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## Iranian Lauxaniidae (Diptera, Brachycera): new records and a preliminary checklist

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**Abstract:** The fauna of lauxaniid flies (Diptera: Lauxaniidae) in Alborz province in the north of Iran was surveyed during the years 2011 and 2012. A total of 8 species representing 6 genera belonging to 2 subfamilies were collected and identified. The subfamily Homoneurinae is recorded from the country. One genus and one species of Homoneurinae, one genus and 3 species of Lauxaniinae are recorded for the first time from Iran. Locality and date of collection and distribution data for each species are provided. Additionally, a preliminary list of Iranian Lauxaniidae is given.

**Key words:** Alborz province, Iran, Fauna, Lauxaniidae, Diptera.

### Introduction

The Lauxaniidae is one of the largest families of acalyprate flies (Diptera, Brachycera) containing nearly 2000 described species worldwide (SEMELBAUER & KOZANEK 2011). They are best represented in the tropics of the Old and New World (except for the Afro-tropical region), and their diversity declines strongly towards the more temperate regions (MERZ 2003). The majority of these species are found in forests, on shrubs, trees, and leaves. They are less common in dry and wet grasslands (MERZ 2004). Larvae of lauxaniids are saprophagous, usually occurring in decaying vegetation such as fallen leaves or bird nests (SEMELBAUER & KOZANEK 2012). Our knowledge of the lauxaniid flies of Iran is limited. A first report on Lauxaniidae fauna of Iran was made by CZERNY (1932) who described *Sapromyza biordinata* CZERNY. Over sixty years later, SHATALKIN (1996, 1998, 2000) has described additional new species. Here, we provide some additional information on the distribution of Lauxaniidae in Alborz province-Iran, add a subfamily, one genus and three species to the published records, and provide a preliminary list of Iranian Lauxaniidae.

### Materials and Methods

The material was collected from many different habitats and localities in Alborz province, northern Iran between 2011 and 2012. Different methods were used including light, Malaise and bait traps and also sweeping on the host. Voucher specimens of all the species are deposited in the Department of Entomology, College of Agriculture, Islamic Azad University, Jahrom branch. The taxonomic arrangement is adapted from PAPP (1984).

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## Results

In a total of 8 species representing 6 genera belonging to 2 subfamilies were collected in Alborz province. Of these, one subfamily, 2 genera and 4 species are reported for the first time for Iranian fauna. The genera and species are listed in alphabetic order.

### Subfamily *H o m o n e u r i n a e*

#### Genus *Homoneura* VAN DER WULP 1891

##### *Homoneura dentiventris* CZERNY 1932

**M a t e r i a l e x a m i n e d :** 11♂♂, 1♀: Vardeh; 35°93' N 50°83' E, 18 September 2011, Malaise trap in *Prunus avium* garden [Rosaceae]; 28♂♂, 2♀♀: Kordan; 35°93' N 50°83' E, 19 July 2012, Malaise trap in *P. avium* garden; 17♂♂, 35♀♀: Arangeh; 35°94' N 51°06' E, 27 September 2012, bait trap in *Pyrus communis* garden [Rosaceae].

**D i s t r i b u t i o n :** Mountains of middle Asia and West Palaearctic (SHATALKIN 2000). New record for the fauna of Iran.

### Subfamily *L a u x a n i i n a e*

#### Genus *Calliopum* STRAND 1928

##### *Calliopum aeneum* (FALLÉN 1820)

**M a t e r i a l e x a m i n e d :** 4♂♂, 1♀: Kordan; 35°93' N 50°83' E, 20 August 2012, Malaise trap in *Prunus avium* garden [Rosaceae].

**D i s t r i b u t i o n :** This species is widely distributed in West Europe, Russia, Caucasus and Sweden (SHATALKIN 2000). New record for the fauna of Iran.

#### Genus *Eusapromyza* MALLOCH 1923

##### *Eusapromyza multipunctata* (FALLÉN 1820)

**M a t e r i a l e x a m i n e d :** 4♂♂, 5♀♀: Kordan; 35°93' N 50°83' E, 25 June 2012, 3♂♂, 3♀♀: Kordan; 35°93' N 50°83' E, 19 July 2012; 4♂♂, 8♀♀: Kordan; 35°93' N 50°83' E, 20 August 2012, Sweeping net in *Prunus avium* garden [Rosaceae].

**D i s t r i b u t i o n :** European Russia, Ukraine, Moldavia, West Europe, Turkey (SHATALKIN 2000), Iran (GILASIAN 2008).

#### Genus *Meiosimyza* HENDEL 1925

##### *Meiosimyza rorida* (FALLÉN 1820)

**M a t e r i a l e x a m i n e d :** 2♀♀: Kordan, Near the Kordan river, 35°93' N 50°83' E, 12 May 2012, Sweeping net on *Phaseolus coccineus* [Fabaceae].

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**Distribution:** Europe, North America (SHATALKIN 2000). New record for the fauna of Iran.

**Genus *Minettia* ROBINEAU\_DESVOIDY 1856**

***Minettia bulgarica* PAPP 1981**

**Material examined:** 4♀: Kordan; 35°93' N 50°83' E, 20 August 2012, Malaise trap in *Prunus avium* garden [Rosaceae].

**Distribution:** Ukraine, Bulgaria, Near East (SHATALKIN 2000). New record for the fauna of Iran.

***Minettia hyrcanica* SHATALKIN 1998**

**Material examined:** 14♂♂, 3♀: Kordan; 35°93' N 50°83' E, 25 June 2012, Sweeping net in *Prunus avium* garden [Rosaceae]; 15♂♂, 9♀: Kordan; 35°93' N 50°83' E, 19 July 2012, Malaise trap in *P. avium* garden; 53♂♂, 36♀: Kordan; 35°93' N 50°83' E, 20 August 2012, Malaise trap in *P. avium* garden; 60♂♂, 39♀: Arangeh; 35°94' N 51°06' E, 27 September 2012, Malaise trap in *Pyrus communis* garden [Rosaceae].

