

Review of the Tribe Eryciini Robineau-Desvoidy (Diptera: Tachinidae: Exoristinae) from Iran, with New Records

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ABSTRACT

The present paper contains a review of the tribe Eryciini (Tachinidae: Exoristinae) that occur in Iran. Twenty-six species belonging to 15 genera are reviewed. The collected data on 20 species are provided. Of these, seven genera and 16 species are newly recorded. Distribution and host information are briefly summarized. The diagnostic characters of the new records species are given. The key to the species found in Iran is also provided.

Keywords: Taxonomy, Fauna of Eryciini, Diptera, Parasitoid flies.

INTRODUCTION

Tachinidae is the second largest dipteran family with more than 8,500 described species, distributed worldwide (O'Hara *et al.*, 2020). The larvae are endoparasitoids of other arthropods, mainly insects. Exoristinae represent one of the largest subfamilies in the Tachinidae, containing seven tribes in the Palearctic Region. Eryciini is a large and diverse tribe with wide distribution in the world (Herting, 1984; O'Hara and Wood, 2004). Most Eryciini are ovo-larviparous species and deposit incubated macrotype eggs directly on the host integument, although some, e.g., *Prooppia* Townsend, 1926 and *Aplomya* Robineau-Desvoidy, 1830, have been shown to deposit unembryonated eggs on the hosts (Herting, 1960). Larvae of Lepidoptera are their most numerous host. The following combination of characters usually allows the recognition of the included genera: katepimeron bare or

at most with 1-3 setae; first postsutural supra-alar setae longer and stronger than the notopleural setae and first postsutural intra-alar seta, middorsal depression on abdominal sytergite 1+2 usually extending to posterior margin of that segment; true binding membrane between sternites 6-7 in males is wide; sensilla trichodea on sternite 5 existing in most genera (Tschorsnig and Herting, 1994).

Although the history of investigation on tachinid fauna of Iran is not very long, there have been a number of studies about this family. Samet *et al.* (1977) provided the preliminary list of Diptera (Tachinidae) of Iran. Gheibi *et al.* (2008-2010) reported some known species of the subfamilies Exoristinae, Tachininae and Phasiinae from Fars Province, Iran. Gilasian *et al.* (2013-2019) published a series of papers on Iranian Tachinidae of the subfamily Phasiinae. There is also some information on tachinid species found in Iran in the Catalogue of

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Palaearctic Diptera of Herting and Dely-Draskovits (1993), in the works of Mesnil (1944-1975) and the Preliminary Checklist of the Tachinidae of the world (O'Hara *et al.*, 2020).

This study aimed to review the fauna of tribe Eryciini (Exoristinae) and provide a key to Iranian species and add further data on their distributions in Iran. The publication forms part of the author's papers, which has already been published on Iranian Tachinidae of the subfamilies Tachininae, Dexiinae and Phasiinae (Seyyedi-Sahebari *et al.*, 2013-2018)

MATERIALS AND METHODS

Materials were mainly collected by Malaise traps from Guilan and Mazandaran Provinces, situated in the north of Iran, and partially by standard entomological sweeping net from East Azerbaijan and West Azerbaijan Provinces in the northwest of Iran, during 2010–2015. The studied specimens are deposited in the insect collection of Professor Hasan Maleki Milani, Tabriz, Iran (ICHMM) and the insect collection of Tarbiat Modarres University. Photographs were taken using a Nikon SMZ 1000 stereomicroscope equipped with Nikon D5200 digital camera. The morphological terminology primarily follows Tschorsnig and Richter (1998). The specimens were identified based on keys of Tschorsnig and Richter (1998) [genus level] and Mesnil (1944-1975) [genus and species level]. As further references for species determination, parts of the keys of Zimin *et al.* (1988) and Tschorsnig and Herting (1994) have been also used. The tachinid specialists Joachim Ziegler and Theo Zeegers (See chapter Acknowledgement below) confirmed the identifications of the authors. The species are listed alphabetically with the following topics: examined material, distribution and host range. New records are marked with an asterisk and diagnostic characters are given. For species already registered for Iran, which were not

collected in this work, distribution and host range are provided.

Key to Iranian Species of the Tribe Eryciini (Tachinidae: Exoristinae)

- 1- Hind coxa with one or more setae on posterodorsal margin; gena very narrow, its height usually distinctly less than 1/8 vertical diameter of eye; lower facial margin not visible in lateral view; prementum short, at most 3 times as long as its diameter; abdomen predominantly black (*Carcelia Robineau-Desvoidy*).....2
 - Hind coxa bare on posterodorsal margin.....4
 - 2- Simultaneously: basicosta yellow and mid tibia with single anterodorsal seta.....*Carcelia bombylans* Robineau-Desvoidy
 - Basicosta black brown or lightened a little, but then mid tibia with 2-3 anterodorsal setae3
 - 3- Apical scutellar setae much shorter and weaker than the lateral setae, at most as long as the scutellum.....*Carcelia tibialis* Robineau-Desvoidy
 - Apical scutellar setae as long and as strong as the lateral setae, longer than the scutellum.....*Carcelia laxifrons* Villeneuve
 - 4- Katepisternum with 2 setae; upper part of head with black setulae behind the postocular row; ocellar setae well-developed; height of gena smaller than width of parafacial at level of base of antenna; mid tibia without ventral setae; postpronotum with 3-4 setae (*Senometopia Macquart*).....5
 - Katepisternum with 3 or 4 setae.....6
 - 5- Fore tibia with single posterior setae..... *Senometopia separata* (Rondani)
 - Fore tibia with 2 posterior setae*Senometopia pollinosa* (Mesnil)
 - 6- Postpronotum with three strong setae arranged in a distinct triangle and 1 or 2 weak inner setae, the latter often hair-like or even absent; lateral scutellar setae 0.9-1.1X as long as subapical setae; lower facial margin not visible in lateral view ... *Prooppia nigripalpis* (Robineau-Desvoidy)

