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New records of Dolichopodidae (Diptera, Empidoidea) from inner western Anatolia (Turkey)

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Abstract: Fifteen new records of Dolichopodidae from the inner western Anatolia region resulting from recent expeditions are presented. The following species are recorded from Turkey for the first time: *Argyra argyria* (Meigen, 1824); *Hercostomus griseifrons* Becker, 1910; *Poecilobothrus principalis* (Loew, 1861); *Orthoceratium lacustre* (Scopoli, 1763); *Scellus notatus* (Fabricius, 1781); *Medetera perfida* Parent, 1932; *Neurigona abdominalis* (Fallén, 1823); *Peloropeces acuticornis* (Oldenberg, 1916); *Rhaphium albifrons* Zetterstedt, 1843; *Campsicnemus barbitibia* Stackelberg, 1947; *Campsicnemus crinitarsis* Strobl, 1906; *Campsicnemus filipes* Loew, 1859; *Sympycnus simplicipes* Becker, 1908; *Syntormon zelleri* (Loew, 1850); and *Teuchophorus chaetifemoratus* Pollet & Kechev, 2007.

Key words: Dolichopodidae, Diptera, inner western Anatolia, Turkey, new record

1. Introduction

The family Dolichopodidae belongs to the dipteran suborder Brachycera, one of the largest families by number of known species. Dolichopodids, known also as “long-legged flies”, are small- or medium-sized insects whose body length varies between 1 and 9 mm. Adults of dolichopodids occur in aquatic habitats like banks of rivers, lakes, ponds, or streams, being easily distinguished by long legs, a usually metallic green body, and an often large male hypopygium (Lundbeck, 1912; Parent, 1938; d’Assis Fonseca, 1978; Yang et al., 2006). Some species are found above water (*Hydrophorus*), whereas others are found on tree trunks (*Medetera*, *Neurigona*, *Systemus*). Both larvae and adults of dolichopodids are predators on various invertebrates. They carry out an important regulatory role in some agricultural, aquatic, semiaquatic, and forest ecosystems. Adults of dolichopodids mainly feed on soft-bodied invertebrates like Oligochaeta; adult Aphidae, Psyllidae, Culicidae, Chironomidae, etc.; and larvae and eggs of Tabanidae and Scolytidae (Lundbeck, 1912; Brooks, 2005; Grichanov, 2007).

The first contribution to the fauna of Dolichopodidae of Turkey was made by Loew (1857), who described 4 new species from the country: *Psilopus flavicinctus* (now in the genus *Sciapus*) from the environs of İstanbul, *Gymnopternus angustus* [(now synonym of *Hercostomus nanus* (Macquart, 1827)], *Gymnopternus costatus* (now in the genus *Hercostomus*), and *Chrysotus albibarbus* from “Kleinasien”. Some scattered data on the species collected

from Turkey were subsequently published (Becker, 1918; Parent, 1927). Until recently, only 21 species of long-legged flies were known from this territory (Negrobov, 1991). Later, Dolichopodidae material collected from Turkey was extensively studied in several regions, especially during recent years (Grichanov et al., 2007; Naglis, 2009, 2010, 2011, 2012; Popescu-Mirceni and Pârnu, 2009; Tonguç et al., 2009; Grichanov and Tonguç, 2010a, 2010b; Tonguç et al., 2010; Tonguç and Barlas, 2011; Tonguç and Grootaert, 2013). Nevertheless, some territories of Asia Minor remain poorly investigated.

2. Materials and methods

Specimens were collected from aquatic and semiaquatic habitats in 2009–2011 in the provinces Afyonkarahisar, Kütahya, and Uşak in the inner western Anatolia region of Turkey. Adults were collected with an entomological hand net (40 cm in diameter) or with an aspirator. They were preserved in 75% alcohol in insect envelopes in the field and then pinned before drying. The faunistic list usually contains localities, altitude, GPS coordinates, collecting date, number, and sex of each specimen examined. Information on world distribution for each species listed is based on Negrobov (1991), Grichanov (2003–2012), and Yang et al. (2006). Type localities are provided and country lists are arranged alphabetically. Material of the newly recorded species is housed at the Zoology Laboratory, Department of Biology, Faculty of Science, Muğla Sıtkı Koçman University.

