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## An annotated checklist of Dolichopodidae (Diptera) species from Iran, with new records and a bibliography

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**Abstract.** A total of 171 species of the family Dolichopodidae (Diptera) belonging to 29 genera are presented from Iran, of which three genera (*Arabshamshevia*, *Emiratomyia* and *Micromorphus*) as well as seventeen species are newly recorded from the country: *Arabshamshevia ajbanensis*, *Asyndetus albifacies*, *A. separatus*, *A. transversalis*, *Campsicnemus pilitarsis*, *C. simplicissimus*, *Dolichopus calinotus*, *D. diadema*, *D. eflatouni*, *D. zernyi*, *Emiratomyia arabica*, *Hercostomus kravchenkoi*, *Medetera mixta*, *M. spinigera*, *M. veles*, *Micromorphus mesasiaticus* and *M. minusculus*. Considering that this number of species makes up less than 50% of actual Dolichopodidae fauna in the country, it is supposed that the total number of Iranian species can be raised to 400 or 500 species. The species *Syntormon filiger* is given here as the first reliable record from Iran, and *Medetera micacea* is excluded from the list of Iranian Dolichopodidae. The following recombinations are proposed for Chinese species: *Campsicnemus flaviantenna* (Tang, Wang et Yang, 2015), **comb. nov.**; *Campsicnemus longipilosus* (Tang, Wang et Yang, 2015), **comb. nov.** The photographs of the habitus of newly discovered species as well as some of their diagnostic characters and habitats are presented.

**Keywords:** Dolichopodidae, long-legged fly, Iran, checklist, new records

## Аннотированный список видов Dolichopodidae (Diptera) Ирана с новыми указаниями и библиографией

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**Аннотация.** Всего в Иране выявлен 171 вид семейства Dolichopodidae (Diptera), принадлежащих к 29 родам, из которых три рода (*Arabshamshevia*, *Emiratomyia* и *Micromorphus*) и семнадцать видов впервые обнаружены в стране, а именно: *Arabshamshevia ajbanensis*, *Asyndetus albifacies*, *A. separatus*, *A. transversalis*, *Campsicnemus pilitarsis*, *C. simplicissimus*, *Dolichopus calinotus*, *D. diadema*, *D. eflatouni*, *D. zernyi*, *Emiratomyia arabica*, *Hercostomus kravchenkoi*, *Medetera mixta*, *M. spinigera*, *M. veles*, *Micromorphus mesasiaticus* и *M. minusculus*. Предполагается, что это количество видов составляет менее 50% фактической фауны Dolichopodidae в Иране, а общее количество иранских видов может быть доведено до 400 или 500 видов. *Syntormon filiger* является первой достоверной находкой в стране, а *Medetera micacea* исключен из списка иранских Dolichopodidae. Для двух китайских видов из рода *Syntormon* предложены следующие рекомбинации: *Campsicnemus flaviantenna* (Tang, Wang et Yang, 2015), **comb. nov.**; *Campsicnemus longipilosus* (Tang, Wang et Yang, 2015), **comb. nov.** Приведены фотографии габитуса вновь открытых видов, а также некоторых их диагностических признаков и мест обитания.

**Ключевые слова:** Dolichopodidae, мухи-зеленушки, Иран, список видов, новые указания

## Introduction

Approximately 8300 described species and 260 genera of the long-legged flies (Dolichopodidae) are known in the extant fauna of the world (Grichanov 2022). The first contribution to the fauna of Dolichopodidae of Iran was made by Th. Becker and P. Stein (1913), who treated material collected by N. Zarudny (Saint Petersburg, Russia) in Khorasan, Kerman and Sistan and Baluchestan provinces during 1898 and 1901 expeditions. The authors identified eight mainly halophilic species of long-legged flies. During the next hundred years, the country did not attract much attention of dipterists. The records were scarce and published in a few papers and reviews. As a result, 24 species were reported from Iran to 2008, i.e. before the recent regular collecting of dolichopodids by Iranian students and researchers (Grichanov 2016). Subsequently, about 40 papers dealing with Iranian Dolichopodidae were published. The most recent Iranian list of these flies included 114 species collected mainly from the North-West of Iran (Grichanov 2016). The data of the known dolichopodid fauna of the country have never been summarized in a form of an annotated checklist.

Iran, with an area of 1,648,195 km<sup>2</sup>, is surrounded by the Caspian Sea on the north and the Persian Gulf and the Oman Sea on the south in addition to neighboring Armenia, Azerbaijan, Iraq, Turkey, Turkmenistan, Afghanistan and Pakistan. Due to the vastness of Iran, its climate is highly diverse with temperatures ranging from –35°C in the winter of the northwest to 55°C in the summer of the south and southeast. Divided into nine zoological regions, Iran is considered one of the most important countries with a rich biodiversity. The Northwestern Region, which includes most of the recorded long-legged species, is a steppe-mountainous area with Euxino-Hyrcanian and Irano-Turanian vegetations and similar fauna to the Caucasus region. The Southern Caspian Region, which extends from Astara to Gonbad-e Kavus, is a very small area with Euxino-Hyrcanian vegetation and with 700 to

2000 mm of annual rainfall from the east to the west. The Baluchestan Region located in the southeast of Iran includes different fauna from other zoological regions and shows some similarities to the Oriental region as well as Saharo-Sindian vegetation. The Karun Plains Region, which includes Karkheh and Dez National Parks, is located in the southwest of Iran. Due to many wetlands occurring in this region, it is one of the most important natural habitats for animals. This region comprises a mixture of Irano-Turanian and Saharo-Sindian vegetations. The Southern Coasts Region is bordered by the Persian Gulf and the Oman Sea in the south. This region shows many faunal elements from Afrotropical and Oriental regions along with Saharo-Sindian vegetation. The rest of the zoological regions are located in western, central, eastern and northeastern Iran with Irano-Turanian vegetations (Takhtajan 1978; Hedge, Wendelbo 1978; Madjnoonian et al. 2005; Talebi et al. 2014).

Additional unsorted dolichopodid material was found in the collections and processed by the senior author of this paper. All specimens are deposited in the collections of Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia (ZIN), and Hayk Mirzayans Insect Museum (HMIM), Tehran, Iran. The information on the global distribution for each species follows Grichanov (2022). The type localities are provided and the country lists are arranged alphabetically. The words “Region” (Oblast) and “Territory” (Krai) are omitted from the list of Russian regions. Remarks are provided where deemed necessary. The newly discovered species are photographed with a ZEISS Discovery V-12 stereo microscope and an AxioCam MRc5 camera.

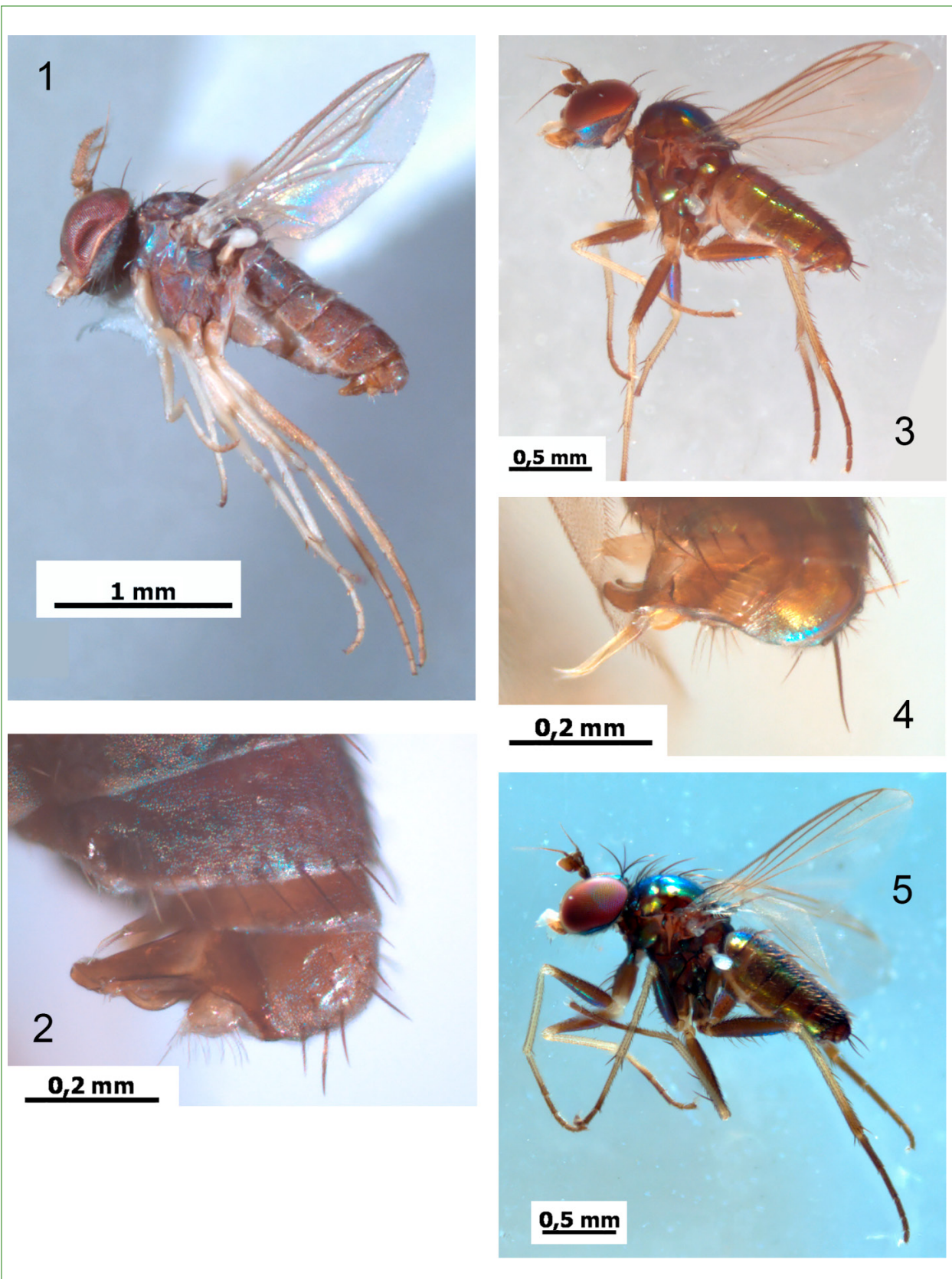
## Checklist and new records

Genus *Arabshamshevia* Naglis, 2014

1. *Arabshamshevia ajbanensis* Naglis, 2014  
Figs. 1, 2

**Material examined.** 3♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Aragh; 1♂: Sistan





**Figs. 1-5.** *Arabshamshevia ajbanensis* Naglis (1-2), *Asyndetus albifacies* Parent (3-4), *Asyndetus separatus* (Becker) (5). Habitus (1, 3, 5); apex of abdomen (2, 4)

**Рис. 1-5.** *Arabshamshevia ajbanensis* Naglis (1-2), *Asyndetus albifacies* Parent (3-4), *Asyndetus separatus* (Becker) (5). Габитус (1, 3, 5); вершина брюшка (2, 4)

& Balouchestan Prov., Chabahar, Tis, 0 m, 25°24'27.4"N, 060°37'48.8"E, 17.05.2022, light trap, M. Mofidi/ A. Hajiesmailian.

