



A new species of the palaeartic genus *Dasyroda* Latreille 1802 (Hymenoptera: Dasyrodidae) from the Great Rift Valley in Ethiopia

DENIS MICHEZ¹ & ALAIN PAULY²

¹University of Mons, Laboratory of Zoology, 20 Place du parc, 7000 Mons, Belgium. E-mail: denis.michez@umons.ac.be

²Royal Belgian Institute of Natural Sciences, Department Entomology, Rue Vautier 29, 1000 Brussels, Belgium.
E-mail: alain.pauly@brutele.be

Abstract

Dasyroda is a genus of solitary bees previously recorded as endemic in the Palaearctic region from Portugal to Japan. We describe here a new species of *Dasyroda* (Hymenoptera, Apoidea, Melittidae), *Dasyroda riftensis* sp. nov., collected from Ethiopia, Great Rift Valley, Gallo. This species is the first record of the genus *Dasyroda* in Sub-Saharan Africa and is of phylogenetic importance. We discuss biogeographical implications of the record in Ethiopia.

Key words: Melittidae s.l., sub-Saharan Africa, biogeography, hotspot

Introduction

Melittidae s.l. is one of the smallest groups of bees (198 species among ~20000 described bees) (Michez *et al.* 2009). Its monophyly and phylogenetic position among bees are still debated even though Danforth *et al.* (2006) recently consolidated the hypotheses of a basal position and paraphyly of Melittidae s.l. Danforth *et al.* (2006) followed the taxonomic proposition of Alexander and Michener (1995) acknowledging three melittid families (Dasyrodidae, Melittidae s.s. and Meganomiidae) based on a morphological dataset. In this hypothesis, Dasyrodidae is the sister group of all others bees. The study of Dasyrodidae is therefore crucial to understanding the early evolution of bees.

Dasyrodidae can be distinguished among other bees by a unique combination of several features: short tongue with all segments of the labial palpus similar to one another, paraglossa reduced, submentum V-shaped and two submarginal cells with the first submarginal crossvein at right angles to the longitudinal vein (Michener 1981). Dasyrodidae are relatively species-rich (101 species) in xeric areas of both the Old World and the Nearctic region (Michez *et al.* 2009, 2010, Fig. 1). *Dasyroda* is the only widespread genus, which occurs from temperate to the xeric areas of the Palaearctic. *Dasyroda* determines the northern limit of Dasyrodidae to 62 degrees north (Michez *et al.* 2004a). The other Dasyrodidae genera, *Capicola*, *Eremaphanta*, *Hesperapis*, and *Samba* are each endemic in different Old World and Nearctic semi-deserts.

Most *Dasyroda* are longer than 15 mm while the other Dasyrodidae are less than 10 mm. *Dasyroda* share a few apomorphies: black body, vertex elevated, no basitibial plate, female scopae strongly developed and absence of keirotrichia (Michener 1981; Michez 2004a, b). Michez *et al.* (2004a, b) and Michez (2005) listed 33 species and described four subgenera based on morphological cladistic analysis: *Dasyroda* s.s., *Heterodasyroda*, *Microdasyroda*, and *Megadasyroda*. Diagnostic features are numerous at specific level: sculpture of outer surface of galea, punctures of clypeus, length of malar area, scopae colour, appressed setae on female pygidial plate, shape of male hidden sterna and genitalia.

Dasyroda species are common in the Palaearctic region but most species are west-palaearctic (Michez 2002, 2005, Michez *et al.* 2004a, b). The diversity centres of each four subgenera are restricted to one of the following parts of the Mediterranean region: Balkan, Morocco and Spain.