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3. Results

This paper presents records of 15 species, arranged by subfamily and genus, resulting from the recent Muğla Sıtkı Koçman University expeditions.

Subfamily Diaphorinae Schiner, 1864

Genus *Argyra* Macquart, 1834

Argyra argyria (Meigen, 1824)

Material examined: Afyonkarahisar, Başmakçı, Akçapınar village 3rd km (37°50'N, 29°59'E), 850 m, 11.05.2010, 1 ♂, 5 ♀♀; Sultandağı, Eber (38°37'N, 31°08'E, 971 m, 25.05.2011, 3 ♂♂; Kütahya, Gediz, Değirmenönü village (38°57'N, 29°22'E), 716 m, 29.05.2009, 1 ♂; Gölcük village (38°53'N, 29°17'E), 649 m, 14.07.2010, 1 ♂, 1 ♀; Uşak, Eşme, İsalır Dam (38°29'N, 29°03'E), 820 m, 24.08.2009, 1 ♂.

Type locality: not given [probably Aachen].

Palaeartic distribution: Austria, Belarus, Belgium, Croatia, Czech Republic, Denmark, England, Finland, France, Germany, Greece, Holland, Hungary, Italy, Moldova, Morocco, Norway, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Ukraine. New for Turkey.

Subfamily Dolichopodinae Latreille, 1809

Genus *Hercostomus* Loew, 1857

Hercostomus griseifrons Becker, 1910

Material examined: Kütahya, Tunçbilek, Tunçbilek-Domaniç road (39°45'N, 29°32'E), 731 m, 25.04.2011, 1 ♂; Uşak, Eşme, Yeniköy (38°18'N, 28°59'E), 690 m, 19.04.2010, 4 ♂♂.

Type locality: France: Corsica.

Palaeartic distribution: Bulgaria, France, Germany, Italy, Ukraine. New for Turkey.

Genus *Poecilobothrus* Mik, 1878

Poecilobothrus principalis (Loew, 1861)

Material examined: Kütahya, Tavşanlı, Köprücek village (39°35'N, 29°20'E), 1008 m, 15.07.2010, 1 ♂.

Type locality: Poland: Meseritz [= Miedzyrzecz]; Netherlands.

Palaeartic distribution: Austria, Belgium, Bulgaria, Czech Republic, England, France, Germany, Holland, Hungary, Israel, Italy, Poland, Romania, Russia, Spain, Ukraine. New for Turkey.

Subfamily Hydrophorinae Lioy, 1864

Genus *Orthoceratium* Schrank, 1803

Orthoceratium lacustre (Scopoli, 1763)

Material examined: Afyonkarahisar, Başmakçı, Akçapınar village 3rd km (37°50'N, 29°59'E), 848 m, 28.05.2009, 1 ♀; Akçapınar village 6th km (37°50'N, 29°58'E), 852 m, 28.05.2009, 1 ♂, 1 ♀; Kütahya, Gediz, Küçükler-Murat mountain road 22nd km (38°57'N, 29°36'E), 1456 m, 10.06.2009, 1 ♀; Centrum, Türkmen Mountain Türkmentsu (39°29'N, 30°19'E), 1237 m, 18.07.2011, 1 ♂.

Type locality: Not given ["Carnioliae indigena", ? Yugoslavia].

Palaeartic distribution: Algeria, Austria, Azerbaijan, Belgium, Bulgaria, Cyprus, Denmark, England, Finland, France, Germany, Greece, Holland, Ireland, Israel, Italy, Portugal, Spain, Tunisia, Ukraine, former Yugoslavia. New for Turkey.