**Distribution.** Type locality: the United Arab Emirates, al-Ajban. **New record for Iran.** The species is found for the first time after description.

Genus *Argyra* Macquart, 1834

2. *Argyra argentina* (Meigen, 1824)

**References.** Negrobov, Matile 1974 (females); Kazerani et al. 2014f: 267.

**Distribution.** Type locality: not given [Europe]. West-Palaeartic species.

3. *Argyra diaphana* (Fabricius, 1775)

**References.** Negrobov, Matile 1974: 844 (females); Kazerani et al. 2014e: 2.

**Distribution.** Type locality: Europe. Southern Holarctic species.

4. *Argyra leucocephala* (Meigen, 1824)

**References.** Grichanov et al. 2010: 196; Ahmadi et al. 2016: 192; Ahmadi et al. 2017: 65; Grichanov et al. 2017: 100.

**Distribution.** Type locality: not given. West-Palaeartic species.

5. *Argyra vestita* (Wiedemann, 1817)

**References.** Khaghaninia et al. 2016: 463 (no material provided).

**Distribution.** Type locality: Germany: "bei Kiel". West-Palaeartic species.

Genus *Asyndetus* Loew, 1869

6. *Asyndetus albifacies* Parent, 1929

Figs. 3, 4

**Material examined.** 3♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Aragh; 6♂, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Mt. Halaib. The species is reported from Egypt, Israel and Saudi Arabia. **New record for Iran.**

7. *Asyndetus albifrons* Loew, 1869

**References.** Rezaei et al. 2019a: 8; Rezaei et al. 2019b: 90.

**Material examined.** 3♂, Sistan and Balouchestan Prov., Bampur, Natural Resources & Agricultural Research Center, 525 m, 27°11'56"N,

060°29'52"E, 30.03–02.05.2017, Malaise trap, F. Basavand; 1♂, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Bir Abrug (South Eastern Desert). The species is reported from Egypt, Iraq and Iran.

8. *Asyndetus chaetifemoratus* Parent, 1925

**References.** Rezaei et al. 2019a: 8; Rezaei et al. 2019b: 90.

**Material examined.** 8♂, 4♀, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Aragh.

**Distribution.** Type locality: Egypt: Baharia Oasis. The species is reported from Egypt, Iran, Israel and Russia (Astrakhan).

9. *Asyndetus connexus* (Becker, 1902)

**References.** Negrobov 1973: 162 (no material provided).

**Distribution.** Type locality: Egypt: "Alexandrien, Kairo, Suez, Fayum, Siala, Birket-el-Karun". The species is reported from Austria, Egypt, Iraq, Iran, Libya, Spain and Turkey.

10. *Asyndetus fallahzadehi* Grichanov, 2019

**References.** Grichanov, Rezaei 2019: 37; Rezaei et al. 2019b: 90.

**Material examined.** 5♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Aragh; 3♂, Sistan & Balouchestan Prov., Bampur, Natural Resources & Agricultural Research Center, 525 m, 27°11'56"N, 060°29'52"E, 30.03–02.05.2017, Malaise trap, F. Basavand.

**Distribution.** Type locality: Iran: Fars Province, Larestan. The species is known only from Iran.

11. *Asyndetus latifrons* (Loew, 1857)

**References.** Kazerani et al. 2014c: 2; Hamed et al. 2018: 2.

**Distribution.** Type locality: Poland: "Schlesien". Afrotropical, Palaeartic and Oriental Regions.

12. *Asyndetus separatus* (Becker, 1902)

Fig. 5

**Material examined.** 3♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m,



32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Aragh.

**Distribution.** Type locality: Egypt: Alexandria, Fayum. The species is reported from Algeria, Austria, Cyprus, Egypt, Greece, Iraq, Israel, Italy, Libya, Russia (Astrakhan), Spain and Tunisia. **New record for Iran.**

13. *Asyndetus transversalis* (Becker, 1907)  
Figs. 6–8

**Material examined.** 3♂, 1♀, Khuzestan Prov., Shoush, 25.04.1976, Lavallee; 4♂, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Algeria: Biskra. The species is reported from Algeria, Egypt, Iraq and Tunisia. **New record for Iran.**

Genus *Campsicnemus* Haliday, 1851

14. *Campsicnemus curvipes* (Fallén, 1823)

**References.** Kazerani et al. 2014a: 63; Ahmadi et al. 2017: 69; Grichanov et al. 2017: 100; Hamed et al. 2018: 3.

**Material examined.** 1♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi.

**Distribution.** Type locality: not given. West Palaearctic and Siberia.

15. *Campsicnemus magius* (Loew, 1845)

**References.** Ahmadi et al. 2017: 69.

**Distribution.** Type locality: Italy: Sicily. Mainly West Palaearctic species.

16. *Campsicnemus pilitarsis* Negrobov et Zlobin, 1978

Figs. 9–11

**Material examined.** 1♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi; 1♂, Sistan & Balouchestan Prov., Chabahar, Tis, 0 m, 25°24'27.4"N, 060°37'48.8"E, 17.05.2022, light trap, M. Mofidi / A. Hajiesmailian.

**Distribution.** Type locality: Tajikistan: Dushanbe, valley Dushambinka. Palaearctic: Kazakhstan, Tajikistan, Uzbekistan. **New record for Iran.**

**Notes.** This species was probably redescribed under the name *Sympycnus longipilosus* (Tang et al. 2015). *Sympycnus flaviantenna* described in the same paper is most probably a synonym to Trans-Palaearctic *Campsicnemus picticornis* (Zetterstedt, 1843). So, the following recombinations are here proposed: *Campsicnemus flaviantenna* (Tang, Wang et Yang, 2015), **comb. nov.**; *Campsicnemus longipilosus* (Tang, Wang et Yang, 2015), **comb. nov.**

17. *Campsicnemus simplicissimus* Strobl, 1906

**Material examined.** 2♂, 4♀, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi; 1♂, Sistan & Balouchestan Prov., Chabahar, Tis, 0 m, 25°24'27.4"N, 060°37'48.8"E, 17.05.2022, light trap, M. Mofidi / A. Hajiesmailian.

**Distribution.** Type locality: Spain: Algeciras. Mainly Mediterranean species; Tajikistan. **New record for Iran.**

18. *Campsicnemus tomkovichi* Grichanov, 2009

**References.** Ahmadi et al. 2017: 69; Grichanov et al., 2017: 100.

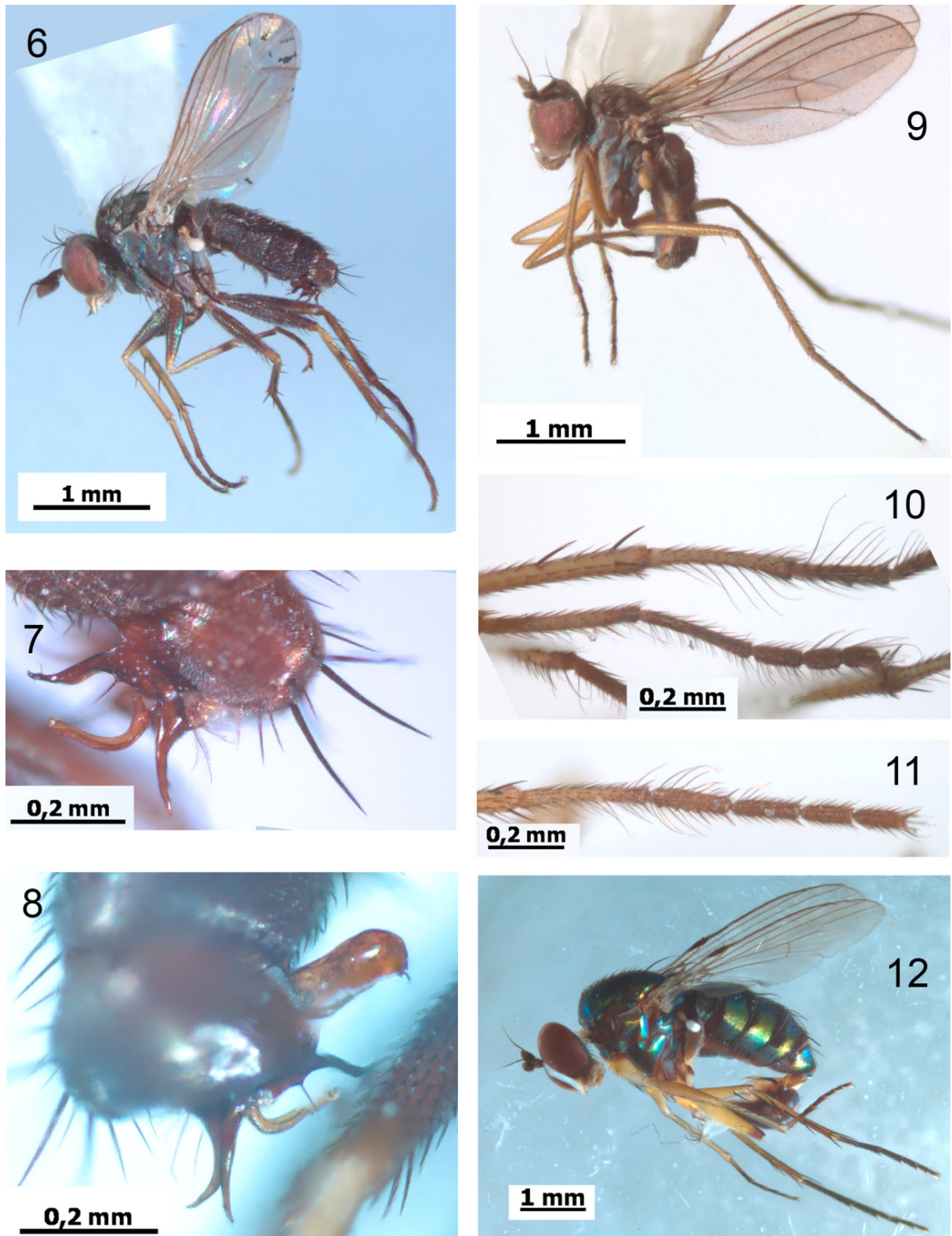
**Material examined.** 3♂, Mazandaran Prov., vicinity of Polour Village, 2311 m, 35°50'20"N, 052°02'49"E, 18.05.2016, yellow pan trap, M. Parchami-Araghi; 1♂, Markazi Prov., Delijan, Jasb, 2316 m, 34°04'43"N, 050°53'25"E, 19.05.2009, Malaise trap, E. Gilasian.

**Distribution.** Type locality: Azerbaijan: Yardimli [district], Kreki. Armenia, Azerbaijan, Iran.

19. *Campsicnemus umbripennis* Loew, 1856

**References.** Grichanov et al. 2010; Kazerani et al. 2014b; Ahmadi et al. 2016: 192; Ahmadi et al. 2017: 69; Grichanov et al. 2017: 101.

