



Phylogenetic analysis of the bee genus *Capicola* with the description of *Capicola hantamensis* sp. nov. (Hymenoptera: Dasypodaidae)

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Abstract

The genus *Capicola* Friese is one of the 8 genera included in the Dasypodaidae. *Capicola* contains 13 species (including the new species *C. hantamensis* sp. nov.) restricted to the xeric part of south-western Africa. New cladistic analysis and description of *C. hantamensis* sp. nov. complete the recent monographic revision of this genus (Michez *et al.* 2007) and demonstrate that the new species is the sister of all other *Capicola*.

Key words: Hymenoptera, Dasypodaidae, *Capicola*, new species, South Africa

Introduction

The bee genus *Capicola* is one of the 8 genera included in the Dasypodaidae (Michener 1981, 2000; Danforth *et al.* 2006a, b). *Capicola* is restricted to southern Africa, but is closely related to the Nearctic genus *Hesperapis* Cockerell (Michener 1981; Engel 2005) and the two were considered congeneric by Michener (2000). Both *Hesperapis* and *Capicola* share morphological features, notably the shape of stigma, the two sub-marginal cells (the first being longer than the second), the galea comb well developed and the scopa restricted to the outer face of hind tibia and basitarsus. The two genera differ in the shape of the pygidial plate, which is flat in *Hesperapis* and displays a strongly elevated longitudinal area in *Capicola* females (except *C. flavicara*). *Capicola* and *Hesperapis* are in the subtribe Hesperapina including also a third genus, the central Asian *Eremaphanta* (Engel 2005; Michez & Patiny 2006).

The genus *Capicola* is represented by 13 species (including the new species *C. hantamensis* sp. nov.) (Michener 1981; Michez *et al.* 2007). Most *Capicola* seem to be oligolectic on a few plant families: Asteraceae, Aizoaceae, Campanulaceae and Fabaceae (Michez *et al.* 2007). They probably nest solitarily underground, although the natural history of *Capicola* is still poorly documented. Only *C. braunsiana* Friese has been studied (Rozen 1974). The nesting area was sandy, treeless, with numerous widely spaced desert plants (principally *Mesembryanthemum* sp., Aizoaceae). The nest itself was very simple, consisting in a main ground tunnel that gave rise to linear series of four cells.

During a field trip in 2006, one of us (MK) collected some specimens of a hitherto undescribed *Capicola* in the Hantam Mountains (Northern Cape Province, South Africa). New cladistic analysis of *Capicola* species and description of *C. hantamensis* sp. nov. complete the recent monographic revision of *Capicola* (Michez *et al.* 2007).