Genus *Scellus* Loew, 1857

Scellus notatus (Fabricius, 1781)

Material examined: Afyonkarahisar, Çay, Devederesi village, Acılı place (38°28'N, 30°50'E), 1024 m, 11.05.2010, 1 ♂, 1 ♀.

Type locality: England: "Angliae floribus".

Palaeartic distribution: Austria, Belgium, Bulgaria, Denmark, England, France, Germany, Greece, Holland, Hungary, Ireland, Italy, Portugal, Romania, Russia, Siberia, Slovakia, Sweden, Ukraine, former Yugoslavia. New for Turkey.

Subfamily Medeterinae Lioy, 1864

Genus *Medetera* Fischer von Waldheim, 1819

Medetera perfida Parent, 1932

Material examined: Uşak, Banaz, Küçükler-Murat mountain road 13th km (38°56'N, 29°38'E), 1755 m, 10.06.2009, 1 ♂.

Type locality: Austria: Sölden, Ötztal.

Palaeartic distribution: Austria, Belgium, France, Germany, Israel, North Caucasia, Russia, Ukraine. New for Turkey.

Subfamily Neurigoninae Aldrich, 1905

Genus *Neurigona* Rondani, 1856

Neurigona abdominalis (Fallén, 1823)

Material examined: Kütahya, Domaniç, Kocayayla mountain pass (39°52'N, 29°39'E), 1400 m, 17.07.2011, 1 ♂.

Type locality: Not given [Sweden].

Palaeartic distribution: Czech Republic, Denmark, England, Finland, Germany, Norway, Poland, Russia, Sweden. New for Turkey.

Subfamily Peloroepodinae (Negrobov, 1991)

Genus *Peloroepodes* Wheeler, 1890

Peloroepodes acuticornis (Oldenberg, 1916)

Material examined: Kütahya, Tavşanlı, Tavşanlı-Harmancık road 8th km (39°37'N, 29°19'E), 982 m, 24.07.2009, 3 ♂♂; Kargılıköy (39°32'N, 29°13'E) 733 m, 15.07.2010, 2 ♂♂, 1 ♀.

Type locality: Romania: Herkulesbad, Ungarn [= Baile Herculane].

Palaeartic distribution: France, Greece (Crete), Romania, Russia (Krasnodar). New for Turkey.

Subfamily Rhapsiinae Bigot, 1852

Genus *Rhaphium* Meigen, 1803

Rhaphium albifrons Zetterstedt, 1843

Material examined: Kütahya, Tavşanlı, Köprücek village (39°35'N, 29°20'E), 1008 m, 15.07.2010, 1 ♂.

Type locality: Norway: Scandinavia boreali - Norvegia Gamaes Vaerdaliae.

Palaeartic distribution: Afghanistan, Austria, Azerbaijan, Belgium, Czech, Finland, France, Georgia, Germany, Hungary, Norway, Poland, Romania, Russia (Altai, Baikal, Irkutsk, Karelia, Khabarovsk, Krasnodar, Leningrad Region, Mordovia, Primorskii Territory), Sweden, Switzerland, Uzbekistan. New for Turkey.

Subfamily Sympycninae Aldrich, 1905

Genus *Campsicnemus* Haliday, 1851

***Campsicnemus barbitibia* Stackelberg, 1947**

Material examined: Uşak, Güre, Kula road 10th km (38°39'N, 29°05'E) 527 m, 01.07.2010, 1 ♂.

Type locality: Tajikistan: Middle Asia; Varzob valley near Stalinabad; Tavildara, Darwaz range; Khorog, W. Pamirs.

Palaeartic distribution: Russia (Lipetsk), Tajikistan. New for Turkey.

***Campsicnemus crinitarsis* Strobl, 1906**

Material examined: Uşak, Centrum, Halilefendi village, Zahman stream (38°40'N, 29°05'E), 655 m, 22.04.2010, 1 ♂.

Type locality: Spain: Malgrat.

Palaeartic distribution: Algeria, France, Greece (Crete, North Aegean), Italy, Morocco, Spain (incl. Canary Islands). New for Turkey.