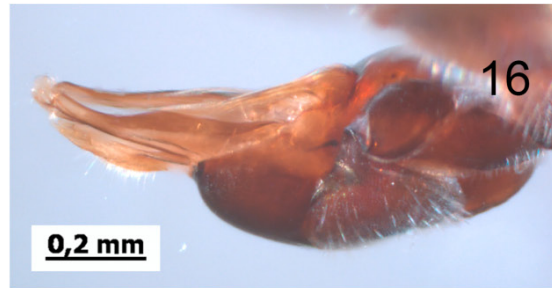
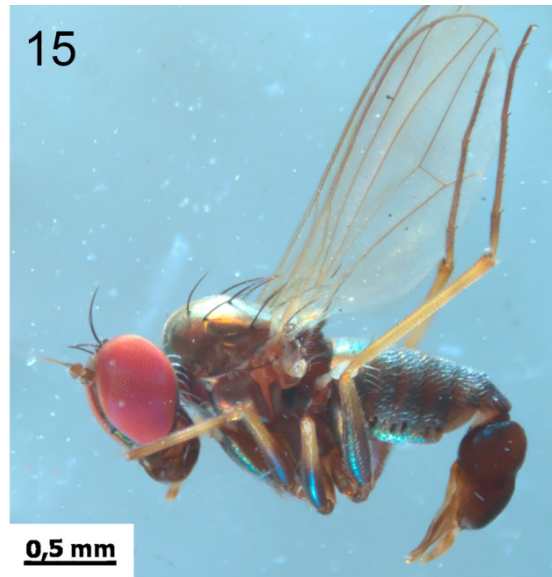
**Material examined.** 1♀, Lorestan Prov., Babazeidun, 820 m, 04.04.1976, Lavallee; 3♂, 1♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi; 1♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi; 1♀, Mazandaran



**Figs. 6-12.** *Asyndetus transversalis* (Becker) (6-8), *Campsicnemus pilitarsis* Negrobov et Zlobin (9-11), *Dolichopus eflatouni* (Parent) (12). Habitus (6, 9, 12); apex of abdomen, left (7) and right (8) lateral; fore and mid tarsi, lateral (10); mid tarsus, dorsal view (11)

**Рис. 6-12.** *Asyndetus transversalis* (Becker) (6-8), *Campsicnemus pilitarsis* Negrobov et Zlobin (9-11), *Dolichopus eflatouni* (Parent) (12). Габитус (6, 9, 12); вершина брюшка слева (7) и справа (8) сбоку; передние и средние лапки, сбоку (10); средняя лапка, вид сверху (11)





**Figs. 13–18.** *Dolichopus diadema* Haliday (13), *Emiratomyia arabica* Naglis (14), *Medetera mixta* Negrobov (15–16), *Teuchophorus monacanthus* Loew (17–18). Habitus (13, 14, 15, 17); hypopygium, left lateral view (16); hind femur and tibia, anterior view (18)

**Рис. 13–18.** *Dolichopus diadema* Haliday (13), *Emiratomyia arabica* Naglis (14), *Medetera mixta* Negrobov (15–16), *Teuchophorus monacanthus* Loew (17–18). Габитус (13, 14, 15, 17); гипопигий, вид слева (16); задние бедра и голени, вид спереди (18)

Prov., vicinity of Polour Village, 2311 m, 35°50'20"N, 052°02'49"E, 18.05.2016, yellow pan trap, M. Parchami-Araghi; 1♂, Mazandaran Prov., Sari, Fereim, Mohammadabad, 705 m, 36°10'36"N, 053°16'05"E, 06.12.2021, yellow pan trap, H. Barari; 1♂, Tehran Prov., Damavand, Nava, 12.07.1976, Lavallee.

**Distribution.** Type locality: Austria. West and Central Palaearctic species.

20. *Campsicnemus vtorovi* Negrobov et Zlobin, 1978

**References.** Ahmadi et al. 2017: 68 [as *Campsicnemus armatus* (Zetterstedt, 1849)]; Grichanov et al. 2017: 100 (as *C. armatus*); Grichanov 2019: 146.

**Distribution.** Type locality: Kyrgyzstan: the Naryn River valley, the Karakolka Mt. Iran (Lorestan, Markazi), Kyrgyzstan, Russia (Altai Territory, Ulyanovsk, Voronezh).

Genus *Chrysotimus* Loew, 1857

21. *Chrysotimus molliculus* (Fallén, 1823)

**References.** Kazerani et al. 2014b: 27.

**Distribution.** Type locality: Ostrogothia [Sweden]. West Palaearctic species.

Genus *Chrysotus* Meigen, 1824

22. *Chrysotus angulicornis* Kowarz, 1874

**References.** Grichanov et al. 2010: 196; Kazerani et al. 2014c: 2; Kazerani et al. 2014f: 267; Ahmadi et al. 2016: 192.

**Material examined.** 1♂, Mazandaran Prov., Sari, Fereim, Mohammadabad, 705 m, 36°10'36"N, 053°16'05"E, 06.12.2021, yellow pan trap, H. Barari; 1♂, Tehran Prov., Tehran, Shemiranat, IRIPP grounds, 1648 m, 35°47'49"N, 054°24'01"E, 26.04–28.05.2016, Malaise trap, E. Gilasian; 1♂, Tehran Prov., Taleghan, 1806 m, 36°10'15"N, 050°45'51"E, 19.05.2015, Malaise trap, A. Jabbari.

**Distribution.** Type locality: Innsbruck [=Innsbruck, Austria]. West Palaearctic species.

23. *Chrysotus cilipes* Meigen, 1824

**References.** Kazerani et al. 2014c: 2; Kazerani et al. 2014f: 267; Hamed et al. 2018: 3.

**Distribution.** Type locality: Germany: Hamburg. Trans-Palaearctic species.

24. *Chrysotus collini* Parent, 1923

**References.** Kazerani et al. 2014e: 2.

**Distribution.** Type locality: England: "Printon" [=Frinton-on-Sea]. West Palaearctic species.

25. *Chrysotus gramineus* (Fallén, 1823)

**References.** Negrobov, Matile 1974: 844 (females); Kazerani et al. 2014f: 267.

**Distribution.** Type locality: not given [Sweden]. Trans-Palaearctic species.

26. *Chrysotus neglectus* (Wiedemann, 1817)

**References.** Kazerani et al. 2014e: 3.

**Distribution.** Type locality: "Holstein". Trans-Palaearctic species.

27. *Chrysotus obscuripes* Zetterstedt, 1838

**References.** Khaghaninia et al. 2016: 463 (no material provided); Ahmadi et al. 2017: 65; Rezaei et al. 2019b: 90.

**Material examined.** 2♂, Mazandaran Prov., vicinity of Polour Village, 2311 m, 35°50'20"N, 052°02'49"E, 18.05.2016, yellow pan trap, M. Parchami-Araghi.

**Distribution.** Type locality: Sweden: Lapponica Umensi, Fredrica. Trans-Palaearctic species.

28. *Chrysotus pennatus* Lichtwardt, 1902

**References.** Ahmadi et al. 2017: 66.

**Distribution.** Type locality: Bosnia and Herzegovina: Novi. Trans-Palaearctic species.

29. *Chrysotus suavis* Loew, 1857

**References.** Grichanov et al. 2010: 198; Kazerani et al. 2014c: 3; Kazerani et al. 2014f: 267; Ahmadi et al. 2016: 192; Ahmadi et al. 2017: 66; Grichanov et al. 2017: 101; Rezaei et al. 2019b: 90.

**Material examined.** 6♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Araghi.

**Distribution.** Type locality: Germany: "Coln"; Austria: "Neusiedler See in Ungarn". Trans-Palaearctic species.

Genus *Diaphorus* Meigen, 1824

30. *Diaphorus aff. parenti* Stackelberg, 1928

**References.** Rezaei et al. 2019b: 91.

**Distribution.** Type locality: Russia: Tigrovaya, Suchansky District, Primorsky Territory. China (Ningxia, Hebei, Henan), ?Iran, Russia (Chita, Karachai-Cherkessia, Vladivostok).

**Notes.** This species was recorded from females and may belong to another species.



31. *Diaphorus sublautus* Negrobov, 2007

**References.** Khaghaninia et al. 2014a: 589; Kazerani et al. 2014e: 3.

**Distribution.** Type locality: Azerbaijan, Adzhigan-Chai River, Turutsteppe. Azerbaijan, Iran.

Genus *Dolichopus* Latreille, 1796

32. *Dolichopus austriacus* Parent, 1927

**References.** Kazerani et al. 2014c: 139; Kazerani et al. 2014d: 23; Khaghaninia et al. 2014a: 589.

**Distribution.** Type locality: Austria: Gmunden. Austria, Estonia, Finland, Germany, Iran, Kyrgyzstan, Romania, Russia (Astrakhan, Volgograd), Sweden, Turkey, Uzbekistan.

33. *Dolichopus calinotus* Loew, 1871

**Material examined.** 4♂, 2♀, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: "Galizien". Denmark, Finland, Germany, Kazakhstan, Kyrgyzstan, Netherlands, Poland, Romania, Russia (Rostov), Spain, Sweden, Turkey, Ukraine. **New record for Iran.**

34. *Dolichopus campestris* Meigen, 1824

**References.** Kazerani et al. 2014c: 139; Kazerani et al. 2014d: 23; Khaghaninia et al. 2014a: 589.

**Distribution.** Type locality: not given. Trans-Palaeartic species.

35. *Dolichopus clavipes* Haliday, 1832

**References.** Grichanov et al. 2010: 198 (female); Kazerani et al. 2014c: 140; Kazerani et al. 2014g: 23; Khaghaninia et al., 2014a: 589.

**Distribution.** Type locality: Ireland: Holywood. Trans-Palaeartic species.

36. *Dolichopus diadema* Haliday, 1832

Fig. 13

**Material examined.** 8♂, 6♀, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Ireland: Holywood. West and Central Palaeartic species. **New record for Iran.**

37. *Dolichopus efflatouni* (Parent, 1925)

Fig. 12

**Material examined.** 3♂, 3♀, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Araghi; 3♂, 2♀, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Egypt: "Baharia Oasis". Azerbaijan, Egypt, Iraq, Kazakhstan, Tajikistan, Uzbekistan. **New record for Iran.**

38. *Dolichopus excisus* Loew, 1859

**References.** Grichanov et al. 2010: 198; Kazerani et al. 2014b: 140; Ahmadi et al. 2016: 192.

**Distribution.** Type locality: Germany: "in alien Theilen Deutschlands". West Palaeartic species.

**Notes.** Ahmadi et al. (2017: 66) doubted the presence of this species in Iran.

39. *Dolichopus fuscicercus* Pollet, Khaghaninia, Kazerani, 2017

**References.** Kazerani et al. 2017: 113.

**Distribution.** Type locality: Iran: East Azerbaijan, Arasbaran, Chichekli. The species is known from type locality.

40. *Dolichopus griseipennis* Stannius, 1831

**References.** Grichanov et al. 2010: 198; Kazerani et al. 2013; Kazerani et al. 2014c: 140; Kazerani et al. 2014f: 267; Khaghaninia et al. 2014a: 589; Ahmadi et al. 2016: 192; Ahmadi et al. 2017: 66.

