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## New data on *Empis* Linnaeus (Diptera: Empididae) from Iran, with description of a new species of the subgenus *Lissemphis* Bezzi

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### Abstract

Fourteen species of the genus *Empis* Linnaeus were collected and identified from Iran. *Empis* (*Lissemphis*) *guilanensis* Kazerani & Shamshev **sp. nov.** is described and illustrated from Guilan province in north central Iran. The following seven species were recorded from Iran for the first time: *E. (Euempis) tessellata* Fabricius, 1794; *E. (Pachymeria) mediterranea* (Loew, 1864); *E. (P.) obscuripes* (Loew, 1873); *E. (Polyblepharis) dedecor* Loew, 1869; *E. (P.) engeli* Chvála, 1999; *E. (P.) soror* Collin, 1937; *E. (P.) spirifera* Bezzi, 1909. An identification key to the subgenera and species of *Empis* from Iran are provided.

**Key words:** Diptera, Empididae, *Empis*, New species, Palaearctic, Iran

### Introduction

The family Empididae is a diverse group of flies with more 3000 described species worldwide, including about 1300 species known from the Palaearctic (Yang *et al.* 2007). Iran occupies a considerable territory on the south-west of the Palaearctic Realm and is mostly mountainous (highest peak: 5610 m) with various plateaus situated between mountain ranges. Its climate varies from arid or semiarid, to subtropical along the Caspian coast and the northern forests. This diversity of geological and climatic conditions predicts a rich fauna of Empididae. Prior to this study, only 10 species of Empididae were reported from Iran, including *Clinocerella* Engel (*C. sorex* (Engel, 1918)), *Empis* Linnaeus (*E. (Empis) eupeza* Loew, 1874, *E. (Euempis) spiralis* Collin, 1937, *E. (Lissemphis) liosoma* Bezzi, 1909, *E. (Polyblepharis) brandti* Shamshev & Grootaert, 2005, *E. (Polyblepharis) turanica* Shamshev & Grootaert, 2005, *E. (Xanthempis) assalemensis* Daugeron, 2001) and *Hilara* Meigen (*H. longivittata* Zetterstedt, 1842, *H. merula* Collin, 1927, *H. ternovens* Strobl, 1898) (Chvála & Wagner 1989; Shamshev & Grootaert 2005; Daugeron 2000; Raffone 2007).

In this paper we record seven species of *Empis* from Iran for the first time and describe a new species from the subgenus *Lissemphis* Bezzi.

### Material and methods

This study is based on material deposited in the following institutions: insect collection of the Department of Entomology, Tarbiat Modares University, Tehran, Iran (TMUC) and Insect Collection of Professor Hasan Maleki Milanii, Tabriz, Iran (ICHMM). Material was collected from forests of northern and north eastern Iran (Guilan & East Azerbaijan provinces) using Malaise traps and sweep nets during 2010–2013, from March to November. The

## *Empis (Polyblepharis) spirifera* Bezzi

*Empis spirifera* Bezzi, 1909: 54.

*Empis (Polyblepharis) spirifera* Bezzi: Chvála, 1999: 201, figs 25–27 (re-description).

**Material examined.** IRAN: 4 ♂, 5 ♀, East Azerbaijan, Mekidi valley (centre of Qaradagh forest): N38°50.487', E46°54.189', 1656 m, 19.vii.2011 (ICHMM & TMUC).

**Distribution.** PALAEARCTIC: Lebanon, Iran, Israel, Syria, Turkey.

## Discussion

Currently, 14 species of the genus *Empis* are known from Iran: *Empis* s.str.—1, *Euempis*—2, *Lissemphis*—2, *Pachymeria*—2, *Polyblepharis*—6, *Xanthempis*—1. These species show several patterns of distribution that preliminarily could illustrate the richness of the *Empis* fauna of Iran. The largest group is represented by the species distributed only in the eastern part of the Mediterranean and in the Middle East; e.g., *E. spiralis* of *Euempis*; *E. dedecor*, *E. engeli*, *E. soror* and *E. spirifera* of *Polyblepharis*; or also occurring in the western part of the Mediterranean (including North Africa) and on the south of the European part of Russia; e.g., *E. liosoma* of *Lissemphis* and *E. mediterranea* of *Pachymeria*. Another group includes three species known only from the northern forests of Iran closer to the Caspian coast—*E.* (s.str.) *eupeza* Loew, 1874, *E.* (*Xanthempis*) *assalemensis* Daugeron, 2000 and *E.* (*Lissemphis*) *guilanensis* sp. nov. Together with *E. brandti* and *E. turanica* (both *Polyblepharis*) described from the Fars Province (southern Iran) they are probably endemics of the Iranian territory.

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