- Setae on postpronotum not arranged in a distinct triangle, the 3 basal setae in a more or less straight line.....7
- 7- Abdominal tergites 3 and 4 without median discal setae, or at most tergite 4 with short median discal setae.....8
- Abdominal tergites 3 and 4 each with median discal setae.....19
- 8- Base of R₄₊₅ with a single, strong setae; upper part of head usually without, or rarely with a few black setulae behind the postocular row; katapisternum with 4 setae; ocellar setae absent; parafacial at its narrowest point at least as wide as 3/5 of the first flagellomer; abdominal tergites 3 and 4 covered with pruinosity (***Drino Robineau-Desvoidy***)9
- Base of R₄₊₅ with several short setulae, but if in rare cases with a single large setulae, then either upper part of head with at least one row of black setulae behind the postocular row or katapisternum with 3 setae..... 5
- 9- Ocellar setae as long as orbital setae; frons in male 0.6-0.7X and in female as wide as one eye in dorsal view..... ***Drino atropivora Robineau-Desvoidy***
- Ocellar setae much shorter than orbital setae, or totally absent.....10
- 10- Parafacial bare, ocellar setae missing.....11
- Parafacial below the frontal row with hairs; ocellar setae present.....12
- 11- Frons in male 1.02-1.08X and in female 1.35-1.68 X as wide as one eye in dorsal view..... ***Drino vicina (Zetterstedt)***
- Frons in male 0.6X and in female 0.75X as width as one eye in dorsal view... ***Drino lota (Meigen)***
- 12- Upper part of head usually without, or rarely with 2-3 black setulae behind the postocular row ***Drino imberbis (Wiedemann)***
- Upper part with black setulae behind the postocular row.....13
- 13- Arista thickened at most to half of its length; section of M between dM-Cu and the bend, longer than distance of the bend from the posterior edge..... ***Drino inconspicua (Meigen)***
- Arista thickened for 3/4 of its length in male and 2/3 of its length in female, section of M between dM-Cu and the bend, shorter than distance of the bend to the wing edge.....14
- 14- The anterior half of abdominal tergites 3 and 4, and less than half basal of tergite 5 with pruinosity.....***Drino zonata Curran***
- At least the anterior 2/3 of the tergite 4 and more than the basal half of the tergite 5 with pruinosity.....***Drino latigena Mesnil***
- 15- Abdominal tergite 5 about 0.2-0.6X as long as the 4th ***Aplomya confinis Robineau-Desvoidy***
- Abdominal tergite 5 about 0.7-1.3X as long as 4th.....16
- 16- Height of gena smaller than width of parafacial at level of base of antenna.....
- Thecocarcelia flavicosta Zeegers***
- Height of gena at least as great as width of parafacial at level of base of antenna.....17
- 17- Facial ridge with setae on lower third or less; arista thickened on basal 2/5; first flagellomer about 2X as long as pedicel; palpus black.. ***Alsomyia capillata (Rondani)***
- Facial ridge with setae on lower half to 2/3 of its length; arista thickened on basal half or more; first flagellomer 3 to 5 X as long as pedicel (***Nilea Robineau-Desvoidy***)18
- 18- Three katapisternal setae are far from each other; abdomen with short and dense hairs; abdominal tergite 5 distinctly shorter than the 4th***Nilea innoxia Robineau-Desvoidy***
- Fore katapisternal setae; abdomen with long, strong and sparse setae on the center; abdominal tergite 5 at least as long as the 4th.....***Nilea anatolica Mesnil***
- 19- Apical scutellar setae inclined at 60°-90° to horizontal; wing cell r₄₊₅ without petiol20
- Apical scutellar setae, if present, horizontal or inclined at most 30° to horizontal, but if erect as above, then wing cell r₄₊₅ with a petiol22
- 20- Posterior ocelli separated from each other by a distance 0.14-0.22X width of the frons; anterior postpronotal setae placed



anteriorly between middle and inner basal setae; arista thickened on basal half; frons narrower than one eye in dorsal view; scutellum entirely black in ground color.....

***Pseudoperichaeta nigrolineata* (Walker)**

- Posterior ocelli separated from each other by a distance 0.20-0.28X width of the frons; anterior postpronotal setae usually placed before middle basal setae; arista thickened on at least basal 2/3; frons wider than one eye in dorsal view; preapical anterodorsal seta on fore tibia distinctly shorter than preapical dorsal setae; facial ridge with setae on lower half or less, but if reaching up to lower 2/3, then setae decumbent and slender; scutellum usually more or less red apically (***Phryxe Robineau-Desvoidy***) 21

21- Distance between the lowest frontal setae and the uppermost setae above the vibrissa 1.5- 2.5X the width of the postpedicel ***Phryxe nemea* (Meigen)**

- Distance between the lowest frontal setae and the uppermost setae above the vibrissa narrower than the width of the postpedicel ***Phryxe vulgaris* (Fallén)**

22- Parafacial with hairs or setulae over most of its length; katepisternum with 4 setae; 4th costal section distinctly longer than 6th costal section; anterior margin of first flagellomer strongly convex... ***Epicampocera succinata* (Meigen)**

- Parafacial bare or with hairs at most on upper half.....23

23- Facial ridge with usually erect setae on lower 3/5 or more.....24

- Facial ridge with recumbent setae at most on lower half25

24- Height of gena 1/10 vertical diameter of eye or less, smaller than width of parafacial at level of base of antenna (measured in lateral view); parafacial strongly narrowed ventrally, at narrowest point as wide as 1/6 of parafacial at level of base of antenna.....

***Periarchiclops scutellaris* (Fallén)**

- Height of gena 1/8 vertical diameter of eye or less, at least as great as width of parafacial at level of base of antenna; parafacial not or not as strongly narrowed ventrally, gena and sides of thorax with black hairs; apical scutellar setae inclined 45°-90° to horizontal; abdominal tergites 3 and 4 usually without

median discal setae..... ***Gymnophryxe theodori* (Kugler, 1968)**

25- Base of R₄₊₅ with several setae; section of M between dM-Cu and bend of M shorter than section between bend and apex of M; second costal section bare ventrally; apical scutellar setae horizontal, crossed, longer than half of subapical setae; hind tibia with comb-like row of anterodorsal setae of rather uniform length with a longer setae at midlength..... ***Xylotachina diluta* (Meigen)**

- Base of R₄₊₅ with a single large setae, which is at least as long as crossvein R-M; katepisternum with 3 to 5 setae; mid tibia usually with two or more anterodorsal setae; pedicel and tibia black (***Lydella Robineau-Desvoidy***)26

26- Facial ridge a little convex at the lower part (Seen from the side); abdominal tergite 4 with pruinosity on the sides to 1/6-2/5 of its length; postpedicel about 1.5-1.9X as long as pedicel..... ***Lydella stabulans* (Meigen)**

- Facial ridge straight or slightly convex; abdominal tergite 4 on the sides to almost 1/2 of its length with pruinosity; postpedicel about 2.2-2.8X as long as pedicel..... ***Lydella thompsoni* Herting**

RESULTS

During the present study, 20 collected species of the tribe Eryciini were reviewed as well as the other six species, which already were recorded from another regions of Iran. The genera *Alsomyia*, *Epicampocera*, *Periarchiclops*, *Prooppia*, *Pseudoperichaeta*, *Thecocarcelia*, *Xylotachina* and 16 species are new records for the Iranian insect fauna, which are marked with an asterisk.

Tribe Eryciini Robineau-Desvoidy, 1830

Eryciini is a large and diverse tribe with 128 genera in the world and 50 genera in Palearctic Region (O'Hara et al., 2020). The genera *Carcelia* Robineau-Desvoidy and *Drino* Robineau-Desvoidy are the most specious genera of the tribe, with 128 and 126 described species worldwide, respectively.

Genus *Alsomyia* Brauer and Bergenstamm, 1891*

Type Species: *Alsomyia gymnodiscus* Brauer and Bergenstamm, 1891 (= *Exorista capillata* Rondani, 1859)

Number of Species: 4 species described from Palearctic Region (O'Hara *et al.*, 2020).

Alsomyia capillata (Rondani, 1859)* (Figure 1-a)

Diagnostic Characters: Frons 0.4X one eye width in dorsal view; postpedicel about 2.2 times as long as pedicel; scutum with 4 postsutural dorsocentral setae; body with yellowish-grey to golden yellow pruinosity; scutellum entirely yellow; apical scutellar setae about 3/4 as long as lateral scutellar setae; 4th costal section distinctly longer than 6th; mid tibia with 3 anterodorsal setae.

Examined Material: 2♂♂, 1♀, 11.VI.2014, East Azerbaijan, Arasbaran (Ainali), 38° 57' 11.64" N, 46° 43' 27.36" E, 782 m asl, sweeping net, leg. F. Seyyedi-Sahebari.

Distribution: West Palearctic: Europe, Middle East (Israel), Russia (Western Russia), Transcaucasia (O'Hara *et al.*, 2020).

Host range: Many species of the genus *Zygaena* Fabricius (Lepidoptera: Zygaenidae) (see Tschorsnig, 2017: 183).

Remarks: New record for Iran.

Genus *Aplomya* Robineau-Desvoidy, 1830

Type Species: *Aplomya zonata* Robineau-Desvoidy, 1830 (= *Tachina confinis* Fallén, 1820)

Number of Species: 14 species described worldwide, 2 species distributed in Palearctic Region (O'Hara *et al.*, 2020).