**Distribution.** Type locality: France: Lyon. West Palaeartic species.

41. *Dolichopus jaxarticus* Stackelberg, 1927

**References.** Grichanov et al. 2017: 101.

**Distribution.** Type locality: "prov. Syrdarjensis et Samarkandica (Tshardary)" [southern Kazakhstan, Uzbekistan]. China (Xinjiang), Iran, Kazakhstan, Russia (Astrakhan), Ukraine, Uzbekistan.

42. *Dolichopus kiritshenkoi* Stackelberg, 1927

**References.** Kazerani et al. 2014c: 140.

**Distribution.** Type locality: Georgia: "prope stationem Kobi, prov. Tiflisiensis, Caucasus centralis". Georgia, Iran.

43. *Dolichopus lairdi* Olejníček, Mohsen et Ouda, 1995

**References.** Rezaei et al. 2019b: 91.

**Material examined.** 12♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Araghi; 1♂, Sistan & Baluchestan Prov., Bampur, Natural Resources & Agricultural Research Center, 525 m, 27°11'56"N, 060°29'52"E, 30.03–02.05.2017, Malaise trap, F. Basavand.

**Distribution.** Type locality: Iraq: Baghdad, Babylon Hotel, garden. Iraq, Iran.

44. *Dolichopus latilimbatus* Macquart, 1827

**References.** Grichanov et al. 2010: 198; Kazerani et al. 2014f: 268.

**Distribution.** Type locality: not given ["Nord de France"]. West and Central Palaearctic species.

45. *Dolichopus longitarsis* Stannius, 1831

**References.** Khaghaninia et al. 2013a: 42; Kazerani et al. 2014c: 140; Kazerani et al. 2014d: 24.

**Distribution.** Type locality: Germany: Hamburg. West and Central Palaearctic species.

46. *Dolichopus malekii* Grichanov, Khaghaninia et Gharajedaghi, 2014

**References.** Khaghaninia et al. 2014b: 4; Kazerani et al. 2014c: 142.

**Distribution.** Type locality: Iran: East Azerbaijan province, Chichakli region. The species is known from type locality.

47. *Dolichopus notatus* Staeger, 1842

**References.** Becker, Stein 1913: 597 (as *Dolichopus notabilis* Zetterstedt, 1843; females); Grichanov et al., 2010: 198.

**Distribution.** Type locality: Denmark: "I Moser; Dyrehaven og: Engene ved Leersoer, temmelig fjelden". Trans-Palaearctic species.

48. *Dolichopus nubilus* Meigen, 1824

**References.** Grichanov et al. 2010: 198; Kazerani et al. 2014b: 142; Kazerani et al. 2014f: 268; Khaghaninia et al. 2014a: 589; Hamed et al. 2018: 3.

**Material examined.** 1♀, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: not given. West and Central Palaearctic species.

49. *Dolichopus perversus* Loew, 1871

=*Dolichopus subimmaculatus* Kazerani, Pollet, Khaghaninia, in: Kazerani et al., 2017: 117 (Grichanov et al., 2017: 101, synonymized) =*Dolichopus immaculatus* of authors, not Becker, 1909: Kazerani et al., 2014b: 140; Khaghaninia et al. 2014a: 589.

**References.** Grichanov et al. 2010: 198; Kazerani et al. 2014b: 142; Ahmadi et al. 2017: 66; Grichanov et al. 2017: 101.

**Distribution.** Type locality: [Tajikistan:] "Zaravschan Thal [=Zeravshan valley], Turkestan". Abkhazia, Armenia, Iran, Israel, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Uzbekistan.

50. *Dolichopus plumipes* (Scopoli, 1763)

**References.** Kazerani et al. 2014c: 142.

**Distribution.** Type locality: Slovenia, "Carnioliae indigena". Mainly Holarctic species.

51. *Dolichopus salictorum* Loew, 1871

**References.** Khaghaninia et al. 2013a: 42; Kazerani et al. 2014c: 144.

**Distribution.** Type locality: [Czech:] "in der Nahe des Altvaters, Schlesien". Mainly West Palaearctic species.

52. *Dolichopus siculus* Loew, 1859

**References.** Kazerani et al. 2014b: 144; Kazerani et al. 2014f: 268; Ahmadi et al. 2017: 66; Grichanov et al. 2017: 102.

**Distribution.** Type locality: Italy: Sidy. The species is reported from Bulgaria, France, Iran, Israel, Italy.

53. *Dolichopus signifer* Haliday, 1832

**References.** Grichanov et al. 2010: 198; Khaghaninia et al. 2013a: 43; Kazerani et al. 2014c: 145; Kazerani et al. 2014d: 24; Ahmadi et al. 2016: 192; Ahmadi et al. 2017: 66; Grichanov et al. 2017: 102.

**Material examined.** 3♀, East Azerbaijan, Kaleybar, Vayeghan, 1440 m, 05–06.08.1992, M. Parchami-Araghi / M. Badii; 1♂, Fars Prov., Sepidan, Abshar-e Margun, 1910 m, 28.09.1996, H. Barari / M. Parchami-Araghi / M. Moghadam; 1♀, Khorasan-e Razavi, Darreh Gaz, Tandureh, Cheshmeh-Rajabeh, 1050 m, 09.08.1993, E. Ebrahimi / E. Badii; 1♀, Khuzestan Prov., Dezful, Sardasht, Labsefid,



650 m, 10.06.2000, M. Badii / M. Mofidi; 1♀, Mazandaran Prov., Sari, Fereim, Mohamadabad, 705 m, 36°10'36"N, 053°16'05"E, 06.12.2021, yellow pan trap, H. Barari; 4♂, 3♀, Tehran Prov., Tehran, Evin, 22.09.1973, light trap; 3♂, 1♀, West Azerbaijan Prov., Raskan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi; 1♂, West Azerbaijan Prov., Maku, Siah Cheshmeh, Tazehkand, 1700 m, 21.08.1994, E. Ebrahimi / A. Sarafrazi.

**Distribution.** Type locality: Ireland: Roundstone Bay. West and Central Palaearctic species.

54. *Dolichopus simplex* Meigen, 1824

**References.** Khaghaninia et al. 2013a: 44; Kazerani et al. 2014b: 146; Kazerani et al. 2014d: 24; Hamed et al. 2018: 3.

**Distribution.** Type locality: Germany: Hamburg, Kiel. West Palaearctic species.

55. *Dolichopus subpennatus* d'Assis Fonseca, 1976

**References.** Kazerani et al., 2014b: 146; Kazerani et al. 2014d: 24; Khaghaninia et al., 2014a: 589.

**Distribution.** Type locality: England: Inverness-shire, Spey Bridge. West and Central Palaearctic species.

56. *Dolichopus unguatus* (Linnaeus, 1758)

**References.** Kazerani et al., 2014b: 146; Khaghaninia et al., 2014a: 590.

**Distribution.** Type locality: "Europe". Trans-Palaearctic species.

57. *Dolichopus zernyi* Parent, 1927

**Material examined.** 1♂, Hormozgan Prov., Bandar Abbas, Sياهو, 600 m, 10.03.1995, A. Sarafrazi / M. Badii.

**Distribution.** Type locality: Russia: "Sarepta" [= Krasnoarmeysk, near Volgograd]. The species is reported from China (Xinjiang), Kazakhstan and Russia (Astrakhan, Volgograd and Voronezh). **New record for Iran.**

Genus *Emiratomyia* Naglis, 2014

58. *Emiratomyia arabica* Naglis, 2014

Fig. 14

**Material examined.** 2♂, 2♀, Khuzestan Prov., Shoush, Karkheh National Park, 63 m,

32°04'14"N, 048°14'34"E, 06–08.05.2014, Malaise trap, M. Parchami-Aragh.

**Distribution.** Type locality: the United Arab Emirates, N. of Ajman. **New record for Iran.** The species is found for the first time after description.

Genus *Gymnopternus* Loew, 1857

59. *Gymnopternus angustifrons* (Staeger, 1842)

**References.** Kazerani et al. 2014d: 25.

**Distribution.** Type locality: Denmark: "Flere Hanner paa Valdplanter". West Palaearctic species.

60. *Gymnopternus assimilis* (Staeger, 1842)

**References.** Kazerani et al. 2014f: 268.

**Distribution.** Type locality: not given [Denmark]. West Palaearctic species.

61. *Gymnopternus atratus* Pollet, Khaghaninia, Kazerani, 2017

**References.** Kazerani et al. 2017: 119.

**Distribution.** Type locality: Iran: West Azerbaijan, Khoy. The species is known from type locality.

62. *Gymnopternus blankaartensis* Pollet, 1991

**References.** Kazerani et al. 2014f: 268.

**Distribution.** Type locality: Belgium: West Flanders, Woumen, De Blankaart Nature Reserve. West Palaearctic species.

63. *Gymnopternus flavitibia* Pollet, Khaghaninia, Kazerani, 2017

**References.** Kazerani et al. 2017: 123; Ahmadi et al. 2017: 66.

**Distribution.** Type locality: Iran: West Azerbaijan, Arasbaran, Keleybar. The species is known from type locality.

64. *Gymnopternus metallicus* (Stannius, 1831)

**References.** Negrobov, Matile 1974: 841 (as *Hercostomus metallicus*); Grichanov et al. 2010: 198.

**Distribution.** Type locality: Germany: "Umgegend von Hamburg". Trans-Palaearctic species.

Genus *Hercostomus* Loew, 1857

65. *Hercostomus albicoxa* Pollet, Kazerani, 2017

=*Hercostomus convergens* of authors, not Loew, 1857: Kazerani et al., 2014d: 269.

**References.** Kazerani et al. 2017: 127.

**Distribution.** Type locality: Iran: Mazandaran, Tangevaz, Sisangan National Forest. The species is known from type locality.

66. *Hercostomus apollo* (Loew, 1869)

**References.** Kazerani et al. 2014d: 26.

**Material examined.** 3♂, East Azerbaijan Prov., Kaleybar, Gheshlagh, 09.08.2005, E. Gilasian / E. Ebrahimi; 1♂, 1♀, Kermanshah Prov., Paveh, Ravansar, 15.07.1968, Abai / Mojib; 1♂, Kermanshah Prov., Dalahou way, 03.08.1967, Dezfoulia; 1♂, Kermanshah Prov., Mahidasht, Chaharzarbar, 1500 m, 22.08.1996, V. Nazari / H. Barari / M. Parchami-Araghi; 1♀, Tehran Prov., Taleghan, 1806 m, 36°10'15"N, 050°45'51"E, 19.05.2015, Malaise trap, A. Jabbari.

**Distribution.** Type locality: "Parnass, Griechenland" [Greece]. The species is known from Armenia, Greece, Iran, Iraq, Tunisia, Turkey and Ukraine.

