

New Records of bristle flies (Diptera: Tachinidae) from Morocco: Expanding the Geographic Distribution of the family

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INTRODUCTION & AIM

Tachinidae, the second-largest family of Diptera, comprises over 8,600 described species worldwide (O'Hara et al., 2020) grouped into 1501 genera. In the Palaearctic Region, more than 2100 species have been recorded grouped in 416 genera. The adults vary greatly in size, ranging from 1 to 17 mm.

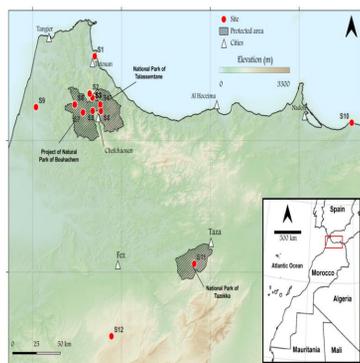
The larvae are parasitoids of insects and arthropods, which, once inside the host, cause harm. Due to their parasitoid nature, they play a very beneficial ecological role as regulators of other phytophagous insects (Kara & Tschorsnig 2003; Stireman et al. 2006). Their distribution is related to host preferences as well as to the habitats where the hosts occur on a regular basis and, presumably, in good numbers.

In Morocco, the studies dedicated to these insects have been recently compiled by Kettani et al. (2022) in a Catalogue of the Diptera of Morocco, which documents 147 species of Tachinidae in the country. However, research on this family of Diptera remains relatively limited in Morocco compared to other areas in the western Palaearctic.

This study aims to improve our knowledge on these parasitoid flies of great ecological importance within a country known by its remarkable biodiversity and landscapes.

METHOD

The material was collected in different localities in the north of Morocco from the Rif to the Middle Atlas Mountains (Fig. 1). Specimens were collected by sweep netting or by Malaise traps. Later, they were passed through ethyl acetate, dried, pinned and labelled. All studied specimens are housed in the private collection of the first author.. Identification to genus was made using the digital interactive key to the genera of the Palaearctic Tachinidae (Cerretti et al. 2012) and to species using the work of Cerretti (2010).



RESULTS & DISCUSSION

Sixteen species of Tachinidae are newly records for Morocco belonging to four subfamilies: Dexiinae (2 species), Tachininae (4 species), Exoristinae (4 species) and Phasiinae (6 species). Ten of these are also new records for North Africa.

The newly recorded taxa are listed below in systematic order.

Subfamily Dexiinae

- Microsoma exiguum* (Meigen, 1824)**
First record of the genus from North Africa.
- Stomina tachinoides* (Fallén, 1817)**
First record from North Africa.

Subfamily Tachininae

- Triarthria setipennis* (Fallén, 1810)**
First record of the genus from North Africa.

***Macquartia viridana* Robineau-Desvoidy, 1863**

First record from North Africa.

***Nemoraea pellucida* (Meigen, 1824)**

First record of the genus from Morocco.

***Peleteria meridionalis* (Robineau-Desvoidy, 1830)**

First record from Morocco.



Dexiinae_ *Stomina tachinoides*



Exoristinae_ *Elodia ambulatoria*



Phasiinae_ *Cylindromyia rufipes*



Tachininae_ *Triarthria setipennis*

Subfamily Exoristinae

- Trigonospila transvittata* (Pandellé, 1896)**
First record of the genus in North Africa.
- Chetogena rondaniana* (Villeneuve, 1931)**
First record from North Africa.
- Prosopea nigricans* (Egger, 1861)**
First record of the genus in North Africa.
- Elodia ambulatoria* (Meigen, 1824)**
First record of the genus in North Africa and West Mediterranean.

Subfamily Phasiinae

- Catharosia flavicornis* (Zetterstedt, 1859)**
First record of the genus form North Africa.
- Catharosia pygmaea* (Fallén, 1815)**
First record from North Africa.
- Cylindromyia rubida* (Loew, 1854)**
First record from Morocco.
- Cylindromyia rufipes* (Meigen, 1824)**
First record for Morocco.
- Gymnosoma desertorum* (Rohdendorf, 1947)**
First record from North Africa.
- Leucostoma semibarbata* Tschorsnig, 1991**
First record from North Africa.

Although the new records listed here are not numerous, they demonstrate, as expected, the paucity of data available on the Moroccan fauna. Clearly much remains to be done. Two of these species (*Leucostoma semibarbata* Tschorsnig and *Elodia* sp.) have a wide distribution and all were expected to occur in North Africa. Many other species with a wide distribution can also be expected to occur in North Africa.

CONCLUSION

The varied habitats in Morocco support a wide range of vegetation and consequently a potential for a large diversity of hosts for Tachinidae is expected.

FUTURE WORK / REFERENCES

Given the increasing impacts of climate change on species distributions and biodiversity, we project to carry out a study focused on the ecological niche modelling to assess current and future habitat suitability for some key parasitoid tachinid fly occurring in Morocco.