

Dendrosoter middendorffii (Ratzeburg, 1848) (Hymenoptera: Braconidae) a parasitoid of the fruit bark beetles in Iran

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Abstract. A Braconidae species was obtained in a parasitoid rearing study performed with xylophagous pests in Ardebil province, northwest of Iran in 2012. These specimens were reared from the galleries of fruit bark beetle, *Scolytus rugulosus* (Muller) (Coleoptera: Scolytidae) and was identified as *Dendrosoter middendorffii* (Ratzeburg, 1848) (Hymenoptera: Braconidae, Doryctinae). Both the genus and the species are new records for Iran.

Key words: Hymenoptera, Braconidae, new distribution, fauna, Scolytidae, Iran.

Xylophagous insects are one of the economically important pests of woody plants especially in forest ecosystems (Lotfalizadeh 2012). The fruit bark beetle, *Scolytus rugulosus* (Muller) (Col.: Scolytidae) is a serious pest of fruit trees in Iran. Recently, chalcidoid parasitoids (Hymenoptera: Chalcidoidea) of xylophagous beetles in Iran have been studied by Lotfalizadeh and Khalghani (2008).

During study of xylophagous pests parasitoids in Meshkin-Shahr, Ardebil province in 2012, infested branches were cut and transferred to laboratory condition. These branches including larvae and pupae of *S. rugulosus* in the galleries were placed in plastic containers to rearing parasitoids. Within emerged parasitoids some Braconidae were observed. These specimens were reared from galleries of *S. rugulosus* on *Malus domestica* and *Prunus domestica*. Determination of specimens in subfamilial level were made using van Achterberg (1993). Dr. van Achterberg identified these specimens under *Dendrosoter* Wesmäl and then Muesebeck (1938) and Papp (1961) were used for specific discrimination.

***Dendrosoter middendorffii* (Ratzeburg, 1848)** (Fig. 1A-F)
(Hym.: Braconidae, Doryctinae)

Material examined: Iran, Ardebil province, Meshkin-Shahr, 17 May 2012, *Malus domestica*, 2 male. Same date and locality, *Prunus domestica*, 1 female. Same locality, *Malus domestica*, 5 June 2012, 1 male. Same locality, *Malus domestica*, 9 June 2012, 1 female.

Some morphological characters of the genus *Dendrosoter* are as follow: occiput sharply margined, frons with two conspicuous protuberances that are transversely striate; antennae very slender; pronotum strongly transverse; fore wing with 3 cubital cells, medius more or less sinuate, calcaria of hind tibiae short, abdomen sessile (Muesebeck 1938).

Diagnose of the species (Fig. 1). General color of body brown (Fig. 1A), head and antennae rusty brown (terminally 4-6 segments black), apex of mandibles black (Fig. 1D), thorax blackish brown, ovipositor brown, terminally black, head approximately square in dorsal view, face finely rugulose, oculi not large, antenna shorter than body, pedicel swollen, subsequent antennal segments always longer than broad (Fig. 1E), joints pubescent, on vertex two crest-shaped protuberances besides oculi, occiput margined, finely rugulose, rugosity behind oculi indistinct, temples totally smooth and polished, labial palpi 3-, maxillary palpi 6-segmented,

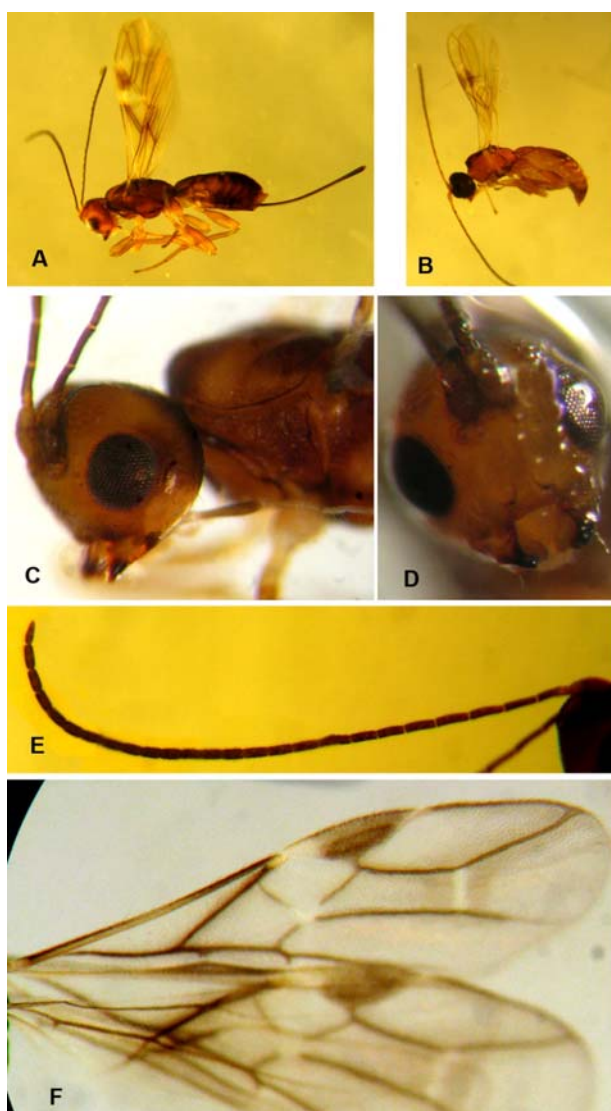


Figure 1. *Dendrosoter middendorffii*: A- female in lateral view, B- male in lateral view, C- head and thorax in lateral view, D- head in frontal view, E- female antenna, F- wings.

pronotum striated, mesonotum finely rugulose, two notauli, meeting on posterior quarter, divide mesonotum into three lobes, prescutellar furrow with 7-9 crenulae, abdomen oval, first tergite, apart from anterior quarter, strongly striate, on

anterior quarter, a pair of convergent ridges, base of 2-3. tergite striate, the rests smooth and shiny.

The morphological discrimination of *D. middendorffii* from the nearly allied species *Dendrosoter protuberans* (Nees) was discussed and illustrated by Papp (1961). This recent species is widely distributed in Europe and recently was reported in associated with *Populus* spp. in Serbia (Žikić et al. 2012).

Geographical distribution. This species has been reported from most of European countries, Georgia, Japan and Turkey (Yu et al. 2005). This parasitoid is reported for the first time in Iran.

Only 7 genera including 7 species of Doryctinae have been reported so far from Iran (Fallahzadeh and Saghaei 2010), but the genus *Dendrosoter* is new record for Iranian fauna. Papp (1961) reported that *Dendrosoter* includes 11 species in Palaearctic region and recent findings reported 20 valid species worldwide (Yu et al. 2005).

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