67. *Hercostomus chetifer* (Walker, 1849)

**References.** Negrobov, Matile 1974: 841; Grichanov et al. 2010: 198.

**Distribution.** Type locality: England. West Palaearctic, Nearctic Region.

68. *Hercostomus convergens* (Loew, 1857)

**References.** Kazerani et al. 2017: 129 (no material provided).

**Distribution.** Type locality: Italy; Austria. West Palaearctic species.

69. *Hercostomus fulvicaudis* (Haliday, 1851)

**References.** Khaghaninia et al. 2013a: 44; Kazerani et al. 2014d: 25; Grichanov et al. 2017: 102.

**Distribution.** Type locality: England. West and Central Palaearctic species.

70. *Hercostomus gracilis* (Stannius, 1831)

**References.** Khaghaninia et al. 2013b: 74; Kazerani et al. 2014d: 25.

**Distribution.** Type locality: France: Paris. West and Central Palaearctic species.

71. *Hercostomus kravchenkoi* Grichanov, 2018

**Material examined.** 6♂, 1♀, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06-08.05.2014, pan trap, M. Parchami-Araghi; 4♂, West Azerbaijan Prov., Rashakan Research Station for Lake

Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18-25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Israel: Herzliyya, Hill. The species was known only from type locality. **New record for Iran.**

**Notes.** The males examined are very close to *H. kravchenkoi*, differing in dark segment 8 of abdomen, and may represent different subspecies. *H. kravchenkoi* males have yellow segment 8 of abdomen (Grichanov, Freidberg 2018: Figs. 1-7).

72. *Hercostomus libanicola* Parent, 1933

**References.** Khaghaninia et al., 2013b: 74.

**Distribution.** Type locality: Lebanon ("Nord du liban, Recharre"). Iran, Lebanon, Turkey.

73. *Hercostomus longiventris* (Loew, 1857)

**References.** Negrobov, Matile 1974: 841.

**Distribution.** Type locality: Austria: Murzzuschlag. West and Central Palaearctic species.

74. *Hercostomus phoebus* Parent, 1927

**References.** Khaghaninia et al. 2014a: 590.

**Distribution.** Type locality: Turkey: Angora, Anatolia. Armenia, Iran, Turkey.

75. *Hercostomus rusticus* (Meigen, 1824)

**References.** Khaghaninia et al. 2013b: 74; Kazerani et al. 2014f: 269.

**Distribution.** Type locality: not given. Trans-Palaearctic species.

76. *Hercostomus setitibia* Kazerani, Pollet, 2017

**References.** Kazerani et al. 2017: 130.

**Distribution.** Type locality: Iran: Gilan, Ghazichak. The species is known from type locality.

#### Genus *Hydrophorus* Fallén, 1823

77. *Hydrophorus balticus* (Meigen, 1824)

**References.** Kazerani et al. 2014e: 27; Ahmadi et al. 2017: 68; Grichanov et al. 2017: 102; Hamed et al. 2017: 3.

**Material examined.** 2♂, 1♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05-16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi; 2♂, 2♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E,



11.06.2020, pan trap, M. Parchami-Araghi; 1♀, Markazi Prov., Delijan, Jasb, 2316 m, 34°04'43"N, 050°53'25"E, 19.05.2009, Malaise trap, E. Gilasian.  
**Distribution.** Type locality: Germany: Hamburg. Trans-Palaeartic species; Afrotropical Region.

78. *Hydrophorus callostomus* Loew, 1857

**References.** Hamed et al. 2017: 3.

**Distribution.** Type locality: Russia: "Siberia". Trans-Palaeartic species (except for the West Europe and North Africa).

79. *Hydrophorus praecox* (Lehmann, 1822)

**References.** Becker, Stein 1913: 597; Grichanov et al. 2010: 199; Kazerani et al. 2014f: 269; Grichanov et al. 2017: 102; Rezaei et al. 2019b: 91.

**Material examined.** 1♂, Ardabil Prov., Sarrein, Ardestan, 1700 m, 02.07.1997, H. Barari / M. Mofidi; 2♂, 1♀, Golestan Prov., Dashly Broun, 100 m, 08.08.2000, E. Gilasian / R. Ghayourfar; 1♂, Hormozgan Prov., Issin, Geno, 300 m, 11.03.1991, H. Mirzayans / M. Badii; 1♂, Sistan & Balouchestan Prov., Zabol, Kuh-e Khojeh, 03.06.1977, Safavi / A. Pazuki / M. Abai; 1♂, 1♀, Sistan & Balouchestan Prov., Chabahar, Zarabad, 400 m, 02.01.2003, A. Hajiesmailian / M. Mofidi; Tehran Prov., Taleghan, Dam, 1650 m, 17.06.1992, E. Ebrahimi / M. Badii.

**Distribution.** Type locality: Germany: Hamburg. Palaeartic, Oriental, Australasian, Afrotropical Regions.

80. *Hydrophorus viridis* (Meigen, 1824)

**References.** Grichanov et al. 2017: 102.

**Material examined.** 1♀, Esfahan Prov., Semirom, Padenah, Tange Nevel, 2200 m, 12.09.1991, E. Ebrahimi / M. Badii.

**Distribution.** Type locality: Austria. Trans-Palaeartic species.

Genus *Lamprochromus* Mik, 1878

81. *Lamprochromus occidasiaticus* Grichanov, Ahmadi, 2017

**References.** Grichanov, Ahmadi 2017b: 4.

**Distribution.** Type locality: Turkey: near Manavgat River. Iran, Turkey.

82. *Lamprochromus speciosus* (Loew, 1871)

**References.** Kazerani et al. 2016a: 455 (no material provided).

**Distribution.** Type locality: Tajikistan: "Sarawschan Thal" [=Zeravshan valley]. West and Central Palaeartic species.

Genus *Liancalus* Loew, 1857

83. *Liancalus virens* (Scopoli, 1763)

**References.** Grichanov, Ahmadi 2016b: 6; Grichanov et al. 2017: 102.

**Material examined.** 1♂, 1♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi.

**Distribution.** Type locality: not given ["Car-nioliae indigena", Slovenia]. West and Central Palaeartic species.

Genus *Medetera* Fischer von Waldheim, 1819

84. *Medetera abstrusa* Thunberg, 1955

**References.** Kazerani et al. 2016b: 452 (no material provided).

**Distribution.** Type locality: Finland: Outakoski; England: Wordlinton Wood. West and Central Palaeartic boreal species.

85. *Medetera anjudanica* Grichanov, Ahmadi, 2017

**References.** Grichanov, Ahmadi 2017a: 13; Grichanov et al. 2017: 103.

**Material examined.** 2♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi.

**Distribution.** Type locality: Iran: Markazi Province, Arak env., 35 km ESE, Anjudan vil-lage. The species is known only from Markazi Province.

86. *Medetera belgica* Parent, 1936

**References.** Kazerani et al. 2016b: 452 (no material provided).

**Distribution.** Type locality: Belgium: Malm-edy, Poughondes Cuves. Belgium, Germany, ?Iran, Norway, Romania, Russia (northern European part).

87. *Medetera diadema* (Linnaeus, 1767)

**References.** Grichanov et al. 2017: 103.

**Material examined.** 3♂, 1♀, Tehran Prov., Velenjak, Research Institute of Plant Protec-tion, 02.10.2022, I. Grichanov; 6♂, 10♀, Teh-ran Prov., Park of Saadabad Museum com-plex, 06.10.2022, I. Grichanov / E. Gilasian; 4♂, 6♀, Tehran Prov., Velenjak, Sasan Park, 11.10.2022, I. Grichanov.

**Distribution.** Type locality: Europe. West and Central Palaearctic, Nearctic Region.

88. *Medetera feminina* Negrobov, 1967

**References.** Kazerani et al. 2016b: 452 (no material provided).

**Distribution.** Type locality: Russia: Voronezh, near Borisoglebsk. Belgium, Czech Republic, ?Iran, Russia (European part).

89. *Medetera flavipes* Meigen, 1824

**References.** Kazerani et al. 2014f: 269.

**Distribution.** Type locality: not given. West Palaearctic species.

90. *Medetera freyi* Thuneberg, 1955

**References.** Kazerani et al. 2016b: 452 (no material provided).

**Distribution.** Type locality: Finland: Joutse-  
no. Finland, ?Iran, Norway, Russia (Saint Petersburg), the UK.

91. *Medetera jacula* (Fallén, 1823)

**References.** Ahmadi et al. 2016: 192; Ahmadi et al. 2017: 68.

**Distribution.** Type locality: Sweden: Scania. West and Central Palaearctic species.

92. *Medetera lamprostoma* Loew, 1871

**References.** Grichanov et al. 2017: 103.

**Material examined.** 7♂ 3♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi; 5♂, 1♀, Markazi Prov., Ashtian, Ahu, Darreh-e Bidsoukhteh, 2000 m, 29.07.1997, H. Barari / M. Mofidi.

**Distribution.** Type locality: Tajikistan: Zera-vshan valley. The species is known from Iran, Tajikistan, Turkmenistan and Uzbekistan.

93. *Medetera media* Parent, 1925

**References.** Rezaei et al. 2019a: 9; Rezaei et al. 2019b: 91.

**Distribution.** Type locality: Tunisia. The species is known from Egypt, Iran, Kazakhstan, Morocco, Tunisia and Turkmenistan.

94. *Medetera meridionalis* Negrobov, 1967

**References.** Kazerani et al. 2014e: 27; Kazerani et al. 2014f: 270; Ahmadi et al. 2017: 68; Grichanov et al. 2017: 103; Hamed et al. 2017: 3.

**Material examined.** 2♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E,

11.06.2020, pan trap, M. Parchami-Araghi; 2♂, 2♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Sibak valley, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi; 5♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi; 2♂, 1♀, Markazi Prov., Ashtian, Ahu, Darreh-e Bidsoukhteh, 2000 m, 29.07.1997, H. Barari / M. Mofidi; 7♂, 3♀, Tehran Prov., Taleghan, 1806 m, 36°10'15"N, 050°45'51"E, 19.05.2015, Malaise trap, A. Jabbari; 7♂, 6♀, West Azerbaijan Prov., Raskan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Russia: Voronezh, near the Novokhopersk River. The species is known from Russia (Crimea, Lugansk, Voronezh, Rostov, Volgograd, Penza, Orenburg, Altay and Krasnodar Regions), Ukraine (Odessa and Poltava), Armenia, Azerbaijan, Georgia, Iran, Kazakhstan and Turkey.

95. *Medetera mixta* Negrobov, 1967

Figs. 15, 16

**References.** Kazerani et al. 2014f: 270. (as *Medetera micacea* Loew, 1857).

**Material examined.** 8♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi; 6♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Sibak valley, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi; 6♂, 2♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi; 14♂, Mazandaran Prov., vicinity of Polour Village, 2311 m, 35°50'20"N, 052°02'49"E, 18.05.2016, yellow pan trap, M. Parchami-Araghi.

**Distribution.** Type locality: Russia: Atai Vil., Evpatoriya Distr., Crimea. The species is known from Bulgaria, Czech Republic, Kazakhstan, Kyrgyzstan, Mongolia, Romania, Russia (Bashkiria, Crimea, Krasnodar Lipetsk and Voronezh), Slovakia, Tajikistan, Turkey and Ukraine. **New record for Iran.**



**Notes.** The newly collected material from the Mazandaran Province, practically from the district mentioned by Kazerani et al. (2014), belongs to *Medetera mixta*. The latter species differs from *M. micacea* in shape of basal part of surstylus in male hypopygium (compare Fig. 28 and Fig. 30 in Negrobov, Naglis 2016), the character not mentioned by Kazerani et al. The species seems to be rather common in the Mazandaran province. We refer here all the material collected by Kazerani et al. in this province to *M. mixta*, thus excluding *M. micacea* from Iranian fauna.

