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# *DRINO IMBERBIS* (WIEDEMANN) (DIPTERA: TACHINIDAE), A PARASITOID OF *MALACOSOMA DISSTRIA* HUBNER (LEPIDOPTERA: LASIOCAMPIDAE) CATERPILLARS IN IRAN

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## Abstract

*Malacosoma disstria* Hubner (Lepidoptera: Lasiocampidae) is a widespread generalist defoliator of a wide variety of plants in Iran. This study was conducted to identify the indigenous parasitoids of the forest tent caterpillar in the Borazjan region of the Bushehr province, Iran. Samplings were conducted in different sites within a single cabbage field heavily infested with *M. disstria*. The forest tent caterpillars were reared in the laboratory until the emergence of parasitoids. A parasitoid species from the family Tachinidae was found, reared, and identified as *Drino imberbis* (Wiedemann). *Malacosoma disstria* is a new host record for *D. imberbis* in Iran.

KEY WORDS: *Drino imberbis*, forest tent caterpillar, *Malacosoma disstria*, parasitoid

## Introduction

*Malacosoma* species are important herbivores of various types of cultivated and wild plants (Costa, 1997). The forest tent caterpillar, *Malacosoma disstria* Hubner, 1820 (Lepidoptera: Lasiocampidae) is one of the most widespread insects in Iran. It has a wide host range and has been recorded feeding on different forest tree and shrub species (Coyle *et al.*, 2005). Biological control represents an important element of integrated pest management (IPM) in many agricultural systems. However, very few studies have been published on biocontrol agents of this pest in Iran (Saadat *et al.*, 2014). Thus, the objective of this study was to identify key parasitoids of *M. disstria* in the Borazjan region, Bushehr Province. These data are a necessary first step in establishing an IPM program for this pest that includes natural enemies.

## Materials and Methods

Samplings were conducted in different sites within a single cabbage field heavily infested with the forest tent caterpillars in Bondarooz, Borazjan region, Bushehr Province (southern Iran) from March to the end of April 2015. The geographical coordinates for the study site are as follows: 29°12'47.4" N, 51°13'56" E, elev. 90 m a.s.l. All collected larvae were transferred to the laboratory and kept at room temperature (25±5°C) in ventilated plastic containers (13×9×5 cm) and supplied with fresh cabbage leaves. The larvae were observed daily and emerged parasitoids were collected. The specimens were sent to Dr. Joachim Ziegler from the Museum für Naturkunde, Berlin, Germany, to confirm the preliminary identification. The specimens are deposited in the insect collection of the Museum für Naturkunde, in Berlin.

## Results and Discussion

Reared parasitoids were identified as *Drino imberbis* (Wiedemann, 1830) (Diptera: Tachinidae, Eryciini) (Fig. 1). In total, six females and seven males of this parasitoid were collected. Gheibi *et al.* (2010) collected this species from flowers of *Euphorbia* sp. and *Lepidium draba* L. in Fars Province, Iran. This species has been reported on *Thiacidas postica* Walker, 1855 (Lepidoptera: Noctuidae) from Bushehr Province, Iran (Farar *et al.*, 2002).

Figure 1. The adult parasitoid *Drino imberbis* (Diptera: Tachinidae)

Diagnostic characters:

Arista thickened in basal 0.40-0.45. Postpedicel 2.4-3.3 times as long as pedicel. Parafacial in profile at its narrowest point 0.6-0.9 times as wide as the postpedicel, its absolute measurement 1.15-1.40 times as wide as the postpedicel. Frons at its narrowest point 0.75-0.85 times as wide as an eye in dorsal view. Section of *M* between cross vein *dm-cu* and bend of *M* 1.15-1.45 times longer than the distance between bend of *M* and wing margin. Yellow lateral spots on the abdomen less pale, usually not visible in dorsal view. Surstylus with stubby black spinules on outer apical part (Ziegler, 2011).

This species is widely distributed in the Afrotropical realm, Mediterranean, Turkey, Turkmenistan, as well as Iran (Gheibi *et al*., 2010). Usually Tachinidae are solitary endoparasitoids of insect larvae, especially Lepidoptera (Calvo & Molina, 2002; Efil & Kara, 2004; Gözüaçik *et al*., 2009), but there are also gregarious species. Different species of *Malacosoma* (e.g., *M. neustria* Linnaeus, 1758) have been reported as hosts of *D. imberbis* in Turkey (Kara & Tschorsnig, 2003). *M. disstria* is a new host record for *D. imberbis* in Iran. Its effectiveness in the biological or integrated control programs of *M. disstria* remains to be evaluated**.**

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# *DRINO IMBERBIS* (WIEDEMANN) (DIPTERA: TACHINIDAE), ПАРАЗИТОИД ГУСЕНИЦА *MALACOSOMA DISSTRIA* HUBNER (LEPIDOPTERA: LASIOCAMPIDAE) У ИРАНУ

ФАРИБА СОХРАБИ и МОХАМАД АМИН КОХАНМО

## Извод

*Malacosoma disstria* Hubner (Lepidoptera: Lasiocampidae) је широко распрострањен дефолијатор многих врста биљака у Ирану. Циљ овог рада је идентификација аутохтоних паразитоида *M. disstria* у региону Боразџан, провинција Бушер у Ирану. Узорци су сакупљани на различитим местима у пољу купуса који је био јако заражен врстом *M. disstria*. Гусенице су одгајане у лабораторији до изласка паразитоида. Нађени су паразитоиди из фамилије Tachinidae и идентификовани као *Drino imberbis* (Wiedemann). *M. disstria* је регистрована као нова врста домаћина за *D. imberbis* у Ирану.

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