Aplomya confinis Fallén, 1820

Examined Material: 1♀, 27.VI.2010, 1♀, 10.VIII.2010, Guilan, Roodsar (Ziaz), 36° 25' 27.18" N, 50° 13' 24.78" E, 490 m asl,

Malaise trap, leg. M. Kheirandish; 1♂, 4.VI.2011, Mazandaran, Tanghevaz, 36° 21' 55.02" N, 52° 10' 74" E, 692 m asl, Malaise trap, leg. A. Nadimi.

Distribution: Palearctic: Europe, Central Asia (Uzbekistan), Middle East (Israel), Russia (Eastern Siberia, Russian Far East, Western Russia and Western Siberia), Transcaucasia (Azerbaijan), North Africa (Canary Islands, Egypt), Turkey, Mongolia, China and Japan; **Afrotropical:** Yemen (O'Hara *et al.*, 2020).

Host Range: Many genera and species of Geometridae, Libytheidae, Lycaenidae, Pieridae and Zygaenidae (Lepidoptera) (see Tschorsnig, 2017: 106-107).

Remarks: Recorded from Iran (Gheibi *et al.*, 2010).

Genus *Carcelia* Robineau-Desvoidy, 1830

Type Species: *Carcelia bombylans* Robineau-Desvoidy, 1830

Number of Species: 109 species placed in 5 subgenera and 19 species unplaced to subgenera. 49 species distributed in Palearctic Region (O'Hara *et al.*, 2020).

Carcelia (Carcelia) bombylans Robineau-Desvoidy, 1830* (Figure 1-b)

Diagnostic Characters: Postpronotum (seen from the side, under the dusting) completely or predominantly yellow; frons 0.6-0.7X one eye width in dorsal view; body with yellowish-grey to golden yellow pruinosity; hairs of tergites 3 and 4 about as long as 2/5 of the corresponding segment.

Examined Material: 1♀, 14.IX.2011, Guilan, Roodsar (Ghazichak), 36° 45' 57.54" N, 50° 19' 35.22" E, 1,800 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: Palearctic: Europe, Transcaucasia (Azerbaijan), Russia (Eastern Siberia, Russian Far East and Western Russia) and Eastern China; **Oriental:** China (Taiwan, West), Japan (O'Hara *et al.*, 2020). Turkey (Lutovinovas *et al.*, 2018).

Host Range: Many genera and species of Arctiidae, Lymantriidae and Lasiocampidae (see Tschorsnig, 2017: 163).

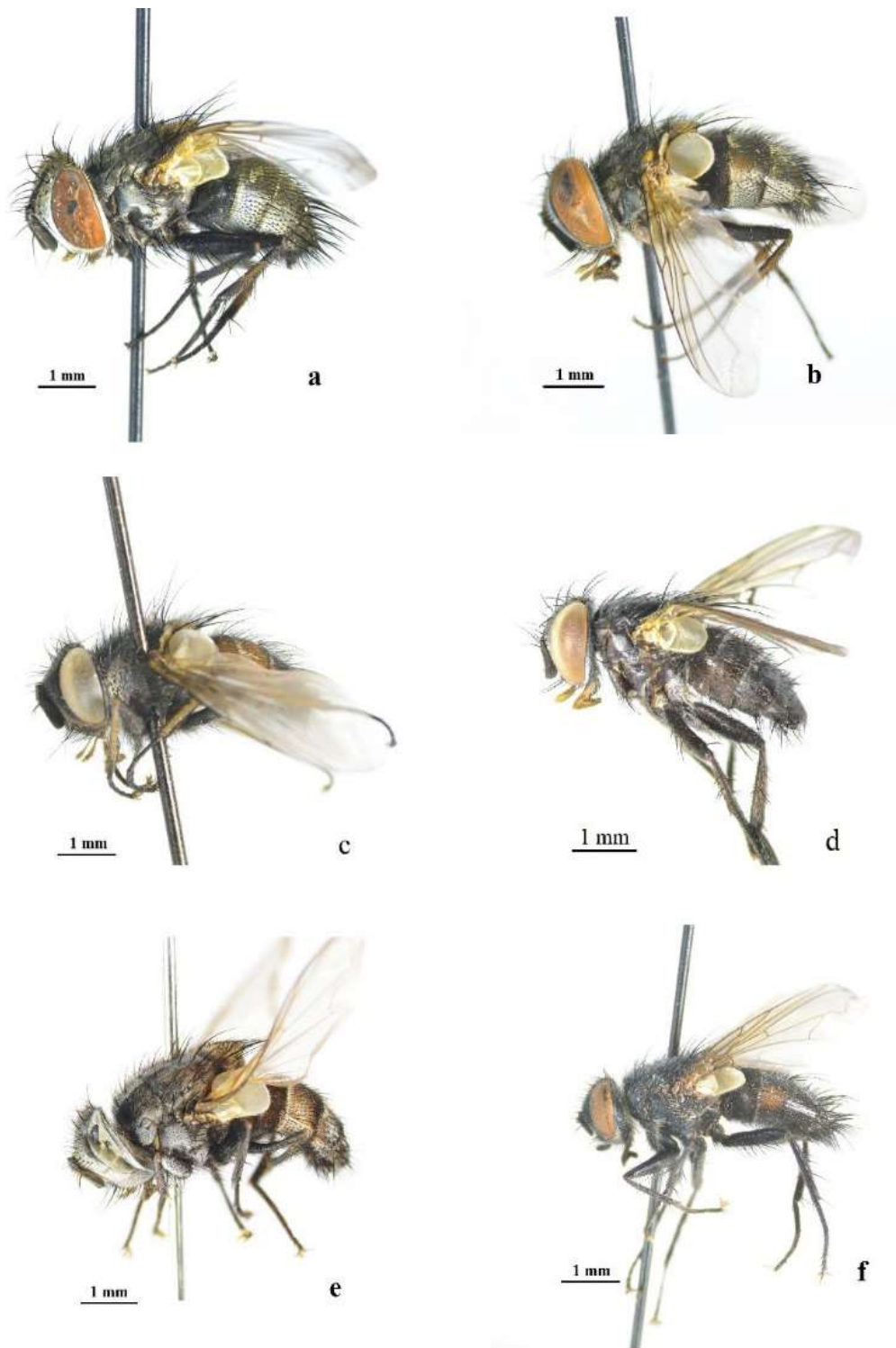


Figure 1. Lateral view of the tachinid flies: (a) *Alsomyia capillata* (Rondani, 1859), male; (b) *Carcelia bombylans* Robineau-Desvoidy, 1830, female; (c) *Carcelia laxifrons* Villeneuve, 1912, male; (d) *Carcelia tibialis* (Robineau-Desvoidy, 1863), female; (e) *Drino latigena* Mesnil, 1944, female; (f) *Drino vicina* (Zetterstedt, 1849), female.

Remarks: New record for Iran.

***Carcelia (Carcelia) laxifrons* Villeneuve, 1912* (Figure 1-c)**

Diagnostic Characters: Frons 0.8X one eye width in dorsal view; distance between the posterior ocelli, almost as great as the distance between presutural acrostical setae; mid tibia completely yellow; the setae above the vibrissa reach almost to lower half of facial ridge; basicosta lightened.

Examined Material: 1♂, 20.VII.2011, Guilan, Roodsar (Ghazichak), 36° 45' 57.54" N, 50° 19' 35.22" E, 1,803 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Palaearctic:** Europe, Transcaucasia, Kazakhstan, Mongolia, Russia (Eastern Siberia, Russian Far East, Western Russia and Western Siberia) and Eastern China; **Oriental:** Western China and Japan; **Nearctic:** Canada and USA (O'Hara *et al.*, 2020).

Host Range: Some genera and species of Lymantriidae, Lasiocampidae and Geometridae (Lepidoptera) (see Tschorsnig, 2017: 168-169).

Remarks: New record for Iran.