***Campsicnemus filipes* Loew, 1859**

Material examined: Afyonkarahisar, Bayat, Derbent village (38°57'N, 30°59'E), 1156 m, 24.05.2011, 1 ♂.

Type locality: Austria: "bei Wien".

Palaeartic distribution: Austria, Bulgaria, France, Greece (North Aegean), Hungary, Iraq, Russia (Rostov, Voronezh), Romania, Slovakia, Ukraine (Odessa). New for Turkey.

Genus *Sympycnus* Loew, 1857

***Sympycnus simplicipes* Becker, 1908**

Material examined: Afyonkarahisar, Sandıklı, Ballı Lake (38°16'N, 30°13'E), 1146 m, 28.05.2009, 1 ♂; Centrum, Kızılören (38°15'N, 30°10'E), 1094 m, 25.05.2010, 1 ♂; İscehisar, Seydiler town (38°52'N, 30°48'E), 1162 m, 26.05.2010, 1 ♂; Emirdağ, Çiftlik village (39°08'N, 31°24'E), 861 m, 24.05.2011, 1 ♂; Kütahya, Simav, Yeşilköy (39°04'N, 29°01'E), 834 m, 14.07.2010, 1 ♂; Uşak, Ulubey, Avgan stream (38°24'N, 29°26'E), 610 m, 19.04.2010, 1 ♂.

Type locality: Spain: Canary Islands, Tenerife.

Palaeartic distribution: Abkhazia, Austria, Azerbaijan, Czech Republic, France, Germany, Greece incl. Crete, Iran, Iraq, Israel, Italy, N Kazakhstan, Korea, S Russia (Adygea, Krasnodar), Spain incl. Canary Islands, Tajikistan, Uzbekistan. New for Turkey.

Genus *Syntormon* Loew, 1857

***Syntormon zelleri* (Loew, 1850)**

Material examined: Afyonkarahisar, Sultandağı, Kırca village (38°30'N, 31°13'E), 1101 m, 12.05.2010, 1 ♂; Hocalar, Çepni village (38°37'N, 30°04'E), 1297 m, 22.05.2011, 2 ♂♂, 4 ♀♀; Uşak, Centrum, Çamyuva village (38°47'N, 29°34'E), 1080 m, 25.08.2009, 1 ♂; Banaz, Küçükler village, Murat mountain road 6th km (38°54'N, 29°35'E), 1522 m, 25.08.2009, 1 ♂.

Type locality: Italy: "Sicilien".

Palaeartic distribution: Abkhazia, Austria, Azerbaijan, Belgium, Czech, France, Germany, Greece incl. Crete, Hungary, Iran, Ireland, Italy, Netherlands, Romania, Russia (Krasnodar), Slovakia, Spain, Switzerland, UK, "Middle Asia". New for Turkey.

Genus *Teuchophorus* Loew, 1857

***Teuchophorus chaetifemoratus* Pollet & Kechev, 2007**

Material examined: Kütahya, Tavşanlı, Tavşanlı-Harmancık road 8th km (39°37'N, 29°19'E), 982 m, 24.07.2009, 1 ♂; Tavşanlı-Harmancık road 10th km (39°38'N, 29°17'E), 902 m, 24.07.2009, 2 ♂♂; Uşak, Eşme, İsalır Dam (38°29'N, 29°03'E), 820 m, 24.08.2009, 1 ♂.

Type locality: Bulgaria: Plovdiv Province, Rhodopes Mountains, Markovo.

Palaeartic distribution: Bulgaria. New for Turkey.

4. Discussion and conclusion

In this study, 15 species and 2 genera (*Orthoceratium* and *Peloropecodes*) were recorded for the first time from Turkey. They were collected in the inner western Anatolia region (Afyonkarahisar, Kütahya, Uşak). With the additions in this paper, the dolichopodid species number in Turkey has increased to 171. It is worth noting that *Teuchophorus chaetifemoratus* Pollet & Kechev, 2007 was collected for the first time after its description.

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