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An Annotated Catalogue of the Leafcutter and Mason Bees (Genus *Megachile*) of the Neotropics

ANTHONY RAW



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An annotated catalogue of the leafcutter and mason bees (genus *Megachile*) of the Neotropics

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Abstract

Megachile is treated here as a single genus combining *Megachile* with *Chalicodoma*. In the Americas the genus occurs from Alaska and Canada to southern Chile and Argentina, and is well represented in the tropics. Despite their economic and ecological importance as pollinators, the biology of few species has been studied in detail largely because they are difficult to identify. The 419 species in the catalogue are allocated to 28 subgenera (including 10 Old World species introduced to the region and one species dubiously recorded from the New World). Summaries of information on each species' classification, biology and geographical distribution are given.

Key words: *Megachile*; Neotropics; Taxonomy; Distribution; Biology

Introduction

Members of the genus *Megachile* are among the most easily recognized of bees (O'Toole & Raw 1991, Raw 2004a). The Neotropical species are 7–15 mm long. The genus is large with a current total of 1515 described species listed under the names *Megachile*, *Chalicodoma* and *Creightonella* (Ascher 2007). Here I have followed Michener *et al* (1994), Michener (2000) and others and treated the group as a single genus combining *Megachile* with *Chalicodoma*. Species of *Megachile* are "leafcutter bees" whose females cut leaves and petals to line their nests. Species of *Chalicodoma* are "mason bees" which construct their nests with resin, mud or leaves chewed into pulp (O'Toole & Raw 1991). However, this division is not clear as some species of *Megachile* (*Chrysosarus*) use both mud and leaf pieces in the construction of their nests (Jørgensen 1909, 1912a, Laroca 1971, Laroca *et al* 1992, Bortoli & Laroca 1997, Zillikens & Steiner 2004).

This inventory is a labour of Sisyphus. Despite its unfinished state, I have been persuaded that people find the work useful and believe that it should be published in its present state. There are 423 references and thousands of citations to them in the text. The inventory places 419 species recorded from the Neotropical region into 28 subgenera (Table 1). There is also one extinct Neotropical species and subgenus (Engel 1999). Knowing the subgenus to which a species belongs and the geographical distributions of the members of that subgenus substantially reduces the number of options and should assist identification to species or species group and may assist in predicting the species' nesting biology.

For each species the subgenus is indicated, the valid name and synonymies are listed, and information on the bee's biology and on its geographical distribution are given. The information provided, including the distributional data, is intended to facilitate studies on the bees' biology and to better assess the bees' roles as pollinators. Furthermore, the catalogue should facilitate future revisionary studies.

Dalla Torre (1896) listed 92 Neotropical species now included in the genus *Megachile*. Other notable works on Neotropical *Megachile*, including many species descriptions, are Schrottky (1913a), Friese (1911), and Mitchell (1930). Three Neotropical species were erroneously placed at some time in the genus *Megachile*. The present status of each is indicated. Ten species occurring in the Neotropics are exotic species