***Carcelia (Euryclea) tibialis* (Robineau-Desvoidy, 1863)* (Figure 1-d)**

Diagnostic Characters: Frons 0.6-0.8X one eye width in dorsal view; postpedicel about 3 times as long as the pedicel; palpus at its thickest point about as wide as postpedicel; tergite 5 with very faint pruinosity to 1/6-1/2 its length.

Examined Material: 1♀, 27.VI.2011, Guilan, Roodsar (Ziaz), 36° 52' 27.18" N, 50° 13' 24.78" E, 490 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Palaearctic:** Europe northwards to West, Transcaucasia, Russia (East Siberia, Russian Far East, Western Russia) and China (Central, East); **Oriental:** West China and Japan (O'Hara *et al.*, 2020).

Host Range: **Lepidoptera: Arctiidae:** *Arctia caja* (Linnaeus, 1758); **Lasiocampidae:** *Cosmotriche lobulina* (Denis and Schiffermüller, 1775);

Lymantriidae: *Calliteara pudibunda* (Linnaeus, 1758), *Dasychira albodentata* Bremer, 1864 and *Dicallomera fascelina* (Linnaeus, 1758) (see Tschorsnig, 2017: 174).

Remarks: New record for Iran.

Genus *Drino* Robineau-Desvoidy, 1863

Type Species: *Drino volucris* Robineau-Desvoidy, 1863 (= *Tachina lota* Meigen, 1824)

Number of Species: 87 species placed in 3 subgenera and 39 species unplaced to subgenera. Thirty-eight species distributed in Palaearctic Region (O'Hara *et al.*, 2020).

***Drino (Zygobothria) atropivora* (Robineau-Desvoidy, 1830)**

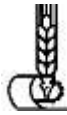
Distribution: **Palaearctic:** Europe, Transcaucasia, Central Asia, East Siberia, United Arab Emirates, Saudi Arabia, Syria, Israel, China, Japan, North Africa; **Afrotropical:** widespread; **Oriental:** China (East), India, Indonesia, Japan (Ryukyu Islands), Laos, Malaysia (Peninsular Malaysia), Sri Lanka; **Australasian and Oceanian:** Australia (New South Wales, Queensland). (O'Hara *et al.*, 2020).

Host Range: **Lepidoptera: Sphingidae:** *Agrius convolvuli* (Linnaeus, 1758), *Sphinx ligustri* Linnaeus, 1758 (Cerretti and Tschorsnig, 2010); *Acherontia lachesis* (Fabricius, 1798) (Leong, 2011); *Acherontia atropos* (Linnaeus, 1758) (Bolu *et al.*, 2015).

Remarks: Ghadiri-Rad and Alavi (2004) reported this species as parasitoid of *A. atropos* from olive orchards of Golestan Province, Iran. Gheibi *et al.* (2010) reported this species from Fars Province, too.

***Drino (Drino) imberbis* (Wiedemann, 1830)**

Distribution: **Palaearctic:** Central Asia (Turkmenistan), Southern Europe, Middle East (Afghanistan, Israel and Lebanon), Northern Africa (Canary Islands, Egypt, Madeira, Morocco); **Afrotropical:** Congo, Ethiopia, Kenya, Malawi, South Africa,



Sudan, Tanzania, U.A. Emirates, Uganda, Yemen (O'Hara *et al.*, 2020).

Host Range: Many genera and species of Arctiidae, Lymantriidae, Lasiocampidae, Noctuidae, Nolidae, Sphingidae and Geometridae (Lepidoptera) (see Tschorsnig, 2017: 152-153).

Remarks: Recorded from Iran (Gheibi *et al.*, 2010)

***Drino (Palexorista) inconspicua* (Meigen, 1830)**

Distribution: Palearctic: Europe, Transcaucasia, Russia, Algeria, Egypt, Turkey, China (O'Hara *et al.*, 2020).

Host Range: Many genera and species of Hymenoptera and Lepidoptera (see Tschorsnig, 2017: 153-158).

Remarks: Parchami-Araghi and Malkeshi (1997) reported this species as a parasitoid of *Theretra alecto* (Linnaeus, 1758) from vineyards in Northern Khorasan of Iran.

***Drino (Palexorista) latigena* Mesnil, 1944* (Figure 1-e)**

Diagnostic Characters: Frons as wide as one eye in dorsal view; arista thickened for 2/3 of its length; postpedicel about 2.2 times as long as the pedicel; wing cell r_{4+5} open; 2nd costal section about 0.6X as long as 3rd; abdominal tergites 3 and 4 with median marginal setae; basal half of the tergite 3 and anterior 2/3 of the tergites 4 and 5 with pruinosity.

Examined Material: 1♀, 20.VI.2010, Guilan, Roodsar (Ghazichak), 36° 45' 57.54" N, 50° 19' 35.22" E, 1,800 m asl, Malaise trap, leg. M. Kheirandish; 1♀, 26.VI.2014, West Azerbaijan, Uremia (Marmisho), 37° 35' 2.70" N, 44° 38' 7.80" E, 1,353 m asl, sweeping net, leg. S. Khaghaninia.

Distribution: West Palearctic: Middle East (Israel), North Africa; **Afrotropical:** Djibouti, U.A. Emirates (O'Hara *et al.*, 2020).

Host range: Lepidoptera: Lasiocampidae: *Malacosoma castrensis* (Linnaeus, 1758); *M. neustria* (Linnaeus, 1758); *M. franconica* (Denis and

Schiffermüller, 1775); **Noctuidae:** *Autographa gamma* (Linnaeus, 1758); *Simyra dentinosa* Freyer, 1838;

Lymantriidae: *Dasychira fascelina* (Linnaeus, 1758); *Euproctis* sp.; *Parocneria terebinthi* (Freyer, 1838); **Arctiidae:** *Arctia caja* (Linnaeus, 1758) (Tschorsnig and Herting, 1994; Kara and Tschorsnig, 2003).

Remarks: New record for Iran.

***Drino (Drino) lota* (Meigen, 1824)**

Distribution: Palearctic: Europe, Eastern Siberia, Russian Far East; **Oriental:** China and Japan (O'Hara *et al.*, 2020).

Host range: Lepidoptera: Sphingidae: *Deilephia elpenor* (Linnaeus, 1758); *Deilephila porcellus* (Linnaeus, 1758) and *Laothoe populi* (Linnaeus, 1758); **Saturniidae:** *Agria tau* (Linnaeus, 1758) (see Tschorsnig, 2017: 158).

Remarks: Recorded from Iran (Samet *et al.*, 1977)

***Drino (Drino) vicina* (Zetterstedt, 1849)* (Figure 1-f)**

Diagnostic Characters: Frons 1.2X one eye width in dorsal view; frontal stripe parallel sided, scarcely broadened towards the back; arista thickened to 1/3 of its length; wing cell r_{4+5} open; 2nd costal section about 0.6X as long as 3rd; posterior edges of abdominal tergites 3 and 4 black for about 1/4 of the segment; abdominal tergite 5 black at the hindmost 1/3; the central black longitudinal abdominal stripe is clearly visible on all segments.

Examined Material: 1♀, 11.VI.2014, East Azerbaijan, Arasbaran (Ainali), 38° 57' 11.64" N, 46° 43' 27.36" E, 782 m asl, sweeping net, leg. F. Seyyedi-Sahebari.

Distribution: Palearctic: Europe, Transcaucasia, Russia (Western Russia, Western Siberia), Northern Africa (Morocco) (O'Hara *et al.*, 2020).

Host Range: Many species of the families Sphingidae, Noctuidae, Notodontidae, Arctidae, Nolidae and Bombycidae (Lepidoptera) (see Tschorsnig, 2017: 159).

Remarks: New record for Iran.

