *Xanthocotelles* (Toro & Cabezas 1978). This arrangement, however, has not been unanimously accepted, with Moure & Urban (2002) recognizing six genera in Colletinae, whereas Moure *et al.* (2007) recognized four genera. Here, we follow the generic classification adopted by Moure *et al.* (2007), with two of their genera being included in the scope of this revision: *Colletes* and *Rhynchocolletes* Moure, 1943.

Colletes is a cosmopolitan taxon, only absent in the Australian region and Antarctica (Michener 2007), and including an estimated 700 species (Kuhlmann *et al.* 2009). In the Neotropics, it is represented by 107 valid names (Moure *et al.* 2007). As pointed out by Michener (2007) and Kuhlmann *et al.* (2009), two morphological synapomorphies support the monophyly of *Colletes*: (i) the “S”-shaped second recurrent vein of the hind wing and (ii) the basal portion of propodeum limited posteriorly by a carina (or sharp change in slope) and divided into pits by longitudinal carinae. The last comprehensive study to include the Brazilian fauna of *Colletes* was part of Schrottky’s (1902) essay on Brazilian solitary bees, where five species were recognized in this country. A century later, Silveira *et al.* (2002) recorded 12 species for Brazil. Two of these, *C. albicinctus* (Moure 1943) and *C.*

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