Dasypoda (Megadasypoda) intermedia spec. nov. (Hymenoptera: Apoidea: Melittidae), a new species from Iran

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Michez, D. Dasypoda (Megadasypoda) intermedia spec. nov. (Hymenoptera: Apoidea: Melittidae), a new species from Iran. Zool. Med. Leiden 79-2 (6), 22.vii.2005: 123-127, figs 1-5.— ISSN 0024-0672. Denis Michez, University of Mons-Hainaut, Laboratory of Zoology, Avenue Maistriau 19, 7000 Mons, Belgium (e-mail: denis.michez@umh.ac.be).

Key words: Hymenoptera; Melittidae; Dasypoda; new species; Iran.

Dasypoda intermedia spec. nov. from Iran is described. Its description fills a gap of our knowledge of the East Mediterranean fauna of the genus Dasypoda. The West Mediterranean Dasypoda species are well known but the eastern species lack convincing records. Moreover, D. intermedia spec. nov. is a very interesting species from a phylogenetic point of view. It shares some characters common to subgenera Dasypoda s. str. and Megadasypoda Michez, 2004, which provide further evidence for the close relationship of both subgenera.

Introduction

The genus Dasypoda Latreille, 1802 is one of the 14 genera included in the family (or subfamily) Melittidae Schenck, 1859 (Michener, 1981, 2000). The genus is characterized by the presence of only two submarginal cells of the fore wing and by a well-developed scopa of female hind leg. Dasypoda encompasses 33 species including D. intermedia spec. nov. Michez et al. (2004c) recognize four subgenera: Microdasypoda Michez, 2004, Heterodasypoda Michez, 2004, Dasypoda Latreille 1802, and Megadasypoda Michez, 2004. These four taxa are mainly characterized by their tongue/mouthparts morphology, the genital structures and the shape of the last terga of the males.


Material and terminology

D. intermedia spec. nov. is known of only one specimen but the study of numerous specimens of Dasypoda has been made for a recent revision of the genus (Michez et al., 2004a, b). RMNH stands for Nationaal Natuurhistorisch Museum, Leiden, Netherlands.
For the terminology, see Michener (1981, 2000). The distribution map of the subgenus (fig. 5) is based on the maps presented by Michez et al. (2004c).

**Results**

*Dasypoda (Megadasypoda) intermedia* Michez spec. nov.


Etymology.— Named “*intermedia*” because the new species shows some characters of two subgenera: *Dasypoda* s. str. and *Megadasypoda* (table 1).

Diagnosis.— Male: entire body with reddish-white setae. Galea with dull external side, strong and sparse punctured. Ratio of maxillary palpus and galea lengths ranging from 0.50-0.75. Malar area shorter than pedicel of antenna. Third antennal segment longer than the fourth segment. Nervulus antefurcal. Sternum 7 medially U-emarginated, with two long and sclerotized latero-apical process (fig. 1). Sternum 8 without basal hook (fig. 2); apex truncated; two latero-apical processes on ventral face. Penis valve tapered (0.6 mm) (fig. 3). Gonostyli with three lobes (figs 3, 4). Female: unknown.

Differential diagnosis: see table 1.

Table 1. Differential diagnosis between *D. intermedia* spec. nov. and both subgenera *Dasypoda* and *Megadasypoda*.

<table>
<thead>
<tr>
<th>Characters</th>
<th>Subgenus</th>
<th><em>D. intermedia</em> spec. nov.</th>
<th>Subgenus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malar area</td>
<td>Shorter than pedicel</td>
<td>Shorter than pedicel</td>
<td>Longer than pedicel</td>
</tr>
<tr>
<td>Ratio of maxillary</td>
<td>Between 0.5 and 0.75</td>
<td>Between 0.5 and 0.75</td>
<td>Less than 0.5 palpus and galea lengths</td>
</tr>
<tr>
<td>Apex of sternum 7</td>
<td>With two long and sclerotized latero-apical process</td>
<td>With two long and sclerotized latero-apical process</td>
<td>With two latero-apical spines</td>
</tr>
<tr>
<td>Sternum 8</td>
<td>With basal hook</td>
<td>Without basal hook</td>
<td>Without basal hook</td>
</tr>
<tr>
<td>Gonostyli</td>
<td>With two linked lobes</td>
<td>With three independent lobes</td>
<td>With three independent lobes</td>
</tr>
</tbody>
</table>

Description.— Male. Length (vertex-tergum 7): 15 mm. Head. Cuticle black, except the ventral side of antenna reddish. Glossa sharp, shorter than galea. Galea with dull external side, strong and sparse punctured. Maxillary palpus/galea lengths 0.50-0.75. Ratio of maxillary palpus and galea lengths comprised 0.50-0.75. Malar area shorter than pedicel of antenna. Labrum smooth and glossy, semi-circular. Clypeus, face and vertex densely punctured, dull. Ocellar area with scattered punctures. Cuticle weakly smooth and glossy. Inner margins of eyes convergent. Third antennal segment longer than fourth segment. Antennal segments 4-13 subequal. Face and vertex with reddish-white flattened setae. Outer margin of labrum and galea glabrous.

Legs. Black from coxa to basitarsus; remaining tarsal segments brownish. Tibia without teeth. Pilosity reddish-white.

Wings. Nervulus antefurcal.

Metasoma. Terga and sterna with black disc and brownish marginal zone. Disc of terga and sterna with setiferous punctures. Terga and sterna with marginal zone smooth and glossy. Apex of terga straight. Sterna 1-4 apex straight. Sternum 5 with shallow median emargination. Sternum 6 flat, with shallow median emargination. Sternum 7 medially U-emarginated, with two long and sclerotized latero-apical processes (fig. 1). Sternum 8 without basal hook (fig. 2); with truncate apex; with two latero-apical processes on ventral face. Disc of terga with erected reddish-white hairs. Terga with continuous apical band. Disc of sterna 1-3 with long redish-withe hair. Disc of sterna 4-5 with short redish-withe hair. Sterna 1-5 with continuous redish-withe apical bands. Sternum 6 with hairless disc and continuous redish-withe apical band. Sternum 7 hairless.

Figs. 1-4: *Dasypoda intermedia* spec. nov. 1, sternum 7 ♂ (scale = 0.5 mm); 2, sternum 8 ♂ (scale = 0.5 mm); 3-4, genitalia dorsal and facial view (scale = 0.5 mm).
Genitalia (figs. 3, 4). Penis valve tapered (0.6 mm) (fig. 4). Gonostyli with three lobes (figs. 3, 4). Female: unknown.

Discussion

D. intermedia spec. nov. is included in the subgenus Megadasypoda on basis of the structure of its genitalia (see diagnosis). This kind of character is generally regarded as the most important to recognise subgenera of Apoidea (Michez et al., 2004c).

D. intermedia spec. nov. is particularly interesting from a phylogenetic point of view. It shares apomorphies with the subgenus Dasypoda s. str. (shape of the 7th sternite and of the tongue) as well as the subgenus Megadasypoda (shape of the 8th sternite and the genitalia) (table 1). Consequently, this species confirms the affinity between Dasypoda s. str. and Megadasypoda, what is underlined by the cladistic study of Michez et al. (2004c). The distinction of the two subgenera is still relevant on the basis of the genital structure.

From a geographic point of view, the type locality of D. intermedia spec. nov. is positioned on the eastern limit of the distribution of the subgenus (fig. 5).

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