***Drino (Drino) zonata* (Curran, 1927)**

Distribution: Palearctic: Southern Europe, Middle East, Central Asia, Mediterranean area, Northern Africa and Afrotropical Region (Zeegers, 2007; O'Hara *et al.*, 2020).

Host range: Many genera and species of Noctuidae (see Tschorsnig, 2017: 152-153).

Remarks: Chokouhian (1975) and Dehghani-Zahedani *et al.* (2006) reported this species as larvae parasitoid of *Thaumetopoea solitaria* (Freyer, 1838) (Lep.: Thaumetopoeidea) from Fars Province of Iran.

Genus *Epicampocera* Macquart, 1849*

Type species: *Tachina succincta* Meigen, 1824

Number of species: Monotypic genus (O'Hara *et al.*, 2020).

***Epicampocera succincta* (Meigen, 1824)* (Figure 2-a)**

Diagnostic Characters: Katepisternum with four bristles; 4th costal section distinctly longer than sixth costal section; anterior margin of first flagellomere strongly convex. Males: parafrofrontalia with black setae out of the frontal row; parafacial with hairs or setulae over most of its length; postpedicel about 3.5 times as long as the pedicel; arista thickened to 3/5 of its length; 2nd costal section about 0.5-0.6X as long as 3rd; abdomen black, tergite 3 laterally red; anterior 2/3 of tergites covered by white pruinosity. Female: parafrofrontalia with only 2 setae; abdomen entirely black.

Examined Material: 1♂, 27.VI.2010, Guilan, Roodsar (Orkom), 36° 45' 44.34" N, 50° 18' 11.88" E, 1,200 m asl, Malaise trap, leg. M. Kheirandish; 1♀, 27.VI.2011, Mazandaran, Noor, 36° 34' 52.98" N, 52° 2' 45.78" E, 14 m asl, Malaise trap, leg. A. Nadimi.

Distribution: Palearctic: Europe, Transcaucasia, Russia (Eastern Siberia, Russian Far East, Western Russia and

Western Siberia), Turkey, China and Japan (O'Hara *et al.*, 2020).

Host Range: Lepidoptera: Pieridae: *Pieris rapae* (Linnaeus, 1758); *P. napi* (Linnaeus, 1758); *P. melete* Ménétries, 1857; **Noctuidae:** *Hadena bicruris* (Hüfnagel, 1766); *Cucullia verbasci* (Linnaeus, 1758); **Geometridae:** *Ascotis selenaria* (Denis and Schiffermüller, 1775) (see Tschorsnig, 2017: 112-113).

Remarks: New record for Iran.

Genus *Gymnophryxe* Villeneuve, 1922

Type Species: *Ceratochaeta (Gymnophryxe) nudigena* Villeneuve, 1922 (as subgenus of *Ceratochaeta* Brauer and Bergenstamm, 1889)

Number of Species: 6 species described worldwide, 5 species distributed in Palearctic Region (O'Hara *et al.*, 2020).

***Gymnophryxe theodori* (Kugler, 1968)**

Distribution: Palearctic: Central Asia, China (East), Middle East (Israel), Transcaucasia (O'Hara *et al.*, 2020).

Host range: Lepidoptera: Arctiidae: *Ocnogyna loewii* (Zeller, 1846) (see Tschorsnig, 2017: 137).

Remarks: Recorded from Iran (Gheibi *et al.*, 2010)

Genus *Lydella* Robineau-Desvoidy, 1830

Type Species: *Lydella grisescens* Robineau-Desvoidy, 1830

Number of Species: 18 species described worldwide, 11 species distributed in Palearctic Region (O'Hara *et al.*, 2020).

***Lydella thompsoni* Herting, 1959**

Examined Material: 1♀, 20.VI.2010, Guilan, Roodsar (Ghazichak), 36° 45' 52.62" N, 50° 20' 1.08" E, 1,787 m asl, Malaise trap, leg. M. Kheirandish; 1♀, 26.VI.2014, West Azerbaijan, Uremia (Marmisho), 37° 35' 2.70" N, 44° 38' 7.80" E, 1,353 m asl., sweeping net, leg. S. Khaghaninia.



Distribution: **Paleartic:** Europe, Transcaucasia (Armenia, Georgia), Central Asia (Tajikistan), Mongolia, Russian Far East, Western Russia and Turkey; **Nearctic:**

Canada and USA; **Australasian and Oceanian:** Guam (O'Hara *et al.*, 2020).

Host range: Many genera and species of Crambidae and Noctuidae (Lepidoptera) (see Tschorsnig, 2017: 146-149).

Remarks: Recorded from Iran (Samet *et al.*, 1977).

***Lydella stabulans* (Meigen, 1824)* (Figure 2-b)**

Diagnostic Characters: Parafrontalia with 2 outer orbital setae; facial ridge a little convex at the lower part (Seen from the side); postpedicel about 1.7 times as long as pedicel; arista thickened to 2/5-1/2 of its length; section of m between dM-Cu and the bend shorter than the distance of the bend to the wing edge; abdominal tergite 4 with pruinosity on the sides to 1/6 of its length.

Examined Material: 1♀, 13.VII.2014, East Azerbaijan, Arasbaran (Ainali), 38° 57' 11.64" N, 46° 43' 27.36" E, 782 m asl, sweeping net, leg. F. Seyyedi-Sahebari.

Distribution: **Paleartic:** Europe, Transcaucasia, Central Asia (Uzbekistan), Russia (Russian Far East, Eastern Siberia and Western Siberia) and China (O'Hara *et al.*, 2020).

Host range: Many genera and species of Noctuidae (Lepidoptera) (see Tschorsnig, 2017: 146).

Remarks: New record for Iran.

Genus *Nilea* Robineau-Desvoidy, 1863

Type Species: *Nilea innoxia* Robineau-Desvoidy, 1863

Number of species: 21 species described worldwide, 8 species distributed in Palearctic Region (O'Hara *et al.*, 2020).

***Nilea anatolica* Mesnil, 1954**

Distribution: **Paleartic:** Transcaucasia (Georgia), Russian Far East, Eastern Siberia, Turkey and China (O'Hara *et al.*, 2020).

Host Range: Doğanlar (1982) reported this species as parasitoid of *Simyra dentinosa* Freyer, 1838 (Lep.: Noctuidae) from Anatolia of Turkey (Kara and Tschorsnig, 2003).

Remarks: Karimpour *et al.* (2005) collected this species from pupal cocoons of *Simyra dentinosa* from the West Azerbaijan Province, Iran.

***Nilea innoxia* Robineau-Desvoidy 1863* (Figure 2-c)**

Diagnostic Characters: Parafrontalia with 1 inner and 2 outer orbital setae; postpedicel about 4 times as long as pedicel; palpus yellow; scutellum black, more or less reddish-yellow at the tip; apical setae of scutellum weak and upright; abdomen black with pruinosity on the sides to 4/5 of its length; tergites 3-4 reddish-brown laterally.

Examined Material: 1♀, 4.V.2010, 1♀, 11.VI.2010, Guilan, Astaneh-Ashrafieh (Eshman-Kamachal), 37° 21' 10.50" N, 49° 57' 56.16" E, 2 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Paleartic:** Europe, Russia (Eastern Siberia, Russian Far East and Western Russia), Japan (O'Hara *et al.*, 2020).

Host Range: **Lepidoptera: Noctuidae:** *Acrontarumicis* (Linnaeus, 1758);

Lymantriidae: *Euproctis chrysorrhoea* (Linnaeus, 1758); *Leucoma salicis* (Linnaeus, 1758); *Lymantria dispar* (Linnaeus, 1758);

Lasiocampidae: *Trichiura crataegi* (Linnaeus, 1758); **Sphingidae:** *Smerinthus ocellatus* (Linnaeus, 1758) (see Tschorsnig, 2017: 111).