96. *Medetera muralis* Meigen, 1824

**References.** Kazerani et al. 2014f: 270.

**Distribution.** Type locality: Germany: Hamburg. West Palaearctic species.

97. *Medetera pallipes* (Zetterstedt, 1843)

**References.** Kazerani et al. 2016b: 452 (no material provided); Ahmadi et al. 2017: 68; Grichanov et al. 2017: 103; Rezaei et al. 2019b: 91.

**Material examined.** 7♂, Tehran Prov., Taleghan, 1806 m, 36°10'15"N, 050°45'51"E, 19.05.2015, Malaise trap, A. Jabbari.

**Distribution.** Type locality: Scania, "in Ostrog ad Wadstena; Botnia orientali ad Johannis Ro prope Tornea" [Sweden; Denmark]. West Palaearctic species.

98. *Medetera pavlovskii* Negrobov, 1972

**References.** Negrobov, Stackelberg 1974: 328.

**Distribution.** Type locality: Iran: Shachrud. The species is known from Egypt, Iran.

99. *Medetera roghii* Rampini et Canzoneri, 1979

**References.** Grichanov et al. 2017: 103.

**Distribution.** Type locality: Spain: Minorca. The species is known from Iran, Spain, Malta and Italy (Sicilia).

100. *Medetera seguyi* Parent, 1926

**References.** Kazerani et al. 2014f: 271.

**Distribution.** Type locality: France: Rambouillet. The species is known from Belgium, France, Iran, Norway and Switzerland (as *Medetera seguyi*); Russia (Adygea, Karachai-Cherkessia and Krasnodar; as subspecies *M. seguyi sphaeroidea* Negrobov, 1967).

101. *Medetera spinigera* (Stackelberg, 1937)

**Material examined.** 3♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E,

20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi.

**Distribution.** Type locality: Uzbekistan: Yargak, near Chatyrchi, Kattakurgan district. The species was known from Uzbekistan. **New record for Iran.**

**Notes.** *Medetera spinigera* is very close to *M. zimini* Negrobov, 1966, described from Tajikistan, differing in shape of surstylus in male hypopygium (compare Fig. 3 and Fig. 4 in Negrobov, Naglis 2016).

102. *Medetera truncorum* Meigen, 1824

**References.** Kazerani et al. 2014f: 271; Grichanov et al. 2017: 103.

**Material examined.** 7♂, Tehran Prov., Taleghan, 1806 m, 36°10'15"N, 050°45'51"E, 19.05.2015, Malaise trap, A. Jabbari; 2♂, 1♀, Tehran Prov., Park of Saadabad Museum complex, 06.10.2022, I. Grichanov / E. Gilasian; 3♂, 2♀, Tehran Prov., Velenjak, Sasan Park, 11.10.2022, I. Grichanov.

**Distribution.** Type locality: Germany: Hamburg. West and Central Palaearctic, Nearctic Region.

103. *Medetera veles* Loew, 1861

**Material examined.** 3♂, 3♀, Tehran Prov., Velenjak, Sasan Park, 11.10.2022, I. Grichanov.

**Distribution.** Type locality: the USA: Florida. **New record for Iran.**

**Notes.** *Medetera veles* is most probably an overlooked species in the Palaearctic region. In the Nearctic, it is a common polyzonal species distributed throughout Canada and the USA, in Bermuda and Mexico. Bickel (Bickel 1985) studied the holotypes and synonymized the Palaearctic *Medetera bilineata* Frey, 1915, which was known from Europe eastward to eastern Siberia, and *M. sphaeropyga* Negrobov, 1972, described from Russian Prymorye, with *M. veles*. Nevertheless, Negrobov, Naglis (2016) raised *M. bilineata* and *M. sphaeropyga* from synonymy, mentioning their difference in presence of simple setae on male epandrial lobe. In contrast, *M. veles* has plumose setae on male epandrial lobe. This species was recently recorded from some countries of Europe, some regions of European Russia and Siberia, and from Japan. The males from Iran examined have exactly the

same hypopygium morphology, as that figured by Bickel (Bickel 1985: Figs. 144–150).

Genus *Micromorphus* Mik, 1878

**Notes.** Palaearctic species of *Micromorphus* are very similar in habitus, distinguishing mainly by hypopygium morphology (Grichanov, Viklund, 2007; Bickel 2022). For example, *M. minusculus* differs from other species in rather long thick bristle on surstylar arm and relatively short distoventral epandrial lobe of hypopygium (Negrobov 2000: Fig. 9). *M. mesasiaticus* hypopygium is characterized by angular cercus bearing simple setae, relatively narrow and subequal in length surstylar arms and distoventral epandrial lobe (Negrobov 2000: Fig. 8; Grichanov, Viklund, 2007: Fig. 2).

104. *Micromorphus mesasiaticus* Negrobov, 2000

**Material examined.** 1♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, Malaise trap, M. Parchami-Aragh.

**Distribution.** Type locality: Tajikistan: Gissar Range, 120 km S of Dushanbe, near Dzhilikul. The species was known from Sweden and Tajikistan. **New record for Iran.**

105. *Micromorphus minusculus* Negrobov, 2000

**Material examined.** 11♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, Malaise trap, M. Parchami-Aragh.

**Distribution.** Type locality: Ukraine: Odessa Prov., Belgrad, Japug Lake [=Bolgrad, Yalpug Lake]. The species was known from Morocco, Tajikistan and Ukraine (Odessa). **New record for Iran.**

Genus *Neurigona* Rondani, 1856

106. *Neurigona erichsoni* (Zetterstedt, 1843)

**References.** Negrobov, Matile 1974: 844 (females).

**Distribution.** Distribution. Type locality: Sweden: "Scania: Lund, Silfakra, Röstanga, Lindholmen, Esperöd, Ostrogothia ad Gussum, Gottenvik, Jonsberg, Gottlandia ad Nähr, insula Furillen". West Palaearctic species.

107. *Neurigona helva* Negrobov et Tsurikov, 1990

**References.** Kazerani et al. 2022: 254.

**Material examined.** 1♂, Golestan Prov., Gorgan, Shastkola, 500 m, 28.07.1996, E. Ebrahimi, V. Nazari.

**Distribution.** Type locality: Krasnodar Terr., Khosta env. The species is known from Iran, Russia (Krasnodar).

108. *Neurigona pallida* (Fallén, 1823)

**References.** Kazerani et al. 2022: 254.

**Distribution.** Type locality: Sweden: Scania [=Skane]. West Palaearctic species.

109. *Neurigona persiana* Pollet et Kazerani, 2022

**References.** Kazerani et al. 2022: 254.

**Distribution.** Type locality: Iran, Mazandaran province, Kheirroud Forests, 7 km E of Nowshahr. The species is known from type locality.

110. *Neurigona pseudolongipes* Negrobov, 1987

**References.** Kazerani et al. 2022: 257.

**Distribution.** Type locality: Russia: Krasnodar Terr., Caucasian Reserve, Pshekish Mt. The species is known from Abkhazia, Iran, S Russia (Adygea, Karachai-Cherkessia, Krasnodar).

Genus *Orthoceratium* Schrank, 1803

111. *Orthoceratium sabulosum* (Becker, 1907)

**References.** Kazerani et al. 2014e: 27 [as *Orthoceratium lacustre* (Scopoli, 1763)]; Pollet, Stark, 2018: 72.

**Distribution.** Type locality: Tunisia. Palaearctic: Algeria, Austria, Azerbaijan, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece including North Aegean Islands, Iran (East Azerbaijan), Italy (Sardinia), Netherlands, Portugal, Russia (Crimea), Spain, Tunisia, Turkey, UK; Afrotropical: Tanzania.

Genus *Poecilobothrus* Mik, 1878

112. *Poecilobothrus annulitarsis* Kazerani, Pollet, Khaghaninia, 2017

=*Poecilobothrus chrysozygos* of authors, not Wiedemann, 1817: Khaghaninia et al. 2013b: 76; Kazerani et al. 2014f: 271; Kazerani et al. 2015: 25.

**References.** Kazerani et al. 2017: 133.

**Material examined.** 2♀, Tehran Prov., Taleghan, 1806 m, 36°10'15"N, 050°45'51"E, 19.05.2015, Malaise trap, A. Jabbari.



**Distribution.** Type locality: Iran: East Azerbaijan, Arasbaran, Makidi Valley. The species is known from East Azerbaijan, West Azerbaijan, Mazandaran and Tehran Provinces of Iran.

113. *Poecilobothrus armeniorum* (Stackelberg, 1934)

**References.** Khaghaninia et al. 2013b: 74; Hamed et al. 2017: 3.

**Distribution.** Type locality: Armenia: Erivan. The species is known from Armenia, Azerbaijan, Iran and Russia (Adygea, Kabardino-Balkaria, Karachai-Cherkessia, Krasnodar and Kursk).

114. *Poecilobothrus basilicus* (Loew, 1869)

**References.** Khaghaninia et al. 2013b: 76.

**Distribution.** Type locality: Italy: Sicily. The species is known from Azerbaijan, Iran, Israel, Italy and Turkey.

115. *Poecilobothrus comitalis* (Kowarz, 1867)

**References.** Khaghaninia et al. 2013b: 76; Kazerani et al. 2014d: 26.

**Distribution.** Slovakia: Lucenec. West and Central Palaearctic species.

116. *Poecilobothrus innotabilis* Kazerani, Pollet, Khaghaninia, 2017

=*Poecilobothrus bigoti* of authors, not Mik, 1883; Kazerani et al. 2015: 25.

**References.** Kazerani et al. 2017: 136.

**Material examined.** 1♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Latteh Dar-e Bala, 2685 m, 33°56'45"N, 050°09'10"E, 11.06.2020, pan trap, M. Parchami-Araghi.

**Distribution.** Type locality: Iran: Ardabil, Meshginshahr, Geyneje (nr Sabalan Mountain). The species is known from Ardabil, East Azerbaijan, Mazandaran and Markazi Provinces of Iran.

117. *Poecilobothrus lorestanicus* Grichanov et Ahmadi, 2016

**References.** Grichanov, Ahmadi 2016a: 313.

**Distribution.** Type locality: Iran, Lorestan Prov., Shirvan. The species is known from type locality.

118. *Poecilobothrus principalis* (Loew, 1861)

**References.** Kazerani et al. 2014e: 27; Ahmadi et al. 2016: 193.

**Distribution.** Type locality: Poland: Meseritz

[=Miedzzyrzecz]; Netherlands. West Palaearctic species.

119. *Poecilobothrus regalis* (Meigen, 1824)

**References.** Stackelberg 1941: 190 (no material provided); Grichanov et al. 2010: 199; Ahmadi et al. 2017: 66; Grichanov et al. 2017: 104.

**Material examined.** 1♀, Ardabil Prov., Khalkhal, Kuh-e Almas, 1900 m, 30.06.1997, H. Barari / M. Mofidi; 1♀, Kermanshah Prov., Ridjab, 03.08.1967, Dezfoulian; 1♀, Sistan & Balouchestan Prov., Nikshahr, 28.04.1969; A. Pazuki / A. Hashemi; 4♂, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: not given. West and Central Palaearctic species.

