



New European bee species of the tribe Osmiini (Hymenoptera: Apoidea: Megachilidae)

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Abstract

Bees of the tribe Osmiini (Megachilidae) are represented by about 230 described species in Europe. In this publication, 15 new European osmiine bee species are described and diagnosed: *Hoplitis (Alcidamea) occidentalis* spec. nov., *Hoplitis (Anthocopa) peniculifera* spec. nov., *Hoplitis (Hoplitis) hilbera* spec. nov., *Hoplitis (Hoplitis) lithodora* spec. nov. and *Hoplitis manuelae* spec. nov. from Spain; *Chelostoma (Chelostoma) siciliae* spec. nov. from Sicily; *Chelostoma (Foveosmia) incognitum* spec. nov., *Chelostoma (Foveosmia) longifacies* spec. nov., *Chelostoma (Gyrodromella) aegaeicum* spec. nov., *Hoplitis (Annosmia) monticola* spec. nov., *Hoplitis (Anthocopa) nicolaei* spec. nov., *Hoplitis (Anthocopa) serainae* spec. nov. and *Protosmia (Nanosmia) montana* spec. nov. from Greece; *Chelostoma (Chelostoma) comosum* spec. nov. from Cyprus; and *Hoplitis (Anthocopa) caucasicola* spec. nov. from the Caucasus.

Key words: Apiformes, *Chelostoma*, *Hoplitis*, *Protosmia*

Introduction

The osmiine bees constitute a monophyletic tribe within the family Megachilidae (Michener, 2007; Praz *et al.*, 2008). They occur on all continents except South America (but see Gonzalez & Griswold, 2011), Australia and Antarctica and comprise 15 genera and about 1000 described species worldwide (Michener, 2007; Ungricht *et al.*, 2008; Müller, 2012). They are especially diversified in mediterranean and desertic climates of southern Africa, southwestern North America and the Palaearctic. With 10 genera and almost 600 described species, the Palaearctic osmiine bee fauna is particularly diverse (Müller, 2012). Unfortunately, the taxonomy of the Palaearctic Osmiini is in a rather poor state. This is best exemplified by the fact that for 125 species (21% of the total) only one sex is currently known as well as by the high number of species descriptions based solely on a single specimen. In fact, many tentatively accepted osmiine bee taxa have proved to be synonyms during the last few years and it is to be expected that further synonymizations will follow once more specimens become available for study. On the other hand, there exist at least 115 undescribed osmiine bee species in the Palaearctic and others undoubtedly still await discovery. Such poor taxonomic knowledge strongly impedes research on the biology of this fascinating group of bees, which differ widely in the diversity and range of exploited host plants and possess highly diverse and often spectacular nest building behaviours (Westrich, 1989; Sedivy *et al.*, 2008, submitted; Rozen *et al.*, 2010), rendering them a most suitable model group for the study of the evolution of pollen host choice and nesting biology in bees in general.

Including taxa from Cyprus and the Caucasus, about 230 osmiine bee species have been recorded so far in Europe (Müller, 2012). The examination of a large amount of undetermined osmiine bee material from all over Europe during the last decade revealed the existence of 15 still undescribed species, which mainly occur in the southernmost or easternmost parts of Europe and adjacent extra-European regions. In the present publication, these 15 species are described and diagnosed against their closest relatives. In addition, all available information on pollen hosts is given including results from microscopical analysis of pollen contained in the scopae of collected females. The descriptions do not follow a strictly standardized scheme for each species. Instead, they focus on those characters that are best suited to separate the species within a given subgenus or species group. Morphologi-