Remarks: New record for Iran.

Genus *Periarchiclops* Villeneuve, 1924 *

Type Species: *Tachina scutellaris* Fallén, 1820

Number of Species: Monotypic genus (O'Hara *et al.*, 2020).

***Periarchiclops scutellaris* ((Fallén, 1820)* (Figure 2-d)**

Diagnostic characters: Frons 1.5X one eye width in dorsal view; occiput with 2 rows of black setulae behind the postocular row; postpedicel about 6-7 times as long as pedicel;

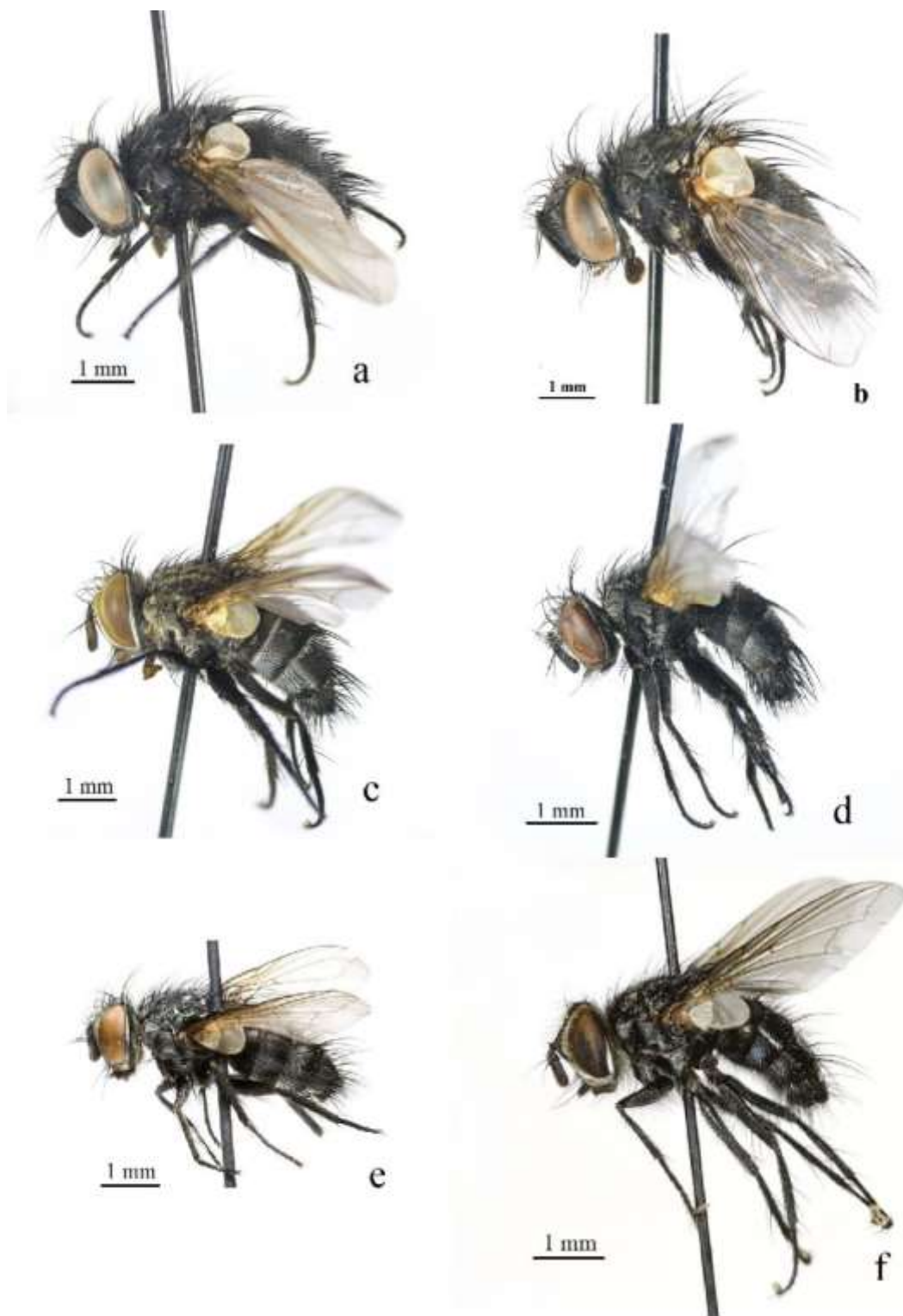


Figure 2. Lateral view of the tachinid flies: (a) *Epicamnocera succincta* (Meigen, 1824), male; (b) *Lydella stabulans* (Meigen, 1824), female; (c) *Nilea innoxia* Robineau-Desvoidy 1863, female; (d) *Periarchiclops scutellaris* (Fallén, 1820), male; (e) *Phryxe vulgaris* (Fallén, 1810), male; (f) *Prooppia nigripalpis* (Robineau-Desvoidy, 1848), female.



pulpus brown and at the tip light; arista thickened 4/5 of its length; scutellum yellow and with long crossed apical setae; costal spine about 2 times as long as crossvein R-M; abdomen black and uniformly covered with pruinosity; tergites without discal middorsal setae.

Examined Material: 2♂♂, 20.VI.2010, Guilan, Roodsar (Ghazichak), 36° 45' 52.62"

N, 50° 20' 1.08" E, 1,787 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Palaearctic:** Europe, Transcaucasia, Russia (Eastern Siberia, Western Russia and Western Siberia), China (O'Hara et al., 2020).

Host Range: **Lepidoptera: Noctuidae:** *Acronicta euphorbiae* (Denis and Schiffmüller, 1775); *A. auricoma* (Denis and Schiffmüller, 1775); *A. rumicis* (Linnaeus, 1758); *Conistra rubiginea* (Denis and Schiffmüller, 1775); **Lasiocampidae:** *Lasiocampa quercus* (Linnaeus, 1758) (Tschorsnig and Herting, 1994).

Remarks: New record for Iran.

Genus *Phryxe* Robineau-Desvoidy, 1830

Type Species: *Phryxe athaliae* Robineau-Desvoidy, 1830 (= *Tachina vulgaris* Fallén, 1810)

Number of Species: 15 species described worldwide, 13 species distributed in Palaearctic Region (O'Hara et al., 2020).

Phryxe nemea (Meigen, 1824)

Examined Material: 1♀, 10.V.2010, Guilan, Roodsar (Ghazichak), 36° 45' 57.54" N, 50° 19' 35.22" E, 1,800 m asl, Malaise trap, leg. M. Kheirandish; 1♀, 11.V.2010, Guilan, Roodsar (Orkom), 36° 45' 44.34" N, 50° 18' 11.88" E, 1,200 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Palaearctic:** Europe, Transcaucasia, Russia (Eastern Siberia, Russian Far East and Western Russia), China and Japan (O'Hara et al., 2020).

Host Range: *Pristiphora appendiculata* (Hartig, 1837); *Tenthredopsis nassata* (Linnaeus, 1767) (Hym: Tenthredinidae) and

many genera and species of Lepidoptera (see Tschorsnig, 2017: 120-126).

Remarks: Recorded from Iran (Samet et al., 1977).

Phryxe vulgaris (Fallén, 1810)* (Figure 2-e)

Diagnostic Characters: Arista thickened to the 2/3 of its length; distance between the lowest setae and the uppermost one, above the vibrissa narrower than the width of postpedicel; postpedicel in male about 5 and in female 3 times as long as pedicel; scutum with 4 dorsocentral setae behind the suture; scutellum reddish-yellow at the posterior 1/3; apical setae of scutellum strong, crossed and upright; abdominal tergites with dance pruinosity which on the sides of tergites 3-4 covers 3/4 and on tergite 5 about 2/3 of segment length.