#### Genus *Rhaphium* Meigen, 1803

120. *Rhaphium albifrons* Zetterstedt, 1843

**References.** Ahmadi et al. 2016: 193; Ahmadi et al. 2017: 68.

**Distribution.** Type locality: Norway: Scandinavia boreali - Norvegia Gamaes Vaerdaliae. Trans-Palaearctic species.

121. *Rhaphium antennatum* (Carlier, 1835)

**References.** Kazerani et al. 2013: 114; Ahmadi et al. 2017: 68.

**Distribution.** Type locality: Belgium: "Kimkempois pres de liege". West Palaearctic species.

122. *Rhaphium appendiculatum* Zetterstedt, 1849

**References.** Negrobov, Matile 1974: 844 (as *Rhaphium macrocerum* Meigen); Kazerani et al. 2013: 115; Kazerani et al. 2014f: 271; Ahmadi et al. 2016: 193; Ahmadi et al. 2017: 68; Grichanov et al. 2017: 104.

**Material examined.** 1♂, Gilan Prov., Si-ahmazgi, Khorramkesh, 262 m, 25.06.2003, M. Moghadam / H. Naserzadeh.

**Distribution.** Type locality: Sweden: Scania ad Esperod. West Palaearctic species.

123. *Rhaphium auctum* Loew, 1857

**References.** Kazerani et al. 2013: 115.

**Distribution.** Type locality: Poland: Harz, Meseritz. West Palaearctic species.

124. *Rhaphium brevicorne* Curtis, 1835  
**References.** Kazerani et al. 2016a: 455 (no material provided); Grichanov et al., 2017: 104.  
**Distribution.** Type locality: England: Isle of Wight. West and Central Palaearctic species.
125. *Rhaphium caliginosum* (Zetterstedt, 1843)  
**References.** Kazerani et al. 2016b: 455 (no material provided).  
**Distribution.** Type locality: not given. West and Central Palaearctic species.
126. *Rhaphium fascipes* (Meigen, 1824)  
**References.** Kazerani et al. 2014f: 272.  
**Distribution.** Type locality: Germany: Hamburg. West and Central Palaearctic, Nearctic Region.
127. *Rhaphium lanceolatum* Loew, 1850  
**References.** Kazerani et al. 2013: 115.  
**Distribution.** Type locality: Germany. Trans-Palaearctic species.
128. *Rhaphium micans* (Meigen, 1824)  
**References.** Grichanov et al. 2010: 200; Khaghaninia et al. 2013a: 46; Kazerani et al. 2013: 115; Kazerani et al. 2014f: 272; Grichanov et al. 2017: 104.  
**Distribution.** Type locality: Germany: Hamburg. Trans-Palaearctic species.
129. *Rhaphium penicillatum* Loew, 1850  
**References.** Kazerani et al. 2013: 115.  
**Distribution.** Type locality: Poland: "Deutschland in der Posener Gegend" [= Poznan]. West and Central Palaearctic species.
- Genus *Sciapus* Zeller, 1842
130. *Sciapus adumbratus* (Becker, 1902)  
**References.** Rezaei et al. 2019a: 9; Rezaei et al. 2019b: 91.  
**Material examined.** 2♀, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Aragh; 5♂, 3♀, Sistan & Baluchestan Prov., Bampur, Natural Resources & Agricultural Research Center, 525 m, 27°11'56"N, 060°29'52"E, 30.03–02.05.2017, Malaise trap, F. Basavand.  
**Distribution.** Type locality: [Egypt:] "Siala". Afrotropical: Oman, the United Arab Emirates; Palaearctic: Egypt, Iran, Iraq, Morocco, Tunisia, Turkmenistan.
131. *Sciapus basilicus* Meuffels et Grootaert, 1990  
**References.** Kazerani et al. 2015: 408.  
**Distribution.** Type locality: Netherlands: Noord-Holland, Overveen. Iran; Europe.
132. *Sciapus flavicinctus* (Loew, 1857)  
**References.** Khaghaninia et al. 2013a: 47; Kazerani et al. 2015: 408.  
**Material examined.** 1♂, Mazandaran Prov., Sari, Farahabad rd., 45 m, 36°50'17"N, 053°15'25"E, 05.05.2017, Malaise trap, E. Gilasian; 2♂, 1♀ (in ethanol), Khuzestan prov., Shoush, Karkheh National Park, Persian Fallow Seer Sanctuary, 68 m, 32°04'45"N, 48°14'27"E, 11.03.–10.05.2014, Malaise trap, E. Gilasian.  
**Distribution.** Type locality: Turkey: "bei Constantinopel". West Palaearctic species.
133. *Sciapus heteropygus* Parent, 1926  
**References.** Kazerani et al. 2015: 408.  
**Material examined.** 2♂, Mazandaran Prov., Sari, Fereim, Mohammadabad, 705 m, 36°10'36"N, 053°16'05"E, 06.12.2021, yellow pan trap, H. Barari.  
**Distribution.** Type locality: France: Ardennes, "Mézières". West Palaearctic species.
134. *Sciapus iranicus* Grichanov et Negrobov, 2014  
**References.** Grichanov, Negrobov 2014: 48; Kazerani et al. 2015: 408.  
**Material examined.** 1♂, Mazandaran Prov., Sari, Farahabad rd., 45 m, 36°50'17"N, 053°15'25"E, 05.05.2017, Malaise trap, E. Gilasian.  
**Distribution.** Type locality: Iran: Tehran. The species is known from Gilan, Markazi, Mazandaran and Tehran Provinces of Iran.
135. *Sciapus longulus* (Fallén, 1823)  
**References.** Tajmiri et al. 2016: 468.  
**Distribution.** Type locality: Sweden. The species is known from Europe, Siberia (Novosibirsk), Iran and Kyrgystan.
136. *Sciapus medvedevi* Negrobov et Selivanova, 2009  
**References.** Kazerani et al. 2015: 408.  
**Distribution.** Type locality: Armenia: Megri. The species is known from Armenia and Iran.
137. *Sciapus talebii* Kazerani et Grichanov, 2015  
**References.** Kazerani et al. 2015: 403.



**Distribution.** Type locality: Iran, Gilan province, Eshmankamachal. The species is known from type locality.

Genus *Sybistroma* Meigen, 1824

138. *Sybistroma clara* (Negrobov et Onishchenko, 1991)

**References.** Kazerani et al. 2014d: 26.

**Distribution.** Type locality: "Georgia, Borjomi Distr., the Nedzura River". The species is known from Georgia and Iran.

139. *Sybistroma crinipes* Staeger, 1842

**References.** Kazerani et al. 2014d: 26.

**Distribution.** Type locality: Denmark: "Ellemosen, Charlottenlund". The species is known from Europe, Iran and Turkey.

140. *Sybistroma discipes* (Germar, 1821)

**References.** Negrobov, Matile 1974: 841 (as *Hypophyllus discipes*)

**Distribution.** Type locality: Germany: Hamburg. The species is known from Europe, Iran and Turkey.

141. *Sybistroma impar* (Rondani, 1843)

**References.** Ahmadi et al. 2017: 66.

**Distribution.** Type locality: Italy. The species is known from Europe, Israel, Iran and Turkey.

142. *Sybistroma leptocerca* (Stackelberg, 1949)

**References.** Negrobov, Matile 1974: 841 (as *Hercostomus leptocercus*)

**Distribution.** Type locality: Tajikistan: "Varzob valley, Kondara; Rakhati, Gissar ridge; Kalay-khumb near Pyandzh". The species is known from Tajikistan and Iran.

143. *Sybistroma nodicornis* Meigen, 1824

**References.** Khaghaninia et al. 2013a: 45; Ahmadi et al. 2017: 68; Grichanov et al. 2017: 104.

**Distribution.** Type locality: not given. The species is known from Europe, Egypt, Iran, Iraq and Turkey.

144. *Sybistroma occidasiatica* Grichanov et Kazerani, 2014

**References.** Grichanov, Kazerani 2014: 575.

**Distribution.** Type locality: Turkey: near Manavgat. The species is known from Golan Heights, Iran, Israel and Turkey.

Genus *Sympycnus* Loew, 1857

145. *Sympycnus pulicarius* (Fallén, 1823)

**References.** Kazerani et al. 2014a: 64; Ah-

madi et al. 2016: 194; Ahmadi et al. 2017: 69; Grichanov et al. 2017: 104.

**Distribution.** Type locality: not given (Sweden). Mainly West-Palaeartic species; California.

Genus *Syntormon* Loew, 1857

146. *Syntormon aulicus* (Meigen, 1824)

**References.** Kazerani et al. 2014g: 146; Ahmadi et al. 2016: 194; Ahmadi et al. 2017: 69.

**Distribution.** Type locality: not given. West Palaeartic species.

147. *Syntormon denticulatus* (Zetterstedt, 1843)

**References.** Kazerani et al. 2014g: 146; Ahmadi et al. 2016: 194; Ahmadi et al. 2017: 69; Grichanov et al. 2017: 105.

**Material examined.** 1♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi; 1♂, Mazandaran Prov., Sari, Fereim, Mohammadabad, 705 m, 36°10'36"N, 053°16'05"E, 06.12.2021, yellow pan trap, H. Barari.

**Distribution.** Type locality: Sweden: Scania. West and Central Palaeartic species.

148. *Syntormon filiger* Verrall, 1912

**References.** Kazerani et al. 2016a: 455 (no material provided).

**Material examined.** 1♂, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Denmark: ad Hafniam, ube in Amager. West and Central Palaeartic species.

149. *Syntormon fuscipes* (von Roser, 1840)

**References.** Ahmadi et al. 2017: 69.

**Distribution.** Type locality: not given (Germany: Württemberg). West and Central Palaeartic; Afrotropics.

150. *Syntormon giordanii* Negrobov, 1974

**References.** Negrobov, Matile 1974: 842.

**Material examined.** 1♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, Malaise trap, M. Parchami-Aragh.

**Distribution.** Type locality: Iran: "Khorramshahr, Stagno Porco Com. Mar." The species is known from Iran and Iraq.

151. *Syntormon iranicus* Negrobov, 1974

**References.** Negrobov, Matile 1974: 842.

**Distribution.** Type locality: Iran: "Qars-i-Shirin, 40 km Est". The species is known from type locality.

152. *Syntormon macula mediterraneus* Grichanov, 2013

**References.** Kazerani et al. 2014g: 146.

**Distribution.** Type locality: Israel: Bani-ass [Panyas]. The subspecies is known from Greece (Rhodes), Iran and Israel.

153. *Syntormon pallipes* (Fabricius, 1794)

**References.** Becker, Stein 1913: 597; Negrobov, Matile 1974: 844; Grichanov et al. 2010: 201; Kazerani et al. 2014g: 146; Khaghaninia et al. 2014a: 590; Ahmadi et al. 2016: 194; Ahmadi et al. 2017: 69; Grichanov et al. 2017: 105; Hamed et al. 2018: 3; Rezaei et al. 2019b: 91.