**Distribution:** Iran (SHATALKIN 2000).

**Genus *Sapromyza* FALLÉN 1820**

***Sapromyza afghanica* PAPP 1979**

**Material examined:** 14♂♂, 3♀: Kordan; 35°93' N 50°83' E, 18 September 2011, Malaise trap in *Prunus avium* garden [Rosaceae]; 1♂, 2♀: Kordan; 35°93' N 50°83' E, 20 August 2012, Malaise trap in *P. avium* garden; 4♂♂, 5♀: Arangeh; 35°94' N 51°06' E, 27 September 2012, light trap in *Pyrus communis* garden [Rosaceae].

**Distribution:** Afghanistan, Iran, Turkmenistan (SHATALKIN 2000).

***Sapromyza apicalis* LOEW 1847**

**Material examined:** 3♂♂, 9♀: Kordan, 35°93' N 50°83' E, 12 May 2012, Malaise trap in *Prunus avium* garden [Rosaceae]; 3♂♂, 6♀: Kordan, 35°93' N 50°83' E, 25 June 2012, Malaise trap in *P. avium* garden; 21♂♂, 7♀: Kordan, 35°93' N 50°83' E, 20 August 2012, Malaise trap in *P. avium* garden; 12♂♂, 3♀: Arangeh, 35°93' N 50°83' E, 27 September 2012, Sweeping net in *Pyrus communis* garden [Rosaceae].

**Distribution:** Europe, North Africa (Morocco), Turkey, Iran, Middle Asia, East Kazakhstan (SHATALKIN 2000).

**Discussion**

During two years sampling, two subfamily, 6 genera and 8 species of lauxaniid flies were identified. The total number of lauxaniid species in Iran being 18, as a result of this study

one subfamily [Homoneurinae], two genera [*Homoneura* VAN DER WULP 1891 and *Calliopum* STRAND 1928] and 4 species [*Homoneura dentiventris* CZERNY 1932, *Calliopum aeneum* (FALLÉN 1820), *Meiosimyza rorida* (FALLÉN 1820) and *Minettia bulgarica* PAPP 1981] were added (Table 1). We believe that this family can be augmented to more than hundred species in Iran, while it contains 2000 species worldwide (SEMELBAUER & KOZANEK 2011). So, we expect that a large number of species remain to be discovered though many will already be described.

**Table 1:** Checklist of recorded species of Lauxaniidae from Iran (until 2012).

References	Species	NO.
<b>Subfamily Homoneurinae</b>		
Present study	<i>Homoneura dentiventris</i> CZERNY 1932	1
<b>Subfamily Lauxaniinae</b>		
Present study	<i>Calliopum aeneum</i> (FALLÉN 1820)	2
SHATALKIN (1998), GILASIAN (2008)	<i>Eusapromyza martineki</i> SHATALKIN 1998	3
GILASIAN (2008), Present study	<i>Eusapromyza multipunctata</i> (FALLÉN 1820)	4
SHATALKIN (1998)	<i>Meiosimyza nigripalpis</i> (CZERNY 1932)	5
Present study	<i>Meiosimyza rorida</i> (FALLÉN 1820)	6
Present study	<i>Minettia bulgarica</i> PAPP 1981	7
SHATALKIN (1998), Present study	<i>Minettia hyrcanica</i> SHATALKIN 1998	8
SHATALKIN (1998), Present study	<i>Sapromyza afghanica</i> PAPP 1979	9
SHATALKIN (1998), Present study	<i>Sapromyza apicalis</i> LOEW 1847	10
CZERNY (1932), SHATALKIN (1998)	<i>Sapromyza biordinata</i> CZERNY 1932	11
SHATALKIN (2000)	<i>Sapromyza cerata</i> SHATALKIN 1996	12
SHATALKIN (1996)	<i>Sapromyza persica</i> SHATALKIN 1996	13
SHATALKIN (1998)	<i>Sapromyza pistaciphila</i> SHATALKIN 1993	14
SHATALKIN (1996)	<i>Sapromyza ravida</i> SHATALKIN 1996	15
SHATALKIN (1998)	<i>Sapromyza talyshensis</i> SHATALKIN 1998	16
SHATALKIN (2000)	<i>Sapromyza transcaspica</i> SHATALKIN 2000	17
SHATALKIN (1998)	<i>Sapromyza transcaucasica</i> CZERNY 1932	18

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### Zusammenfassung

Vorliegende Arbeit behandelt das Vorkommen der Lauxaniidae (Diptera) in der Provinz Alborz im Norden Irans, basierend auf Aufsammlungen der Jahre 2011 und 2012. 8 Arten aus 8 Gattungen und zwei Unterfamilien konnten nachgewiesen werden. Eine Gattung und eine Art der Homoneurinae sowie eine Gattung und drei Arten der Lauxaniinae stellen Neunachweise für den Iran dar. Zu jeder Art wurden Funddaten und Verbreitungsangaben festgehalten. Abschließend wurde eine vorläufige Liste der Lauxaniidae des Irans vorgestellt.

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