Examined Material: 1♂, 1♀, 20.VI.2010, Guilan, Roodsar (Ghazichak), 36° 45' 57.54" N, 50° 19' 35.22" E, 1,800 m asl, Malaise trap, leg. M. Kheirandish; 1♂, 27.VI.2011, Mazandaran, Noor, 36° 34' 52.98" N, 52° 2' 45.78" E, 14 m asl, Malaise trap, leg. A. Nadimi.

Distribution: **Palaearctic:** Europe, Transcaucasia, Turkey, Central Asia (Turkmenistan, Uzbekistan), Mongolia, Russia (Eastern Siberia, Russian Far East and Western Russia), Middle East (Israel); **Oriental:** West China and Japan; **Nearctic:** Canada and USA (O'Hara et al., 2019).

Host Range: Many genera and species of Lepidoptera (see Tschorsnig, 2017: 127-136).

Remarks: New record for Iran.

Genus *Prooppia* Townsend, 1926 *

Type Species: *Hubneria nigripalpis* Robineau-Desvoidy, 1848

Number of species: 5 species described worldwide, 4 species distributed in Palaearctic Region (O'Hara et al., 2020).

Prooppia nigripalpis (Robineau-Desvoidy, 1848)* (Figure 2-f)

Diagnostic Characters: Arista thickened to its middle; postpedicel 3-4 times as long as pedicel; lower anterior edge of mouth not protruding; tergites with dance greyish

pruinosity, which covers 1/2-3/4 of segment length.

Examined Material: 1♀, 11.VII.2010, Guilan, Astaneh-Ashrafieh (Eshman-Kamachal), 37° 22' 3.66" N, 49° 57' 57.84" E, 1 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Paleartic:** Europe, Transcaucasia, Russia (Eastern Siberia, Russian Far East, Western Russia and Western Siberia); **Nearctic:** Canada and USA (O'Hara *et al.*, 2020).

Host range: Unknown

Remarks: New record for Iran.

Genus *Pseudoperichaeta* Brauer and Bergenstamm, 1889*

Type Species: *Pseudoperichaeta major* Brauer and Bergenstamm, 1889 (= *Phryxe palesioidea* Robineau-Desvoidy, 1830)

Number of Species: 12 species described worldwide, 2 species distributed in Palearctic Region (O'Hara *et al.*, 2020).

Pseudoperichaeta nigrolineata (Walker, 1853)* (Figure 3-a)

Diagnostic Characters: Frons 0.8X one eye width in dorsal view; postpedicel 5-6 times as long as pedicel; parafacial in narrowest point as wide as 1/4 of the postpedicel; scutellum black with strong crossed apical setae; section of m between dM-Cu and bend nearly 1.6 times as long as the distance of the bend to the posterior edge; mid tibia with single anterodorsal setae; abdomen black and in anterior half of tergites with pruinosity.

Examined Material: 3♂♂, 11.VII.2010, Guilan, Astaneh-Ashrafieh (Eshman-Kamachal), 37° 21' 3.66" N, 49° 57' 57.84" E, 1 m a.s.l., Malaise trap, leg. M. Kheirandish.

Distribution: **Paleartic:** Europe, Turkey, Transcaucasia (Georgia), Russia (Eastern Siberia, Russian Far East, Western Russia and Western Siberia), China (Central and East);

Oriental: Western China, Korea and Japan (O'Hara *et al.*, 2020).

Host Range: Many genera and species of Lepidoptera (see Tschorsnig, 2017: 140-144).

Remarks: New record for Iran.

Genus *Senometopia* Macquart, 1834

Type Species: *Carcelia aurifrons* Robineau-Desvoidy, 1830 (= *Tachina excisa* Fallén, 1820)

Number of Species: 62 species described worldwide, 21 species distributed in Palearctic Region (O'Hara *et al.*, 2020).

Senometopia pollinosa (Mesnil, 1941)* (Figure 3-b)

Diagnostic characters: Postpronotum with 3 or 4 setae, the three basal setae arranged in a straight line; scutum with 4 dorsocentral setae behind the suture; thorax with yellowish dusting; black longitudinal side stripe of the thorax behind the suture narrows towards the back; tibia yellow, a little blackened on their ventral side basally and apically; fore tibia with 2 posterior setae that the topmost one is 2-3 times as long as the tibia diameter; abdominal tergite 4 irregularly hairy, with scattered discal setae.

Examined Material: 1♂, 11.VII.2010, Guilan, Astaneh-Ashrafieh (Eshman-Kamachal), 37° 22' 3.66" N, 49° 57' 57.84" E, 1 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Paleartic:** Europe northwards to Central Europe, Russia (Eastern Siberia, Russian Far East and Western Russia); **Oriental:** Western China and Japan (O'Hara *et al.*, 2020).

Host Range: Several genera and species of Geometridae such as *Abraxas sylvata* (Scopoli, 1763), *Bupalus piniaria* (Linnaeus, 1758), *Macaria liturata* (Clerck, 1759) and *Semiothisa coninuararia* (Eversmann, 1852) (see Tschorsnig, 2017: 176-177).

Remarks: New record for Iran.

Senometopia separata (Rondani, 1859)

Examined Material: 1♀, 20.IX.2010, Guilan, Astaneh-Ashrafieh (Eshman-Kamachal), 37° 22' 3.66" N, 49° 57' 57.84" E, 1 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Paleartic:** Europe, Russia (Eastern Siberia, Russian Far East and Western Siberia), China and Northern Africa (Algeria, Morocco) (O'Hara *et al.*, 2020).

Host Range: Many genera and species of Lymantriidae, Noctuidae, Notodontidae, Pieridae and Saturniidae (Lepidoptera) (see Tschorsnig, 2017: 179-180).

(Figure 2)

