



A new species of *Meligethes* (Coleoptera: Nitidulidae: Meligethinae) of the *M. lugubris* complex from Sardinia*

PAOLO AUDISIO¹, ALESSIO DE BIASE², MARCO TRIZZINO³, EMILIANO MANCINI⁴ & GLORIA ANTONINI⁵

Dipartimento di Biologia Animale e dell'Uomo, Sapienza Università di Roma, Via A. Borelli 50, I-00161 Rome, Italy. E-mails:

¹paolo.audisio@uniroma1.it; ²alessio.debiase@uniroma1.it; ³marco.trizzino@uniroma1.it; ⁴emiliano.mancini@uniroma1.it;

⁵gloria.antonini@uniroma1.it

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Abstract

A combined morphological and bionomical analysis was performed to clarify the position of a problematic species of the *Meligethes lugubris* group from Sardinia and Corsica (Coleoptera, Nitidulidae, Meligethinae). This species-group is represented by a dozen anthophagous species associated with Lamiaceae, and distributed from North Africa to Japan. The analysis was mainly focused on the specific distinction and formal description of a new species, *M. foddai* Audisio, De Biase & Trizzino **sp. nov.**, from Sardinia and Corsica. The species is morphologically scarcely distinguishable from the allopatric *M. lugubris* Sturm and *M. gagathinus* Erichson (both widespread in southern Europe). An identification key to Euro-Mediterranean members of the *M. lugubris* complex is provided. Combined morphological, ecological, phenological, and preliminary molecular data are presented to support the distinction of the new species. The palaeogeographical scenario explaining the likely Plio-Pleistocene differentiation of the three species, which are all associated with the related Lamiaceae genera *Mentha* and *Thymus*, is also briefly discussed.

Key words: Pollen beetles, *Meligethes*, new species, Corso-Sardinia, palaeogeography

Introduction

Meligethes Stephens, 1830 is the largest genus of Nitidulidae, and includes, worldwide, some 600 pollen-feeding species (Audisio 1993). They are to be found in association with flowers of a huge number of species of several botanical families. Most of the known species are distributed in the Palaearctic and Afrotropical Regions, with more than 200 and probably more than 300 species, respectively (Audisio 1993). Recent molecular data (Trizzino *et al.* 2008) strongly support the delimitation of *Meligethes* into a monophyletic clade including only the [*M. atratus* (Olivier) + *M. denticulatus* (Heer)] group (~35 described and undescribed species, mostly from the East Palaearctic; associated with Rosaceae during larval development), close to the *Meligethes aeneus* (Fabricius) group (~40 Palaearctic and Nearctic species; associated with Brassicaceae during larval development). The type species of *Meligethes* is, in fact, the European *M. atratus*. One of the natural assemblages within the present-day *Meligethes* is the *M. umbrosus* Sturm + *M. obscurus* Erichson + *M. lugubris* Sturm + *M. exilis* Sturm species-groups (globally including some 50 Palaearctic species, all strictly associated with Lamiaceae during larval development), probably representing a monophyletic lineage needing description as a pair of separate genera (Audisio *et al.* 2009).

Members of the *Meligethes lugubris* group, including a dozen species distributed from North Africa to China and Japan (Easton 1954; Kirejtshuk 1992; Audisio 1993; Jelínek & Audisio 2007) are mostly