**Material examined.** 2♂, Kerman Prov., Jiroft, Allahabad-e Rezvan, 11.02.1997, M. Mofidi / Atabai; 1♂, 1♀, Lorestan Prov., Babazeidun, 820 m, 04.04.1976, Lavallee; 1♂, 1♀, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, pan trap, M. Parchami-Araghi; 4♂, 7♀, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi; 1♀, Markazi Prov., Delijan, Jasb, 2316 m, 34°04'43"N, 050°53'25"E, 19.05.2009, Malaise trap, E. Gilasian; 3♂, 1♀, Mazandaran Prov., vicinity of Polour Village, 2311 m, 35°50'20"N, 052°02'49"E, 18.05.2016, yellow pan trap, M. Parchami-Araghi; 1♀, Sistan & Balouchestan Prov., Bampur, Natural Resources & Agricultural Research Center, 525 m, 27°11'56"N, 060°29'52"E, 30.03–02.05.2017, Malaise trap, F. Basavand; 2♂, 1♀, West Azerbaijan Prov., Rashakan Research Station for Lake Urmia National Park, 1315 m, 37°20'38"N, 045°17'37"E, 18–25.06.2015, Malaise trap, M. Parchami-Araghi.

**Distribution.** Type locality: Germany. West and Central Palaeartic; Orient and Afrotropics.

154. *Syntormon pumilus* (Meigen, 1824)

**References.** Kazerani et al. 2014a: 67.

**Distribution.** Type locality: not given. West and Central Palaeartic species.

155. *Syntormon submonilis* Negrobov, 1975 = *Syntormon silvianum* Pârvu, 1989 (Drake, 2021: 37, synonymized)

**References.** Kazerani et al., 2016a: 455 (as *Syntormon silvianum*, no material provided).

**Distribution.** Type locality: Russia: North Caucasus, Caucasian Nature Reserve, Aishkho Pass. Croatia, ?Iran, Romania, Russia (Krasnodar), Serbia, UK.

156. *Syntormon zelleri* (Loew, 1850)

**References.** Grichanov et al. 2010: 201; Grichanov et al. 2017: 105.

**Distribution.** Type locality: Italy: Sicilien. West Palaeartic species.

Genus *Tachytrechus* Haliday, 1851

157. *Tachytrechus beckeri* Lichtwardt, 1917

**References.** Ahmadi et al. 2017: 68.

**Distribution.** Type locality: France: Corsica. The species is known from China, France, Iran, Italy, Tajikistan and Turkey.

158. *Tachytrechus kowarzi* Mik, 1864

**References.** Grichanov et al. 2010: 201; Grichanov et al. 2017: 105.

**Distribution.** Type locality: Hungary: Miskolcz, Oberungam. The species is known from Armenia, Austria, Azerbaijan, Czech Republic, Hungary, Iran, Italy, Slovakia and Turkey.

159. *Tachytrechus notatus* (Stannius, 1831)

**References.** Grichanov et al. 2010: 199; Kazerani et al. 2014f: 272; Ahmadi et al. 2017: 68; Grichanov et al. 2017: 105.

**Material examined.** 1♂, Markazi Prov., Arak, Haftad Qolleh Protected Area, Chekab valley, 2219 m, 34°07'05"N, 050°16'25"E, 20.05–16.06.2016, Malaise trap, E. Gilasian / M. Parchami-Araghi; 5♂, Markazi Prov., Delijan, Jasb, 2316 m, 34°04'43"N, 050°53'25"E, 19.05.2009, Malaise trap, E. Gilasian.

**Distribution.** Type locality: Germany: Hamburg. West and Central Palaeartic species.

160. *Tachytrechus planitarsis* Becker, 1907

**References.** Becker, Stein 1913: 597; Grichanov et al. 2017: 106; Rezaei et al. 2019a: 9; Rezaei et al. 2019b: 91.

**Material examined.** 1♂, Kerman Prov., Baft, Dareh-Pahn, 1750 m, 21.05.1977, Safavi, A. Pazuki / Abai; 1♂, Sistan & Balouchestan Prov., Bampur, Natural Resources & Agricultural Re-



search Center, 525 m, 27°11'56"N, 060°29'52"E, 30.03–02.05.2017, Malaise trap, F. Basavand.

**Distribution.** Type locality: Algeria: Biskra. The species is known from Spain (Canary Is.), Turkmenistan, Iran, Egypt, Saudi Arabia, Israel, Tunisia and Algeria; Afrotropical: Ethiopia.

161. *Tachytrechus sogdianus* Loew, 1871

**References.** Grichanov et al. 2017: 106.

**Distribution.** Type locality: Tajikistan: Zeravshan Valley, Varzaminor. The species is known from Iran, Kirgizstan, Tajikistan and Uzbekistan.

Genus *Telmaturgus* Mik, 1874

162. *Telmaturgus simplicipes* (Becker, 1908)

**References.** Grichanov et al. 2010: 200 (as *Sympycnus simplicipes*); Kazerani et al. 2014g: 146 (as *S. simplicipes*); Ahmadi et al. 2017: 69 (as *S. simplicipes*).

**Distribution.** Type locality: Spain: Canary Is., Teneriffe. West and Central Palaearctic; Afrotropical, Oriental and Australasian Regions.

**Notes.** *Sympycnus simplicipes* was transferred to the genus *Telmaturgus* by Grichanov (2017).

Genus *Teuchophorus* Loew, 1857

163. *Teuchophorus monacanthus* Loew, 1859 Figs. 17, 18

**References.** Kazerani et al. 2014g: 147.

**Material examined.** 8♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, Malaise trap, M. Parchami-Aragh.

**Distribution.** Type locality: not given. West Palaearctic species.

164. *Teuchophorus spinigerellus* (Zetterstedt, 1843)

**References.** Kazerani et al. 2014g: 147.

**Material examined.** 4♂, Khuzestan Prov., Shoush, Karkheh National Park, 63 m, 32°04'14"N, 048°14'34"E, 06–08.05.2014, Malaise trap, M. Parchami-Aragh.

**Distribution.** Type locality: Suecia meridionali & media, Scania ad Lund, Ostrogothia ad Wadstena, Dania [Sweden, Denmark]. West and Central Palaearctic species.

Genus *Thinophilus* Wahlberg, 1844

165. *Thinophilus argyropalpis* Becker, 1907

**References.** Becker, Stein 1913: 597 (female).

**Distribution.** Type locality: Egypt: Port Said. The species is known from Algeria, Egypt, Iraq, Iran, Kazakhstan, Kyrgyzstan, Mongolia, Russia (Volgograd), S Arabia, Ukraine (Odessa), Tunisia, Turkmenistan and Uzbekistan.

166. *Thinophilus flavipalpis* (Zetterstedt, 1843)

**References.** Grichanov et al. 2017: 106.

**Distribution.** Type locality: Sweden: Gotlandia, Bursviken. Trans-Palaearctic species.

167. *Thinophilus indigenus* Becker, 1902

**References.** Becker, Stein 1913: 596; Negrobov 1971: 906.

**Distribution.** Type locality: Egypt: Kairo, Assiur, Luxor, Assuan, Fayum, and Suez. Palaearctic: Algeria, Egypt, Iran, Israel, Mongolia, Turkey; Oriental and Afrotropical Regions.

168. *Thinophilus quadrimaculatus* Becker, 1902

**References.** Becker, Stein 1913: 596; Negrobov 1979: 432.

**Distribution.** Type locality: Egypt: Cairo. The species is known from Algeria, Egypt, Israel, Iran, Tadjikistan and Tunisia.

169. *Thinophilus spinitarsis* Becker, 1907

**References.** Becker, Stein 1913: 597 (females).

**Distribution.** Type locality: China: "O. Zaidam, im nord-Osu. Tibet: Kurlyk am Fl. Baingol". The species is known from Iran, Tajikistan, Ukraine (Kherson), China (Tibet); Oriental: China (Taiwan).

Genus *Thrypticus* Gerstaecker, 1864

170. *Thrypticus bellus* Loew, 1869

**References.** Ahmadi et al. 2016: 194; Ahmadi et al. 2017: 68.

**Distribution.** Type locality: England: Kew. Trans-Palaearctic species; Afrotropics.

171. *Thrypticus paludicola* Negrobov, 1971

**References.** Negrobov 1991: 136 (no material provided); Grichanov 2016: 12 (as *Thrypticus intercedens* Negrobov 1967).

**Distribution.** Type locality: Russia: "Ost-sajan, Südsibirien, Tagarchai [=Tasarkhay]". Germany, ?Iran, Russia (Buryatia).

**Notes.** *Thrypticus paludicola* was placed in synonymy to *T. intercedens* by Jonassen (Jonassen 1990), but was re-determined as a true

species by Negrobov, Naglis (Negrobov, Naglis 2020).

### Conclusion

A total of 171 species of the family Dolichopodidae (Diptera) belonging to 29 genera are presented from Iran, of which three genera (*Arabshamshevia*, *Emiratomyia* and *Micromorphus*) as well as seventeen species are newly recorded from the country. Considering that this number of species makes up less than 50% of actual Dolichopodidae fauna in Iran, Grichanov et al. (2017) supposed that the total number of Iranian species can be raised to 400 or 500 species.

The ecological and zoogeographical analysis of known Iranian dolichopodid fauna seems to be premature. Nevertheless, the hydrophilic species are diverse and dominate in the north-western part of the country, though dendrophilous and halophilous species are not uncommon in such localities as, for example, urbanized parks (Fig. 19) and Lake Urmia National Park (Fig. 20). Mesophilic, saxatile and halophilic species of long-legged flies predominate in the central (Figs. 21, 23) and southern (Fig. 22) provinces of Iran, being sometimes locally abundant.



**Fig. 19.** *Platanus* and *Populus tremula* alley in the Sasan Park, Tehran. Tree trunks are the habitat of *Medetera diadema*, *M. truncorum* and *M. veles* flies. Photograph by I. Grichanov, 11 October 2022

**Рис. 19.** Аллея с платаном и осиной в парке Сасан, Тегеран. Стволы деревьев являются местом обитания имаго *Medetera diadema*, *M. truncorum* и *M. veles*. Фото И. Гричанова, 11 октября 2022 г.





**Fig. 20.** Rashakan Research Station for Lake Urmia National Park, West Azerbaijan Prov., 25 June 2015. Photograph by courtesy of M. Parchami-Araghi

**Рис. 20.** Рашаканская научная станция национального парка «Озеро Урмия», провинция Западный Азербайджан, 25 июня 2015 г. Фотография М. Парчами-Араги



**Fig. 21.** Chekab Valley, Haftad Qolleh Protected Area, Markazi Prov. Photograph by E. Gilasian

**Рис. 21.** Долина Чекаб, заказник Хафтад Коллех, Центральная пров. Фотография Э. Гиласяна





**Fig. 22.** Natural Resources & Agricultural Research Center, Bampur, Sistan & Balouchestan Prov., 30 March – 2 May 2017. Photograph by courtesy of F. Basavand

**Рис. 22.** Центр природных ресурсов и сельскохозяйственных исследований, Бампур, пров. Сисан и Белуджистан, 30 марта – 2 мая 2017 г. Фотография Ф. Басаванда





Fig. 23. Karkheh National Park, Shoush, Khuzestan Prov. Photograph by E. Gilasian

Рис. 23. Национальный парк Кархе, Шуш, пров. Хузестан. Фотография Э. Гиласяна

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