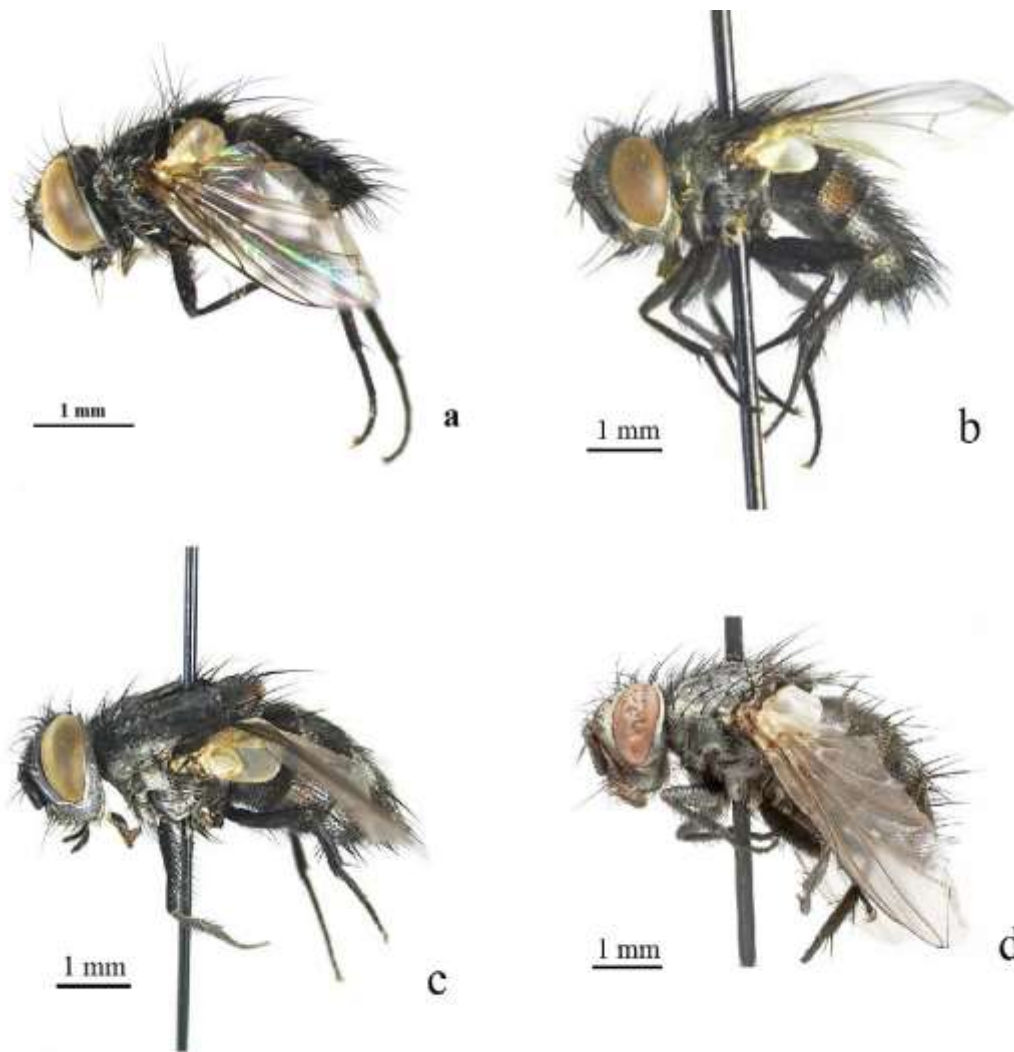


Figure 3. Lateral view of the tachinid flies: (a) *Pseudoperichaeta nigrolineata* (Walker, 1853), male; (b) *Senometopia pollinosa* (Mesnil, 1941), male; (c) *Thecocarcelia flavicosta* Zeegers, 2007, male; (d) *Xylotachina diluta* (Meigen, 1824), female.

Remarks: Recorded from Iran (Ayatollahi, 1971).

Genus *Thecocarcelia* Townsend, 1933*

Type Species: *Argyrophylax pelmatoprocta* Brauer and Bergenstamm, 1891 (= *Masicera acutangulata* Macquart, 1851)

Number of Species: 20 species described worldwide, 8 species distributed in Palearctic Region (O'Hara et al., 2020).

***Thecocarcelia flavicosta* Zeegers, 2007* (Figure 3-c)**

Diagnostic Characters: Frontal stripe just before ocellar elevation much narrower than a parafrontale (at least 1.5 times); arista thickened at basal 2/5; palpus black with yellow tip, labella yellow; wing veins all yellow, setulae on costa contrastingly black; mid tibia with 2 anterodorsal setae; abdominal tergite 5 completely bare on anterior 1/5.

Examined Material: 1♂, 22.VI.2010, Guilan, Roodsar (Ziaz), 36° 52' 27.18" N, 50° 13' 24.78" E, 490 m asl, Malaise trap, leg. M. Kheirandish.

Distribution: **Afrotropical:** Yemen (Zeegers, 2007).

Host Range: Unknown

Remarks: New record for Iran.

Genus *Xylotachina* Brauer and Bergenstamm, 1891 *

Type Species: *Xylotachina ligniperdae* Brauer and Bergenstamm, 1891 (= *Tachina diluta* Meigen, 1824)

Number of Species: 2 species described from Palearctic Region (O'Hara *et al.*, 2020).

Xylotachina diluta (Meigen, 1824)* (Figure 3-d)

Diagnostic Characters: Frons 0.6-0.8X one eye width in dorsal view; postpedicel about 5 times as long as pedicel; arista thickened in 1/3 of its length; bend of m rounded, section of M between the bend and apex of M, about 1.5 times as long as the distance of dM-Cu and the bend; scutellum reddish at the posterior 1/3; abdomen uniformly covered with greyish pruinosity, with a narrow black border along the posterior margin of the tergites.

Examined Material: 2♀♀, 12.VIII.2010, Guilan, Astaneh-Ashrafieh (Eshman-Kamachal), 37° 22' 3.66" N, 49° 57' 57.84" E, 1 m asl, Malaise trap, leg. M. Kheirandish; 2♂♂, 6.VIII.2011, Mazandaran, Noor, 36° 34' 52.98" N, 52° 2' 45.78" E, 14 m asl, Malaise trap, leg. A. Nadimi.

Distribution: **Palearctic:** Scandinavia, Western Europe and Central Europe to Western Russia, Transcaucasia and China (O'Hara *et al.*, 2020).

Host Range: **Lepidoptera:** **Cossidae:** *Cossus cossus* (Linnaeus, 1758) (see Tschorsnig, 2017: 182-183).

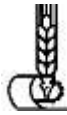
Remarks: New record for Iran.

DISCUSSION

This study presented Iranian species of the tribe Eryciini (Diptera: Tachinidae: Exoristinae) and added further data on their distributions in Iran. Twenty of the 26 species

(77%) are new records for Iran. All recorded species have a wide Palearctic or Trans Palearctic distribution. The genus *Drino* Robineau-Desvoidy was the most specious genus of Eryciini in the studied regions, followed by *Carcelia* Robineau-Desvoidy. *Drino* has more than 14 described species in Palearctic Region (Herting, 1984; O'Hara, 2019), of which five species have been already recorded from various regions of Iran (Ghadiri-Rad and Alavi, 2004; Parchami Araghi and Malkeshi, 1997; Samet *et al.*, 1977; Chokouhian, 1975; Gheibi *et al.*, 2010). Herein the occurrence of the species *D. vicina* and *D. latigena* was recorded from north and northwestern Iran. The genus *Carcelia* Robineau-Desvoidy has wide distribution in the world and includes more than 31 species in the Palearctic Region (Tschorsnig and Herting, 1994; O'Hara, 2020). Three species, namely, *C. bombylans*, *C. laxifrons*, and *C. tibialis* collected and identified in Guilan Province, are known as larva parasitoid of many genera and species of Arctiidae, Lymantriidae, Geometridae and Lasiocampidae (Tschorsnig, 2017). The genus *Nilea* Robineau-Desvoidy is widespread throughout the world and eight species were hitherto known from the Palearctic Region (O'Hara, 2020). In the present study, the species *N. innoxia* was recorded for the first time from Iran, in the literatures introduced as parasitoid of Noctuidae, Lymantriidae, Lasiocampidae and Sphingidae larva. *N. anatolica* was already known as a parasitoid of pupal cocoons of *Simyra dentinosa* from the West Azerbaijan Province, Iran (Karimpour *et al.*, 2005). The occurrence of this species in Turkey and Georgia was detected previously as well (Doğanlar, 1982; O'Hara, 2020).

The genera *Phryxe* Robineau-Desvoidy, *Senometopia* Macquart and *Lydella* Robineau-Desvoidy also have two species in Iran, yet. Seven genera, namely, *Alsomyia* Brauer and Bergenstamm, *Epicampocera* Macquart, *Periarchiclops* Villeneuve, *Prooppia* Townsend, *Pseudoperichaeta* Brauer and Bergenstamm, *Thecocarcelia* Townsend and *Xylotachina* Brauer and Bergenstamm, are represented by only one species, as new records for Iranian insect fauna.



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مرور قبیله Eryciini Robineau-Desvoidy (Diptera: Tachinidae: Exoristinae) در ایران، با گزارش‌های جدید

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چکیده

مقاله حاضر مروری بر قبیله Eryciini (Tachinidae: Exoristinae) در ایران با بیست و شش گونه متعلق به 15 جنس است. از 20 گونه جمع‌آوری شده در این بررسی، هفت جنس و 16 گونه برای اولین بار از ایران گزارش می‌شود. پراکنش و دامنه میزبانی گونه‌ها به طور خلاصه بررسی و خصوصیات افتراقی رکوردهای جدید آمده است. کلید شناسایی گونه‌های یافت شده در ایران نیز ارائه شده است.